## combined\_output.txt

## combine\_docs.py

import os

folder\_path = 'C:\Users\ade\Dropbox\Business Ideas\NeeSee Ltd\AI\Ai Consultancy\Ajyle AI\Automation' # ← change to your folder path

output\_file = 'combined\_output.txt'

with open(output\_file, 'w', encoding='utf-8') as outfile:

for root, \_, files in os.walk(folder\_path):

for file in files:

if file.endswith(('.md', '.txt', '.py')):

filepath = os.path.join(root, file)

with open(filepath, 'r', encoding='utf-8') as infile:

outfile.write(f"\n\n## {file}\n\n")

outfile.write(infile.read())

## CODE\_OF\_CONDUCT.md

# Contributor Covenant Code of Conduct

## Our Pledge

In the interest of fostering an open and welcoming environment, we as

contributors and maintainers pledge to making participation in our project and

our community a harassment-free experience for everyone, regardless of age, body

size, disability, ethnicity, sex characteristics, gender identity and expression,

level of experience, education, socio-economic status, nationality, personal

appearance, race, religion, or sexual identity and orientation.

## Our Standards

Examples of behavior that contributes to creating a positive environment

include:

\* Using welcoming and inclusive language

\* Being respectful of differing viewpoints and experiences

\* Gracefully accepting constructive criticism

\* Focusing on what is best for the community

\* Showing empathy towards other community members

Examples of unacceptable behavior by participants include:

\* The use of sexualized language or imagery and unwelcome sexual attention or

advances

\* Trolling, insulting/derogatory comments, and personal or political attacks

\* Public or private harassment

\* Publishing others' private information, such as a physical or electronic

address, without explicit permission

\* Other conduct which could reasonably be considered inappropriate in a

professional setting

## Our Responsibilities

Project maintainers are responsible for clarifying the standards of acceptable

behavior and are expected to take appropriate and fair corrective action in

response to any instances of unacceptable behavior.

Project maintainers have the right and responsibility to remove, edit, or

reject comments, commits, code, wiki edits, issues, and other contributions

that are not aligned to this Code of Conduct, or to ban temporarily or

permanently any contributor for other behaviors that they deem inappropriate,

threatening, offensive, or harmful.

## Scope

This Code of Conduct applies both within project spaces and in public spaces

when an individual is representing the project or its community. Examples of

representing a project or community include using an official project e-mail

address, posting via an official social media account, or acting as an appointed

representative at an online or offline event. Representation of a project may be

further defined and clarified by project maintainers.

## Enforcement

Instances of abusive, harassing, or otherwise unacceptable behavior may be

reported by contacting the project team at jan@n8n.io. All

complaints will be reviewed and investigated and will result in a response that

is deemed necessary and appropriate to the circumstances. The project team is

obligated to maintain confidentiality with regard to the reporter of an incident.

Further details of specific enforcement policies may be posted separately.

Project maintainers who do not follow or enforce the Code of Conduct in good

faith may face temporary or permanent repercussions as determined by other

members of the project's leadership.

## Attribution

This Code of Conduct is adapted from the [Contributor Covenant][homepage], version 1.4,

available at https://www.contributor-covenant.org/version/1/4/code-of-conduct.html

[homepage]: https://www.contributor-covenant.org

For answers to common questions about this code of conduct, see

https://www.contributor-covenant.org/faq

## CONTRIBUTING.md

# Contributing

If you want to contribute to this repository - thank you! Before you start, have a look at the existing documentation to get an idea of the structure and writing conventions n8n uses. In writing your documentation, please follow the guidelines described below, to ensure quality and consistency with n8n styles.

## Before you start

### Style

n8n uses the [Microsoft Writing Style Guide](https://docs.microsoft.com/en-us/style-guide/welcome/).

Refer to [Styles](https://github.com/n8n-io/n8n-docs/wiki/Styles/) for a quickstart, and guidance on style linting.

### n8n's license

Be aware that n8n is fair code licensed. For more information, refer to the [License](https://docs.n8n.io/reference/license/) documentation.

## Writing docs

You can either:

\* Check out the docs repository and work on your local machine.

\* Make your changes directly in GitHub.

These instructions are for external users. Members of the n8n organization don't need to fork the repository.

### Working locally

This method allows you to work in your own text editor, and preview your work while editing.

You need Git installed, and a GitHub account.

[Fork the documentation repository](https://docs.github.com/en/get-started/quickstart/fork-a-repo).

Then clone your fork:

```

git clone https://github.com/<your-username>/n8n-docs.git

cd n8n-docs

git checkout -b <branch-name>

```

Make your changes. Push your branch:

```

git add \*

git commit -m "<short summary of changes>"

git push --set-upstream origin <branch-name>

```

In GitHub, [create a pull request](https://docs.github.com/en/pull-requests/collaborating-with-pull-requests/proposing-changes-to-your-work-with-pull-requests/creating-a-pull-request-from-a-fork) to merge the work from your fork to `main` in the docs repository.

### Writing in GitHub

This method is fine for small changes, but not recommended for larger pieces of work.

You need a GitHub account.

Follow GitHub's documentation on [editing files](https://docs.github.com/en/repositories/working-with-files/managing-files/editing-files).

### Previewing your work

You can build the docs locally to preview them, or submit a pull request. All pull requests automatically trigger a preview build.

For instructions on previewing the docs locally, refer to the [README](https://github.com/n8n-io/n8n-docs/blob/main/README.md).

### General checklist

Before submitting a PR, make sure your contribution ticks all these boxes:

- [ ] All necessary files and images are included.

- [ ] All links are working and direct to the right location.

- [ ] All documentation files end with an empty newline.

- [ ] The commit message describes the changes you made.

- [ ] The PR explains the changes you made and why they're necessary.

- [ ] You have read and accepted the [code of conduct](https://github.com/n8n-io/n8n-docs/blob/master/CODE\_OF\_CONDUCT.md) and [contributor license agreement](https://github.com/n8n-io/n8n-docs/blob/master/CONTRIBUTOR\_LICENSE\_AGREEMENT.md).

## Documenting nodes

n8n provides [templates](https://github.com/n8n-io/n8n-docs/tree/main/document-templates) for node docs.

\* \*\*Nodes and trigger nodes:\*\* Create a directory with the name of the node at `docs/integrations/builtin/app-nodes/` or `docs/integrations/builtin/trigger-nodes/` containing:

- A text file named `n8n-nodes-base.<node-name>.md` describing the functionality of the relevant node.

\* \*\*Credentials:\*\* Create a document with the name of the node at `docs/integrations/builtin/credentials/` containing:

- A text file with the node name describing how to get credentials for the relevant node.

A standard node doc includes the following parts:

\* Node description

- Describe the purpose and function of the node.

\* Operations

- Enter the resources and operations as they're named in the nodes.

In the credentials doc:

\* If there is more than one authentication method, list OAuth first.

\* If possible, avoid documenting external products. Instead, provide links to the relevant product documentation. For example, for guidance on getting credentials (such as how to get an API token for a service), provide a link to the product's API authentication docs.

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## main.py

import requests

import json

import urllib.parse

from typing import Optional

import re

import unicodedata

import os

def define\_env(env):

no\_template = os.environ.get('NO\_TEMPLATE', False)

# Define the character map and locales as in the original JavaScript version

CHAR\_MAP = {"$":"dollar","%":"percent","&":"and","<":"less",">":"greater","|":"or","¢":"cent","£":"pound","¤":"currency","¥":"yen","©":"(c)","ª":"a","®":"(r)","º":"o","À":"A","Á":"A","Â":"A","Ã":"A","Ä":"A","Å":"A","Æ":"AE","Ç":"C","È":"E","É":"E","Ê":"E","Ë":"E","Ì":"I","Í":"I","Î":"I","Ï":"I","Ð":"D","Ñ":"N","Ò":"O","Ó":"O","Ô":"O","Õ":"O","Ö":"O","Ø":"O","Ù":"U","Ú":"U","Û":"U","Ü":"U","Ý":"Y","Þ":"TH","ß":"ss","à":"a","á":"a","â":"a","ã":"a","ä":"a","å":"a","æ":"ae","ç":"c","è":"e","é":"e","ê":"e","ë":"e","ì":"i","í":"i","î":"i","ï":"i","ð":"d","ñ":"n","ò":"o","ó":"o","ô":"o","õ":"o","ö":"o","ø":"o","ù":"u","ú":"u","û":"u","ü":"u","ý":"y","þ":"th","ÿ":"y","Ā":"A","ā":"a","Ă":"A","ă":"a","Ą":"A","ą":"a","Ć":"C","ć":"c","Č":"C","č":"c","Ď":"D","ď":"d","Đ":"DJ","đ":"dj","Ē":"E","ē":"e","Ė":"E","ė":"e","Ę":"e","ę":"e","Ě":"E","ě":"e","Ğ":"G","ğ":"g","Ģ":"G","ģ":"g","Ĩ":"I","ĩ":"i","Ī":"i","ī":"i","Į":"I","į":"i","İ":"I","ı":"i","Ķ":"k","ķ":"k","Ļ":"L","ļ":"l","Ľ":"L","ľ":"l","Ł":"L","ł":"l","Ń":"N","ń":"n","Ņ":"N","ņ":"n","Ň":"N","ň":"n","Ō":"O","ō":"o","Ő":"O","ő":"o","Œ":"OE","œ":"oe","Ŕ":"R","ŕ":"r","Ř":"R","ř":"r","Ś":"S","ś":"s","Ş":"S","ş":"s","Š":"S","š":"s","Ţ":"T","ţ":"t","Ť":"T","ť":"t","Ũ":"U","ũ":"u","Ū":"u","ū":"u","Ů":"U","ů":"u","Ű":"U","ű":"u","Ų":"U","ų":"u","Ŵ":"W","ŵ":"w","Ŷ":"Y","ŷ":"y","Ÿ":"Y","Ź":"Z","ź":"z","Ż":"Z","ż":"z","Ž":"Z","ž":"z","Ə":"E","ƒ":"f","Ơ":"O","ơ":"o","Ư":"U","ư":"u","ǈ":"LJ","ǉ":"lj","ǋ":"NJ","ǌ":"nj","Ș":"S","ș":"s","Ț":"T","ț":"t","ə":"e","˚":"o","Ά":"A","Έ":"E","Ή":"H","Ί":"I","Ό":"O","Ύ":"Y","Ώ":"W","ΐ":"i","Α":"A","Β":"B","Γ":"G","Δ":"D","Ε":"E","Ζ":"Z","Η":"H","Θ":"8","Ι":"I","Κ":"K","Λ":"L","Μ":"M","Ν":"N","Ξ":"3","Ο":"O","Π":"P","Ρ":"R","Σ":"S","Τ":"T","Υ":"Y","Φ":"F","Χ":"X","Ψ":"PS","Ω":"W","Ϊ":"I","Ϋ":"Y","ά":"a","έ":"e","ή":"h","ί":"i","ΰ":"y","α":"a","β":"b","γ":"g","δ":"d","ε":"e","ζ":"z","η":"h","θ":"8","ι":"i","κ":"k","λ":"l","μ":"m","ν":"n","ξ":"3","ο":"o","π":"p","ρ":"r","ς":"s","σ":"s","τ":"t","υ":"y","φ":"f","χ":"x","ψ":"ps","ω":"w","ϊ":"i","ϋ":"y","ό":"o","ύ":"y","ώ":"w","Ё":"Yo","Ђ":"DJ","Є":"Ye","І":"I","Ї":"Yi","Ј":"J","Љ":"LJ","Њ":"NJ","Ћ":"C","Џ":"DZ","А":"A","Б":"B","В":"V","Г":"G","Д":"D","Е":"E","Ж":"Zh","З":"Z","И":"I","Й":"J","К":"K","Л":"L","М":"M","Н":"N","О":"O","П":"P","Р":"R","С":"S","Т":"T","У":"U","Ф":"F","Х":"H","Ц":"C","Ч":"Ch","Ш":"Sh","Щ":"Sh","Ъ":"U","Ы":"Y","Ь":"","Э":"E","Ю":"Yu","Я":"Ya","а":"a","б":"b","в":"v","г":"g","д":"d","е":"e","ж":"zh","з":"z","и":"i","й":"j","к":"k","л":"l","м":"m","н":"n","о":"o","п":"p","р":"r","с":"s","т":"t","у":"u","ф":"f","х":"h","ц":"c","ч":"ch","ш":"sh","щ":"sh","ъ":"u","ы":"y","ь":"","э":"e","ю":"yu","я":"ya","ё":"yo","ђ":"dj","є":"ye","і":"i","ї":"yi","ј":"j","љ":"lj","њ":"nj","ћ":"c","ѝ":"u","џ":"dz","Ґ":"G","ґ":"g","Ғ":"GH","ғ":"gh","Қ":"KH","қ":"kh","Ң":"NG","ң":"ng","Ү":"UE","ү":"ue","Ұ":"U","ұ":"u","Һ":"H","һ":"h","Ә":"AE","ә":"ae","Ө":"OE","ө":"oe","Ա":"A","Բ":"B","Գ":"G","Դ":"D","Ե":"E","Զ":"Z","Է":"E\'","Ը":"Y\'","Թ":"T\'","Ժ":"JH","Ի":"I","Լ":"L","Խ":"X","Ծ":"C\'","Կ":"K","Հ":"H","Ձ":"D\'","Ղ":"GH","Ճ":"TW","Մ":"M","Յ":"Y","Ն":"N","Շ":"SH","Չ":"CH","Պ":"P","Ջ":"J","Ռ":"R\'","Ս":"S","Վ":"V","Տ":"T","Ր":"R","Ց":"C","Փ":"P\'","Ք":"Q\'","Օ":"O\'\'","Ֆ":"F","և":"EV","ء":"a","آ":"aa","أ":"a","ؤ":"u","إ":"i","ئ":"e","ا":"a","ب":"b","ة":"h","ت":"t","ث":"th","ج":"j","ح":"h","خ":"kh","د":"d","ذ":"th","ر":"r","ز":"z","س":"s","ش":"sh","ص":"s","ض":"dh","ط":"t","ظ":"z","ع":"a","غ":"gh","ف":"f","ق":"q","ك":"k","ل":"l","م":"m","ن":"n","ه":"h","و":"w","ى":"a","ي":"y","ً":"an","ٌ":"on","ٍ":"en","َ":"a","ُ":"u","ِ":"e","ْ":"","٠":"0","١":"1","٢":"2","٣":"3","٤":"4","٥":"5","٦":"6","٧":"7","٨":"8","٩":"9","پ":"p","چ":"ch","ژ":"zh","ک":"k","گ":"g","ی":"y","۰":"0","۱":"1","۲":"2","۳":"3","۴":"4","۵":"5","۶":"6","۷":"7","۸":"8","۹":"9","฿":"baht","ა":"a","ბ":"b","გ":"g","დ":"d","ე":"e","ვ":"v","ზ":"z","თ":"t","ი":"i","კ":"k","ლ":"l","მ":"m","ნ":"n","ო":"o","პ":"p","ჟ":"zh","რ":"r","ს":"s","ტ":"t","უ":"u","ფ":"f","ქ":"k","ღ":"gh","ყ":"q","შ":"sh","ჩ":"ch","ც":"ts","ძ":"dz","წ":"ts","ჭ":"ch","ხ":"kh","ჯ":"j","ჰ":"h","Ṣ":"S","ṣ":"s","Ẁ":"W","ẁ":"w","Ẃ":"W","ẃ":"w","Ẅ":"W","ẅ":"w","ẞ":"SS","Ạ":"A","ạ":"a","Ả":"A","ả":"a","Ấ":"A","ấ":"a","Ầ":"A","ầ":"a","Ẩ":"A","ẩ":"a","Ẫ":"A","ẫ":"a","Ậ":"A","ậ":"a","Ắ":"A","ắ":"a","Ằ":"A","ằ":"a","Ẳ":"A","ẳ":"a","Ẵ":"A","ẵ":"a","Ặ":"A","ặ":"a","Ẹ":"E","ẹ":"e","Ẻ":"E","ẻ":"e","Ẽ":"E","ẽ":"e","Ế":"E","ế":"e","Ề":"E","ề":"e","Ể":"E","ể":"e","Ễ":"E","ễ":"e","Ệ":"E","ệ":"e","Ỉ":"I","ỉ":"i","Ị":"I","ị":"i","Ọ":"O","ọ":"o","Ỏ":"O","ỏ":"o","Ố":"O","ố":"o","Ồ":"O","ồ":"o","Ổ":"O","ổ":"o","Ỗ":"O","ỗ":"o","Ộ":"O","ộ":"o","Ớ":"O","ớ":"o","Ờ":"O","ờ":"o","Ở":"O","ở":"o","Ỡ":"O","ỡ":"o","Ợ":"O","ợ":"o","Ụ":"U","ụ":"u","Ủ":"U","ủ":"u","Ứ":"U","ứ":"u","Ừ":"U","ừ":"u","Ử":"U","ử":"u","Ữ":"U","ữ":"u","Ự":"U","ự":"u","Ỳ":"Y","ỳ":"y","Ỵ":"Y","ỵ":"y","Ỷ":"Y","ỷ":"y","Ỹ":"Y","ỹ":"y","–":"-","‘":"\'","’":"\'","“":"\\\"","”":"\\\"","„":"\\\"","†":"+","•":"\*","…":"...","₠":"ecu","₢":"cruzeiro","₣":"french franc","₤":"lira","₥":"mill","₦":"naira","₧":"peseta","₨":"rupee","₩":"won","₪":"new shequel","₫":"dong","€":"euro","₭":"kip","₮":"tugrik","₯":"drachma","₰":"penny","₱":"peso","₲":"guarani","₳":"austral","₴":"hryvnia","₵":"cedi","₸":"kazakhstani tenge","₹":"indian rupee","₺":"turkish lira","₽":"russian ruble","₿":"bitcoin","℠":"sm","™":"tm","∂":"d","∆":"delta","∑":"sum","∞":"infinity","♥":"love","元":"yuan","円":"yen","﷼":"rial","ﻵ":"laa","ﻷ":"laa","ﻹ":"lai","ﻻ":"la"}

def custom\_slugify(string):

if not isinstance(string, str):

raise ValueError("slugify: string argument expected")

# Process the string

slug = ''.join(

CHAR\_MAP.get(ch, ch).replace('-', ' ')

for ch in unicodedata.normalize('NFKC', string)

)

# Remove not allowed characters and apply strict filtering

slug = re.sub(r'[^\w\s$\*\_+~.()\'"!\-:@]+', '', slug)

slug = re.sub(r'[^A-Za-z0-9\s]', '', slug).strip()

# Replace spaces with hyphen and convert to lowercase

slug = re.sub(r'\s+', '-', slug).lower()

return slug

@env.macro

def templatesWidget(title: str, slug: str, toLoad: int = 3) -> str:

if no\_template:

return '<div class="n8n-templates-widget"><p>Template widget placeholder.</p></div>'

node\_for\_template = 'email+imap' if title == 'Email Trigger (IMAP)' else title.replace(' ', '+')

try:

response = requests.get(f'https://api.n8n.io/api/templates/search?rows={toLoad}&search={node\_for\_template}&page=1&sort=views:desc')

response.raise\_for\_status()

data = response.json()

except requests.RequestException as e:

return f'<span class="n8n-templates-widget-more"><a href="https://n8n.io/integrations/{slug}/" target="\_blank">Browse {title} integration templates</a>, or <a href="https://n8n.io/workflows/" target="\_blank">search all templates</a></span>'

workflows = data.get("workflows", [])[:toLoad]

if len(workflows) < 3:

return f'<span class="n8n-templates-widget-more"><a href="https://n8n.io/integrations/{slug}/" target="\_blank">Browse {title} integration templates</a>, or <a href="https://n8n.io/workflows/" target="\_blank">search all templates</a></span>'

def get\_workflow\_details(workflow: dict) -> Optional[dict]:

try:

return {

"title": workflow["name"],

"user": workflow["user"].get("name", "n8n Community"),

"url": f'https://n8n.io/workflows/{workflow["id"]}-{custom\_slugify(workflow["name"])}/',

}

except KeyError:

return None

workflow\_details = [get\_workflow\_details(workflow) for workflow in workflows]

if any(detail is None for detail in workflow\_details):

return f'<span class="n8n-templates-widget-more"><a href="https://n8n.io/integrations/{slug}/" target="\_blank">Browse all {title} integration templates</a>, or <a href="https://n8n.io/workflows/" target="\_blank">search all templates</a></span>'

template\_html = ''.join(

f'<div class="n8n-templates-widget-template">'

f'<strong>{detail["title"]}</strong>'

f'<p class="n8n-templates-name">by {detail["user"]}</p>'

f'<a class="n8n-templates-link" href="{detail["url"]}" target="\_blank">View template details</a>'

f'</div>'

for detail in workflow\_details

)

return (

f'<div class="n8n-templates-widget">'

f'{template\_html}'

f'<span class="n8n-templates-widget-more">'

f'<a href="https://n8n.io/integrations/{slug}/" target="\_blank">Browse {title} integration templates</a>, or '

f'<a href="https://n8n.io/workflows/" target="\_blank">search all templates</a>'

f'</span></div>'

)

@env.macro

def workflowDemo(workflow\_json):

if no\_template:

return "<div class='n8n-workflow-preview'><p>Workflow preview placeholder.</p></div>"

parsed\_workflow\_url = urllib.parse.urlparse(workflow\_json)

if parsed\_workflow\_url.scheme in ["https", "http"]:

r = requests.get(url = workflow\_json)

wf\_data = r.json()

template\_url = f'https://n8n.io/workflows/{wf\_data["id"]}-{custom\_slugify(wf\_data["name"])}/'

workflow\_json = {

"nodes": wf\_data['workflow']['nodes'],

"connections": wf\_data['workflow']['connections']

}

workflow\_message = "View template details"

elif parsed\_workflow\_url.scheme == "file":

BASE\_DIR = os.path.dirname(os.path.abspath(\_\_file\_\_))

request\_path = parsed\_workflow\_url.path

file\_path = f'{BASE\_DIR}/docs/\_workflows{request\_path}'

with open(file\_path, 'r') as file:

wf\_data = json.load(file)

template\_url = f'/\_workflows{request\_path}'

workflow\_json = {

"nodes": wf\_data['nodes'],

"connections": wf\_data['connections']

}

workflow\_message = "View workflow file"

else:

raise ValueError("Workflow JSON must include a URL scheme")

encoded\_workflow\_json = urllib.parse.quote(json.dumps(workflow\_json))

return f"<div class='n8n-workflow-preview'><n8n-demo hidecanvaserrors='true' clicktointeract='true' frame='false' collapseformobile='false' workflow='{encoded\_workflow\_json}'></n8n-demo><a href='{template\_url}' target='\_blank'>{workflow\_message}</a></div>"

## README.md

![Banner image](https://user-images.githubusercontent.com/10284570/173569848-c624317f-42b1-45a6-ab09-f0ea3c247648.png)

# n8n Docs

This repository hosts the documentation for [n8n](https://n8n.io/), an extendable workflow automation tool which enables you to connect anything to everything. The documentation is live at [docs.n8n.io](https://docs.n8n.io/).

## Previewing and building the documentation locally

### Prerequisites

\* Python 3.8 or above

\* Pip

\* n8n recommends using a virtual environment when working with Python, such as [venv](https://docs.python.org/3/tutorial/venv.html).

\* Follow the [recommended configuration and auto-complete](https://squidfunk.github.io/mkdocs-material/creating-your-site/#minimal-configuration) guidance for the theme. This will help when working with the `mkdocs.yml` file.

\* The repo includes a `.editorconfig` file. Make sure your local editor settings \*\*do not override\*\* these settings. In particular:

- Don't allow your editor to replace tabs with spaces. This can affect our code samples (which must retain tabs for people building nodes).

- One tab must be equivalent to four spaces.

### Steps

#### For members of the n8n GitHub organization:

1. Set up an SSH token and add it to your GitHub account. Refer to [GitHub | About SSH](https://docs.github.com/en/authentication/connecting-to-github-with-ssh/about-ssh) for guidance.

2. Then run these commands:

```bash

git clone --recurse-submodules git@github.com:n8n-io/n8n-docs.git

cd n8n-docs

# Set up virtual environment if using one (steps depend on your system)

# Install dependencies

pip install -r requirements.txt

pip install \_submodules/insiders

```

#### For external contributors:

Rely on the preview builds on pull requests, or use the free version of Material for MkDocs (most things are the same, some formatting may be missing)

Fork the repository, then:

```

git clone https://github.com/<your-username>/n8n-docs.git

cd n8n-docs

pip install -r requirements.txt

pip install mkdocs-material

```

#### To serve a local preview:

```

mkdocs serve

```

## Contributing

Please read the [CONTRIBUTING](CONTRIBUTING.md) guide.

You can find [style guidance](https://github.com/n8n-io/n8n-docs/wiki/Styles) in the wiki.

## Support

If you have problems or questions, head to n8n's forum: https://community.n8n.io

## License

n8n-docs is [fair-code](https://faircode.io/) licensed under the [\*\*Sustainable Use License\*\*](https://github.com/n8n-io/n8n/blob/master/LICENSE.md).

More information about the license is available in the [License documentation](https://docs.n8n.io/reference/license/).

## requirements.txt

mkdocs==1.6.1

mkdocs-exclude==1.0.2

mkdocs-glightbox

mkdocs-macros-plugin==1.0.4

## runtime.txt

3.12

## bug\_report.md

---

name: Bug report

about: Create a report to help us fix and improve docs

title: "[DOCS-ISSUE] - "

labels: bug

assignees: ''

---

\*\*NOTE!\*\*

This is for issues with \_documentation\_ of \*\*n8n\*\*. If the problem you are having is actually a bug in the software, please [file a bug here instead](https://github.com/n8n-io/n8n/issues).

\*\*Where is the bug/mistake?\*\*

Please help us by pasting in the URL of the page or telling us the title.

\*\*What problem did you find?\*\*

A clear and concise description of what is wrong.

\*\*Can you suggest a fix?\*\*

For some issues, like a broken link, it will help us resolve them faster if you can indicate what you think the correct information would be.

\*\*Additional context\*\*

Add any other context about the problem here.

## new-docs-request.md

---

name: New docs request

about: Suggest additional pages or information to improve docs

title: "[DOCS-REQUEST] - "

labels: enhancement

assignees: ''

---

Thanks for helping us improve docs! Please give us as much information as you can about the changes you'd like to see.

\*\*What information is missing?\*\*

\*\*Describe the page/pages you'd like\*\*

\*\*Additional context\*\*

Add any other context or screenshots about the feature request here.

## ai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AI environment variables

description: Manage AI features in your n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# AI environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_AI\_ENABLED` | Boolean | `false` | Whether AI features are enabled (true) or not (false). Enables Ask AI for the HTTP node.|

| `N8N\_AI\_PROVIDER` | String | `openai` | The AI provider to use. Currently, n8n only supports OpenAI. |

| `N8N\_AI\_OPENAI\_API\_KEY` | String | - | Your OpenAI API key. |

## create-n8n-nodes-module.md

# Creating n8n-nodes-module

[TODO: this is the most up to date method, use it]

In this guide, you'll learn to create a custom n8n-nodes-module that can be installed separately alongside your n8n instance. The n8n-nodes-module is an npm package that contains the node. Your custom node will get loaded automatically when n8n starts.

Consider creating n8n-nodes-module if any of the following conditions satisfy your needs:

- The nodes are only for yourself, your organization, or a small group of people.

- The nodes require external dependencies that are not already available in n8n.

\*\*NOTE:\*\* n8n-nodes-module can only be installed in self-hosted n8n instances. This functionality is currently not available on n8n Cloud or the desktop app. There are plans to introduce this functionality in the future.

## Prerequisites

You may already be familiar with creating nodes in n8n. If you are unfamiliar with how to create n8n nodes, you can learn about it following the instructions mentioned in the [Creating Your First Node](https://docs.n8n.io/nodes/creating-nodes/create-node.html) tutorial.

Install the following tools:

- \*\*Git:\*\* You can find instructions on how to install Git [here](https://git-scm.com/downloads).

- \*\*Node.js and npm:\*\* You can find instructions how to install both using nvm (Node Version Manager) [here](https://github.com/nvm-sh/nvm). The current minimum version is `14.15`. In case you already have Node.js and npm installed, you can check the current version with the following command:

```bash

node -v

npm -v

```

\*\*NOTE:\*\* Use node version `14.x` and npm version `6.x`. If using npm version `7+`, you must enable legacy peer dependencies by setting: `npm config set legacy-peer-deps true`.

[TODO: remove lerna per alex]

- \*\*Lerna:\*\* You can install lerna globally with the following command:

```bash

npm i

```

- Install n8n: Create a new folder and install n8n using the command:

```bash

npm install n8n

```

## Create custom n8n-nodes-module

You can create multiple n8n-nodes-modules. Each individual n8n-nodes-module should get created in a separate folder since they are different npm packages. A single n8n-nodes-module can contain multiple nodes. If you're creating multiple nodes in the same module, as a best practice create each node in a separate folder.

In this tutorial, you will create an n8n-nodes-module for the OpenWeatherMap API. You will name it \*\*\*n8n-nodes-weather\*\*\*.

To quickly get started, clone the example starter using the following command:

```bash

git clone https://github.com/n8n-io/n8n-nodes-starter.git n8n-nodes-weather.

```

After the repo gets cloned, open the package.json file, and update the value of the name by replacing `n8n-nodes-starter` with `n8n-nodes-weather`.

\*\*NOTE:\*\* The name of the module has to start with `n8n-nodes-`.

Open the cloned repository in your code editor, and create a new folder called `Weather`, inside the \*\*\*nodes\*\*\* folder. Create `Weather.node.ts` file inside the Weather folder and paste the following code:

```ts

import {

IDataObject,

IExecuteFunctions,

INodeExecutionData,

INodeType,

INodeTypeDescription,

IRequestOptions,

NodeApiError,

NodeOperationError,

} from 'n8n-workflow';

export class Weather implements INodeType {

description: INodeTypeDescription = {

displayName: 'Weather',

name: 'Weather',

icon: 'fa:sun',

group: ['input'],

version: 1,

description: 'Gets current and future weather information',

defaults: {

name: 'Weather',

color: '#554455',

},

inputs: ['main'],

outputs: ['main'],

credentials: [

{

name: 'weatherApi',

required: true,

},

],

properties: [

{

displayName: 'Operation',

name: 'operation',

type: 'options',

options: [

{

name: 'Current Weather',

value: 'currentWeather',

description: 'Returns the current weather data',

},

{

name: '5 day Forecast',

value: '5DayForecast',

description: 'Returns the weather data for the next 5 days',

},

],

default: 'currentWeather',

description: 'The operation to perform.',

},

{

displayName: 'Format',

name: 'format',

type: 'options',

options: [

{

name: 'Imperial',

value: 'imperial',

description: 'Fahrenheit | miles/hour',

},

{

name: 'Metric',

value: 'metric',

description: 'Celsius | meter/sec',

},

{

name: 'Scientific',

value: 'standard',

description: 'Kelvin | meter/sec',

},

],

default: 'metric',

description: 'The format in which format the data should be returned.',

},

// ----------------------------------

// Location Information

// ----------------------------------

{

displayName: 'Location Selection',

name: 'locationSelection',

type: 'options',

options: [

{

name: 'City Name',

value: 'cityName',

},

{

name: 'City ID',

value: 'cityId',

},

{

name: 'Coordinates',

value: 'coordinates',

},

{

name: 'Zip Code',

value: 'zipCode',

},

],

default: 'cityName',

description: 'How to define the location for which to return the weather.',

},

{

displayName: 'City',

name: 'cityName',

type: 'string',

default: '',

placeholder: 'berlin,de',

required: true,

displayOptions: {

show: {

locationSelection: [

'cityName',

],

},

},

description: 'The name of the city to return the weather of.',

},

{

displayName: 'City ID',

name: 'cityId',

type: 'number',

default: 160001123,

required: true,

displayOptions: {

show: {

locationSelection: [

'cityId',

],

},

},

description: 'The id of city to return the weather of. List can be downloaded here: http://bulk.openweathermap.org/sample/',

},

{

displayName: 'Latitude',

name: 'latitude',

type: 'string',

default: '',

placeholder: '13.39',

required: true,

displayOptions: {

show: {

locationSelection: [

'coordinates',

],

},

},

description: 'The latitude of the location to return the weather of.',

},

{

displayName: 'Longitude',

name: 'longitude',

type: 'string',

default: '',

placeholder: '52.52',

required: true,

displayOptions: {

show: {

locationSelection: [

'coordinates',

],

},

},

description: 'The longitude of the location to return the weather of.',

},

{

displayName: 'Zip Code',

name: 'zipCode',

type: 'string',

default: '',

placeholder: '10115,de',

required: true,

displayOptions: {

show: {

locationSelection: [

'zipCode',

],

},

},

description: 'The id of city to return the weather of. List can be downloaded here: http://bulk.openweathermap.org/sample/',

},

{

displayName: 'Language',

name: 'language',

type: 'string',

default: '',

placeholder: 'en',

required: false,

description: 'The two letter language code to get your output in (eg. en, de, ...).',

},

],

};

async execute(this: IExecuteFunctions): Promise<INodeExecutionData[][]> {

const items = this.getInputData();

const returnData: IDataObject[] = [];

const credentials = await this.getCredentials('openWeatherMapApi');

if (credentials === undefined) {

throw new NodeOperationError(this.getNode(), 'No credentials got returned!');

}

const operation = this.getNodeParameter('operation', 0) as string;

let endpoint = '';

let locationSelection;

let language;

let qs: IDataObject;

for (let i = 0; i < items.length; i++) {

try {

// Set base data

qs = {

APPID: credentials.accessToken,

units: this.getNodeParameter('format', i) as string,

};

// Get the location

locationSelection = this.getNodeParameter('locationSelection', i) as string;

if (locationSelection === 'cityName') {

qs.q = this.getNodeParameter('cityName', i) as string;

} else if (locationSelection === 'cityId') {

qs.id = this.getNodeParameter('cityId', i) as number;

} else if (locationSelection === 'coordinates') {

qs.lat = this.getNodeParameter('latitude', i) as string;

qs.lon = this.getNodeParameter('longitude', i) as string;

} else if (locationSelection === 'zipCode') {

qs.zip = this.getNodeParameter('zipCode', i) as string;

} else {

throw new NodeOperationError(this.getNode(), `The locationSelection "${locationSelection}" is not known!`);

}

// Get the language

language = this.getNodeParameter('language', i) as string;

if (language) {

qs.lang = language;

}

if (operation === 'currentWeather') {

// ----------------------------------

// currentWeather

// ----------------------------------

endpoint = 'weather';

} else if (operation === '5DayForecast') {

// ----------------------------------

// 5DayForecast

// ----------------------------------

endpoint = 'forecast';

} else {

throw new NodeOperationError(this.getNode(), `The operation "${operation}" is not known!`);

}

const options: IRequestOptions = {

method: 'GET',

qs,

uri: `https://api.openweathermap.org/data/2.5/${endpoint}`,

json: true,

};

let responseData;

try {

responseData = await this.helpers.request(options);

} catch (error) {

throw new NodeApiError(this.getNode(), error);

}

returnData.push(responseData as IDataObject);

} catch (error) {

if (this.continueOnFail()) {

returnData.push({json:{ error: error.message }});

continue;

}

throw error;

}

}

return [this.helpers.returnJsonArray(returnData)];

}

}

```

The OpenWeatherMap API requires credentials to return results successfully. Create `WeatherApi.credentials.ts` file in the \*\*\*Credentials\*\*\* folder and paste the following code:

```ts

import {

ICredentialType,

INodeProperties,

} from 'n8n-workflow';

export class WeatherApi implements ICredentialType {

name = 'weatherApi';

displayName = 'Weather API';

properties: INodeProperties[] = [

{

displayName: 'Access Token',

name: 'accessToken',

type: 'string',

default: '',

},

];

}

```

Add the newly created node and the credential to the package.json file. Add `"dist/nodes/Weather/Weather.node.js"` to the \*\*\*nodes\*\*\* array in the \*\*\*n8n\*\*\* object (`n8n.nodes`). Similarly, add `"dist/credentials/WeatherApi.credentials.js"` to the \*\*\*credentials\*\*\* array in the \*\*\*n8n\*\*\* object (`n8n.credentials`).

## Develop and test the module

Once you've created the n8n-nodes-module, you need to build the code and publish the package locally to test it. Run the following commands:

```bash

# Install dependencies

npm install

# Build the code

npm run build

# "Publish" the package locally

npm link

```

\*\*NOTE:\*\* If you get permission errors, run the command as a root user with `sudo`, for example `sudo npm link`.

In the terminal, open the folder where you installed n8n. Run the following command to install the locally published module.

```bash

# "Install" the above locally published module

npm link n8n-nodes-weather

```

Start n8n with the below command

```bash

./node\_modules/n8n/bin/n8n start

```

You will now be able to test and use your newly created n8n-nodes-module.

## Publish the n8n-nodes-module

As mentioned, the n8n-nodes-module is an npm package. To make it available to others, you can publish it to the npm registry. Refer to the [Publishing unscoped public packages](https://docs.npmjs.com/creating-and-publishing-unscoped-public-packages#publishing-unscoped-public-packages) guide to learn about publishing packages.

Following the steps mentioned above, you can create multiple nodes within a single n8n-nodes-module. You can also create nodes that require dependencies that are not present in n8n. When creating an n8n-nodes-module make sure that you follow the following guidelines:

- The name of the module should start with `n8n-nodes-`.

- The `package.json` file has to contain a key `n8n` with the paths to nodes and credentials.

- The module has to be installed alongside n8n.

## Use the n8n-nodes-module in production

Once you test and publish your n8n-nodes-module you would want to use it in your production environment.

If you're running n8n via Docker, you will have to create a Docker image with the node module installed in n8n. Follow the steps below to create your Docker image:

1. Create a Dockerfile and paste the code from [this Dockerfile](https://github.com/n8n-io/n8n/blob/master/docker/images/n8n/Dockerfile).

2. Add the following command in your Dockerfile before the font installation command.

```Dockerfile

RUN cd /usr/local/lib/node\_modules/n8n && npm install n8n-nodes-weather

```

Your Dockerfile should look like this:

```Dockerfile

FROM node:16-alpine

ARG N8N\_VERSION

RUN if [ -z "$N8N\_VERSION" ] ; then echo "The N8N\_VERSION argument is missing!" ; exit 1; fi

# Update everything and install needed dependencies

RUN apk add --update graphicsmagick tzdata git tini su-exec

# Set a custom user to not have n8n run as root

USER root

# Install n8n and the packages it needs to build it correctly.

RUN apk --update add --virtual build-dependencies python3 build-base ca-certificates && \

npm config set python "$(which python3)" && \

npm\_config\_user=root npm install -g full-icu n8n@${N8N\_VERSION} && \

apk del build-dependencies \

&& rm -rf /root /tmp/\* /var/cache/apk/\* && mkdir /root;

# Install your n8n-nodes-module. Replace <n8n-nodes-module> with the name of your module

RUN cd /usr/local/lib/node\_modules/n8n && npm install <n8n-nodes-module>

# Install fonts

RUN apk --no-cache add --virtual fonts msttcorefonts-installer fontconfig && \

update-ms-fonts && \

fc-cache -f && \

apk del fonts && \

find /usr/share/fonts/truetype/msttcorefonts/ -type l -exec unlink {} \; \

&& rm -rf /root /tmp/\* /var/cache/apk/\* && mkdir /root

ENV NODE\_ICU\_DATA /usr/local/lib/node\_modules/full-icu

WORKDIR /data

COPY docker-entrypoint.sh /docker-entrypoint.sh

ENTRYPOINT ["tini", "--", "/docker-entrypoint.sh"]

EXPOSE 5678/tcp

```

3. Download the [docker-entrypoint.sh](https://github.com/n8n-io/n8n/blob/master/docker/images/n8n/docker-entrypoint.sh) file, and place it in the same directory as your Dockerfile.

4. Build your Docker image:

```Dockerfile

# Replace <n8n-version-number> with the n8n release version number.

# For example, N8N\_VERSION=0.177.0

docker build --build-arg N8N\_VERSION=<n8n-version-number> --tag=customizedn8n .

```

You can now use your n8n-nodes-module in Docker.

If you're running either by installing it globally or using PM2, make sure that you install your n8n-nodes-module inside n8n. n8n will find the module and load it automatically.

## create-trigger-node.md

---

contentType: tutorial

---

# Creating Your First Trigger Node

This tutorial walks through building a trigger node.

## Prerequisites

You need the following installed on your development machine:

--8<-- "\_snippets/integrations/creating-nodes/prerequisites.md"

You need some understanding of:

- JavaScript/TypeScript

- REST APIs

- Webhooks

- Expressions in n8n

- git

## Build your node

The first thing that we have to do is pick the service we want to create the node for. We will use [Autopilot](https://www.autopilothq.com/) as an example.

Since n8n's repository already has a Autopilot Trigger node, we will name this node \*\*Autofriend Trigger\*\* to avoid conflicts.

### Step 1: Set up the project

--8<-- "\_snippets/integrations/creating-nodes/tutorial-set-up-project.md"

## Creating the node

1. Go to `packages/nodes-base/nodes`.

2. Create a folder called `Autofriend` (the folder names are PascalCase).

3. Within the Autofriend folder, create a file called `AutofriendTrigger.node.ts` (YourNodeNameTrigger.node.ts).

4. Download and add the Autofriend [icon](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Autopilot/autopilot.svg) to the folder. Name it `autopilot.svg`.

- The icon property has to be either a 60x60 pixels PNG or an SVG and must exist in the node's folder.

- An SVG is preferable. In case you have to use a PNG, make sure that it's compressed. A good tool for that's [tinypng](https://tinypng.com).

- A good place to find company icons is [gilbarbara/logos](https://github.com/gilbarbara/logos/tree/master/logos).

5. Paste the following code in the `AutofriendTrigger.node.ts` file.

```typescript

import {

IDataObject,

IHookFunctions,

INodeType,

INodeTypeDescription,

IWebhookFunctions,

IWebhookResponseData,

} from 'n8n-workflow';

/\*

import {

autofriendApiRequest,

} from './GenericFunctions';

import {

snakeCase,

} from 'change-case';

\*/

export class AutofriendTrigger implements INodeType {

description: INodeTypeDescription = {

displayName: 'Autofriend Trigger',

name: 'autofriendTrigger',

icon: 'file:autofriend.svg',

group: ['trigger'],

version: 1,

subtitle: '={{$parameter["event"]}}',

description: 'Handle Autofriend events using webhooks',

defaults: {

name: 'Autofriend Trigger',

color: '#6ad7b9',

},

inputs: [],

outputs: ['main'],

credentials: [],

webhooks: [

{

name: 'default',

httpMethod: 'POST',

responseMode: 'onReceived',

path: 'webhook',

},

],

properties: [],

};

async webhook(this: IWebhookFunctions): Promise<IWebhookResponseData> {

return {

workflowData: [],

};

}

}

```

Your directory structure should now look like the following.

![Autofriend's directory structure](/\_images/integrations/creating-nodes/autopilot-directory-structure.png)

## Adding the node to Editor UI

n8n uses the properties set in the property `description` to render the node in the Editor UI. These properties are `displayName`, `name`, `color`, `icon`, `description`, and `subtitle`.

Check the following figure to see how the properties affect the looks of the node.

![Autofriend's appearance in Editor UI](/\_images/integrations/creating-nodes/autopilot-appearance.png)

\*\*Note:\*\* The property description conforms to [INodeTypeDescription](https://github.com/n8n-io/n8n/blob/f2666e92ffed2c3983d08e73b1e45a2bd516b90d/packages/workflow/src/Interfaces.ts#L425).

Let's see how the node looks in the UI by following these steps:

1. Go to `/packages/nodes-base/package.json`.

2. Paste `"dist/nodes/Autofriend/AutofriendTrigger.node.js",` in the nodes array to register the node (in an alphabetical order).

3. Go to the project's main folder (n8n) in the terminal and run the following commands (it can take a few minutes).

- The first command installs all dependencies of all the modules and links them together.

- The second command builds all the code.

- The third command starts n8n in development mode.

```bash

lerna bootstrap --hoist

npm run build

npm run dev

```

4. Open your browser and go to [localhost:8080](http://localhost:8080/) and you should be able to see the Editor UI.

5. Open the \*\*\*Create Node\*\*\* menu, select the \*\*\*Trigger\*\*\* tab, type `Autofriend`, and click on it to add the node to the Editor UI.

\*\*Notes\*\*

- On startup, n8n will load all the nodes and credentials (more about credentials later) that are registered in `/packages/nodes-base/package.json`.

- The property `description.name` uses camelCase.

- The property `description.color` is the company's branding color in hexadecimal. In case the website doesn'tinclude this information, there are other websites that help you get a company's branding colors. For example, [brandpalettes.com](https://brandpalettes.com/).

## Creating the UI for the node

Double-clicking on the Autofriend Trigger node will open the Node Editor View. It will be empty since we haven't added any UI components yet. Luckily, n8n provides predefined JSON-based UI components that we can use to ask the user for different types of data.

Autopilots's [docs](https://autopilot.docs.apiary.io/#reference/rest-hooks/register-rest-hook/register-a-rest-hook) mention that to create a hook, we need to provide the following pieces of information:

- event - Required

- target\_url - Required

In the `event` parameter, we provide the name of the event for which we want to be notified. For example, `contact\_added`. As the name implies, by providing `contact\_added` as the event, we will be notified every time a contact is added to Autofriend.

In the `target\_url` parameter, we provide the URL where Autofriend will notify us when the event defined in the event parameter takes place. We don't need to ask the user for this parameter as n8n provides us with a method to obtain it.

### Adding the fields

Let's make the Node Editor View ask for these parameters:

1. Add the following under `description.properties` in `packages/nodes-base/nodes/Autofriend/AutofriendTrigger.node.ts.`.

```typescript

{

displayName: 'Event',

name: 'event',

type: 'options',

required: true,

default: '',

options: [

{

name: 'Contact Added',

value: 'contactAdded',

},

{

name: 'Contact Added To List',

value: 'contactAddedToList',

},

{

name: 'Contact Entered Segment',

value: 'contactEnteredSegment',

},

{

name: 'Contact Left Segment',

value: 'contactLeftSegment',

},

{

name: 'Contact Removed From List',

value: 'contactRemovedFromList',

},

{

name: 'Contact Unsubscribed',

value: 'contactUnsubscribed',

},

{

name: 'Contact Updated',

value: 'contactUpdated',

},

],

},

```

2. Stop the current n8n process by pressing `ctrl + c` in the terminal in which you are running n8n.

3. Run again, by entering the following in the terminal.

```bash

npm run dev

```

4. Go to [localhost:8080](http://localhost:8080/), refresh the page, and open the node again.

The node should now look like in the following image.

![Autofriend's required fields](/\_images/integrations/creating-nodes/autofriend-fields.png)

## Creating the UI for credentials

Most REST APIs use some sort of authentication mechanism. Autofriend's REST API uses API Keys. The API Key informs them about who is making the request to their system and gives you access to all the functionality that the API provides. Given all the things it can do, this has to be treated as a sensitive piece of information and should be kept private.

n8n gives you the ability to ask for sensitive information using credentials. In the credentials, you can use all the generally available UI elements. Additionally, the data that's stored using the credentials would be encrypted before being saved to the database. In order to do that, n8n uses an encryption key.

With that in mind, let's create the UI to ask for the user's Autofriend API Key. The process of creating and registering credentials is similar to that of creating and registering the node:

1. Go to `packages/nodes-base/credentials`.

2. Within the credentials folder, create a file named `AutofriendApi.credentials.ts`.

3. Paste the following code.

```typescript

import {

ICredentialType,

NodePropertyTypes,

} from 'n8n-workflow';

export class AutofriendApi implements ICredentialType {

name = 'autofriendApi';

displayName = 'Autofriend API';

properties = [

{

displayName: 'API Key',

name: 'apiKey',

type: 'string' as NodePropertyTypes,

default: '',

},

];

}

```

4. Go to `/packages/nodes-base/package.json`.

5. Paste `"dist/credentials/AutofriendApi.credentials.js",` in the credentials array to register the credentials (in an alphabetical order).

6. Got to `packages/nodes-base/nodes/Autofriend/AutofriendTrigger.node.ts`.

7. Associate the credentials with the node by adding the following to `description.credentials`.

```typescript

credentials: [

{

name: 'autofriendApi',

required: true,

},

],

```

8. Stop the current n8n process by pressing `ctrl + c` in the terminal in which you are running n8n.

9. Run again, by entering the following in the terminal.

```bash

npm run dev

```

When you go to the Node Editor view, you should see the following.

![Autofriend's create credentials](/\_images/integrations/creating-nodes/autofriend-create-credentials.png)

![Autofriend's credentials](/\_images/integrations/creating-nodes/autofriend-credentials.png)

## Understanding the life cycle for the webhook method

When a Trigger node is executed either in test or production mode, the following happens:

### n8n persists all the webhooks defined in description.webhooks

The persisted data will be used later to verify if the incoming requests to the n8n's webhook endpoint are valid.

The property webhooks implements the interface \*\*IWebhookDescription\*\*. The interface has four properties.

1. \*\*name:\*\* The property name where n8n will look for the life cycle methods.

2. \*\*httpMethod:\*\* The HTTP method.

3. \*\*responseMode:\*\* When the trigger will respond. When developing a trigger node, this property must be set to `onReceived`.

4. \*\*path:\*\* The path added to the base URL.

For example, for a Trigger node with the following `webhooks` property, n8n will create the following webhooks URLs.

```typescript

webhooks: [

{

name: 'default',

httpMethod: 'POST',

responseMethod: 'onReceived',

path: 'webhook',

},

]

```

- \*\*Test:\*\* POST {{WEBHOOK\_URL || localhost}}/webhook-test/{{uuid}}/{{path}}

- \*\*Production:\*\* POST {{WEBHOOK\_URL || localhost}}/webhook/{{uuid}}/{{path}}

These URLs can be found in the node under the `Webhook URLs` label.

These webhook URLs will be used as the notification URL (also known as the callback URL or target URL) when creating the webhook in the external system.

\*\*Note:\*\* In test mode, the webhooks are persisted in memory. In production mode, they are persisted in the database.

### n8n executes the life cycle methods

The life cycle methods allow us to create, delete, and check if the webhook exists in the external system.

\*\*Methods\*\*

- `checkExist`: This is the first method that gets called. It checks if the webhook with the current path is already registered in the external system or not. If the webhook is already registered, n8n persists the webhook ID. If the webhook isn't registered with the external system, the `create` method gets executed.

- `create`: This method gets called if the `checkExist` method returns false (if the webhook with the current path doesn'texist in the external system). This method registers the webhook in the external system and stores the webhook ID in n8n.

- `delete`: This method gets called when the trigger is either stopped manually or when the workflow is deactivated. It uses the ID previously persisted by either the create or the checkExist method to delete the webhook from the external system.

![Lifecycle flowchart](/\_images/integrations/creating-nodes/lifecycle.png)

### Wait for new events to trigger the workflow

Every time the external system notifies us about a change, by making an HTTP Request to the URL we previously registered in the `create` method, the `execute` method is called. Within this method, we have access to the request object and everything it contains. For example, body, headers, querystring, etc. The data the method returns is the data we want the rest of the workflow to have access to.

Let's see how this would look for our current use-case:

1. Go to `packages/nodes-base/nodes/Autofriend`, create a file named `GenericFunctions.ts`, and paste the following code.

```typescript

import {

IDataObject,

IExecuteFunctions,

IHookFunctions,

ILoadOptionsFunctions,

IRequestOptions,

IWebhookFunctions,

} from 'n8n-workflow';

export async function autofriendApiRequest(this: IExecuteFunctions | IWebhookFunctions | IHookFunctions | ILoadOptionsFunctions, method: string, resource: string, body: any = {}, query: IDataObject = {}, uri?: string, option: IDataObject = {}): Promise<any> { // tslint:disable-line:no-any

const credentials = await this.getCredentials('autofriendApi') as IDataObject;

const apiKey = credentials.apiKey;

const endpoint = 'https://api2.autopilothq.com/v1';

const options: IRequestOptions = {

headers: {

'Content-Type': 'application/json',

autopilotapikey: apiKey,

},

method,

body,

qs: query,

uri: uri || `${endpoint}${resource}`,

json: true,

};

if (!Object.keys(body).length) {

delete options.body;

}

if (!Object.keys(query).length) {

delete options.qs;

}

try {

return await this.helpers.request!(options);

} catch (error) {

if (error.response) {

const errorMessage = error.response.body.message || error.response.body.description || error.message;

throw new Error(`Autopilot error response [${error.statusCode}]: ${errorMessage}`);

}

throw error;

}

}

```

2. Go to `packages/nodes-base/nodes/AutofriendTrigger.node.ts` and add the following code after the property description.

```typescript

// @ts-ignore

webhookMethods = {

default: {

async checkExists(this: IHookFunctions): Promise<boolean> {

const webhookData = this.getWorkflowStaticData('node');

const webhookUrl = this.getNodeWebhookUrl('default');

const event = this.getNodeParameter('event') as string;

const { hooks: webhooks } = await autofriendApiRequest.call(this, 'GET', '/hooks');

for (const webhook of webhooks) {

if (webhook.target\_url === webhookUrl && webhook.event === snakeCase(event)) {

webhookData.webhookId = webhook.hook\_id;

return true;

}

}

return false;

},

async create(this: IHookFunctions): Promise<boolean> {

const webhookUrl = this.getNodeWebhookUrl('default');

const webhookData = this.getWorkflowStaticData('node');

const event = this.getNodeParameter('event') as string;

const body: IDataObject = {

event: snakeCase(event),

target\_url: webhookUrl,

};

const webhook = await autofriendApiRequest.call(this, 'POST', '/hook', body);

webhookData.webhookId = webhook.hook\_id;

return true;

},

async delete(this: IHookFunctions): Promise<boolean> {

const webhookData = this.getWorkflowStaticData('node');

try {

await autofriendApiRequest.call(this, 'DELETE', `/hook/${webhookData.webhookId}`);

} catch (error) {

return false;

}

delete webhookData.webhookId;

return true;

},

},

};

}

```

3. Replace the `webhook` function with the following.

```typescript

async webhook(this: IWebhookFunctions): Promise<IWebhookResponseData> {

const req = this.getRequestObject();

return {

workflowData: [

this.helpers.returnJsonArray(req.body),

],

};

```

4. In the same file, uncomment the code snippet on the top to import `autoFriendApiRequest` and `snakeCase`.

5. Stop the current n8n process by pressing `ctrl + c` in the terminal where you are running n8n.

6. Run the project using a tunnel by entering `./packages/cli/bin/n8n start --tunnel` in the terminal. Access the n8n Editor UI at [localhost:5678](http://localhost:5678/workflow).

7. Enter the API key in the credentials. Instructions to find the API Key can be found [here](/integrations/builtin/credentials/autopilot/).

8. Go to the workflow editor, save your workflow, and execute the node.

![Executed node](/\_images/integrations/creating-nodes/executed-node.png)

9. Log into Autopilot and update a contact. Keep in mind that this should be done within two minutes after you executed the node. After that time frame, the webhook will be unregistered automatically and you will not be able to receive the event. If it takes you longer than that, please execute the node and update the contact again.

![Executed node with results](/\_images/integrations/creating-nodes/executed-node-with-results.png)

The trigger node is now receiving events. Sometimes it might take a bit longer for the payload to arrive.

You probably noticed that this time we did not run the project using `npm run dev`, but instead using `./packages/cli/bin/n8n start --tunnel`.

Since our server is running locally, we need a tool that lets us proxy all requests to our local machine so that n8n receives and handles the events from the external service (Autopilot). This gets achieved using a tunnel. The details on how a tunnel works are out of the scope of this tutorial. If you want to know about it, you can check this [link](http://localtunnel.github.io/www/). Keep in mind that the tunnel is meant for development purposes only and shouldn't be used in production.

## Test your node

--8<-- "\_snippets/integrations/creating-nodes/testing.md"

## Next steps

\* [Deploy your node](/integrations/creating-nodes/deploy/).

\* View an example of a declarative node: n8n's [Brevo node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Brevo){:target=\_blank .external-link}. Note that the main node is declarative, while the trigger node is in programmatic style.

\* Learn about [node versioning](/integrations/creating-nodes/build/reference/node-versioning/).

## item.md

# `$item(index: number, runIndex?: number)`

With `$item` you can access the data of parent nodes. That can be the item data but also

the parameters. It expects as input an index of the item the data should be returned for. This is

needed because for each item the data returned can be different. This is probably straightforward for the

item data itself but maybe less for data like parameters. The reason why it is also needed, is

that they may contain an expression. Expressions get always executed of the context for an item.

If that would not be the case, for example, the Email Send node not would be able to send multiple

emails at once to different people. Instead, the same person would receive multiple emails.

The index is 0 based. So `$item(0)` will return the first item, `$item(1)` the second one, and so on.

By default the item of the last run of the node will be returned. So if the referenced node ran

3x (its last runIndex is 2) and the current node runs the first time (its runIndex is 0) the

data of runIndex 2 of the referenced node will be returned.

For more information about what data can be accessed via `$node`, check out the `Variable: $node` [section](/code-examples/methods-variables/node/).

Example:

```typescript

// Returns the value of the JSON data property "myNumber" of Node "Set" (first item)

const myNumber = $item(0).$node["Set"].json["myNumber"];

// Like above but data of the 6th item

const myNumber = $item(5).$node["Set"].json["myNumber"];

// Returns the value of the parameter "channel" of Node "Slack".

// If it contains an expression the value will be resolved with the

// data of the first item.

const channel = $item(0).$node["Slack"].parameter["channel"];

// Like above but resolved with the value of the 10th item.

const channel = $item(9).$node["Slack"].parameter["channel"];

```

## n8n-nodes-base.cron.md

# Cron

The Cron node is useful to schedule the workflows to run periodically at fixed dates, times, or intervals. This works in a similar way to the [cron](https://en.wikipedia.org/wiki/Cron) software utility in Unix-like systems. This core node is a Trigger node.

/// note | Keep in mind

1. If a workflow is using the Cron node as a trigger, make sure that you save and activate the workflow.

/// 2. Make sure that the timezone is set correctly for the n8n instance (or the workflow).

## Node Reference

You can configure the node by clicking on the \*Add Cron Time\* button under the \*Trigger Times\* section. There are a couple of different options available for the \*Mode\* field in the form of a dropdownlist.

- Mode

- Every Minute

- Every Hour

- Every Day

- Every Week

- Every Month

- Every X

- Custom

The 'Every X' option allows you to specify the workflow to be triggered every x minutes or hours. You can specify x by entering a number in the \*Value\* field. The 'Custom' option allows you to enter a custom [cron expression](https://en.wikipedia.org/wiki/Cron#CRON\_expression) in the \*Cron Expression\* field.

## FAQs

### How to generate a custom Cron expression?

To generate a Cron expression, you can use [crontab guru](https://crontab.guru). Paste the Cron expression that you generated using crontab guru in the \*\*\*Cron Expression\*\*\* field in n8n.

### Why there are six asterisks (\*) in the Cron Expression?

The sixth asterisk in the Cron Expression represents seconds. Setting this is optional. The node will execute even if you don't set the value for seconds.

| \* | \* | \* | \* | \* | \* |

|---|---|---|---|---|---|

|second|minute|hour|day|week|month|

If you want to trigger your workflow, for example, every day at 04:08:30, enter the following in the \*\*\*Cron Expression\*\*\* field.

```

30 8 4 \* \* \*

```

If you want to trigger your workflow, for example, every day at 04:08, enter the following in the \*\*\*Cron Expression\*\*\* field.

```

8 4 \* \* \*

```

## n8n-nodes-base.function.md

# Function

/// warning | Deprecated in 0.198.0

n8n deprecated this node in version 0.198.0. Older workflows continue to work, and the node is still available in older versions n8n. From 0.198.0, n8n replaces the Function node with the [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/) node.

///

Using the function node, you can:

\* Transform data from other nodes

\* Implement custom functionality

/// note | Function node and function item node

Note that the Function node is different from the [Function Item](/integrations/builtin/core-nodes/n8n-nodes-base.functionitem/) node. Refer to [Data | Code](/data/code/) to learn about the difference between the two.

///

The Function node supports:

\* Promises. Instead of returning the items directly, you can return a promise which resolves accordingly.

\* Writing to your browser console using `console.log`. This is useful for debugging and troubleshooting your workflows.

When working with the Function node, you need to understand the following concepts:

\* [Data structure](/data/data-structure/): understand the data you receive in the Function node, and requirements for outputting data from the node.

\* [Item linking](/data/data-mapping/data-item-linking/): learn how data items work. You need to handle item linking when the number of input and output items doesn't match.

n8n provides built-in methods and variables. These provide support for:

\* Accessing specific item data

\* Accessing data about workflows, executions, and your n8n environment

\* Convenience variables to help with data and time

Refer to [methods and variables](/code-examples/methods-variables-reference/) for more information.

## Output items

When using the Function node, you must return data in the format described in [data structure](/data/data-structure/).

This example creates 10 items with the IDs 0 to 9:

```typescript

const newItems = [];

for (let i=0;i<10;i++) {

newItems.push({

json: {

id: i

}

});

}

return newItems;

```

## Manage item linking

--8<-- "\_snippets/data/data-mapping/item-linking-code-node.md"

## External libraries

If you self-host n8n, you can import and use built-in and external npm modules in the Function node. To learn how to enable external modules, refer the [Configuration](/hosting/configuration/#use-built-in-and-external-modules-in-function-nodes) guide.

## n8n-nodes-base.functionItem.md

# Function Item

/// warning | Deprecated in 0.198.0

n8n deprecated this node in version 0.198.0. Older workflows continue to work, and the node is still available in older versions n8n. From 0.198.0, n8n replaces the Function node with the [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/) node.

///

The Function Item node is used to add custom snippets to JavaScript code that should be executed once for every item that it receives as the input.

/// note | Keep in mind

Please note that the Function Item node is different from the [Function](/integrations/builtin/core-nodes/n8n-nodes-base.function/) node. Check out [this](/data/code/) page to learn about the difference between the two.

///

The Function Item node supports promises. So instead of returning the items directly, it is also possible to return a promise which resolves accordingly.

It also provides the ability to write to your browser console using `console.log`, useful for debugging and troubleshooting your workflows.

## Node Reference

You can also use the methods and variables mentioned in the [Expressions](/code-examples/expressions/) page in the Function Item node.

### Variable: item

It contains the "json" data of the currently processed item.

The data can be accessed and manipulated like this:

```json

// Uses the data of an already existing key to create a new additional one

item.newIncrementedCounter = item.existingCounter + 1;

return item;

```

### Method: getBinaryData()

Returns all the binary data (all keys) of the item which gets currently processed.

```json

item.filename = getBinaryData().attachment\_0.fileName;

return item;

```

### Method: setBinaryData(binaryData)

Sets all the binary data (all keys) of the item which gets currently processed.

### Method: getWorkflowStaticData(type)

This gives access to the static workflow data.

It is possible to save data directly with the workflow. This data should, however, be very small.

A common use case is to for example to save a timestamp of the last item that got processed from

an RSS-Feed or database. It will always return an object. Properties can then read, delete or

set on that object. When the workflow execution succeeds, n8n will check automatically if the data

has changed and will save it, if necessary.

There are two types of static data. The "global" and the "node" one. Global static data is the

same in the whole workflow. And every node in the workflow can access it. The node static data,

however, is different for every node and only the node which set it can retrieve it again.

\*\*Note:\*\* The static data cannot be read and written when executing via manual executions. The data will always be empty, and the changes will not persist. The static data will only be saved when a workflow is active.

#### Example

```javascript

// Get the global workflow static data

const staticData = getWorkflowStaticData('global');

// Get the static data of the node

const staticData = getWorkflowStaticData('node');

// Access its data

const lastExecution = staticData.lastExecution;

// Update its data

staticData.lastExecution = new Date().getTime();

// Delete data

delete staticData.lastExecution;

```

## External libraries

You can import and use built-in and external npm modules in the Function Item node. To learn how to enable external modules, refer the [Configuration](/hosting/configuration/environment-variables/) guide.

## n8n-nodes-base.venafitlsprotectdatacentertrigger.md

# Venafi TLS Protect Datacenter Trigger

[Venafi](https://www.venafi.com/){:target=\_blank .external-link} is a cybersecurity company providing services for machine identity management. They offer solutions to manage and protect identities for a wide range of machine types, delivering global visibility, lifecycle automation, and actionable intelligence.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/venafitlsprotectdatacenter/).

///

## n8n-nodes-langchain.chainretrievalqa.md

---

title: Retrieval QA Chain

description: Documentation for the Retrieval QA Chain node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

---

# Retrieval QA Chain

The Retrieval QA Chain node allows you to answer a query based on document content indexed by a retriever.

On this page, you'll find the node parameters for the Retrieval QA Chain node, and links to more resources.

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [LangChain integrations](https://n8n.io/integrations/langchain/){:target=\_blank .external-link} page.

///

## Node parameters

### Query

This is the prompt that the model will use.

```

What can you tell me about {{ $json.input }}

```

### Choose a mode

There are two modes:

\* \*\*Run Once for All Items\*\*: this is the default. When your workflow runs, the chain will run once, regardless of how many input items there are.

\* \*\*Run Once for Each Item\*\*: choose this if you want your chain to run for every input item.

## Related resources

View [example workflows and related content](https://n8n.io/integrations/langchain/){:target=\_blank .external-link} on n8n's website.

Refer to [LangChain's documentation on Retrieval QA](https://js.langchain.com/docs/modules/chains/popular/vector\_db\_qa){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## n8n-nodes-langchain.retrievervectorstore.md

---

title: \_Name\_

description: Documentation for the \_Name\_ node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

---

# \_Name\_

<!-- Briefly summarize the node. For example:

The \_Name\_ node allows you to automate work in \_Name\_ and integrate \_Name\_ with other applications. n8n has built-in support for a wide range of \_Name\_ features, which includes creating, updating, and deleting events, people, tags, and signatures. -->

On this page, you'll find the node parameters for the \_Name\_ node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/\_Name\_/).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [LangChain integrations](https://n8n.io/integrations/langchain/){:target=\_blank .external-link} page.

///

## Node parameters

\* \_Bullet list\_

\* \_Of available operations\_.

## Related resources

View [example workflows and related content](https://n8n.io/integrations/langchain/){:target=\_blank .external-link} on n8n's website.

Refer to [\_Name\_'s documentation](){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## node-developer-cli.md

# Using the Node Dev CLI

Using the Node Dev CLI makes sense if you do not want to ever share the node that you create. For example, for internal systems or something very specific to your internal tooling. Also, the CLI only works if there are no additional dependencies required by the node as it does not support installing additional node modules.

If that is not the case, it is best to do follow the [creating your first node](/integrations/creating-nodes/code/create-first-node/) tutorial or create your own custom node-package.

## Create the first basic node

1. Install the n8n-node-dev CLI: `npm install -g n8n-node-dev`

1. Create and go into the newly created folder in which you want to keep the code of the node

1. Use CLI to create boilerplate node code: `n8n-node-dev new`

1. Answer the questions (the “Execute” node type is the regular node type that you probably want to create).

It will then create the node in the current folder.

1. Program… Add the functionality to the node

1. Build the node and copy to correct location: `n8n-node-dev build`

That command will build the JavaScript version of the node from the TypeScript code and copy it to the user folder where custom nodes get read from `~/.n8n/custom/`

1. Restart n8n and refresh the window so that the new node gets displayed

## Create own custom n8n-nodes-module

If you want to create multiple custom nodes which are either:

- Only for yourself/your company

- Are only useful for a small number of people

- Require many or large dependencies

!!! note

To learn how to develop and test n8n-nodes-module, refer to the [Create n8n-nodes-module](/integrations/creating-nodes/code/create-n8n-nodes-module/) documentation.

It is best to create your own `n8n-nodes-module` which can be installed separately.

That is an npm package that contains the nodes and is set up in a way

that n8n can automatically find and load them on startup.

When creating such a module the following rules have to be followed that n8n

can automatically find the nodes in the module:

- The name of the module has to start with `n8n-nodes-`

- The `package.json` file has to contain a key `n8n` with the paths to nodes and credentials

- The module has to be installed alongside n8n

An example starter module which contains one node and credentials and implements

the above can be found here:

[https://github.com/n8n-io/n8n-nodes-starter](https://github.com/n8n-io/n8n-nodes-starter)

### Setup to use n8n-nodes-module

To use a custom `n8n-nodes-module`, it needs to be installed alongside n8n.

For example like this:

```bash

# Create folder for n8n installation

mkdir my-n8n

cd my-n8n

# Install n8n

npm install n8n

# Install custom nodes module

npm install n8n-nodes-my-custom-nodes

# Start n8n

n8n

```

### Development/Testing of custom n8n-nodes-module

This works in the same way as for any other npm module.

Execute in the folder which contains the code of the custom `n8n-nodes-module`

which should be loaded with n8n:

```bash

# Build the code

npm run build

# "Publish" the package locally

npm link

```

Then in the folder in which n8n is installed:

```bash

# "Install" the above locally published module

npm link n8n-nodes-my-custom-nodes

# Start n8n

n8n

```

## plan-flow-logic.md

---

description: Design your workflow's logic.

---

[TODO: I'm not sure this page is helpful, especially if focused on a dev audience]

# Plan your workflow logic

When you build a workflow, you create a set of instructions for how to process data. This can include:

\* Accessing external applications to retrieve and export data.

\* Manipulating data.

\* Performing different actions based on the data.

To define your data process, you link nodes together in a sequence. This is your workflow logic. n8n supports complex logic.

/// Details | What is data?

In n8n, data is any information processed by the workflow. n8n formats data as JSON. Refer to [Data](/data/) for more information on the data structure, and working with n8n workflow data.

///

## Fetch data

Your workflow needs data. There are three main ways to get this data:

\* From the trigger node that starts the workflow. For example, if you use the Gmail trigger to start a workflow in response to an event in Gmail, the Gmail trigger node provides data about the event.

\* Using an app node to retrieve data. For example, you can use the Gmail node to fetch information from Gmail (after starting the workflow with a different trigger).

\* Generate the data within the workflow. For example, you can use the Code node to create data.

## Manipulate data

## review-checklist.md

# Node review checklist

This checklist helps you build a node that meets the standards for submission to the community nodes collection. It also helps ensure that nodes are consistent and good quality.

## Preparation

<input type="checkbox"> Set up your editor for code formatting (indentation, new lines, linting). If you use Visual Studio Code, you can use the [TSLint extension](https://marketplace.visualstudio.com/items?itemName=ms-vscode.vscode-typescript-tslint-plugin){:target=\_blank .external-link} for linting.</input> <br>

<input type="checkbox"> Get credentials (for example, Client ID, Client Secret, API key, user login, user password, website URL) for the service you are building a node for.</input>

## Development

<input type="checkbox"> If you're creating a node requested by a community member, make sure to comment on the feature request in the [community forum](https://community.n8n.io/c/feature-requests/5){:target=\_blank .external-link}.</input><br>

<input type="checkbox"> Add complementary operations to each resource (for example, create, delete)</input><br>

<input type="checkbox"> Programmatic-style only. Check the node works with more than one input item.</input><br>

<input type="checkbox"> Ensure the parameters have the correct type.</input><br>

<input type="checkbox"> Mind the defaults: if the service has a default as true, keep it as true. Changing default values can break the existing workflows of the users.</input><br>

<input type="checkbox"> Check if the node disposes of everything. In particular, the node has closed all connections.</input><br>

<input type="checkbox"> Check your code using the [node linter](/integrations/creating-nodes/build/reference/node-linter/).</input><br>

## Testing

<input type="checkbox"> Test "create" and "update" operations with all fields/operations.</input><br>

<input type="checkbox"> Test the `continueOnFail` option with a Function node. For example, a Widget node has a GET operation that takes a widgetId and returns information on the widget. To test that the workflow continues on fail, set the Widget node to continue on fail, create a Function node, return a valid and an invalid widgetId, connect the Function node to Widget node, and run the workflow. The Widget node should show two items: one with information on the widget and another one with the error from having passed an invalid ID.)</input><br>

## Code formatting

<input type="checkbox"> Ensure the package lints cleanly by running `npm run lint`.</input><br>

<input type="checkbox"> Ensure the indentation is correct. Check this in the editor configuration.</input><br>

<input type="checkbox"> Ensure there are no extra spaces. Check this in the editor configuration.</input><br>

<input type="checkbox"> Code comment dividers inside if-branches.</input><br>

<input type="checkbox"> Use "create/delete" verbs for operations, except for tags, where you should use "add/remove."</input><br>

## Errors and outputs

<input type="checkbox"> Ensure empty API responses return `{ success: true }`.</input><br>

<input type="checkbox"> Ensure the node handles and displays error responses (for example, malformed requests, requests with invalid credentials) and use the current format. You can check this by making failing requests to the API.</input><br>

<input type="checkbox"> Check if you can simplify the response. If so, add a simplify function (for example, [SecurityScorecard node](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/SecurityScorecard/GenericFunctions.ts){:target=\_blank .external-link}).</input><br>

<input type="checkbox"> Ensure the response from `Create` is consistent with `Get`.</input><br>

<input type="checkbox"> Ensure the response from `Get All` is consistent with `Get`.</input><br>

## Presentation

<input type="checkbox"> The primary menu shouldn't contain optional parameters.</input><br>

<input type="checkbox"> Ensure a JSON object isn't shown in a single column in Table view.</input><br>

<input type="checkbox"> Make sure all GetAll operations have the fields `return` and `limit`.</input><br>

<input type="checkbox"> Set the property subtitle.</input><br>

<input type="checkbox"> Make sure the pagination (if any) is working. Set Limit 1.</input><br>

## Writing

<input type="checkbox"> Ensure all descriptions are correct and end with a period.</input><br>

<input type="checkbox"> Ensure that most descriptions exist, excluding redundant ones.</input><br>

<input type="checkbox"> Capitalize IDs in displayNames (for example: "IDs" not "ids" or "Ids").</input><br>

<input type="checkbox"> If there is more than one ID, ensure they have descriptive qualifiers.</input><br>

<input type="checkbox"> Ensure the `name` property in `description` in the node class is in camelCase.</input><br>

<input type="checkbox"> Ensure the file name and the class name are identical.</input><br>

## Branding

<!-- vale off -->

<input type="checkbox"> Check that brand names are correct (for example, "GitHub" not "Github"). </input><br>

<input type="checkbox">If the node is a trigger node, show this in the name by adding "Trigger" after the service name (for example, "Trello Trigger").</input><br>

<input type="checkbox"> Ensure the logo is either a PNG or SVG, ideally the latter. [Vecta](https://vecta.io/symbols){:target=\_blank .external-link} is a good website to find SVGs of different applications.</input><br>

<input type="checkbox"> If the logo is an SVG, ensure the canvas is a perfect square. If the logo is PNG, ensure it's 60x60 pixels and compressed.</input><br>

<input type="checkbox"> Ensure the border color of the node matches the branding of the service.</input><br>

<!-- vale on -->

## Nice-to-haves (optional)

<input type="checkbox"> Add handler for `continueOnFail`. This handler continues the workflow even if the node's execution fails.</input><br>

<input type="checkbox"> Remove `required: false` and `description: ''` in the node descriptions (for example, [Lemlist node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Lemlist/descriptions){:target=\_blank .external-link}).</input><br>

<input type="checkbox"> At call site, specify first `body` and then `qs`.</input><br>

<input type="checkbox"> At call site, prepend the endpoint with slash `/` (for example, "/campaign").</input><br>

## snippet-list.md

<div class="node-icon-container">

--8<-- "\_snippets/node-icon-square/core-nodes/compression.html"

--8<-- "\_snippets/node-icon-square/core-nodes/cron.html"

--8<-- "\_snippets/node-icon-square/core-nodes/crypto.html"

--8<-- "\_snippets/node-icon-square/core-nodes/date-and-time.html"

--8<-- "\_snippets/node-icon-square/core-nodes/edit-image.html"

--8<-- "\_snippets/node-icon-square/core-nodes/error-trigger.html"

--8<-- "\_snippets/node-icon-square/core-nodes/execute-command.html"

--8<-- "\_snippets/node-icon-square/core-nodes/execute-workflow.html"

--8<-- "\_snippets/node-icon-square/core-nodes/function-item.html"

--8<-- "\_snippets/node-icon-square/core-nodes/function.html"

--8<-- "\_snippets/node-icon-square/core-nodes/git.html"

--8<-- "\_snippets/node-icon-square/core-nodes/html-extract.html"

--8<-- "\_snippets/node-icon-square/core-nodes/http-request.html"

--8<-- "\_snippets/node-icon-square/core-nodes/icalendar.html"

--8<-- "\_snippets/node-icon-square/core-nodes/n8n-nodes-base.if.html"

--8<-- "\_snippets/node-icon-square/core-nodes/imap-email.html"

--8<-- "\_snippets/node-icon-square/core-nodes/interval.html"

--8<-- "\_snippets/node-icon-square/core-nodes/item-lists.html"

--8<-- "\_snippets/node-icon-square/core-nodes/local-file-trigger.html"

--8<-- "\_snippets/node-icon-square/core-nodes/merge.html"

--8<-- "\_snippets/node-icon-square/core-nodes/move-binary-data.html"

--8<-- "\_snippets/node-icon-square/core-nodes/n8n-trigger.html"

--8<-- "\_snippets/node-icon-square/core-nodes/no-operation-do-nothing.html"

--8<-- "\_snippets/node-icon-square/core-nodes/read-binary-file.html"

--8<-- "\_snippets/node-icon-square/core-nodes/read-binary-files.html"

--8<-- "\_snippets/node-icon-square/core-nodes/read-pdf.html"

--8<-- "\_snippets/node-icon-square/core-nodes/rename-keys.html"

--8<-- "\_snippets/node-icon-square/core-nodes/respond-to-webhook.html"

--8<-- "\_snippets/node-icon-square/core-nodes/rss-read.html"

--8<-- "\_snippets/node-icon-square/core-nodes/send-email.html"

--8<-- "\_snippets/node-icon-square/core-nodes/set.html"

--8<-- "\_snippets/node-icon-square/core-nodes/split-in-batches.html"

--8<-- "\_snippets/node-icon-square/core-nodes/spreadsheet-file.html"

--8<-- "\_snippets/node-icon-square/core-nodes/sse-trigger.html"

--8<-- "\_snippets/node-icon-square/core-nodes/ssh.html"

--8<-- "\_snippets/node-icon-square/core-nodes/start.html"

--8<-- "\_snippets/node-icon-square/core-nodes/stop-and-error.html"

--8<-- "\_snippets/node-icon-square/core-nodes/switch.html"

--8<-- "\_snippets/node-icon-square/core-nodes/wait.html"

--8<-- "\_snippets/node-icon-square/core-nodes/webhook.html"

--8<-- "\_snippets/node-icon-square/core-nodes/workflow-trigger.html"

--8<-- "\_snippets/node-icon-square/core-nodes/write-binary-file.html"

--8<-- "\_snippets/node-icon-square/core-nodes/xml.html"

</div>

## 1-0-migration-checklist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n v1.0 migration guide

description: What's new in version 1

contentType: reference

---

# n8n v1.0 migration guide

This document provides a summary of what you should be aware of before updating to version 1.0 of n8n.

The release of n8n 1.0 marks a milestone in n8n's journey to make n8n available for demanding production environments. Version 1.0 represents the hard work invested over the last four years to make n8n the most accessible, powerful, and versatile automation tool. n8n 1.0 is now ready for use in production.

## New features

### Python support in the Code node

Although JavaScript remains the default language, you can now also select Python as an option in the [Code node](/code/code-node.md) and even make use of [many Python modules](https://pyodide.org/en/stable/usage/packages-in-pyodide.html#packages-in-pyodide){:target=\_blank .external link}. Note that Python is unavailable in Code nodes added to a workflow before v1.0.

[PR #4295](https://github.com/n8n-io/n8n/pull/4295){:target=\_blank .external link}, [PR #6209](https://github.com/n8n-io/n8n/pull/6209){:target=\_blank .external link}

### Execution order

n8n 1.0 introduces a new execution order for multi-branch workflows:

In multi-branch workflows, n8n needs to determine the order in which to execute nodes on branches. Previously, n8n executed the first node of each branch, then the second of each branch, and so on (breadth-first). The new execution order ensures that each branch executes completely before starting the next one (depth-first). Branches execute based on their position on the canvas, from top to bottom. If two branches are at the same height, the leftmost one executes first.

n8n used to execute multi-input nodes as long as they received data on their first input. Nodes connected to the second input of multi-input nodes automatically executed regardless of whether they received data. The new execution order introduced in n8n 1.0 simplifies this behavior: Nodes are now executed only when they receive data, and multi-input nodes require data on at least one of their inputs to execute.

Your existing workflows will use the legacy order, while new workflows will execute using the v1 order. You can configure the execution order for each workflow in [workflow settings](/workflows/settings.md).

[PR #4238](https://github.com/n8n-io/n8n/pull/4238){:target=\_blank .external link}, [PR #6246](https://github.com/n8n-io/n8n/pull/6246){:target=\_blank .external link}, [PR #6507](https://github.com/n8n-io/n8n/pull/6507){:target=\_blank .external link}

## Deprecations

### MySQL and MariaDB

n8n has removed support for MySQL and MariaDB as storage backends for n8n. These database systems are used by only a few users, yet they require continuous development and maintenance efforts. n8n recommends migrating to PostgreSQL for better compatibility and long-term support.

[PR #6189](https://github.com/n8n-io/n8n/pull/6189){:target=\_blank .external link}

### EXECUTIONS\_PROCESS and "own" mode

Previously, you could use the `EXECUTIONS\_PROCESS` environment variable to specify whether executions should run in the `main` process or in their `own` processes. This option and `own` mode are now deprecated and will be removed in a future version of n8n. This is because it led to increased code complexity while offering marginal benefits. Starting from n8n 1.0, `main` will be the new default.

Note that executions start much faster in `main` mode than in `own` mode. However, if a workflow consumes more memory than is available, it might crash the entire n8n application instead of just the worker thread. To mitigate this, make sure to allocate enough system resources or configure [queue mode](/hosting/scaling/queue-mode.md) to distribute executions among multiple workers.

[PR #6196](https://github.com/n8n-io/n8n/pull/6196){:target=\_blank .external link}

## Breaking changes

### Docker

#### Permissions change

When using Docker-based deployments, the n8n process is now run by the user `node` instead of `root`. This change increases security.

If permission errors appear in your n8n container logs when starting n8n, you may need to update the permissions by executing the following command on the Docker host:

```bash

docker run --rm -it --user root -v ~/.n8n:/home/node/.n8n --entrypoint chown n8nio/base:16 -R node:node /home/node/.n8n

```

#### Image removal

We've removed the Debian and RHEL images. If you were using these you need to change the image you use. This shouldn't result in any errors unless you were making a custom image based on one of those images.

#### Entrypoint change

The entrypoint for the container has changed and you no longer need to specify the n8n command. If you were previously running `n8n worker --concurrency=5` it's now `worker --concurrency=5`

[PR #6365](https://github.com/n8n-io/n8n/pull/6365){:target=\_blank .external link}

### Workflow failures due to expression errors

Workflow executions may fail due to syntax or runtime errors in expressions, such as those that reference non-existent nodes. While expressions already throw errors on the frontend, this change ensures that n8n also throws errors on the backend, where they were previously silently ignored. To receive notifications of failing workflows, n8n recommends setting up an "error workflow" under workflow settings.

[PR #6352](https://github.com/n8n-io/n8n/pull/6352){:target=\_blank .external link}

### Mandatory owner account

This change makes [User Management](/user-management/index.md) mandatory and removes support for other authentication methods, such as BasicAuth and External JWT. Note that the number of permitted users on [n8n.cloud](https://n8n.cloud/){:target=\_blank .external link} or custom plans still varies depending on your subscription.

[PR #6362](https://github.com/n8n-io/n8n/pull/6362){:target=\_blank .external link}

### Directory for installing custom nodes

n8n will no longer load custom nodes from its global `node\_modules` directory. Instead, you must install (or link) them to `~/.n8n/custom` (or a directory defined by `N8N\_CUSTOM\_EXTENSIONS`). Custom nodes that are npm packages will be located in `~/.n8n/nodes`.

If you have custom nodes that were linked using `npm link` into the global `node\_modules` directory, you need to link them again, into `~/.n8n/nodes` instead.

[PR #6396](https://github.com/n8n-io/n8n/pull/6396){:target=\_blank .external link}

### WebSockets

The `N8N\_PUSH\_BACKEND` environment variable can be used to configure one of two available methods for pushing updates to the user interface: `sse` and `websocket`. Starting with n8n 1.0, `websocket` is the default method.

[PR #6196](https://github.com/n8n-io/n8n/pull/6196){:target=\_blank .external link}

### Date transformation functions

n8n provides various transformation functions that operate on dates. These functions may return either a JavaScript `Date` or a Luxon `DateTime` object. With the new behavior, the return type always matches the input. If you call a date transformation function on a `Date`, it returns a `Date`. Similarly, if you call it on a `DateTime` object, it returns a `DateTime` object.

To identify any workflows and nodes that might be impacted by this change, you can use this [utility workflow](https://n8n.io/workflows/1929-v1-helper-find-params-with-affected-expressions/){:target=\_blank .external link}.

For more information about date transformation functions, please refer to the [official documentation](/code/builtin/data-transformation-functions/dates.md).

[PR #6435](https://github.com/n8n-io/n8n/pull/6435){:target=\_blank .external link}

### Execution data retention

Starting from n8n 1.0, all successful, failed, and manual workflow executions will be saved by default. These settings can be modified for each workflow under "Workflow Settings," or globally using the respective environment variables. Additionally, the `EXECUTIONS\_DATA\_PRUNE` setting will be enabled by default, with `EXECUTIONS\_DATA\_PRUNE\_MAX\_COUNT` set to 10,000. These default settings are designed to prevent performance degradation when using SQLite. Make sure to configure them according to your individual requirements and system capacity.

[PR #6577](https://github.com/n8n-io/n8n/pull/6577){:target=\_blank .external link}

### Removed N8N\_USE\_DEPRECATED\_REQUEST\_LIB

The legacy `request` library has been deprecated for some time now. As of n8n 1.0, the ability to fall back to it in the HTTP Request node by setting the `N8N\_USE\_DEPRECATED\_REQUEST\_LIB` environment variable has been fully removed. The HTTP Request node will now always use the new `HttpRequest` interface.

If you build custom nodes, refer to [HTTP request helpers](/integrations/creating-nodes/build/reference/http-helpers.md) for more information on migrating to the new interface.

[PR #6413](https://github.com/n8n-io/n8n/pull/6413){:target=\_blank .external link}

### Removed WEBHOOK\_TUNNEL\_URL

As of version 0.227.0, n8n has renamed the `WEBHOOK\_TUNNEL\_URL` configuration option to `WEBHOOK\_URL`. In n8n 1.0, `WEBHOOK\_TUNNEL\_URL` has been removed. Update your setup to reflect the new name. For more information about this configuration option, refer to [the docs](/hosting/configuration/configuration-examples/webhook-url.md).

[PR #1408](https://github.com/n8n-io/n8n/pull/1408){:target=\_blank .external link}

### Remove Node 16 support

n8n now requires Node 18.17.0 or above.

## Updating to n8n 1.0

1. Create a full backup of n8n.

2. n8n recommends updating to the latest n8n 0.x release before updating to n8n 1.x. This will allow you to pinpoint any potential issues to the correct release. Once you have verified that n8n 0.x starts up without any issues, proceed to the next step.

3. Carefully read the [Deprecations](#deprecations) and [Breaking Changes](#breaking-changes) sections above to assess how they may affect your setup.

4. Update to n8n 1.0:

\* During beta (before July 24th 2023): If using Docker, pull the `next` Docker image.

\* After July 24th 2023: If using Docker, pull the `latest` Docker image.

5. If you encounter any issues, redeploy the previous n8n version and restore the backup.

## Reporting issues

If you encounter any issues during the process of updating to n8n 1.0, please seek help in the community [forum](https://community.n8n.io/){:target=\_blank .external link}.

## Thank you

We would like to take a moment to express our gratitude to all of our users for their continued support and feedback. Your contributions are invaluable in helping us make n8n the best possible automation tool. We're excited to continue working with you as we move forward with the release of version 1.0 and beyond. Thank you for being a part of our journey!

## choose-n8n.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Choose between our Cloud service, or self-hosting options. Learn more about licenses and n8n payment plans.

contentType: overview

---

# Choose your n8n

This section contains information on n8n's range of platforms, pricing plans, and licenses.

## Platforms

There are different ways to set up n8n depending on how you intend to use it:

\* [n8n Cloud](/manage-cloud/overview.md): hosted solution, no need to install anything.

\* [Self-host](/hosting/index.md): recommended method for production or customized use cases.

\* [npm](/hosting/installation/npm.md)

\* [Docker](/hosting/installation/docker.md)

\* [Server setup guides](/hosting/installation/server-setups/index.md) for popular platforms

\* [Embed](/embed/index.md): n8n Embed allows you to white label n8n and build it into your own product. Contact n8n on the [Embed website](https://n8n.io/embed/){:target=\_blank .external-link} for pricing and support.

--8<-- "\_snippets/self-hosting/warning.md"

## Licenses

n8n's [Sustainable Use License](https://github.com/n8n-io/n8n/blob/master/LICENSE.md){:target=\\_blank .external-link} and [n8n Enterprise License](https://github.com/n8n-io/n8n/blob/master/LICENSE\_EE.md){:target=\\_blank .external-link} are based on the [fair-code](https://faircode.io/) model.

For a detailed explanation of the license, refer to [Sustainable Use License](/sustainable-use-license.md).

## Free versions

n8n offers the following free options:

\* A free trial of Cloud

\* A free self-hosted community edition for self-hosted users

## Paid versions

n8n has two paid versions:

\* n8n Cloud: choose from a range of paid plans to suit your usage and feature needs.

\* Self-hosted: there are both free and paid versions of self-hosted.

For details of the Cloud plans and contact details for Enterprise Self-hosted, refer to [Pricing](https://n8n.io/pricing/){:target=\_blank .external-link} on the n8n website.

## external-secrets.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: External secrets

description: Use an external secrets vault with n8n.

contentType: howto

---

# External secrets

/// info | Feature availability

\* External secrets are available on Enterprise Self-hosted and Enterprise Cloud plans.

\* n8n supports AWS Secrets Manager, Azure Key Vault, GCP Secrets Manager, Infisical and HashiCorp Vault.

\* n8n doesn't support [HashiCorp Vault Secrets](https://developer.hashicorp.com/hcp/docs/vault-secrets){:target=\_blank .external-link}.

///

You can use an external secrets store to manage [credentials](/glossary.md#credential-n8n) for n8n.

n8n stores all credentials encrypted in its database, and restricts access to them by default. With the external secrets feature, you can store sensitive credential information in an external vault, and have n8n load it in when required. This provides an extra layer of security and allows you to manage credentials used across multiple [n8n environments](/source-control-environments/index.md) in one central place.

## Connect n8n to your secrets store

/// note | Secret names

Your secret names can't contain spaces, hyphens, or other special characters. n8n supports secret names containing alphanumeric characters (`a-z`, `A-Z`, and `0-9`), and underscores. n8n currently only supports plaintext values for secrets, not JSON objects or key-value pairs.

///

1. In n8n, go to \*\*Settings\*\* > \*\*External Secrets\*\*.

1. Select \*\*Set Up\*\* for your store provider.

1. Enter the credentials for your provider:

\* Azure Key Vault: Provide your \*\*vault name\*\*, \*\*tenant ID\*\*, \*\*client ID\*\*, and \*\*client secret\*\*. Refer to the Azure documentation to [register a Microsoft Entra ID app and create a service principal](https://learn.microsoft.com/en-us/entra/identity-platform/howto-create-service-principal-portal){:target=\_blank .external-link}. n8n supports only single-line values for secrets.

\* AWS Secrets Manager: provide your \*\*access key ID\*\*, \*\*secret access key\*\*, and \*\*region\*\*. The IAM user must have the `secretsmanager:ListSecrets`, `secretsmanager:BatchGetSecretValue`, and `secretsmanager:GetSecretValue` permissions.

To give n8n access to all secrets in your AWS Secrets Manager, you can attach the following policy to the IAM user:

```json

{

"Version": "2012-10-17",

"Statement": [

{

"Sid": "AccessAllSecrets",

"Effect": "Allow",

"Action": [

"secretsmanager:ListSecrets",

"secretsmanager:BatchGetSecretValue",

"secretsmanager:GetResourcePolicy",

"secretsmanager:GetSecretValue",

"secretsmanager:DescribeSecret",

"secretsmanager:ListSecretVersionIds",

],

"Resource": "\*"

}

]

}

```

You can also be more restrictive and give n8n access to select specific AWS Secret Manager secrets. You still need to allow the `secretsmanager:ListSecrets` and `secretsmanager:BatchGetSecretValue` permissions to access all resources. These permissions allow n8n to retrieve ARN-scoped secrets, but don't provide access to the secret values.

Next, you need set the scope for the `secretsmanager:GetSecretValue` permission to the specific Amazon Resource Names (ARNs) for the secrets you wish to share with n8n. Ensure you use the correct region and account ID in each resource ARNs. You can find the ARN details in the AWS dashboard for your secrets.

For example, the following IAM policy only allows access to secrets with a name starting with `n8n` in your specified AWS account and region:

```json

{

"Version": "2012-10-17",

"Statement": [

{

"Sid": "ListingSecrets",

"Effect": "Allow",

"Action": [

"secretsmanager:ListSecrets",

"secretsmanager:BatchGetSecretValue"

],

"Resource": "\*"

},

{

"Sid": "RetrievingSecrets",

"Effect": "Allow",

"Action": [

"secretsmanager:GetSecretValue",

"secretsmanager:DescribeSecret"

],

"Resource": [

"arn:aws:secretsmanager:us-west-2:123456789000:secret:n8n\*"

]

}

]

}

```

For more IAM permission policy examples, consult the [AWS documentation](https://docs.aws.amazon.com/secretsmanager/latest/userguide/auth-and-access\_iam-policies.html#auth-and-access\_examples\_batch){:target=\_blank .external-link}.

\* HashiCorp Vault: provide the \*\*Vault URL\*\* for your vault instance, and select your \*\*Authentication Method\*\*. Enter your authentication details. Optionally provide a namespace.

- Refer to the HashiCorp documentation for your authentication method:

[Token auth method](https://developer.hashicorp.com/vault/docs/auth/token){:target=\_blank .external-link}

[AppRole auth method](https://developer.hashicorp.com/vault/docs/auth/approle){:target=\_blank .external-link}

[Userpass auth method](https://developer.hashicorp.com/vault/docs/auth/userpass){:target=\_blank .external-link}

- If you use vault namespaces, you can enter the namespace n8n should connect to. Refer to [Vault Enterprise namespaces](https://developer.hashicorp.com/vault/docs/enterprise/namespaces){:target=\_blank .external-link} for more information on HashiCorp Vault namespaces.

\* Infisical: provide a \*\*Service Token\*\*. Refer to Infisical's [Service token](https://infisical.com/docs/documentation/platform/token){:target=\_blank .external-link} documentation for information on getting your token. If you self-host Infisical, enter the \*\*Site URL\*\*.

/// note | Infisical environment

Make sure you select the correct Infisical environment when creating your token. n8n will load secrets from this environment, and won't have access to secrets in other Infisical environments. n8n only support service tokens that have access to a single environment.

///

/// note | Infisical folders

n8n doesn't support [Infisical folders](https://infisical.com/docs/documentation/platform/folder){:target=\_blank .external-link}.

///

\* Google Cloud Platform: provide a \*\*Service Account Key\*\* (JSON) for a service account that has at least these roles: `Secret Manager Secret Accessor` and `Secret Manager Secret Viewer`. Refer to Google's [service account documentation](https://cloud.google.com/iam/docs/service-account-overview){:target=\_blank .external-link} for more information.

1. \*\*Save\*\* your configuration.

1. Enable the provider using the \*\*Disabled / Enabled\*\* toggle.

## Use secrets in n8n credentials

To use a secret from your store in an n8n credential:

1. Create a new credential, or open an existing one.

1. On the field where you want to use a secret:

1. Hover over the field.

1. Select \*\*Expression\*\*.

1. In the field where you want to use a secret, enter an [expression](/glossary.md#expression-n8n) referencing the secret name:

```js

{{ $secrets.<vault-name>.<secret-name> }}

```

`<vault-name>` is either `vault` (for HashiCorp) or `infisical` or `awsSecretsManager`. Replace `<secret-name>` with the name as it appears in your vault.

## Using external secrets with n8n environments

n8n's [Source control and environments](/source-control-environments/index.md) feature allows you to create different n8n environments, backed by Git. The feature doesn't support using different credentials in different instances. You can use an external secrets vault to provide different credentials for different environments by connecting each n8n instance to a different vault or project environment.

For example, you have two n8n instances, one for development and one for production. You use Infisical for your vault. In Infisical, create a project with two environments, development and production. Generate a token for each Infisical environment. Use the token for the development environment to connect your development n8n instance, and the token for your production environment to connect your production n8n instance.

## Using external secrets in projects

To use external secrets in an [RBAC project](/user-management/rbac/index.md), you must have an [instance owner or instance admin](/user-management/account-types.md) as a member of the project.

## Troubleshooting

### Infisical version changes

Infisical version upgrades can introduce problems connecting to n8n. If your Infisical connection stops working, check if there was a recent version change. If so, report the issue to help@n8n.io.

### Only set external secrets on credentials owned by an instance owner or admin

Due to the permissions that instance owners and admins have, it's possible for owners and admins to update credentials owned by another user with a secrets expression. This will appear to work in preview for an instance owner or admin, but the secret won't resolve when the workflow runs in production.

Only use external secrets for credentials that are owned by an instance admin or owner. This ensures they resolve correctly in production.

## glossary.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Glossary

description: A glossary of terms commonly used when working with n8n and related software.

contentType: reference

---

#### AI agent

AI agents are artificial intelligence systems capable of responding to requests, making decisions, and performing real-world tasks for users. They use large language models (LLMs) to interpret user input and make decisions about how to best process requests using the information and resources they have available.

#### AI chain

AI chains allow you to interact with large language models (LLMs) and other resources in sequences of calls to components. AI chains in n8n don't use persistent memory, so you can't use them to reference previous context (use AI agents for this).

#### AI embedding

Embeddings are numerical representations of data using vectors. They're used by AI to interpret complex data and relationships by mapping values across many dimensions. Vector databases, or vector stores, are databases designed to store and access embeddings.

#### AI groundedness

In AI, and specifically in retrieval-augmented generation (RAG) contexts, groundedness and ungroundedness are measures of how much a model's responses accurately reflect source information. The model uses its source documents to generate grounded responses, while ungrounded responses involve speculation or hallucination unsupported by those same sources.

#### AI reranking

Reranking is a technique that refines the order of a list of candidate documents to improve the relevance of search results. Retrieval-Augmented Generation (RAG) and other applications use reranking to prioritize the most relevant information for generation or downstream tasks.

#### AI memory

In an AI context, memory allows AI tools to persist message context across interactions. This allows you to have a continuing conversations with AI agents, for example, without submitting ongoing context with each message. In n8n, AI agent nodes can use memory, but AI chains can't.

#### AI retrieval-augmented generation (RAG)

Retrieval-augmented generation, or RAG, is a technique for providing LLMs access to new information from external sources to improve AI responses. RAG systems retrieve relevant documents to ground responses in up-to-date, domain-specific, or proprietary knowledge to supplement their original training data. RAG systems often rely on vector stores to manage and search this external data efficiently.

#### AI tool

In an AI context, a tool is an add-on resource that the AI can refer to for specific information or functionality when responding to a request. The AI model can use a tool to interact with external systems or complete specific, focused tasks.

#### AI vector store

Vector stores, or vector databases, are databases designed to store numerical representations of information called embeddings.

#### API

APIs, or application programming interfaces, offer programmatic access to a service's data and functionality. APIs make it easier for software to interact with external systems. They're often offered as an alternative to traditional user-focused interfaces accessed through web browsers or UI.

#### canvas (n8n)

The canvas is the main interface for building workflows in n8n's editor UI. You use the canvas to add and connect nodes to compose workflows.

#### cluster node (n8n)

In n8n, cluster nodes are groups of nodes that work together to provide functionality in a workflow. They consist of a root node and one or more sub nodes that extend the node's functionality.

#### credential (n8n)

In n8n, credentials store authentication information to connect with specific apps and services. After creating credentials with your authentication information (username and password, API key, OAuth secrets, etc.), you can use the associated app node to interact with the service.

#### data pinning (n8n)

Data pinning allows you to temporarily freeze the output data of a node during workflow development. This allows you to develop workflows with predictable data without making repeated requests to external services. Production workflows ignore pinned data and request new data on each execution.

#### editor (n8n)

The n8n editor UI allows you to create and manage workflows. The main area is the canvas, where you can compose workflows by adding, configuring, and connecting nodes. The side and top panels allow you to access other areas of the UI like credentials, templates, variables, executions, and more.

#### entitlement (n8n)

In n8n, entitlements grant n8n instances access to plan-restricted features for a specific period of time.

Floating entitlements are a pool of entitlements that you can distribute among various n8n instances. You can re-assign a floating entitlement to transfer its access to a different n8n instance.

#### evaluation (n8n)

In n8n, evaluation allows you to tag and organize execution history and compare it against new executions. You can use this to understand how your workflow performs over time as you make changes. In particular, this is useful while developing AI-centered workflows.

#### expression (n8n)

In n8n, expressions allow you to populate node parameters dynamically by executing JavaScript code. Instead of providing a static value, you can use the n8n expression syntax to define the value using data from previous nodes, other workflows, or your n8n environment.

#### LangChain

LangChain is an AI-development framework used to work with large language models (LLMs). LangChain provides a standardized system for working with a wide variety of models and other resources and linking different components together to build complex applications.

#### Large language model (LLM)

Large language models, or LLMs, are AI machine learning models designed to excel in natural language processing (NLP) tasks. They're built by training on large amounts of data to develop probabilistic models of language and other data.

#### node (n8n)

In n8n, nodes are individual components that you compose to create workflows. Nodes define when the workflow should run, allow you to fetch, send, and process data, can define flow control logic, and connect with external services.

#### project (n8n)

n8n projects allow you to separate workflows, variables, and credentials into separate groups for easier management. Projects make it easier for teams to collaborate by sharing and compartmentalizing related resources.

#### root node (n8n)

Each n8n cluster node contains a single root nodes that defines the main functionality of the cluster. One or more sub nodes attach to the root node to extend its functionality.

#### sub node (n8n)

n8n cluster nodes consist of one or more sub nodes connected to a root node. Sub nodes extend the functionality of the root node, providing access to specific services or resources or offering specific types of dedicated processing, like calculator functionality, for example.

#### template (n8n)

n8n templates are pre-built workflows designed by n8n and community members that you can import into your n8n instance. When using templates, you may need to fill in credentials and adjust the configuration to suit your needs.

#### trigger node (n8n)

A trigger node is a special node responsible for executing the workflow in response to certain conditions. All production workflows need at least one trigger to determine when the workflow should run.

#### workflow (n8n)

An n8n workflow is a collection of nodes that automate a process. Workflows begin execution when a trigger condition occurs and execute sequentially to achieve complex tasks.

<!-- To do

#### OAuth

#### pagination

#### Role-based access control (RBAC)

#### SAML/SSO

#### two-factor authentication (2FA)

#### webhook

-->

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: "Explore n8n Docs: Your Resource for Workflow Automation and Integrations"

description: Access n8n Docs for comprehensive guides on workflow automation and integrations. Learn how to integrate apps and enhance your automation capabilities.

contentType: overview

hide:

- path

---

# Welcome to n8n Docs

This is the documentation for [n8n](https://n8n.io/){:target=\_blank .external-link}, a [fair-code](https://faircode.io){:target=\_blank .external-link} licensed workflow automation tool that combines AI capabilities with business process automation.

It covers everything from setup to usage and development. It's a work in progress and all [contributions](/help-community/contributing.md) are welcome.

## Where to start

<div class="grid cards" markdown>

- \_\_Quickstarts\_\_

Jump in with n8n's quickstart guides.

[:octicons-arrow-right-24: Try it out](/try-it-out/index.md)

- \_\_Choose the right n8n for you\_\_

Cloud, npm, self-host . . .

[:octicons-arrow-right-24: Options](/choose-n8n.md)

- \_\_Explore integrations\_\_

Browse n8n's integrations library.

[:octicons-arrow-right-24: Find your apps](/integrations/index.md)

- \_\_Build AI functionality\_\_

n8n supports building AI functionality and tools.

[:octicons-arrow-right-24: Advanced AI](/advanced-ai/index.md)

</div>

## About n8n

n8n (pronounced n-eight-n) helps you to connect any app with an API with any other, and manipulate its data with little or no code.

\* Customizable: highly flexible workflows and the option to build custom nodes.

\* Convenient: use the npm or Docker to try out n8n, or the Cloud hosting option if you want us to handle the infrastructure.

\* Privacy-focused: self-host n8n for privacy and security.

## insights.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Insights

contentType: explanation

---

# Insights

Insights gives instance owners and admins visibility into how workflows perform over time. This feature consists of three parts:

- [\*\*Insights summary banner\*\*](#insights-summary-banner): Shows key metrics about your instance from the last 7 days at the top of the overview space.

- [\*\*Insights dashboard\*\*](#insights-dashboard): A more detailed visual breakdown with per-workflow metrics and historical comparisons.

- [\*\*Time saved (Workflow ROI)\*\*](#setting-the-time-saved-by-a-workflow): For each workflow, you can set the number of minutes of work that each production execution saves you.

/// info | Feature availability

The insights summary banner displays activity from the last 7 days for all plans. The insights dashboard is only available on Pro (with limited date ranges) and Enterprise plans.

///

## Insights summary banner

n8n collects several metrics for both the insights summary banner and dashboard. They include:

- Total production executions (not including sub-workflow executions or manual executions)

- Total failed production executions

- Production execution failure rate

- Time saved (when set on at least one or more active workflows)

- Run time average (including wait time from any wait nodes)

## Insights dashboard

Those on the Pro and Enterprise plans can access the \*\*Insights\*\* section from the side navigation. Each metric from the summary banner is also clickable, taking you to the corresponding chart.

The insights dashboard also has a table showing individual insights from each workflow including total production executions, failed production executions, failure rate, time saved, and run time average.

## Insights time periods

By default, the insights summary banner and dashboard show a rolling 7 day window with a comparison to the previous period to identify increases or decreases for each metric. On the dashboard, paid plans also display data for other date ranges:

- Pro: 7 and 14 days

- Enterprise: 24 hours, 7 days, 14 days, 30 days, 90 days, 6 months, 1 year

## Setting the time saved by a workflow

For each workflow, you can set the number of minutes of work a workflow saves you each time it runs. You can configure this by navigating to the workflow, selecting the three dots menu in the top right and selecting settings. There you can update the \*\*Estimated time saved\*\* value and save.

This setting helps you calculate how much time automating a process saves over time vs the manual effort to complete the same task or process. Once set, n8n calculates the amount of time the workflow saves you based on the number of production executions and displays it on the summary banner and dashboard.

## Disable or configure insights metrics collection

If you self-host n8n, you can disable or configure insights and metrics collection using [environment variables](/hosting/configuration/environment-variables/insights.md).

## Insights FAQs

<!-- vale from-microsoft.HeadingPunctuation = NO -->

### Which executions do n8n use to calculate the values in the insights banner and dashboard?

n8n insights only collects data from production executions (for example, those from active workflows triggered on a schedule or a webhook) from the main (parent) workflow. This means that it doesn't count manual (test) executions or executions from sub-workflows or error workflows.

### Does n8n use historic execution data when upgrading to a version with insights?

n8n only starts collecting data for insights once you update to the first supported version (1.89.0). This means it only reports on executions from that point forward and you won't see execution data in insights from prior periods.

## keyboard-shortcuts.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

tags:

- Keyboard

- Move canvas

- Move nodes

- Drag and drop

description: Keyboard shortcuts available in n8n.

hide:

- tags

contentType: reference

---

# Keyboard shortcuts and controls

n8n provides keyboard shortcuts for some actions.

## Workflow controls

- \*\*Ctrl\*\* + \*\*Alt\*\* + \*\*n\*\*: create new workflow

- \*\*Ctrl\*\* + \*\*o\*\*: open workflow

- \*\*Ctrl\*\* + \*\*s\*\*: save the current workflow

- \*\*Ctrl\*\* + \*\*z\*\*: undo

- \*\*Ctrl\*\* + \*\*shift\*\* + \*\*z\*\*: redo

- \*\*Ctrl\*\* + \*\*Enter\*\*: execute workflow

## Canvas

### Move the canvas

- \*\*Ctrl\*\* + \*\*Left Mouse Button\*\* + drag: move node view

- \*\*Ctrl\*\* + \*\*Middle mouse button\*\* + drag: move node view

- \*\*Space\*\* + drag: move node view

- \*\*Middle mouse button\*\* + drag: move node view

- Two fingers on a touch screen: move node view

### Canvas zoom

- \*\*+\*\* or \*\*=\*\*: zoom in

- \*\*-\*\* or \*\*\_\*\*: zoom out

- \*\*0\*\*: reset zoom level

- \*\*1\*\*: zoom to fit workflow

- \*\*Ctrl\*\* + \*\*Mouse wheel\*\*: zoom in/out

### Nodes on the canvas

- \*\*Double click\*\* on a node: open the node details

- \*\*Ctrl/Cmd\*\* + \*\*Double click\*\* on a sub-workflow node: open the sub-workflow in a new tab

- \*\*Ctrl\*\* + \*\*a\*\*: select all nodes

- \*\*Ctrl\*\* + \*\*v\*\*: paste nodes

- \*\*Shift\*\* + \*\*s\*\*: add sticky note

### With one or more nodes selected in canvas

- \*\*ArrowDown\*\*: select sibling node below the current one

- \*\*ArrowLeft\*\*: select node left of the current one

- \*\*ArrowRight\*\*: select node right of the current one

- \*\*ArrowUp\*\*: select sibling node above the current one

- \*\*Ctrl\*\* + \*\*c\*\*: copy

- \*\*Ctrl\*\* + \*\*x\*\*: cut

- \*\*D\*\*: deactivate

- \*\*Delete\*\*: delete

- \*\*Enter\*\*: open

- \*\*F2\*\*: rename

- \*\*P\*\*: pin data in node. Refer to [Data pinning](/data/data-pinning.md) for more information.

- \*\*Shift\*\* + \*\*ArrowLeft\*\*: select all nodes left of the current one

- \*\*Shift\*\* + \*\*ArrowRight\*\*: select all nodes right of the current one

- \*\*Ctrl/Cmd\*\* + \*\*Shift\*\* + \*\*o\*\* on a sub-workflow node: open the sub-workflow in a new tab

## Node panel

- \*\*Tab\*\*: open the Node Panel

- \*\*Enter\*\*: insert selected node into workflow

- \*\*Escape\*\*: close Node panel

### Node panel categories

- \*\*Enter\*\*: insert node into workflow, collapse/expand category, open subcategory

- \*\*ArrowRight\*\*: expand category, open subcategory

- \*\*ArrowLeft\*\*: collapse category, close subcategory view

## Within nodes

- \*\*=\*\*: in an empty parameter input, this switches to [expressions](/glossary.md#expression-n8n) mode.

## learning-path.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: A suggested learning path to get started with n8n through tutorials, courses, and step-by-step guides.

contentType: overview

---

This guide outlines a series of tutorials and resources designed to get you started with n8n.

It's not necessary to complete all items listed to start using n8n. Use this as a reference to navigate to the most relevant parts of the documentation and other resources according to your needs.

## Join the community

n8n has an active community where you can get and offer help. Connect, share, and learn with other n8n users:

- [Ask questions](https://community.n8n.io/t/readme-welcome-to-the-n8n-community/44381){:target=\_blank .external-link} and [make feature requests](https://community.n8n.io/c/feature-requests){:target=\_blank .external-link} in the Community Forum.

- [Report bugs](https://github.com/n8n-io/n8n/issues){:target=\_blank .external-link} and [contribute](https://github.com/n8n-io/n8n/blob/master/CONTRIBUTING.md){:target=\_blank .external-link} on GitHub.

## Set up your n8n

If you don't have an account yet, sign up to a [free trial on n8n Cloud](https://app.n8n.cloud/register){:target=\_blank .external-link} or install n8n's community edition with [Docker](/hosting/installation/docker.md) (recommended) or [npm](/hosting/installation/npm.md). See [Choose your n8n](/choose-n8n.md) for more details.

## Try it out

Start with the quickstart guides to help you get up and running with building basic workflows.

- [A very quick quickstart](/try-it-out/quickstart.md)

- [A longer introduction](/try-it-out/tutorial-first-workflow.md)

- [Build an AI workflow in n8n](/advanced-ai/intro-tutorial.md)

## Structured Courses

n8n offers two sets of courses.

### Video courses

Learn key concepts and n8n features, while building examples as you go.

- The [Beginner](https://www.youtube.com/playlist?list=PLlET0GsrLUL59YbxstZE71WszP3pVnZfI){:target=\_blank .external-link} course covers the basics of n8n.

- The [Advanced](https://www.youtube.com/playlist?list=PLlET0GsrLUL5bxmx5c1H1Ms\_OtOPYZIEG){:target=\_blank .external-link} course covers more complex workflows, more technical nodes, and enterprise features

### Text courses

Build more complex workflows while learning key concepts along the way. Earn a badge and an avatar in your community profile.

- [Level 1: Beginner Course](https://blog.n8n.io/announcing-the-n8n-certification-course-for-beginners-level-1/){:target=\_blank .external-link}

- [Level 2: Intermediate Course](https://blog.n8n.io/announcing-course-level-two/){:target=\_blank .external-link}

## Self-hosting n8n

Explore various [self-hosting options in n8n](/hosting/index.md). If you’re not sure where to start, these are two popular options:

- [Hosting n8n on DigitalOcean](/hosting/installation/server-setups/digital-ocean.md)

- [Hosting n8n on Amazon Web Services](/hosting/installation/server-setups/aws.md)

## Build a node

If you can't find a node for a specific app or a service, you can build a node yourself and share with the community. See what others have built on [npm website](https://www.npmjs.com/search?q=keywords:n8n-community-node-package){:target=\_blank .external-link}.

- [Build a declarative-style node](/integrations/creating-nodes/build/declarative-style-node.md)

- [Learn how to build your own n8n nodes (Youtube Video)](https://www.youtube.com/live/OI6zHJ56eW0?si=SMD7L1J5fZ2mf79W){:target=\_blank .external-link}

## Stay updated

- Follow new features and bug fixes in the [Release Notes](/release-notes.md)

- Follow n8n on socials: [Twitter/X](https://twitter.com/n8n\_io){:target=\_blank .external-link}, [Discord](https://discord.com/invite/vWwMVThRta){:target=\_blank .external-link}, [LinkedIn](https://www.linkedin.com/company/n8n/){:target=\_blank .external-link}, [YouTube](https://www.youtube.com/@n8n-io){:target=\_blank .external-link}

## license-key.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: License key

description: How to activate your license key.

contentType: howto

---

# License Key

To enable certain licensed features, you must first activate your license. You can do this either through the UI or by setting environment variables.

## Add a license key using the UI

In your n8n instance:

1. Log in as \*\*Admin\*\* or \*\*Owner\*\*.

1. Select \*\*Settings\*\* > \*\*Usage and plan\*\*.

1. Select \*\*Enter activation key\*\*.

1. Paste in your license key.

1. Select \*\*Activate\*\*.

## Add a license key using an environment variables

In your n8n configuration, set `N8N\_LICENSE\_ACTIVATION\_KEY` to your license key. If the instance already has an activated license, this variable will have no effect.

Refer to [Environment variables](/hosting/configuration/configuration-methods.md) to learn more about configuring n8n.

## Allowlist the license server IP addresses

n8n uses Cloudflare to host the license server. As the specific IP addresses can change, you need to allowlist the [full range of Cloudflare IP addresses](https://www.cloudflare.com/ips/) to ensure n8n can always reach the license server.

## log-streaming.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Stream events from n8n to your logging tools.

contentType: howto

---

# Log streaming

/// info | Feature availability

Log streaming is available on Enterprise Self-hosted and Cloud plans.

///

Log streaming allows you to send events from n8n to your own logging tools. This allows you to manage your n8n monitoring in your own alerting and logging processes.

## Set up log streaming

To use log streaming, you have to add a streaming destination.

1. Navigate to \*\*Settings\*\* > \*\*Log Streaming\*\*.

2. Select \*\*Add new destination\*\*.

3. Choose your destination type. n8n opens the \*\*New Event Destination\*\* modal.

4. In the \*\*New Event Destination\*\* modal, enter the configuration information for your event destination. These depend on the type of destination you're using.

5. Select \*\*Events\*\* to choose which events to stream.

6. Select \*\*Save\*\*.

/// note | Self-hosted users

If you self-host n8n, you can configure additional log streaming behavior using [Environment variables](/hosting/configuration/environment-variables/logs.md#log-streaming).

///

## Events

The following events are available. You can choose which events to stream in \*\*Settings\*\* > \*\*Log Streaming\*\* > \*\*Events\*\*.

\* Workflow

\* Started

\* Success

\* Failed

\* Node executions

\* Started

\* Finished

\* Audit

\* User signed up

\* User updated

\* User deleted

\* User invited

\* User invitation accepted

\* User re-invited

\* User email failed

\* User reset requested

\* User reset

\* User credentials created

\* User credentials shared

\* User credentials updated

\* User credentials deleted

\* User API created

\* User API deleted

\* Package installed

\* Package updated

\* Package deleted

\* Workflow created

\* Workflow deleted

\* Workflow updated

\* AI node logs

\* Memory get messages

\* Memory added message

\* Output parser get instructions

\* Output parser parsed

\* Retriever get relevant documents

\* Embeddings embedded document

\* Embeddings embedded query

\* Document processed

\* Text splitter split

\* Tool called

\* Vector store searched

\* LLM generated

\* Vector store populated

\* Runner

\* Task requested

\* Response received

\* Queue

\* Job enqueued

\* Job dequeued

\* Job completed

\* Job failed

\* Job stalled

## Destinations

n8n supports three destination types:

\* A syslog server

\* A generic webhook

\* A Sentry client

## release-notes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Release notes

description: Release notes detailing new features and bug fixes for n8n.

tags:

- release

- release notes

- changelog

hide:

- tags

contentType: reference

---

<!-- vale off -->

# Release notes

New features and bug fixes for n8n.

You can also view the [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} in the GitHub repository.

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

--8<-- "\_snippets/update-n8n.md"

## Semantic versioning in n8n

n8n uses [semantic versioning](https://semver.org/){:target=\_blank .external-link}. All version numbers are in the format `MAJOR.MINOR.PATCH`. Version numbers increment as follows:

\* MAJOR version when making incompatible changes which can require user action.

\* MINOR version when adding functionality in a backward-compatible manner.

\* PATCH version when making backward-compatible bug fixes.

/// note | Older versions

You can find the release notes for older versions of n8n [here](/release-notes/0-x.md)

///

## n8n@1.102.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.102.3...n8n@1.102.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-17

/// note | Latest version

This is the `latest` version. n8n recommends using the `latest` version. The `next` version may be unstable. To report issues, use the [forum](https://community.n8n.io/c/questions/12){:target=\_blank .external-link}.

///

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.103.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.103.0...n8n@1.103.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-17

/// note | Next version

This is the `next` version. n8n recommends using the `latest` version. The `next` version may be unstable. To report issues, use the [forum](https://community.n8n.io/c/questions/12){:target=\_blank .external-link}.

///

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.102.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.102.2...n8n@1.102.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-14

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.103.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.102.0...n8n@1.103.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-14

This release contains core updates, editor improvements, new nodes, node improvements, and bug fixes.

### Webhook HTML responses

Starting with this release, if your workflow sends an HTML response to a webhook, n8n automatically wraps the content in an `<iframe>`. This is a security mechanism to protect the instance users.

This has the following implications:

- HTML renders in a sandboxed iframe instead of directly in the parent document.

- JavaScript code that attempts to access the top-level window or local storage will fail.

- Authentication headers aren't available in the sandboxed iframe (for example, basic auth). You need to use an alternative approach, like embedding a short-lived access token within the HTML.

- Relative URLs (for example, `<form action="/">`) won't work. Use absolute URLs instead.

<div class="n8n-new-features" markdown>

### Built-in Metrics for AI Evaluations

Using evaluations is a best practice for any AI solution, and a must if reliability and predictability are business-critical. With this release, we’ve made it easier to set up evaluations in n8n by introducing a set of built-in metrics. These metrics can review AI responses and assign scores based on factors like correctness, helpfulness, and more.<br><br>

You can run regular evaluations and review scores over time as a way to monitor your AI workflow's performance. You can also compare results across different models to help guide model selection, or run evaluations before and after a prompt change to support data-driven, iterative building.

<br><br>

As with all evaluations in n8n, you’ll need a dataset that includes the inputs you want to test. For some evaluations, the dataset must also include expected outputs (ground truth) to compare against. The evaluation workflow runs each input through the portion you're testing to generate a response. The built-in metric scores each response based on the aspect you're measuring, allowing you to compare results before and after changes or track trends over time in the Evaluations tab. <br><br>

You can still define your own custom metrics, but for common use cases, the built-in options make it much faster to implement. <br><br>

🛠️ \*\*How to:\*\*

1. Set up your evaluation as described [here](https://docs.n8n.io/advanced-ai/evaluations/metric-based-evaluations/#how-it-works), using an \*\*Evaluation\*\* node as the trigger and another with the \*\*Set Metrics\*\* operation.

2. In the \*\*Set Metrics\*\* node, choose a metric from the dropdown list.

3. Define any additional parameters required for your selected metric. In most cases, this includes mapping the dataset columns to the appropriate fields.

📏 \*\*Available built-in metrics:\*\*

- \*\*Correctness (AI-based):\*\* Compares AI workflow-generated responses to expected answers. Another LLM acts as a judge, scoring the responses based on guidance you provide in the prompt.

- \*\*Helpfulness (AI-based):\*\* Evaluates how helpful a response is in relation to a user query, using an LLM and prompt-defined scoring criteria.

- \*\*String Similarity:\*\* Measures how closely the response matches the expected output by comparing strings. Useful for command generation or when output needs to follow a specific structure.

- \*\*Categorization:\*\* Checks whether a response matches an expected label, such as assigning items to the correct category.

- \*\*Tools Used:\*\* Verifies whether the AI agent called the tools you specified in your dataset.

To enable this, make sure \*\*Return Intermediate Steps\*\* is turned on in your agent so the evaluation can access the tools it actually called.

🧠 Keep in mind

- Registered Community Edition enables analysis of one evaluation in the \*\*Evaluations\*\* tab which allows easy comparison of evaluation runs over time. Pro and Enterprise plans allow unlimited evaluations in the \*\*Evaluations\*\* tab.

<br>

<figure markdown="span">

![Built-in Metrics](/\_images/release-notes/Built-in\_metrics.png)

<figcaption>Built-in Metrics</figcaption>

</figure>

<br>

[Learn more](/advanced-ai/evaluations/overview.md) about setting up and customizing evaluations.

</div>

### AI Agent Tool node

With the \*\*AI Agent Tool\*\* node we are introducing a simplified pattern for multi-agent orchestration that can be run in a single execution and stay entirely on one canvas. You can now connect multiple \*\*AI Agent Tool\*\* nodes to a primary \*\*AI Agent\*\* node, allowing it to supervise and delegate work across other specialized agents.

This setup is especially useful for building complex systems that function like real-world teams, where a lead agent assigns parts of a task to specialists. It also helps with prompt management by letting you split long, complex instructions into smaller, focused tasks across multiple agents. While similar orchestration was already possible using sub-workflows, AI Agent Tool nodes are a good choice when you want the interaction to happen within a single execution or prefer to manage and debug everything from a single canvas.

🛠️ \*\*How to:\*\*

- Add an \*\*AI Agent\*\* node to your workflow and click \*\*+\*\* to create a Tools connection.

- Search for and select the \*\*AI Agent Tool\*\* node from the Nodes Panel.

- Name the node clearly so the primary agent can reference it, then add a short description and prompt.

- Connect any LLMs, memory, and tools the agent needs to perform its role.

- Instruct the primary \*\*AI Agent\*\* on when to use the \*\*AI Agent Tool\*\* and to pass along relevant context in its prompt.

🧠 \*\*Keep in mind:\*\*

- The orchestrating agent does not pass full execution context by default. Any necessary context must be included in the prompt.

\*\*AI Agent Tool\*\* nodes makes it easier to build layered, agent-to-agent workflows without relying on sub-workflows, helping you move faster when building and debugging multi-agent systems.

<br>

<figure markdown="span">

![](/\_images/release-notes/AI\_Agent\_Tool.png)

<figcaption>AI Agent Tool node</figcaption>

</figure>

<br>

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.102.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.102.1...n8n@1.102.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-11

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.101.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.101.1...n8n@1.101.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-11

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.102.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.102.0...n8n@1.102.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-09

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.102.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.101.0...n8n@1.102.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-07

This release contains core updates, editor improvements, new nodes, node updates, and bug fixes.

### Enforce 2FA across your instance

Enterprise Instance owners can now enforce two-factor authentication (2FA) for all users in their instance.

Once enabled, any user who hasn’t set up 2FA will be redirected to complete the setup before they can continue using n8n. This helps organizations meet internal security policies and ensures stronger protection across the workspace.

This feature is available only on the Enterprise plan.

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.101.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.101.0...n8n@1.101.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-07-03

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.101.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.100.0...n8n@1.101.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-30

This release contains core updates, editor improvements, node updates, and bug fixes.

### Contributors

[luka-mimi](https://github.com/luka-mimi){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.100.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.100.0...n8n@1.100.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-25

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.100.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.99.0...n8n@1.100.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-23

This release contains core updates, editor improvements, a new node, node updates, and bug fixes.

### Model Selector node

The [Model Selector node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.modelselector.md) gives you more control when working with multiple LLMs in your workflows.

Use it to determine which connected model should handle a given input, based on conditions like expressions or global variables. This makes it easier to implement model routing strategies, such as switching models based on performance, task type, cost, or availability.

🛠️ \*\*How to:\*\* Connect multiple model nodes to the Model Selector node, then configure routing conditions in the node’s settings.

🧠 \*\*Keep in mind:\*\*

- Rules are evaluated in order. The first matching rule determines which model is used even if others would also match.

- As a sub-node, expressions behave differently here: they always resolves to the first item rather than resolving for each item in turn.

The Model Selector node is especially useful in evaluation or production scenarios where routing logic between models needs to adapt based on performance, cost, availability, or dataset-specific needs.

<br>

<figure markdown="span">

![Model Selector node](/\_images/release-notes/Model\_selector\_node.png)

<figcaption>Model Selector node</figcaption>

</figure>

<br>

### Support for OIDC (OpenID Connect) authentication

You can now use OIDC (OpenID Connect) as an authentication method for Single Sign-On (SSO).

This gives enterprise teams more flexibility to integrate n8n with their existing identity providers using a widely adopted and easy-to-manage standard. OIDC is now available alongside SAML, giving Enterprises the choice to select what best fits their internal needs.

### Project admins can now commit to Git within environments

Project admins now have the ability to commit workflow and credential changes directly to Git through the environments feature. This update streamlines the workflow deployment process by giving project-level admins direct control over committing their changes. It also ensures that the those who know their workflows best can review and commit updates themselves, without needing to involve instance-level admins.

[Learn more about source control environments](/source-control-environments/index.md)

### Contributors

[aliou](https://github.com/aliou){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.99.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.99.0...n8n@1.99.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-19

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.98.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.98.1...n8n@1.98.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-18

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.99.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.98.0...n8n@1.99.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-16

This release contains performance improvements, core updates, editor changes, node updates, and bug fixes.

### Automatically name nodes

Default node names now update automatically based on the resource and operation selected, so you’ll always know what a node does at a glance.

This adds clarity to your canvas and saves time renaming nodes manually.

Don’t worry, automatic naming won’t break references. And, and if you’ve renamed a node yourself, we’ll leave it just the way you wrote it.

<br>

<video src="/\_video/release-notes/automatic\_node\_naming.mp4" controls width="100%"></video>

<br>

### Support for RAG extended with built-in templates

Retrieval-Augmented Generation (RAG) can improve AI responses by providing language models access to data sources with up-to-date, domain-specific, or proprietary knowledge. RAG workflows typically rely on vector stores to manage and search this data efficiently.

To get the benefits of using vector stores, such as returning results based on semantic meaning rather than just keyword matches, you need a way to upload your data to the vector store and a way to query it.

In n8n, uploading and querying vectors stores happens in two workflows. Now, you have an example to get your started and make implementation easier with the \*\*RAG starter template\*\*.

- The \*\*Load Data\*\* workflow shows how to add data with the appropriate embedding model, split it into chunks with the [Default Data Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentdefaultdataloader.md), and add metadata as desired.

- The \*\*Retriever\*\* workflow for querying data, shows how agents and vector stores work together to help you define highly relevant results and save tokens using the \*\*Question and Answer\*\* tool.

Enable semantic search and the retrieval of unstructured data for increased quality and relevance of AI responses.

🛠️ \*\*How to:\*\*

- Search for \*\*RAG starter template\*\* in the search bar of the Nodes panel to insert it into your workflow.

Learn more about implementing RAG in n8n [here](/advanced-ai/rag-in-n8n.md).

<br>

<figure markdown="span">

![RAG starter template](/\_images/release-notes/RAG\_starter\_template.png)

<figcaption>RAG starter template</figcaption>

</figure>

<br>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.98.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.98.0...n8n@1.98.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-12

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.98.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.97.0...n8n@1.98.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-11

This release contains performance improvements, core updates, editor changes, node updates, a new node, and bug fixes.

### Contributors

[luka-mimi](https://github.com/luka-mimi){:target=\_blank .external-link}

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.97.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.97.0...n8n@1.97.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-04

This release contains backports.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.95.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.95.2...n8n@1.95.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-03

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.97.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.96.0...n8n@1.97.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-02

This release contains new features, performance improvements and bug fixes.

### Convert to sub-workflow

Large, monolithic workflows can slow things down. They’re harder to maintain, tougher to debug, and more difficult to scale. With sub-workflows, you can take a more modular approach, breaking up big workflows into smaller, manageable parts that are easier to reuse, test, understand, and explain.

Until now, creating sub-workflows required copying and pasting nodes manually, setting up a new workflow from scratch, and reconnecting everything by hand. \*\*Convert to sub-workflow\*\* allows you to simplify this process into a single action, so you can spend more time building and less time restructuring.

<br>

<video src="/\_video/release-notes/convert\_to\_sub-workflow.mp4" controls width="100%"></video>

<br>

\*\*How it works\*\*

1. Highlight the nodes you want to convert to a sub-workflow. These must:

- Be fully connected, meaning no missing steps in between them

- Start from a single starting node

- End with a single node

2. Right-click to open the context menu and select \*\*Convert to sub-workflow\*\*

- Or use the shortcut: `Alt + X`

3. n8n will:

- Open a new tab containing the selected nodes

- Preserve all node parameters as-is

- Replace the selected nodes in the original workflow with a \*\*Call My Sub-workflow\*\* node

\*Note\*: You will need to manually adjust the field types in the Start and Return nodes in the new sub-workflow.

This makes it easier to keep workflows modular, performant, and easier to maintain.

Learn more about [sub-workflows](/flow-logic/subworkflows.md).

This release contains performance improvements and bug fixes.

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.96.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.95.0...n8n@1.96.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-06-02

/// warning | Build failure

This release failed to build. Please use `1.97.0` instead.

///

This release contains API updates, core changes, editor improvements, node updates, and bug fixes.

### API support for assigning users to projects

You can now use the API to add and update users within projects. This includes:

- Assigning existing or pending users to a project with a specific role

- Updating a user’s role within a project

- Removing users from one or more projects

This update now allows you to use the API to add users to both the instance and specific projects, removing the need to manually assign them in the UI.

### Add pending users to project member assignment

You can now add \*\*pending users,\*\* those who have been invited but haven't completed sign-up, to projects as members.

This change lets you configure a user's project access upfront, without waiting for them to finish setting up their account. It eliminates the back-and-forth of managing access post-sign-up, ensuring users have the right project roles immediately upon joining.

### Contributors

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[Stamsy](https://github.com/Stamsy){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.95.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.95.1...n8n@1.95.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-29

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.95.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.95.0...n8n@1.95.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-27

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.94.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.94.0...n8n@1.94.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-27

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.95.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.94.0...n8n@1.95.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-26

This release contains core updates, editor improvements, node updates, and bug fixes.

<div class="n8n-new-features" markdown>

### Evaluations for AI workflows

We’ve added a feature to help you iterate, test, and compare changes to your AI automations before pushing them to production so you can achieve more predictability and make better decisions.<br><br>

When you're building with AI, a small prompt tweak or model swap might improve results with some inputs, while quietly degrading performance with others. But without a way to evaluate performance across many inputs, you’re left guessing whether your AI is actually getting better when you make a change. <br><br>

By implementing \*\*Evaluations for AI workflows\*\* in n8n, you can assess how your AI performs across a range of inputs by adding a dedicated path in your workflow for running test cases and applying custom metrics to track results. This helps you build viable proof-of-concepts quickly, iterate more effectively, catch regressions early, and make more confident decisions when your AI is in production.<br><br>

<iframe width="560" height="315" src="https://www.youtube.com/embed/5LlF196PKaE?si=TcwM0JyhjsRKDb3x" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture; web-share" referrerpolicy="strict-origin-when-cross-origin" allowfullscreen></iframe>

<br><br>

#### Evaluation node and tab

The \*\*Evaluation node\*\* includes several operations that, when used together, enable end-to-end AI evaluation.

<br>

<figure markdown="span">

![Evaluation node](/\_images/release-notes/Evaluations\_node.png)

<figcaption>Evaluation node</figcaption>

</figure>

<br>

Use this node to:

- Run your AI logic against a wide range of test cases in the same execution

- Capture the outputs of those test cases

- Score the results using your own metrics or LLM-as-judge logic

- Isolate a testing path to only include the nodes and logic you want to evaluate <br>

The \*\*Evaluations tab\*\* enables you to review test results in the n8n UI, perfect for comparing runs, spotting regressions, and viewing performance over time.

<br><br>

#### 🛠 How evaluations work

The evaluation path runs alongside your normal execution logic and only activates when you want—making it ideal for testing and iteration. <br><br>

Get started by selecting an AI workflow you want to evaluate that includes one or more LLM or Agent nodes. <br>

1. Add an \*\*Evaluation\*\* node with the \*\*On new Evaluation event\*\* operation. This node will act as an additional trigger you’ll run only when testing. Configure it to read your dataset from Google Sheets, with each row representing a test input.<br>

> 💡 Better datasets mean better evaluations. Craft your dataset from a variety of test cases, including edge cases and typical inputs, to get meaningful feedback on how your AI performs. Learn more and access sample datasets [here](/advanced-ai/evaluations/light-evaluations.md/#1-create-a-dataset).

2. Add a second \*\*Evaluation\*\* node using the \*\*Set Outputs\*\* operation after the part of the workflow you're testing—typically after an LLM or Agent node. This captures the response and writes it back to your dataset in Google Sheets.

3. To evaluate output quality, add a third \*\*Evaluation\*\* node with the \*\*Set Metrics\*\* operation at a point after you’ve generated the outputs. You can develop workflow logic, custom calculations, or add an LLM-as-Judge to score the outputs. Map these metrics to your dataset in the node’s parameters. <br>

> 💡 Well-defined metrics = smarter decisions. Scoring your outputs based on similarity, correctness, or categorization can help you track whether changes are actually improving performance. Learn more and get links to example templates [here](/advanced-ai/evaluations/metric-based-evaluations.md/#2-calculate-metrics).

<br>

<figure markdown="span">

![Evaluation workflow](/\_images/release-notes/Evaluations\_workflow.png)

<figcaption>Evaluation workflow</figcaption>

</figure>

<br>

When the Evaluation trigger node is executed, it runs each input in our dataset through your AI logic. This continues until all test cases are processed, a limit is reached, or you manually stop the execution. Once your evaluation path is set up, you can update your prompt, model, or workflow logic—and re-run the Evaluation trigger node to compare results. If you’ve added metrics, they’ll appear in the Evaluations tab. <br><br>

In some instances, you may want to isolate your testing path to make iteration faster or to avoid executing downstream logic. In this case, you can add an Evaluation node with the `Check If Evaluating` operation to ensure only the expected nodes run when performing evaluations. <br><br>

#### Things to keep in mind

Evaluations for AI Workflows are designed to fit into your development flow, with more enhancements on the way. For now, here are a few things to note:

- Test datasets are currently managed through Google Sheets. You’ll need a Google Sheets credential to run evaluations.

- Each workflow supports one evaluation at a time. If you’d like to test multiple segments, consider splitting them into sub-workflows for more flexibility.

- Community Edition supports one single evaluation. Pro and Enterprise plans allow unlimited evaluations.

- AI Evaluations are not enabled for instances in scaling mode at this time. <br>

You can find details, tips, and common troubleshooting info [here](https://docs.n8n.io/advanced-ai/evaluations/tips-and-common-issues/). <br><br>

👉 Learn more about the AI evaluation strategies and practical implementation techniques. [Watch now](https://www.youtube.com/live/QkciQpotQBQ?feature=shared).

</div>

### Contributors

[Phiph](https://github.com/Phiph){:target=\_blank .external-link}

[cesars-gh](https://github.com/cesars-gh){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.94.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.93.0...n8n@1.94.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-19

This release contains editor improvements, an API update, node updates, new nodes, and bug fixes.

<div class="n8n-new-features" markdown>

### Verified community nodes on Cloud

We’ve expanded the n8n ecosystem and unlocked a new level of flexibility for all users including those on n8n Cloud! Now you can access a select set of community nodes and partner integrations without leaving the canvas. This means you install and automate with a wider range of integrations without leaving your workspace. The power of the community is now built-in.

This update focuses on three major improvements:

- \*\*Cloud availability\*\*: Community nodes are no longer just for self-hosted users. A select set of nodes is now available on n8n Cloud.

- \*\*Built-in discovery\*\*: You can find and explore these nodes right from the Nodes panel without leaving the editor or searching on npm.

- \*\*Trust and verification\*\*: Nodes that appear in the editor have been manually vetted for quality and security. These verified nodes are marked with a checkmark.

We’re starting with a selection of around 25 nodes, including some of the most-used community-built packages and partner-supported integrations. For this phase, we focused on nodes that don’t include external package dependencies - helping streamline the review process and ensure a smooth rollout.

<br>

<br>

This is just the start. We plan to expand the library gradually, bringing even more verified nodes into the editor along with the powerful and creative use cases they unlock. In time, our criteria will evolve, opening the door to a wider range of contributions while keeping quality and security in focus.

<br>

<br>

Learn more about this update and find out which nodes are already installable from the editor in our [blog](https://blog.n8n.io/community-nodes-available-on-n8n-cloud/) post.

<br>

💻 \*\*Use a verified node\*\*

Make sure you're on \*\*n8n version 1.94.0\*\* or later and the instance Owner has enabled verified community nodes. On Cloud, this can be done from the Admin Panel. For self-hosted instances, please refer to [documentation](/hosting/configuration/environment-variables/nodes.md). In both cases, verified nodes are enabled by default.

- Open the \*\*Nodes panel\*\* from the editor

- Search for the Node. Verified nodes are indicated by a shield 🛡️

- Select the node and click \*\*Install\*\*

<br>

<video src="/\_video/release-notes/Community-nodes-node-panel.mp4" controls width="100%"></video>

<br>

Once an Owner installs a node, everyone on the instance can start using it—just drag, drop, and connect like any other node in your workflow.

<br>

🛠️ \*\*Build a node and get it verified\*\*

Want your node to be verified and discoverable from the editor? Here’s how to get involved:

1. Review the [community node verification guidelines](/integrations/creating-nodes/build/reference/verification-guidelines.md).

2. If you’re building something new, follow the recommendations for [creating nodes](/integrations/creating-nodes/overview.md).

3. Check your design against the [UX guidelines](/integrations/creating-nodes/build/reference/ux-guidelines.md).

4. [Submit your node](/integrations/creating-nodes/deploy/submit-community-nodes.md) to npm.

5. Request verification by filling out [this form](https://internal.users.n8n.cloud/form/f0ff9304-f34a-420e-99da-6103a2f8ac5b).

<br>

\*\*Already built a node? Raise your hand!\*\*

If you’ve already published a community node and want it considered for verification, make sure it meets the requirements noted above, then let us know by submitting the interest [form](https://internal.users.n8n.cloud/form/f0ff9304-f34a-420e-99da-6103a2f8ac5b). We’re actively curating the next batch and would love to include your work.

</div>

### Extended logs view

When workflows get complex, debugging can get... clicky. That’s where an extended \*\*Logs View\*\* comes in. Now you can get a clearer path to trace executions, troubleshoot issues, and understand the behavior of a complete workflow — without bouncing between node detail views.

This update brings a unified, always-accessible panel to the bottom of the canvas, showing you each step of the execution as it happens. Whether you're working with loops, sub-workflows, or AI agents, you’ll see a structured view of everything that ran, in the order it ran—with input, output, and status info right where you need it.

You can jump into node details when you want to dig deeper, or follow a single item through every step it touched. Real-time highlighting shows you which nodes are currently running or have failed, and you’ll see total execution time for any workflow—plus token usage for AI workflows to help monitor performance. And if you're debugging across multiple screens? Just pop the logs out and drag them wherever you’d like.

⚙️\*\*What it does\*\*

- Adds a \*\*Logs view\*\* to the bottom of the canvas that can be opened or collapsed. (Chat also appears here if your workflow uses it).

- Displays a \*\*hierarchical list of nodes\*\* in the order they were executed—including expanded views of sub-workflows.

- Allows you to \*\*click a node in hierarchy\*\* to preview inputs and outputs directly, or jump into the full Node Details view with a link.

- Provides ability to \*\*toggle\*\* input and output data on and off.

- Highlights each node \*\*live as it runs\*\*, showing when it starts, completes, or fails.

- Includes \*\*execution history\*\* view to explore past execution data in a similar way.

- Shows \*\*roll-up stats\*\* like total execution time and total AI tokens used (for AI-enabled workflows).

- Includes a \*\*“pop out”\*\* button to open the logs as a floating window—perfect for dragging to another screen while debugging.

🛠️\*\*How to\*\*

To access the expanded logs view, click on the Logs bar at the bottom of the canvas. The view is also opens up when you open the chat window on the bottom of the page.

### Contributors

[Stamsy](https://github.com/Stamsy){:target=\_blank .external-link}

[feelgood-interface](https://github.com/feelgood-interface){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.93.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.92.0...n8n@1.93.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-12

This release contains core updates, editor improvements, new nodes, node updates, and bug fixes.

### Faster ways to open sub-workflows

We’ve added several new ways to navigate your multi-workflow automations faster.

From any workflow with a sub-workflow node:

🖱️ Right-click on a sub-workflow node and select `Open sub-workflow` from the context menu

⌨️ Keyboard shortcuts

- \*\*Windows:\*\* `CTRL + SHIFT + O` or `CTRL + Double Click`

- \*\*Mac:\*\* `CMD + SHIFT + O` or `CMD + Double Click`

These options will bring your sub-workflow up in a new tab.

### Archive workflows

If you’ve ever accidentally removed a workflow, you’ll appreciate the new archiving feature. Instead of permanently deleting workflows with the Remove action, workflows are now archived by default. This allows you to recover them if needed.

\*\*How to:\*\*

- \*\*Archive a workflow\*\* - Select \*\*Archive\*\* from the Editor UI menu. It has replaced the \*\*Remove\*\* action.

- \*\*Find archived workflows\*\* - Archived workflows are hidden by default. To find your archived workflows, select the option for \*\*Show archived workflows\*\* in the workflow filter menu.

- \*\*Permanently delete a workflow\*\* - Once a workflow is archived, you can \*\*Delete\*\* it from the options menu.

- \*\*Recover a workflow\*\* - Select \*\*Unarchive\*\* from the options menu.

\*\*Keep in mind:\*\*

- Workflows archival requires the same permissions as required previously for removal.

- You cannot select archived workflows as sub-workflows to execute

- Active workflows are deactivated when they are archived

- Archived workflows can not be edited

### Contributors

[LeaDevelop](https://github.com/LeaDevelop){:target=\_blank .external-link}

[ayhandoslu](https://github.com/ayhandoslu){:target=\_blank .external-link}

[valentina98](https://github.com/valentina98){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.92.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.92.1...n8n@1.92.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-08

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.91.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.91.2...n8n@1.91.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-08

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.92.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.92.0...n8n@1.92.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-06

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.92.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.91.0...n8n@1.92.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-05

This release contains core updates, editor improvements, node updates, and bug fixes.

### Partial Execution for AI Tools

We’ve made it easier to build and iterate on AI agents in n8n. You can now run and test specific tools without having to execute the entire agent workflow.

Partial execution is especially useful when refining or troubleshooting parts of your agent logic. It allows you to test changes incrementally, without triggering full agent runs, reducing unnecessary AI calls, token usage, and downstream activity. This makes iteration faster, more cost-efficient, and more precise when working with complex or multi-step AI workflows.

Partial execution for AI tools is available now for all tools - making it even easier to build, test, and fine-tune AI agents in n8n.

<br>

<video src="/\_video/release-notes/AI-agent-partial-execution.mp4" controls width="100%"></video>

<br>

\*\*How to:\*\*

To use this feature you can either:

- Click the \*\*Play\*\* button on the tool you want to execute directly from the canvas view.

- Open the tool’s \*\*Node Details View\*\* and select \*\*"Test step"\*\* to run it from there.

If you have previously run the workflow, the input and output will be prefilled with data from the last execution. A pop-up form will open where you can manually fill in the parameters before executing your test.

### Extended logs view

When workflows get complex, debugging can get... clicky. That’s where an extended \*\*Logs View\*\* comes in. Now you can get a clearer path to trace executions, troubleshoot issues, and understand the behavior of a complete workflow — without bouncing between node detail views.

This update brings a unified, always-accessible panel to the bottom of the canvas, showing you each step of the execution as it happens. Whether you're working with loops, sub-workflows, or AI agents, you’ll see a structured view of everything that ran, in the order it ran—with input, output, and status info right where you need it.

You can jump into node details when you want to dig deeper, or follow a single item through every step it touched. Real-time highlighting shows you which nodes are currently running or have failed, and you’ll see total execution time for any workflow—plus token usage for AI workflows to help monitor performance. And if you're debugging across multiple screens? Just pop the logs out and drag them wherever you’d like.

⚙️\*\*What it does\*\*

- Adds a \*\*Logs view\*\* to the bottom of the canvas that can be opened or collapsed. (Chat also appears here if your workflow uses it).

- Displays a \*\*hierarchical list of nodes\*\* in the order they were executed—including expanded views of sub-workflows.

- Allows you to \*\*click a node in hierarchy\*\* to preview inputs and outputs directly, or jump into the full Node Details view with a link.

- Provides ability to \*\*toggle\*\* input and output data on and off.

- Highlights each node \*\*live as it runs\*\*, showing when it starts, completes, or fails.

- Includes \*\*execution history\*\* view to explore past execution data in a similar way.

- Shows \*\*roll-up stats\*\* like total execution time and total AI tokens used (for AI-enabled workflows).

- Includes a \*\*“pop out”\*\* button to open the logs as a floating window—perfect for dragging to another screen while debugging.

🛠️\*\*How to\*\*

To access the expanded logs view, click on the Logs bar at the bottom of the canvas. The view is also opens up when you open the chat window on the bottom of the page.

### Insights enhancements for Enterprise

Two weeks after the launch of [Insights](/insights.md), we’re releasing some enhancements designed for enterprise users.

- \*\*Expanded time ranges\*\*. You can now filter insights over a variety of time periods, from the last 24 hours up to 1 year. Pro users are limited to 7 day and 14 day views.

- \*\*Hourly granularity\*\*. Drill down into the last 24 hours of production executions with hourly granularity, making it easier to analyze workflows and quickly identify issues.

These updates provide deeper visibility into workflow history, helping you uncover trends over longer periods and detect problems sooner with more precise reporting.

<br>

<figure markdown="span">

![Filter insights](/\_images/release-notes/Insights-drill-down.png)

<figcaption>Filter insights</figcaption>

</figure>

<br>

### Contributors

[Stamsy](https://github.com/Stamsy){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.91.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.91.1...n8n@1.91.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-05

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.90.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.90.2...n8n@1.90.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-05

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.91.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.91.0...n8n@1.91.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-05-01

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.91.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.90.0...n8n@1.91.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-28

This release contains core updates, editor improvements, node updates, and bug fixes.

### Breadcrumb view from the canvas

We’ve added \*\*breadcrumb navigation directly on the canvas\*\*, so you can quickly navigate to any of a workflow’s parent folders right from the canvas.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.90.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.90.1...n8n@1.90.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-25

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.90.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.90.0...n8n@1.90.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-22

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.90.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.89.0...n8n@1.90.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-22

This release contains core updates, editor updates, node updates, performance improvements, and bug fixes.

### Extended HTTP Request tool functionality

We’ve brought the full power of the HTTP Request node to the HTTP Request tool in AI workflows. That means your AI Agents now have access to all the advanced configuration options—like Pagination, Batching, Timeout, Redirects, Proxy support, and even cURL import.

<br>

<video src="/\_video/release-notes/http-request-tool.mp4" controls width="100%"></video>

<br>

This update also includes support for the `$fromAI` function to dynamically generate the right parameters based on the context of your prompt — making API calls smarter, faster, and more flexible than ever.

\*\*How to:\*\*

- Open your AI Agent node in the canvas.

- Click the \*\*‘+’ icon\*\* to add a new tool connection.

- In the \*\*Tools panel\*\*, select HTTP \*\*Request Tool.\*\*

- Configure it just like you would a regular \*\*HTTP Request node\*\* — including advanced options

👉 Learn more about configuring the [HTTP Request tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolhttprequest.md).

### Scoped API keys

Users on the Enterprise plan can now create API keys with specific scopes to control exactly what each key can access.

<figure markdown="span">

![Scoped API keys](/\_images/release-notes/scoped-API-keys.png)

<figcaption>Scoped API keys</figcaption>

</figure>

Previously, API keys had full read/write access across all endpoints. While sometimes necessary, this level of access can be excessive and too powerful for most use cases. Scoped API keys allow you to limit access to only the resources and actions a service or user actually needs.

\*\*What’s new\*\*

When creating a new API key, you can now:

- Select whether the key has read, write, or both types of access.

- Specify which resources the key can interact with.

Supported scopes include:

- Variables — list, create, delete

- Security audit — generate reports

- Projects — list, create, update, delete

- Executions — list, read, delete

- Credentials — list, create, update, delete, move

- Workflows — list, create, update, delete, move, add/remove tags

Scoped API keys give you more control and security. You can limit access to only what’s needed, making it safer to work with third parties and easier to manage internal API usage.

### Drag and Drop in Folders

Folders just got friendlier. With this release, you can now \*\*drag and drop workflows and folders\*\* — making it even easier to keep things tidy.

Need to reorganize? Just select a workflow or folder and drag it into another folder or breadcrumb location. It’s a small change that makes a big difference when managing a growing collection of workflows.

<br>

<video src="/\_video/release-notes/Drag-and-drop-folders.mp4" controls width="100%"></video>

<br>

📁 Folders are available to all [registered](/hosting/community-edition-features.md#registered-community-edition) users—jump in and get your workspace in order!

### Contributors

[Zordrak](https://github.com/Zordrak){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.89.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.89.1...n8n@1.89.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-16

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.89.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.89.0...n8n@1.89.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.89.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.88.0...n8n@1.89.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-14

This release contains API updates, core updates, editor updates, a new node, node updates, and bug fixes.

<div class="n8n-new-features" markdown>

### Insights

We're rolling out [Insights](/insights.md), a new dashboard to monitor how your workflows are performing over time. It's designed to give admins (and owners) better visibility of their most important workflow metrics and help troubleshoot potential issues and improvements. <br>

<br>

In this first release, we’re introducing a summary banner, the insights dashboard, and time saved per execution. <br> <br>

#### 1. Summary banner

A new banner on the overview page that gives instance admins and owners a birds eye view of key metrics over the last 7 days.

<figure markdown="span">

![Summary banner](/\_images/release-notes/Insights-summary-banner.png)

<figcaption>Insights summary banner</figcaption>

</figure>

Available metrics:

- Total production executions

- Total failed executions

- Failure rate

- Average runtime of all workflows

- Estimated time saved

This overview is designed to help you stay on top of workflow activity at a glance. It is available for all plans and editions. <br> <br>

#### 2. Insights dashboard

On Pro and Enterprise plans, a new dashboard offers a deeper view into workflow performance and activity.

<figure markdown="span">

![Insights dashboard](/\_images/release-notes/Insights-dashboard.png)

<figcaption>Insights dashboard</figcaption>

</figure>

The dashboard includes:

- Total production executions over time, including a comparison of successful and failed executions

- Per-workflow breakdowns of key metrics

- Comparisons with previous periods to help spot changes in usage or behavior

- Runtime average and failure rate over time

#### 3. Time saved per execution

Within workflow settings, you can now assign a “time saved per execution” value to any workflow. This makes it possible to track the impact of your workflows and make it easier to share this visually with other teams and stakeholders.<br><br>

This is just the beginning for Insights: the next phase will introduce more advanced filtering and comparisons, custom date ranges, and additional monitoring capabilities.

</div>

### Node updates

- We added a credential check for the Salesforce node

- We added SearXNG as a tool for AI agents

You can now search within subfolders, making it easier to find workflows across all folder levels. Just type in the search bar and go.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.88.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.87.0...n8n@1.88.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-10

This release contains new features, new nodes, performance improvements, and bug fixes.

<div class="n8n-new-features" markdown>

### Model Context Protocol (MCP) nodes

MCP aims to standardise how LLMs like Claude, ChatGPT, or Cursor can interact with tools or integrate data for their agents. Many providers - both established or new - are adopting MCP as a standard way to build agentic systems. It is an easy way to either expose your own app as a server, making capabilities available to a model as tools, or as a client that can call on tools outside of your own system. <br>

While it’s still early in the development process, we want to give you access to our new MCP nodes. This will help us understand your requirements better and will also let us converge on a great general solution quicker. <br>

We are adding two new nodes:

- a MCP [Server Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.mcptrigger.md) for any workflow

- a MCP [Client Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolmcp.md) for the AI Agent

The MCP Server Trigger turns n8n into an MCP server, providing n8n tools to models running outside of n8n. You can run multiple MCP servers from your n8n instance. The MCP Client Tool connects LLMs - and other intelligent agents - to any MCP-enabled service through a single interface. <br>

Max from our DevRel team created an official walkthrough for you to get started:

<br>

[![Studio](/\_images/release-notes/MCP-YouTube-thumb.jpg)](https://youtu.be/45WPU7P-1QQ?feature=shared)

<figure markdown="span">

<figcaption>[Studio Update #04](https://youtu.be/45WPU7P-1QQ?feature=shared)</figcaption>

</figure>

### MCP Server Trigger

The MCP Server Trigger turns n8n into an MCP server, providing n8n tools to models running outside of n8n. The node acts as an entry point into n8n for MCP clients. It operates by exposing a URL that MCP clients can interact with to access n8n tools. This means your n8n workflows and integrations are now available to models run elsewhere. Pretty neat.

<figure markdown="span">

![MCP Server Trigger](/\_images/release-notes/MCP-Server-Trigger.png)

<figcaption>MCP Server Trigger</figcaption>

</figure>

[Explore the MCP Server Trigger docs](/integrations/builtin/core-nodes/n8n-nodes-langchain.mcptrigger.md)

### MCP Client Tool

The MCP Client Tool node is a MCP client, allowing you to use the tools exposed by an external MCP server. You can connect the MCP Client Tool node to your models to call external tools with n8n agents. In this regard it is similar to using a n8n tool with your AI agent. One advantage is that the MCP Client Tool can access multiple tools on the MCP server at once, keeping your canvas cleaner and easier to understand.

<figure markdown="span">

![MCP Client Tool](/\_images/release-notes/MCP-Client-Tool.png)

<figcaption>MCP Client Tools</figcaption>

</figure>

[Explore the MCP Client Tool docs](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolmcp.md)

</div>

### Node updates

- Added a node for Azure Cosmos DB

- Added a node for Milvus Vector Store

- Updated the Email Trigger (IMAP) node

### Contributors

[adina-hub](https://github.com/adina-hub){:target=\_blank .external-link}

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.87.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.87.1...n8n@1.87.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-09

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.86.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.86.0...n8n@1.86.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-09

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.87.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.87.0...n8n@1.87.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-08

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.87.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.86.0...n8n@1.87.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-04-07

This release contains new nodes, node updates, API updates, core updates, editor updates, and bug fixes.

### Contributors

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[Stamsy](https://github.com/Stamsy){:target=\_blank .external-link}

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.86.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.85.0...n8n@1.86.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-31

This release contains API updates, core updates, editor improvements, node updates, and bug fixes.

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.85.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.85.3...n8n@1.85.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-27

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.84.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.84.2...n8n@1.84.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-27

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.84.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.84.1...n8n@1.84.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-26

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.85.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.85.2...n8n@1.85.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-26

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.85.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.85.1...n8n@1.85.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-25

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.85.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.85.0...n8n@1.85.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.85.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.84.0...n8n@1.85.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-24

This release contains a new node, a new credential, core updates, editor updates, node updates, and bug fixes.

### Folders

What can we say about folders? Well, they’re super handy for categorizing just about everything and they’re finally available for your n8n workflows. Tidy up your workspace with unlimited folders and nested folders. Search for workflows within folders. It’s one of the ways we’re making it easier to organize your n8n instances more effectively.

\*\*How to use it:\*\*

Create and manage folders within your personal space or within projects. You can also create workflows from within a folder. You may need to restart your instance in order to activate folders.

<figure markdown="span">

![Folders](/\_images/release-notes/Folders.png

)

<figcaption>It's a folder alright</figcaption>

</figure>

<br>

Folders are available for all [registered](/hosting/community-edition-features.md#registered-community-edition) users so get started with decluttering your workspace now and look for more features (like drag and drop) to organize your instances soon.

### Enhancements to Form Trigger Node

Recent updates to the Form Trigger node have made it a more powerful tool for building business solutions. These enhancements provide more flexibility and customization, enabling teams to create visually engaging and highly functional workflows with forms.

- \*\*HTML customization:\*\* Add custom HTML to forms, including embedded images and videos, for richer user experiences.

- \*\*Custom CSS support\*\*: Apply custom styles to user-facing components to align forms with your brand’s look and feel. Adjust fonts, colors, and spacing for a seamless visual identity.

- \*\*Form previews:\*\* Your form’s description and title will pull into previews of your form when sharing on social media or messaging apps, providing a more polished look.

- \*\*Hidden fields:\*\* Use query parameters to add hidden fields, allowing you to pass data—such as a referral source—without exposing it to the user.

- \*\*New responses options:\*\* Respond to user submissions in multiple ways including text, HTML, or a downloadable file (binary format). This enables forms to display rich webpages or deliver digital assets such as dynamically generated invoices or personalized certificates.

<figure markdown="span">

![Form with custom CSS applied](/\_images/release-notes/Forms\_with\_custom\_CSS\_and\_HTML.png)

<figcaption>Form with custom CSS applied</figcaption>

</figure>

<br>

These improvements elevate the Form Trigger node beyond a simple workflow trigger, transforming it into a powerful tool for addressing use cases from data collection and order processing to custom content creation.

### Contributors

[Fank](https://github.com/Fank){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.84.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.84.0...n8n@1.84.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-18

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.84.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.83.0...n8n@1.84.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-17

This release contains a new node, node updates, editor updates, and bug fixes.

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.83.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.83.1...n8n@1.83.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-14

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.82.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.82.3...n8n@1.82.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-14

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.82.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.82.2...n8n@1.82.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-13

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.83.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.83.0...n8n@1.83.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-12

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.83.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.82.0...n8n@1.83.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-12

This release contains bug fixes and an editor update.

### Schema Preview

Schema Preview lets you view and work with a node’s expected output without executing it or adding credentials, keeping you in flow while building.

- \*\*See expected node outputs instantly.\*\* View schemas for over 100+ nodes to help you design workflows efficiently without extra steps.

- \*\*Define workflow logic first, take care of credentials later.\*\* Build your end-to-end workflow without getting sidetracked by credential setup.

- \*\*Avoid unwanted executions when building.\*\* Prevent unnecessary API calls, unwanted data changes, or potential third-party service costs by viewing outputs without executing nodes.

\*\*How to use it:\*\*

- Add a node with Schema Preview support to your workflow.

- Open the next node in the sequence - Schema Preview data appears in the Node Editor where you would typically find it in the Schema View.

- Use Schema Preview fields just like other schema data - drag and drop them into parameters and settings as needed.

<br>

<video src="/\_video/release-notes/Schema\_preview.mp4" controls width="100%"></video>

<br>

Don’t forget to add the required credentials before putting your workflow into production.

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.82.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.82.1...n8n@1.82.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-12

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.82.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.82.0...n8n@1.82.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-04

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.82.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.81.0...n8n@1.82.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-03

This release contains core updates, editor updates, new nodes, node updates, new credentials, credential updates, and bug fixes.

### Tidy up

Tidy up instantly aligns nodes, centers stickies, untangles connections, and brings structure to your workflows. Whether you're preparing to share a workflow or just want to improve readability, this feature saves you time and makes your logic easier to follow. Clean, well-organized workflows aren't just nicer to look at—they’re also quicker to understand.

\*\*How to:\*\*

Open the workflow you want to tidy, then choose one of these options:

- Click the \*\*Tidy up\*\* button in the bottom-left corner of the canvas (it looks like a broom 🧹)

- Press \*\*Shift + Alt + T\*\* on your keyboard

- Right-click anywhere on the canvas and select \*\*Tidy up workflow\*\*

Want to tidy up just part of your workflow? Select the specific nodes you want to clean up first - Tidy up will only adjust those, along with any stickies behind them.

<br>

<video src="/\_video/release-notes/tidy\_up.mp4" controls width="100%"></video>

<br>

### Multiple API keys

n8n now supports multiple API keys, allowing users to generate and manage separate keys for different workflows or integrations. This improves security by enabling easier key rotation and isolation of credentials. Future updates will introduce more granular controls. <br>

<figure markdown="span">

![Multiple API keys](/\_images/release-notes/Multiple-API-keys.png)

<figcaption>Multiple API keys</figcaption>

</figure>

<br>

### Contributors

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[adina-hub](https://github.com/adina-hub){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.81.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.81.3...n8n@1.81.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-03

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.81.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.81.2...n8n@1.81.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-03-03

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.81.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.81.1...n8n@1.81.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-28

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.80.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.80.4...n8n@1.80.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-28

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.80.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.80.3...n8n@1.80.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-27

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.81.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.81.0...n8n@1.81.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-27

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.81.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.80.0...n8n@1.81.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-24

This release contains bug fixes, a core update, editor improvements, and a node update.

### Improved partial executions

The new execution engine for partial executions ensures that testing parts of a workflow in the builder closely mirrors production behaviour. This makes iterating with updated run-data faster and more reliable, particularly for complex workflows.

Before, user would test parts of a workflow in the builder that didn't consistently reflect production behaviour, leading to unexpected results during development.

This update aligns workflow execution in the builder with production behavior.

Here is an example for loops:

Before

<br>

<video src="/\_video/release-notes/Partial-execution-loop-before.mp4" controls width="100%"></video>

<br>

After

<br>

<video src="/\_video/release-notes/Partial-execution-loop-after.mp4" controls width="100%"></video>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.80.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.80.2...n8n@1.80.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-21

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.79.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.79.3...n8n@1.79.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-21

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.80.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.80.1...n8n@1.80.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-21

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.79.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.79.2...n8n@1.79.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-21

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.80.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.80.0...n8n@1.80.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-20

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.79.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.79.1...n8n@1.79.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-20

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.80.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.79.0...n8n@1.80.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-17

This release contains bug fixes and an editor improvement.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.75.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.75.2...n8n@1.75.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-17

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.74.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.74.3...n8n@1.74.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-17

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.79.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.79.0...n8n@1.79.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-15

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.78.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.78.0...n8n@1.78.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-15

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.77.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.77.3...n8n@1.77.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-15

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.76.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.76.3...n8n@1.76.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-15

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.79.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.77.0...n8n@1.78.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-12

This release contains new features, node updates, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.77.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.77.2...n8n@1.77.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-06

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.78.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.77.0...n8n@1.78.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-05

This release contains new features, node updates, and bug fixes.

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.77.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.77.1...n8n@1.77.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-04

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.76.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.76.2...n8n@1.76.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-04

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.77.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.77.0...n8n@1.77.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-03

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.76.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.76.1...n8n@1.76.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-02-03

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.77.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.76.0...n8n@1.77.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-29

This release contains new features, editor updates, new nodes, new credentials, node updates, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.76.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.76.0...n8n@1.76.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-23

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.76.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.75.0...n8n@1.76.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-22

This release contains new features, editor updates, new credentials, node improvements, and bug fixes.

### Contributors

[Stamsy](https://github.com/Stamsy){:target=\_blank .external-link}

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.75.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.75.1...n8n@1.75.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-17

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.74.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.74.2...n8n@1.74.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-17

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.75.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.75.0...n8n@1.75.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-17

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.74.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.74.1...n8n@1.74.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-17

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.75.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.74.0...n8n@1.75.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-15

This release contains bug fixes and editor updates.

### Improved consistency across environments

We added new UX and automatic changes improvements resulting in a better consistency between your staging and production instances.

Previously, users faced issues like:

- Lack of visibility into required credential updates when pulling changes

- Incomplete synchronization, where changes — such as deletions — weren’t always applied across environments

- Confusing commit process, making it unclear what was being pushed or pulled

We addressed these by:

- Clearly indicating required credential updates when pulling changes

- Ensuring deletions and other modifications sync correctly across environments

- Improving commit selection to provide better visibility into what’s being pushed

<br>

<figure markdown="span">

![Commit modal](/\_images/release-notes/Commit-modal.png)

<figcaption>Commit modal</figcaption>

</figure>

<br>

<figure markdown="span">

![Pull notification](/\_images/release-notes/Pull-notification.png)

<figcaption>Pull notification</figcaption>

</figure>

<br>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.74.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.74.0...n8n@1.74.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-09

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.74.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.73.0...n8n@1.74.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2025-01-08

This release contains new features, a new node, node updates, performance improvements and bug fixes.

<div class="n8n-new-features" markdown>

### Overhauled Code node editing experience

We added a ton of new helpers to the Code node, making edits of your code much faster and more comfortable. You get:

- TypeScript autocomplete

- TypeScript linting

- TypeScript hover tips

- Search and replace

- New keyboard shortcuts based on the VSCode keymap

- Auto-formatting using prettier (Alt+Shift+F)

- Remember folded regions and history after refresh

- Multi cursor

- Type function in the Code node using JSDoc types

- Drag and drop for all Code node modes

- Indentation markers

We build this on a web worker architecture so you won't have to suffer from performance degradation while typing. <br>

<br>

To get the full picture, check out our Studio update with Max and Elias, where they discuss and demo the new editing experience. 👇 <br>

[![Studio](/\_images/release-notes/The\_Studio\_thumbnail\_Code\_node.jpg)](https://youtu.be/De1E58MPaMQ?t=645)

<figure markdown="span">

<figcaption>[Studio Update #04](https://youtu.be/De1E58MPaMQ?t=645)</figcaption>

</figure>

</div>

### New node: Microsoft Entra ID

Microsoft Entra ID (formerly known as Microsoft Azure Active Directory or Azure AD) is used for cloud-based identity and access management. [The new node](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftentra.md) supports a wide range of Microsoft Entra ID features, which includes creating, getting, updating, and deleting users and groups, as well as adding users to and removing them from groups.

### Node updates

- [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md): Vector stores can now be directly used as tools for the agent

- [Code](/code/builtin/overview.md): Tons of new speed and convenience features, see above for details

- [Google Vertex Chat](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatgooglevertex.md): Added option to specify the GCP region for the Google API credentials

- [HighLevel](/integrations/builtin/app-nodes/n8n-nodes-base.highlevel.md): Added support for calendar items

We also added a custom [projects](/user-management/rbac/projects.md) icon selector on top of the available emojis. Pretty!

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.73.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.73.0...n8n@1.73.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-19

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.73.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.72.0...n8n@1.73.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-19

This release contains node updates, performance improvements, and bug fixes.

### Node updates

- [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md): Updated descriptions for Chat Trigger options

- [Facebook Graph API](/integrations/builtin/app-nodes/n8n-nodes-base.facebookgraphapi.md): Updated for API v21.0

- [Gmail](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md): Added two new options for the `Send and wait` operation, free text and custom form

- [Linear Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.lineartrigger.md): Added support for admin scope

- [MailerLite](/integrations/builtin/app-nodes/n8n-nodes-base.mailerlite.md): Now supports the new API

- [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md): Added two new options for the `Send and wait` operation, free text and custom form

We also added credential support for [SolarWinds IPAM](/integrations/builtin/credentials/solarwindsipam.md) and [SolarWinds Observability](/integrations/builtin/credentials/solarwindsobservability.md).

Last, but not least, we [improved the schema view performance in the node details view by 90%](https://github.com/n8n-io/n8n/pull/12180) and added drag and drop re-ordering to parameters. This comes in very handy in the [If](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) or [Edit Fields](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) nodes.

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.72.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.72.0...n8n@1.72.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-12

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.71.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.71.2...n8n@1.71.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-12

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.72.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.71.0...n8n@1.72.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-11

This release contains node updates, usability improvements, and bug fixes.

### Node updates

- [AI Transform](/integrations/builtin/core-nodes/n8n-nodes-base.aitransform.md): The `maximum context length` error now retries with reduced payload size

- [Redis](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md): Added support for `continue on fail`

### Improved commit modal

We added filters and text search to the commit modal when working with [Environments](/source-control-environments/index.md). This will make committing easier as we provide more information and better visibility. Environments are available on the Enterprise plan.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.71.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.71.1...n8n@1.71.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-10

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.70.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.70.3...n8n@1.70.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-10

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.71.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.71.0...n8n@1.71.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-06

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.70.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.70.2...n8n@1.70.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-05

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.71.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.70.2...n8n@1.71.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-04

This release contains node updates, performance improvements, and bug fixes.

<div class="n8n-new-features" markdown>

### Task runners for the Code node in public beta

We're introducing a significant performance upgrade to the Code node with our new Task runner system. This enhancement moves JavaScript code execution to a separate process, improving your workflow execution speed while adding better isolation.

<figure markdown="span">

![Task runners overview](/\_images/hosting/configuration/task-runner-concept.png)

<figcaption>Task runners overview</figcaption>

</figure>

Our benchmarks show up to 6x improvement in workflow executions using Code nodes - from approximately 6 to 35 executions per second. All these improvements happen under the hood, keeping your Code node experience exactly the same.

The Task runner comes in two modes:

- Internal mode (default): Perfect for getting started, automatically managing task runners as child processes

- External mode: For advanced hosting scenarios requiring maximum isolation and security

Currently, this feature is opt-in and can be enabled using [environment variables](/hosting/configuration/environment-variables/task-runners.md). Once stable, it will become the default execution method for Code nodes.

To start using Task runners today, [check out the docs](/hosting/configuration/task-runners.md).

</div>

### Node updates

- [AI Transform node](/integrations/builtin/core-nodes/n8n-nodes-base.aitransform.md): We improved the prompt for code generation to transform data

- [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md): We added a warning if `pairedItem` is absent or could not be auto mapped

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.70.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.70.1...n8n@1.70.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-12-04

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.70.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.70.0...n8n@1.70.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-29

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.70.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.69.0...n8n@1.70.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-27

This release contains node updates, performance improvements and bug fixes.

### New canvas in beta

The new canvas is now the default setting for all users. It should bring significant performance improvements and adds a handy minimap. As it is still a beta version you can still revert to the previous version with the three dot menu.

We're looking forward to your feedback. Should you encounter a bug, you will find a handy button to create an issue at the bottom of the new canvas as well.

### Node updates

- We added credential support for [Zabbix](/integrations/builtin/credentials/zabbix.md) to the HTTP request node

- We added new OAuth2 credentials for [Microsoft SharePoint](/integrations/builtin/credentials/microsoft.md)

- The [Slack node](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md#operations) now uses markdown for the approval message when using the `Send and Wait for Approval` operation

### Contributors

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.68.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.68.0...n8n@1.68.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-26

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.69.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.69.1...n8n@1.69.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-26

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.69.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.69.0...n8n@1.69.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.69.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.68.0...n8n@1.69.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-20

This release contains a new feature, node improvements and bug fixes.

### Sub-workflow debugging

We made it much easier to debug sub-workflows by improving their accessibility from the parent workflow.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.68.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.67.1...n8n@1.68.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-13

This release contains node updates, performance improvements and many bug fixes.

<div class="n8n-new-features" markdown>

#### New AI agent canvas chat

We revamped the chat experience for AI agents on the canvas. A neatly organized view instead of a modal hiding the nodes. You can now see the canvas, chat and logs at the same time when testing your workflow.

<br /><br />

<video src="/\_video/release-notes/AI-chat-on-canvas.mp4" controls width="100%"></video>

<br /><br />

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.67.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.67.0...n8n@1.67.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-07

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.67.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.66.0...n8n@1.67.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-11-06

This release contains node updates and bug fixes.

### Node updates

- [AI Transform](/integrations/builtin/core-nodes/n8n-nodes-base.aitransform.md): Improved usability

- [Anthropic Chat Model Node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatanthropic.md): Added Haiku 3.5 support

- [Convert to File](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md): Added delimiter option for writing to CSV

- [Gmail Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.gmailtrigger/index.md): Added option to filter for draft messages

- [Intercom](/integrations/builtin/app-nodes/n8n-nodes-base.intercom.md): Credential can now be used in the HTTP Request node

- [Rapid7 InsightVM](/integrations/builtin/credentials/rapid7insightvm.md): Added credential support

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.66.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.65.2...n8n@1.66.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-31

This release contains performance improvements, a node update and bug fixes.

### Node update

- [Anthropic Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatanthropic.md): Added support for claude-3-5-sonnet-20241022

We made updates to how projects and workflow ownership are displayed making them easier to understand and navigate.

We further improved the performance logic of partial executions, leading to a smoother and more enjoyable building experience.

### New n8n canvas alpha

We have enabled the alpha version of our new canvas. The canvas is the ‘drawing board’ of the n8n editor, and we’re working on a full rewrite. Your feedback and testing will help us improve it.

[Read all about it on our community forum](https://community.n8n.io/t/help-us-test-the-new-n8n-canvas-alpha/60070).

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.65.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.65.1...n8n@1.65.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-28

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.64.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.64.2...n8n@1.64.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.65.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.65.0...n8n@1.65.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.65.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.64.1...n8n@1.65.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-24

/// warning | [Breaking change](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md){:target=\_blank .external-link}

What changed?

Queue polling via the environment variable `QUEUE\_RECOVERY\_INTERVAL` has been removed.

When is action necessary?

If you have set `QUEUE\_RECOVERY\_INTERVAL`, you can remove it as it no longer has any effect.

///

This release contains a new features, new nodes, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

### New node: n8n Form

Use the [n8n Form node](/integrations/builtin/core-nodes/n8n-nodes-base.form.md) to create user-facing forms with multiple pages. You can add other nodes with custom logic between to process user input. Start the workflow with a [n8n Form Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md).

<figure markdown="span">

![A multi-page form with branching](/\_images/integrations/builtin/core-nodes/n8n-nodes-base.form/example\_image.png)

<figcaption>A multi-page form with branching</figcaption>

</figure>

Additionally you can:

- Set default selections with query parameters

- Define the form with a JSON array of objects

- Show a completion screen and redirect to another URL

</div>

### Node updates

New nodes:

- [Google Business Profile](/integrations/builtin/app-nodes/n8n-nodes-base.googlebusinessprofile.md) and [Google Business Profile Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlebusinessprofiletrigger.md): Use these to integrate Google Business Profile reviews and posts with your workflows

Enhanced nodes:

- [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md): Removed the requirement to add at least one tool

- [GitHub](/integrations/builtin/app-nodes/n8n-nodes-base.github.md): Added workflows as a resource operation

- [Structured Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserstructured/index.md): Added more user-friendly error messages

For additional security, we improved how we handle multi-factor authentication, hardened config file permissions and introduced JWT for the public API.

For better performance, we improved how partial executions are handled in loops.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

- [Idan Fishman](https://github.com/idanfishman){:target=\_blank .external-link}

## n8n@1.64.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.64.1...n8n@1.64.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-24

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.64.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.64.0...n8n@1.64.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-21

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.64.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.63.4...n8n@1.64.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-16

This release contains a new node, node enhancements, performance improvements and bug fixes.

<div class="n8n-new-features" markdown>

### Enhanced node: Remove Duplicates

The [Remove Duplicates node](/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates/index.md) got a major makeover with the addition of two new operations:

- Remove Items Processed in Previous Executions: Compare items in the current input to items from previous executions and remove duplicates

- Clear Deduplication History: Wipe the memory of items from previous executions.

This makes it easier to only process new items from any data source. For example, you can now more easily poll a Google sheet for new entries by `id` or remove duplicate orders from the same customer by comparing their `order date`. The great thing is, you can now do this within \*\*and across\*\* workflow runs.

</div>

### New node: Gong

The new node for [Gong](/integrations/builtin/app-nodes/n8n-nodes-base.gong.md) allows you to get users and calls to process them further in n8n. Very useful for sales related workflows.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

- [Sören Uhrbach](https://github.com/soerenuhrbach){:target=\_blank .external-link}

## n8n@1.63.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.63.3...n8n@1.63.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-15

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.62.6

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.62.5...n8n@1.62.6){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-15

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.63.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.63.2...n8n@1.63.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-15

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.63.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.63.1...n8n@1.63.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-11

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.62.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.62.4...n8n@1.62.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-11

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.63.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.63.0...n8n@1.63.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-11

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.62.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.62.3...n8n@1.62.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-11

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.63.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.62.3...n8n@1.63.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-09

/// warning | [Breaking change](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md){:target=\_blank .external-link}

What changed?

- The worker server used to bind to IPv6 by default. It now binds to IPv4 by default.

- The worker server's `/healthz` used to report healthy status based on database and Redis checks. It now reports healthy status regardless of database and Redis status, and the database and Redis checks are part of `/healthz/readiness`.

When is action necessary?

- If you experience a port conflict error when starting a worker server using its default port, set a different port for the worker server with `QUEUE\_HEALTH\_CHECK\_PORT`.

- If you are relying on database and Redis checks for worker health status, switch to checking `/healthz/readiness` instead of `/healthz`.

///

This release contains new features, node enhancements and bug fixes.

### Node updates

- [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md): Added the option to choose between the default memory connector to provide memory to the assistant or to specify a thread ID

- [Gmail](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) and [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md): Added custom approval operations to have a human in the loop of a workflow

We have also optimized the [worker health checks](/hosting/logging-monitoring/monitoring.md) (see breaking change above).

Each credential now has a seperate url you can link to. This makes sharing much easier.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Pemontto](https://github.com/pemontto){:target=\_blank .external-link}

## n8n@1.62.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.62.2...n8n@1.62.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-08

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.62.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.62.1...n8n@1.62.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-07

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.62.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.61.0...n8n@1.62.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-10-02

This release contains new features, node enhancements and bug fixes.

/// note | Skipped 1.62.0

We skipped 1.62.0 and went straight to 1.62.1 with an additional fix.

///

<div class="n8n-new-features" markdown>

#### Additional nodes as tools

We have made additional nodes usable with the [Tools AI Agent node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/tools-agent.md).

<br /><br />

<video src="/\_video/release-notes/nodes-as-tools.mp4" controls width="100%"></video>

<br /><br />

Additionally, we have added a `$fromAI()` placeholder function to use with tools, allowing you to dynamically pass information from the models to the connected tools. This function works similarly to placeholders used elsewhere in n8n.

<br /><br />

Both of these new features enable you to build even more powerful AI agents by drawing directly from the apps your business uses. This makes integrating LLMs into your business processes even easier than before.

</div>

### Node updates

- [Google BigQuery](/integrations/builtin/app-nodes/n8n-nodes-base.googlebigquery.md): Added option to return numeric values as integers and not strings

- [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md): Added credential support for Sysdig

- [Invoice Ninja](/integrations/builtin/app-nodes/n8n-nodes-base.invoiceninja.md): Additional query params for getAll requests

- [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md): Added the option to use a custom prompt

Drag and drop insertion on cursor position from schema view is now also enabled for code, SQL and Html fields in nodes.

Customers with an enterprise license can now rate, tag and highlight execution data in the executions view. To use highlighting, add an [Execution Data Node](/integrations/builtin/core-nodes/n8n-nodes-base.executiondata.md) (or Code node) to the workflow to set [custom executions data](/workflows/executions/custom-executions-data.md).

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.61.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.60.1...n8n@1.61.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-25

This release contains new features, node enhancements and bug fixes.

### Node updates

- [Brandfetch](/integrations/builtin/app-nodes/n8n-nodes-base.brandfetch.md): Updated to use the new API

- [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md): Made adding or removing the workflow link to a message easier

Big datasets now render faster thanks to virtual scrolling and execution annotations are harder to delete.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.59.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.59.3...n8n@1.59.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-20

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.60.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.60.0...n8n@1.60.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-20

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.60.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.59.3...n8n@1.60.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-18

This release contains new features, node enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### Queue metrics for workers

You can now [expose and consume metrics from your workers](https://docs.n8n.io/hosting/configuration/configuration-examples/prometheus/). The worker instances have the same metrics available as the main instance(s) and can be configured with [environment variables](/hosting/configuration/environment-variables/endpoints.md).

</div>

You can now customize the maximum file size when uploading files within forms to webhooks. The [environment variable to set](/hosting/configuration/environment-variables/endpoints.md) for this is `N8N\_FORMDATA\_FILE\_SIZE\_MAX`. The default setting is 200MiB.

### Node updates

Enhanced nodes:

- [Invoice Ninja](/integrations/builtin/app-nodes/n8n-nodes-base.invoiceninja.md): Added actions for bank transactions

- [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md): Added O1 models to the model select

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[CodeShakingSheep](https://github.com/CodeShakingSheep){:target=\_blank .external-link}

## n8n@1.59.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.59.2...n8n@1.59.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-18

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.59.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.59.1...n8n@1.59.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-17

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.59.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.59.0...n8n@1.59.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-16

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.58.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.58.1...n8n@1.58.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-12

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.59.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.58.1...n8n@1.59.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-11

/// warning | Chat Trigger

If you are using the Chat Trigger in "Embedded Chat" mode, with authentication turned on, you could see errors connecting to n8n if the authentication on the sending/embedded side is mis-configured.

///

This release contains bug fixes and feature enhancements.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[oscarpedrero](https://github.com/oscarpedrero){:target=\_blank .external-link}

## n8n@1.58.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.58.0...n8n@1.58.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-06

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.58.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.57.0...n8n@1.58.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-09-05

This release contains new features, bug fixes and feature enhancements.

<div class="n8n-new-features" markdown>

#### New node: PGVector Vector Store

This release adds the PGVector Vector Store node. Use this node to interact with the PGVector tables in your PostgreSQL database. You can insert, get, and retrieve documents from a vector table to provide them to a retriever connected to a chain.

</div>

<div class="n8n-new-features" markdown>

#### See active collaborators on workflows

We added collaborator avatars back to the workflow canvas. You will see other users who are active on the workflow, preventing you from overriding each other's work.

<figure markdown="span">

![Collaboration avatars](/\_images/release-notes/Collaboration-avatar.png)

<figcaption>Collaboration avatars</figcaption>

</figure>

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.57.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.56.2...n8n@1.57.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-28

This release contains new features and bug fixes.

<div class="n8n-new-features" markdown>

#### Improved execution queue handling

We are [exposing new execution queue metrics](/hosting/configuration/configuration-examples/prometheus.md) to give users more visibility of the queue length. This helps to inform decisions on horizontal scaling, based on queue status. We have also made querying executions faster.

</div>

<div class="n8n-new-features" markdown>

#### New credentials for the HTTP Request node

We added credential support for Datadog, Dynatrace, Elastic Security, Filescan, Iris, and Malcore to the HTTP Request node making it easier to use existing credentials.

</div>

We also made it easier to select workflows as tools when working with AI agents by implementing a new `workflow selector` parameter type.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Bram Kn](https://github.com/bramkn){:target=\_blank .external-link}

## n8n@1.56.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.56.1...n8n@1.56.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-26

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.56.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.56.0...n8n@1.56.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-23

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.56.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.55.3...n8n@1.56.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-21

This release contains node updates, security and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[CodeShakingSheep](https://github.com/CodeShakingSheep){:target=\_blank .external-link}

[Oz Weiss](https://github.com/thewizarodofoz){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.55.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.55.2...n8n@1.55.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-16

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.55.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.55.1...n8n@1.55.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-16

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.55.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.55.0...n8n@1.55.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.54.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.54.3...n8n@1.54.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.54.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.54.2...n8n@1.54.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.54.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.54.1...n8n@1.54.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-14

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.55.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.54.1...n8n@1.55.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-14

/// warning | [Breaking change](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md){:target=\_blank .external-link}

The N8N\_BLOCK\_FILE\_ACCESS\_TO\_N8N\_FILES environment variable now also blocks access to n8n's static cache directory at ~/.cache/n8n/public.

If you are writing to or reading from a file at n8n's static cache directory via a node, e.g. Read/Write Files from Disk, please update your node to use a different path.

///

This release contains a new feature, a new node, a node update and bug fixes.

<div class="n8n-new-features" markdown>

#### Override the npm registry

This release adds the option to override the npm registry for installing community packages. This is a paid feature.

We now also prevent npm downloading community packages from a compromised npm registry by explicitly using --registry in all npm install commands.

</div>

<div class="n8n-new-features" markdown>

#### New node: AI Transform

This release adds the [AI Transform node](/integrations/builtin/core-nodes/n8n-nodes-base.aitransform.md). Use the AI Transform node to generate code snippets based on your prompt. The AI is context-aware, understanding the workflow’s nodes and their data types. The node is only available on [Cloud plans](/manage-cloud/overview.md).

</div>

<div class="n8n-new-features" markdown>

#### New node: Okta

This release adds the [Okta node](/integrations/builtin/app-nodes/n8n-nodes-base.okta.md). Use the Okta node to automate work in Okta and integrate Okta with other applications. n8n has built-in support for a wide range of Okta features, which includes creating, updating, and deleting users.

</div>

### Node updates

Enhanced node:

- [MySQL](/integrations/builtin/app-nodes/n8n-nodes-base.mysql/index.md)

This release also adds the new schema view for the expression editor modal.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.54.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.54.0...n8n@1.54.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-13

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.53.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.53.1...n8n@1.53.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-08

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.54.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.53.1...n8n@1.54.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-07

This release contains new features, node enhancements, bug fixes and updates to our API.

### API update

Our [public REST API](/api/index.md) now supports additional operations:

- Create, delete, and edit roles for users

- Create, read, update and delete projects

Find the details in the [API reference](/api/api-reference.md).

### Contributors

[CodeShakingSheep](https://github.com/CodeShakingSheep){:target=\_blank .external-link}

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For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.45.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.45.1...n8n@1.45.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-06

This release contains a bug fix.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.53.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.53.0...n8n@1.53.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-08-02

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.53.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.52.2...n8n@1.53.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-31

This release contains new features, new nodes, node enhancements, bug fixes and updates to our API.

<div class="n8n-new-features" markdown>

#### Added Google Cloud Platform Secrets Manager support

This release adds [Google Cloud Platform Secrets Manager](/external-secrets.md) to the list of external secret stores. We already support AWS secrets, Azure Key Vault, Infisical and HashiCorp Vault. External secret stores are available under an enterprise license.

</div>

<div class="n8n-new-features" markdown>

#### New node: Information Extractor

This release adds the [Information Extractor node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.information-extractor.md). The node is specifically tailored for information extraction tasks. It uses Structured Output Parser under the hood, but provides a simpler way to extract information from text in a structured JSON form.

</div>

<div class="n8n-new-features" markdown>

#### New node: Sentiment Analysis

This release adds the [Sentiment Analysis node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.sentimentanalysis.md). The node leverages LLMs to analyze and categorize the sentiment of input text. Users can easily integrate this node into their workflows to perform sentiment analysis on text data. The node is flexible enough to handle various use cases, from basic positive/negative classification to more nuanced sentiment categories.

</div>

### Node updates

Enhanced nodes:

- [Calendly Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.calendlytrigger.md)

- [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md)

- [n8n Form Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md)

- [Shopify](/integrations/builtin/app-nodes/n8n-nodes-base.shopify.md)

### API update

Our [public REST API](/api/index.md) now supports additional operations:

- Create, read, and delete for variables

- Filtering workflows by project

- Transferring workflows

Find the details in the [API reference](/api/api-reference.md).

### Contributors

[feelgood-interface](https://github.com/feelgood-interface){:target=\_blank .external-link}

[Oz Weiss](https://github.com/thewizarodofoz){:target=\_blank .external-link}

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.52.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.52.1...n8n@1.52.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-31

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.52.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.52.0...n8n@1.52.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-26

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.51.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.51.1...n8n@1.51.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-26

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.52.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.51.1...n8n@1.52.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-25

/// warning | [Breaking change](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md){:target=\_blank .external-link}

Prometheus metrics enabled via N8N\_METRICS\_INCLUDE\_DEFAULT\_METRICS and N8N\_METRICS\_INCLUDE\_API\_ENDPOINTS were fixed to include the default n8n\_ prefix.

If you are using Prometheus metrics from these categories and are using a non-empty prefix, please update those metrics to match their new prefixed names.

///

This release contains new features, node enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### Added Azure Key Vault support

This release adds [Azure Key Vault](/external-secrets.md) to the list of external secret stores. We already support AWS secrets, Infisical and HashiCorp Vault and are working on Google Secrets Manager. External secret stores are available under an enterprise license.

</div>

### Node updates

Enhanced nodes:

- [Pinecone Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorepinecone.md)

- [Supabase Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoresupabase.md)

- [Send Email](/integrations/builtin/core-nodes/n8n-nodes-base.sendemail.md)

Deprecated nodes:

- OpenAI Model: You can use the OpenAI Chat Model instead

- Google Palm Chat Model: You can use Google Vertex or Gemini instead

- Google Palm Model: You can use Google Vertex or Gemini instead

## n8n@1.51.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.51.0...n8n@1.51.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-23

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.50.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.50.1...n8n@1.50.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-23

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.51.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.50.1...n8n@1.51.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-18

This release contains new nodes, node enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### New node: Text Classifier

This release adds the [Text Classifier node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.text-classifier.md).

</div>

<div class="n8n-new-features" markdown>

#### New node: Postgres Chat Memory

This release adds the [Postgres Chat Memory node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorypostgreschat.md).

</div>

<div class="n8n-new-features" markdown>

#### New node: Google Vertex Chat Model

This release adds the [Google Vertex Chat Model node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatgooglevertex.md).

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Node updates

- Enhanced nodes: Asana

## n8n@1.50.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.50.0...n8n@1.50.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-16

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.50.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.49.0...n8n@1.50.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-10

This release contains node enhancements and bug fixes.

### Node updates

- Enhanced nodes: Chat Trigger, Google Cloud Firestore, Qdrant Vector Store, Splunk, Telegram

- Deprecated node: Orbit (product shut down)

### Beta Feature Removal

The Ask AI beta feature for the HTTP Request node has been removed from this version

### Contributors

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## n8n@1.49.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.48.3...n8n@1.49.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-03

This release contains a new node, node enhancements, and bug fixes.

### Node updates

- New node added: [Vector Store Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) for the AI Agent

- Enhanced nodes: Zep Cloud Memory, Copper, Embeddings Cohere, GitHub, Merge, Zammad

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.48.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.48.2...n8n@1.48.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-03

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.47.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.47.2...n8n@1.47.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-03

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.48.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.48.1...n8n@1.48.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-01

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.47.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.47.1...n8n@1.47.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-07-01

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.48.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.48.0...n8n@1.48.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-27

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.48.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.47.1...n8n@1.48.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-27

This release contains bug fixes and feature enhancements.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.47.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.47.0...n8n@1.47.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-26

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.47.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.46.0...n8n@1.47.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-20

/// warning | Breaking change

Calling `$(...).last()` (or `(...).first()` or `$(...).all()`) without arguments now returns the last item (or first or all items) of the output that connects two nodes. Previously, it returned the item/items of the first output of that node. Refer to the [breaking changes log](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#1470){:target=\_blank .external-link} for details.

///

This release contains bug fixes, feature enhancements, a new node, node enhancements and performance improvements.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

<div class="n8n-new-features" markdown>

#### New node: HTTP request tool

This release adds the HTTP request tool. You can use it with an AI agent as a tool to collect information from a website or API. Refer to the [HTTP request tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolhttprequest.md) for details.

</div>

### Contributors

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## n8n@1.45.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.45.0...n8n@1.45.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-12

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.46.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.45.0...n8n@1.46.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-12

This release contains feature enhancements, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.44.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.44.1...n8n@1.44.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-12

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.42.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.42.1...n8n@1.42.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-10

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.45.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.44.1...n8n@1.45.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-06

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.44.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.44.0...n8n@1.44.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-06-03

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.44.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.43.1...n8n@1.44.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-30

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.43.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.43.0...n8n@1.43.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-28

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.43.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.42.1...n8n@1.43.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-22

This release contains new features, node enhancements, and bug fixes.

/// note | Backup recommended

Although this release doesn't include a breaking change, it is a significant update including database migrations. n8n recommends backing up your data before updating to this version.

///

/// Note | Credential sharing required for manual executions

Instance owners and admins: you will see changes if you try to manually execute a workflow where the credentials aren't shared with you. Manual workflow executions now use the same permissions checks as production executions, meaning you can't do a manual execution of a workflow if you don't have access to the credentials. Previously, owners and admins could do manual executions without credentials being shared with them. To resolve this, the credential creator needs to [share the credential](/credentials/credential-sharing.md) with you.

///

<div class="n8n-new-features" markdown>

#### New feature: Projects

With projects and roles, you can give your team access to collections of workflows and credentials, rather than having to share each workflow and credential individually. Simultaneously, you tighten security by limiting access to people on the relevant team.

<br /><br />

Refer to the [RBAC](/user-management/rbac/index.md) documentation for information on creating projects and using roles.

<br /><br />

The number of projects and role types vary depending on your plan. Refer to [Pricing](https://n8n.io/pricing/){:target=\_blank .external-link} for details.

<video src="/\_video/release-notes/rbac-glimpse.mp4" controls width="100%"></video>

</div>

<div class="n8n-new-features" markdown>

#### New node: Slack Trigger

This release adds a trigger node for Slack. Refer to the [Slack Trigger documentation](/integrations/builtin/trigger-nodes/n8n-nodes-base.slacktrigger.md) for details.

</div>

### Other highlights

\* Improved [memory support for OpenAI assistants](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md).

### Rolling back to a previous version

If you update to this version, then decide you need to role back:

Self-hosted n8n:

1. Delete any RBAC projects you created.

2. Revert the database migrations using `n8n db:revert`.

Cloud: contact [help@n8n.io](mailto:help@n8n.io).

### Contributors

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## n8n@1.42.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.42.0...n8n@1.42.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-20

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.41.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.41.0...n8n@1.41.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-16

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.42.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.41.0...n8n@1.42.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-15

This release contains new features, node enhancements, and bug fixes.

Note that this release removes the AI error debugger. We're working on a new and improved version.

<div class="n8n-new-features" markdown>

#### New feature: Tools Agent

This release adds a new option to the Agent node: the [Tools Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/tools-agent.md).

This agent has an enhanced ability to work with tools, and can ensure a standard output format. This is now the recommended default agent.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.41.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.40.0...n8n@1.41.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-08

This release contains new features, node enhancements, and bug fixes.

Note that this release temporarily disables the AI error helper.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

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## n8n@1.40.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.39.1...n8n@1.40.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-05-02

/// warning | Breaking change

Please note that this version contains a breaking change for instances using a Postgres database. The default value for the DB\_POSTGRESDB\_USER environment variable was switched from `root` to `postgres`. Refer to the [breaking changes log](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#1400){:target=\_blank .external-link} for details.

///

This release contains new features, new nodes, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### New feature: Ask AI in the HTTP node

You can now ask AI to help create API requests in the HTTP Request node:

1. In the HTTP Request node, select \*\*Ask AI\*\*.

1. Enter the \*\*Service\*\* and \*\*Request\*\* you want to use. For example, to use the NASA API to get their picture of the day, enter `NASA` in \*\*Service\*\* and `get picture of the day` in \*\*Request\*\*.

1. Check the parameters: the AI tries to fill them out, but you may still need to adjust or correct the configuration.

Self-hosted users need to [enable AI features and provide their own API keys](/hosting/configuration/environment-variables/index.md)

</div>

<div class="n8n-new-features" markdown>

#### New node: Groq Chat Model

This release adds the [Groq Chat Model node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatgroq.md).

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.39.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.39.0...n8n@1.39.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.38.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.38.1...n8n@1.38.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.37.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.37.3...n8n@1.37.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.39.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.38.1...n8n@1.39.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-24

This release contains new nodes, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### New node: WhatsApp Trigger

This release adds the [WhatsApp Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.whatsapptrigger.md).

</div>

<div class="n8n-new-features" markdown>

#### Node enhancement: Multiple methods, one Webhook node

The Webhook Trigger node can now handle calls to multiple HTTP methods. Refer to the [Webhook node documentation](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/common-issues.md#listen-for-multiple-http-methods) for information on enabling this.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

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## n8n@1.38.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.38.0...n8n@1.38.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-18

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.37.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.37.2...n8n@1.37.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-18

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.38.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.37.2...n8n@1.38.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-17

This release contains new nodes, bug fixes, and node enhancements.

<div class="n8n-new-features" markdown>

#### New node: Google Gemini Chat Model

This release adds the [Google Gemini Chat Model sub-node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatgooglegemini.md).

</div>

<div class="n8n-new-features" markdown>

#### New node: Embeddings Google Gemini

This release adds the [Google Gemini Embeddings sub-node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsgooglegemini.md).

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

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## n8n@1.37.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.37.1...n8n@1.37.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-17

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.36.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.36.3...n8n@1.36.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.36.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.36.2...n8n@1.36.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-12

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.37.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.37.0...n8n@1.37.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-11

/// warning | Breaking change

Please note that this version contains a breaking change for self-hosted n8n. It removes the `--file` flag for the `execute` CLI command. If you have scripts relying on the `--file` flag, update them to first import the workflow and then execute it using the `--id` flag. Refer to [CLI commands](/hosting/cli-commands.md) for more information on CLI options.

///

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.36.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.36.1...n8n@1.36.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-11

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.37.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.36.1...n8n@1.37.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-10

/// warning | Breaking change

Please note that this version contains a breaking change for self-hosted n8n. It removes the `--file` flag for the `execute` CLI command. If you have scripts relying on the `--file` flag, update them to first import the workflow and then execute it using the `--id` flag. Refer to [CLI commands](/hosting/cli-commands.md) for more information on CLI options.

///

This release contains a new node, improvements to error handling and messaging, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### New node: JWT

This release adds the [JWT core node](/integrations/builtin/core-nodes/n8n-nodes-base.jwt.md).

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.36.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.36.0...n8n@1.36.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-04

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.36.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.35.0...n8n@1.36.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-04-03

This release contains new nodes, enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### New node: Salesforce Trigger node

This release adds the [Salesforce Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.salesforcetrigger.md).

</div>

<div class="n8n-new-features" markdown>

#### New node: Twilio Trigger node

This release adds the [Twilio Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.twiliotrigger.md).

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.35.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.34.2...n8n@1.35.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-28

This release contains enhancements and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.34.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.34.1...n8n@1.34.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-26

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.34.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.34.0...n8n@1.34.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.34.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.33.1...n8n@1.34.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-20

This release contains new features, new nodes, and bug fixes.

<div class="n8n-new-features" markdown>

#### New node: Microsoft OneDrive Trigger node

This release adds the [Microsoft OneDrive Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.microsoftonedrivetrigger.md). You can now trigger workflows on file and folder creation and update events.

</div>

<div class="n8n-new-features" markdown>

#### New data transformation functions

This release introduces new [data transformation functions](/code/builtin/data-transformation-functions/index.md):

\*\*String\*\*

```js

toDateTime() //replaces toDate(). toDate() is retained for backwards compatability.

parseJson()

extractUrlPath()

toBoolean()

base64Encode()

base64Decode()

```

\*\*Number\*\*

```js

toDateTime()

toBoolean()

```

\*\*Object\*\*

```js

toJsonString()

```

\*\*Array\*\*

```js

toJsonString()

```

\*\*Date & DateTime\*\*

```js

toDateTime()

toInt()

```

\*\*Boolean\*\*

```js

toInt()

```

</div>

### Contributors

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## n8n@1.33.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.33.0...n8n@1.33.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.32.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.32.1...n8n@1.32.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.33.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.32.1...n8n@1.33.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-13

This release contains new features, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### Support for Claude 3

This release adds support for Claude 3 to the [Anthropic Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatanthropic.md) node.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.32.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.32.0...n8n@1.32.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-07

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.31.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.31.1...n8n@1.31.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-07

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.32.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.31.1...n8n@1.32.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-06

This release contains new features, node enhancements, performance improvements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.31.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.31.0...n8n@1.31.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-03-06

/// warning | Breaking changes

Please note that this version contains a breaking change. HTTP connections to the editor will fail on domains other than localhost. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#1320){:target=\_blank .external-link}.

///

This is a bug fix release and it contains a breaking change.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.31.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.30.0...n8n@1.31.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-28

This release contains new features, new nodes, node enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### New nodes: Microsoft Outlook trigger and Ollama embeddings

This release adds two new nodes.

\* [Microsoft Outlook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.microsoftoutlooktrigger.md)

\* [Ollama Embeddings](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsollama.md)

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.30.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.30.0...n8n@1.30.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-23

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.30.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.29.1...n8n@1.30.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-21

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.29.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.29.0...n8n@1.29.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-16

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.29.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.28.0...n8n@1.29.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-15

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New features

<div class="n8n-new-features" markdown>

#### OpenAI node overhaul

This release includes a new version of the [OpenAI node](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md), adding more operations, including support for working with assistants.

</div>

Other highlights:

\* Support for AI events in [log streaming](/log-streaming.md).

\* Added support for workflow tags in the [public API](/api/index.md).

### Contributors

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## n8n@1.27.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.27.2...n8n@1.27.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-15

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.28.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.27.2...n8n@1.28.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-07

This release contains new features, new nodes, node enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### New nodes: Azure OpenAI chat model and embeddings

This release adds two new nodes to work with [Azure OpenAI](https://azure.microsoft.com/en-gb/products/ai-services/openai-service/){:target=\_blank .external-link} in your advanced AI workflows:

\* [Embeddings Azure OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsazureopenai.md)

\* [Azure OpenAI Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatazureopenai.md)

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.27.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.27.1...n8n@1.27.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-02-02

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.27.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.26.0...n8n@1.27.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-31

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.27.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.26.0...n8n@1.27.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-31

/// warning | Breaking change

This release removes `own` mode for self-hosted n8n. You must now use `EXECUTIONS\_MODE` and set to either `regular` or `queue`. Refer to [Queue mode](/hosting/scaling/queue-mode.md) for information on configuring queue mode.

///

/// note | Skip this release

Please upgrade directly to 1.27.1.

///

This release contains node enhancements and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.26.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.25.1...n8n@1.26.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-24

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.25.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.25.0...n8n@1.25.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-22

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.25.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.24.1...n8n@1.25.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-17

This release contains a new node, feature improvements, and bug fixes.

<div class="n8n-new-features" markdown>

#### New node: Chat Memory Manager

The [Chat Memory Manager](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymanager.md) node replaces the Chat Messages Retriever node. It manages chat message memories within your AI workflows.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.24.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.24.0...n8n@1.24.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-16

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.22.6

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.22.5...n8n@1.22.6){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-10

This is a bug fix release. It includes important fixes for the HTTP Request and monday.com nodes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.24.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.23.0...n8n@1.24.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-10

This release contains new nodes for advanced AI, node enhancements, new features, performance enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### Chat trigger

n8n has created a new [Chat Trigger node](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md). The new node provides a chat interface that you can make publicly available, with customization and authentication options.

</div>

<div class="n8n-new-features" markdown>

#### Mistral Cloud Chat and Embeddings

This release introduces two new nodes to support [Mistral AI](https://mistral.ai/){:target=\_blank .external-link}:

\* [Mistral Cloud Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatmistralcloud.md)

\* [Embeddings Mistral Cloud](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsmistralcloud.md)

</div>

### Contributors

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## n8n@1.22.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.22.4...n8n@1.22.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-09

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.23.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.22.4...n8n@1.23.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-03

This release contains new nodes, node enhancements, new features, and bug fixes.

<div class="n8n-new-features" markdown>

#### New nodes and improved experience for working with files

This release includes a major overhaul of nodes relating to files (binary data).

There are now three key nodes dedicated to handling binary data files:

- [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) to read and write files from/to the machine where n8n is running.

- [Convert to File](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) to take input data and output it as a file.

- [Extract From File](/integrations/builtin/core-nodes/n8n-nodes-base.extractfromfile.md) to get data from a binary format and convert it to JSON.

n8n has moved support for iCalendar, PDF, and spreadsheet formats into these nodes, and removed the iCalendar, Read PDF, and Spreadsheet File nodes. There are still standalone nodes for [HTML](/integrations/builtin/core-nodes/n8n-nodes-base.html.md) and [XML](/integrations/builtin/core-nodes/n8n-nodes-base.xml.md).

</div>

<div class="n8n-new-features" markdown>

#### New node: Qdrant vector store

This release adds support for [Qdrant](https://qdrant.tech/){:target=\_blank .external-link} with the Qdrant vector store node.

Read n8n's [Qdrant vector store node documentation](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoreqdrant.md)

</div>

### Contributors

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## n8n@1.22.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.22.3...n8n@1.22.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2024-01-03

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.22.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.22.2...n8n@1.22.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-27

/// note | Upgrade directly to 1.22.4

Due to issues with this release, upgrade directly to 1.22.4.

///

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.22.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.22.1...n8n@1.22.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-27

/// note | Upgrade directly to 1.22.4

Due to issues with this release, upgrade directly to 1.22.4.

///

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.22.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.22.0...n8n@1.22.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-21

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.22.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.21.1...n8n@1.22.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-21

This release contains node enhancements, new features, performance improvements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.18.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.18.3...n8n@1.18.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-19

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.21.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.20.0...n8n@1.21.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-15

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.18.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.18.2...n8n@1.18.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-15

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.21.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.20.0...n8n@1.21.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-13

This release contains new features and nodes, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### New user role: Admin

This release introduces a third account type: admin. This role is available on pro and enterprise plans. Admins have similar permissions to instance owners.

[Read more about user roles](/user-management/account-types.md)

</div>

<div class="n8n-new-features" markdown>

#### New data transformation nodes

This release replaces the Item Lists node with a collection of nodes for data transformation tasks:

\* [Aggregate](/integrations/builtin/core-nodes/n8n-nodes-base.aggregate.md): take separate items, or portions of them, and group them together into individual items.

\* [Limit](/integrations/builtin/core-nodes/n8n-nodes-base.aggregate.md): remove items beyond a defined maximum number.

\* [Remove Duplicates](/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates/index.md): identify and delete items that are identical across all fields or a subset of fields.

\* [Sort](/integrations/builtin/core-nodes/n8n-nodes-base.sort.md): organize lists of in a desired ordering, or generate a random selection.

\* [Split Out](/integrations/builtin/core-nodes/n8n-nodes-base.splitout.md): separate a single data item containing a list into multiple items.

\* [Summarize](/integrations/builtin/core-nodes/n8n-nodes-base.summarize.md): aggregate items together, in a manner similar to Excel pivot tables.

</div>

<div class="n8n-new-features" markdown>

#### Increased sharing permissions for owners and admins

Instance owners and users with the admin role can now see and share all workflows and credentials. They can't view sensitive credential information.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.20.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.19.5...n8n@1.20.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-06

This release contains bug fixes, node enhancements, and ongoing new feature work.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.19.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.19.4...n8n@1.19.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-05

This is a bug fix release.

/// warning | Breaking change

This release removes the TensorFlow Embeddings node.

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.18.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.18.1...n8n@1.18.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-05

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.19.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.19.0...n8n@1.19.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-12-01

/// warning | Missing ARM v7 support

This version doesn't support ARM v7. n8n is working on fixing this in future releases.

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.19.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.18.0...n8n@1.19.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-29

/// note | Upgrade directly to 1.19.4

Due to issues with this release, upgrade directly to 1.19.4.

///

This release contains new features, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### LangChain general availability

This release adds LangChain support to the main n8n version. Refer to [LangChain](/advanced-ai/langchain/overview.md) for more information on how to build AI tools in n8n, the new nodes n8n has introduced, and related learning resources.

</div>

<div class="n8n-new-features" markdown>

#### Show avatars of users working on the same workflow

This release improves the experience of users collaborating on workflows. You can now see who else is editing at the same time as you.

</div>

## n8n@1.18.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.18.0...n8n@1.18.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-30

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.18.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.17.1...n8n@1.18.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-22

This release contains new features and bug fixes.

<div class="n8n-new-features" markdown>

#### Template creator hub

Built a template you want to share? This release introduces the n8n Creator hub. Refer to the [creator hub Notion doc](https://www.notion.so/n8n-Creator-hub-7bd2cbe0fce0449198ecb23ff4a2f76f){:target=\_blank .external-link} for more information on this project.

</div>

<div class="n8n-new-features" markdown>

#### Node input and output search filter

Cloud Pro and Enterprise users can now search and filter the input and output data in nodes. Refer to [Data filtering](/data/data-filtering.md) for more information.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.17.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.17.0...n8n@1.17.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-17

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.17.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.16.0...n8n@1.17.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-15

This release contains node enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### Sticky Note Colors

You can now select background colors for sticky notes.

</div>

<div class="n8n-new-features" markdown>

#### Discord Node Overhaul

An overhaul of the Discord node, improving the UI making it easier to configure, improving error handling, and fixing issues.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.16.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.15.2...n8n@1.16.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-08

This release contains node enhancements and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.15.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.15.1...n8n@1.15.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-07

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.15.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.14.2...n8n@1.15.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-11-02

This release contains new features, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### Workflow history

This release introduces workflow history: view and load previous versions of your workflows.

Workflow history is available in Enterprise n8n, and with limited history for Cloud Pro.

Learn more in the [Workflow history](/workflows/history.md) documentation.

</div>

<div class="n8n-new-features" markdown>

#### Dark mode

\_Almost\_ in time for Halloween: this release introduces dark mode.

To enable dark mode:

1. Select \*\*Settings\*\* > \*\*Personal\*\*.

1. Under \*\*Personalisation\*\*, change \*\*Theme\*\* to \*\*Dark theme\*\*.

</div>

<div class="n8n-new-features" markdown>

#### Optional error output for nodes

All nodes apart from sub-nodes and trigger nodes have a new optional output: \*\*Error\*\*. Use this to add steps to handle node errors.

</div>

<div class="n8n-new-features" markdown>

#### Pagination support added to HTTP Request node

The HTTP Request node now supports an pagination. Read the [node docs](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) for information and examples.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Yoshino-s](https://github.com/Yoshino-s){:target=\_blank .external-link}

## n8n@1.14.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.14.1...n8n@1.14.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-26

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.14.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.14.0...n8n@1.14.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-26

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.14.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.13.0...n8n@1.14.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-25

This release contains node enhancements and bug fixes.

<div class="n8n-new-features" markdown>

#### Switch node supports more outputs

The [Switch node](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md) now supports an unlimited number of outputs.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.13.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.12.2...n8n@1.13.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-25

This release contains new features, feature enhancements, and bug fixes.

/// note | Upgrade directly to 1.14.0

This release failed to publish to npm. Upgrade directly to 1.14.0.

///

<div class="n8n-new-features" markdown>

#### RSS Feed Trigger node

This releases introduces a new node, the [RSS Feed Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.rssfeedreadtrigger.md). Use this node to start a workflow when a new RSS feed item is published.

</div>

<div class="n8n-new-features" markdown>

#### Facebook Lead Ads Trigger node

This releases add another new node, the [Facebook Lead Ads Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebookleadadstrigger.md). Use this node to trigger a workflow when you get a new lead.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.12.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.12.1...n8n@1.12.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-24

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.12.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.12.0...n8n@1.12.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-23

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.11.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.11.1...n8n@1.11.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-23

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.12.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.11.1...n8n@1.12.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-18

This release contains new features, node enhancements, and bug fixes.

<div class="n8n-new-features" markdown>

#### Form Trigger node

This releases introduces a new node, the [n8n Form Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md). Use this node to start a workflow based on a user submitting a form. It provides a configurable form interface.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.11.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.11.0...n8n@1.11.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-13

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.11.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.10.1...n8n@1.11.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-11

This release contains new features and bug fixes.

<div class="n8n-new-features" markdown>

#### External storage for binary files

Self-hosted users can now use an external service to store binary data. Learn more in [External storage](/hosting/scaling/external-storage.md).

If you're using n8n Cloud and are interested in this feature, please [contact n8n](https://n8n-community.typeform.com/to/y9X2YuGa){:target=\_blank .external-link}.

</div>

<div class="n8n-new-features" markdown>

#### Item Lists node supports binary data

The Item Lists node now supports splitting and concatenating binary data inputs. This means you no longer need to use code to split a collection of files into multiple items.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.10.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.10.0...n8n@1.10.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-11

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.9.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.9.2...n8n@1.9.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-10

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.9.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.9.1...n8n@1.9.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-09

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.10.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.9.1...n8n@1.10.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-05

This release contains bug fixes and preparatory work for new features.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.9.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.9.0...n8n@1.9.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-10-04

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## LangChain in n8n (beta)

\*\*Release date:\*\* 2023-10-04

This release introduces support for building with LangChain in n8n.

With n8n's LangChain nodes you can build AI-powered functionality within your workflows. The LangChain nodes are configurable, meaning you can choose your preferred agent, LLM, memory, and other components. Alongside the LangChain nodes, you can connect any n8n node as normal: this means you can integrate your LangChain logic with other data sources and services.

Read more:

\* This is a beta release, and not yet available in the main product. Follow the instructions in [Access LangChain in n8n](/advanced-ai/langchain/overview.md) to try it out. Self-hosted and Cloud options are available.

\* Learn how LangChain concepts map to n8n nodes in [LangChain concepts in n8n](/advanced-ai/langchain/langchain-n8n.md).

\* Browse n8n's new [Cluster nodes](/integrations/builtin/cluster-nodes/index.md). This is a new set of node types that allows for multiple nodes to work together to configure each other.

## n8n@1.9.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.8.2...n8n@1.9.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-28

This release contains new features, performance improvements, and bug fixes.

<div class="n8n-new-features" markdown>

#### Tournament

This releases replaces RiotTmpl, the templating language used in expressions, with n8n's own templating language, [Tournament](https://github.com/n8n-io/tournament){:target=\_blank .external-linmk}. You can now use arrow functions in expressions.<br />

</div>

<div class="n8n-new-features" markdown>

#### `N8N\_BINARY\_DATA\_TTL` and `EXECUTIONS\_DATA\_PRUNE\_TIMEOUT` removed

The environment variables `N8N\_BINARY\_DATA\_TTL` and `EXECUTIONS\_DATA\_PRUNE\_TIMEOUT` no longer have any effect and can be removed. Instead of relying on a TTL system for binary data, n8n cleans up binary data together with executions during pruning.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.8.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.8.1...n8n@1.8.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-25

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.8.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.8.0...n8n@1.8.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-21

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.8.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.7.1...n8n@1.8.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-20

This release contains node enhancements and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.7.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.7.0...n8n@1.7.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-14

This release contains bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.7.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.6.1...n8n@1.7.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-13

This release contains node enhancements and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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[MC Naveen](https://github.com/mcnaveen){:target=\_blank .external-link}

## n8n@1.6.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.6.0...n8n@1.6.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-06

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.6.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.5.1...n8n@1.6.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-09-06

This release contains bug fixes, new features, and node enhancements.

/// note | Upgrade directly to 1.6.1

Skip this version and upgrade directly to 1.6.1, which contains essential bug fixes.

///

<div class="n8n-new-features" markdown>

#### TheHive 5

This release introduces support for TheHive API version 5. This uses a new node and credentials:

\* [TheHive 5 node](/integrations/builtin/app-nodes/n8n-nodes-base.thehive5.md)

\* [TheHive 5 Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.thehive5trigger.md)

\* [TheHive 5 credentials](/integrations/builtin/credentials/thehive5.md)

#### `N8N\_PERSISTED\_BINARY\_DATA\_TTL` removed

The environment variables `N8N\_PERSISTED\_BINARY\_DATA\_TTL` no longer has any effect and can be removed. This legacy flag was originally introduced to support ephemeral executions (see [details](https://github.com/n8n-io/n8n/pull/7046)), which are no longer supported.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.5.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.5.0...n8n@1.5.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-31

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.5.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.4.1...n8n@1.5.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-31

This release contains new features, node enhancements, and bug fixes.

/// note | Upgrade directly to 1.5.1

Skip this version and upgrade directly to 1.5.1, which contains essential bug fixes.

///

### Highlights

<div class="n8n-new-features" markdown>

#### External secrets storage for credentials

Enterprise-tier accounts can now use external secrets vaults to manage credentials in n8n. This allows you to store credential information securely outside your n8n instance. n8n supports Infisical and HashiCorp Vault.

Refer to [External secrets](/external-secrets.md) for guidance on enabling and using this feature.

</div>

<div class="n8n-new-features" markdown>

#### Two-factor authentication

n8n now supports two-factor authentication (2FA) for self-hosted instances. n8n is working on bringing support to Cloud. Refer to [Two-factor authentication](/user-management/two-factor-auth.md) for guidance on enabling and using it.

</div>

<div class="n8n-new-features" markdown>

#### Debug executions

Users on a paid n8n plan can now load data from previous executions into their current workflow. This is useful when debugging a failed execution.

Refer to [Debug executions](/workflows/executions/debug.md) for guidance on using this feature.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.4.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.4.0...n8n@1.4.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-29

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.4.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.3.1...n8n@1.4.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-23

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[pemontto](https://github.com/pemontto){:target=\_blank .external-link}

## n8n@1.3.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.3.0...n8n@1.3.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-18

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.3.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.2.2...n8n@1.3.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-16

This release contains new features and bug fixes.

### Highlights

<div class="n8n-new-features" markdown>

#### Trial feature: AI support in the Code node

This release introduces limited support for using AI to generate code in the Code node. Initially this feature is only available on Cloud, and will gradually be rolled out, starting with about 20% of users.

Learn how to use the feature, including guidance on writing prompts, in [Generate code with ChatGPT](/code/ai-code.md).

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

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## n8n@1.2.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.2.1...n8n@1.2.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-14

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.2.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.2.0...n8n@1.2.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-09

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.2.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.1.1...n8n@1.2.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-09

This release contains new features, node enhancements, bug fixes, and performance improvements.

/// note | Upgrade directly to 1.2.1

When upgrading, skip this release and go directly to 1.2.1.

///

### Highlights

<div class="n8n-new-features" markdown>

#### Credential support for SecOps services

This release introduces support for setting up credentials in n8n for the following services:

\* [AlienVault](/integrations/builtin/credentials/alienvault.md)

\* [Auth0 Management](/integrations/builtin/credentials/auth0management.md)

\* [Carbon Black API](/integrations/builtin/credentials/carbonblack.md)

\* [Cisco Meraki API](/integrations/builtin/credentials/ciscomeraki.md)

\* [Cisco Secure Endpoint](/integrations/builtin/credentials/ciscosecureendpoint.md)

\* [Cisco Umbrella API](/integrations/builtin/credentials/ciscoumbrella.md)

\* [CrowdStrike](/integrations/builtin/credentials/crowdstrike.md)

\* [F5 Big-IP](/integrations/builtin/credentials/f5bigip.md)

\* [Fortinet FortiGate](/integrations/builtin/credentials/fortigate.md)

\* [Hybrid Analysis](/integrations/builtin/credentials/hybridanalysis.md)

\* [Imperva WAF](/integrations/builtin/credentials/impervawaf.md)

\* [Kibana](/integrations/builtin/credentials/kibana.md)

\* [Microsoft Entra ID](/integrations/builtin/credentials/microsoftentra.md)

\* [Mist](/integrations/builtin/credentials/mist.md)

\* [Okta](/integrations/builtin/credentials/okta.md)

\* [OpenCTI](/integrations/builtin/credentials/opencti.md)

\* [QRadar](/integrations/builtin/credentials/qradar.md)

\* [Qualys](/integrations/builtin/credentials/qualys.md)

\* [Recorded Future](/integrations/builtin/credentials/recordedfuture.md)

\* [Sekoia](/integrations/builtin/credentials/sekoia.md)

\* [Shuffler](/integrations/builtin/credentials/shuffler.md)

\* [Trellix ePO](/integrations/builtin/credentials/trellixepo.md)

\* [VirusTotal](/integrations/builtin/credentials/virustotal.md)

\* [Zscaler ZIA](/integrations/builtin/credentials/zscalerzia.md)

This makes it easier to do [Custom operations](/integrations/custom-operations.md) with these services, using the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.1.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.1.0...n8n@1.1.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-27

This is a bug fix release.

/// warning | Breaking changes

Please note that this version contains breaking changes if upgrading from a `0.x.x` version. For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.1.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.0.5...n8n@1.1.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-26

This release contains new features, bug fixes, and node enhancements.

/// warning | Breaking changes

Please note that this version contains breaking changes if upgrading from a `0.x.x` version. For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

///

### Highlights

<div class="n8n-new-features" markdown>

#### Source control and environments

This release introduces source control and environments for enterprise users.

n8n uses Git-based source control to support environments. Linking your n8n instances to a Git repository lets you create multiple n8n environments, backed by Git branches.

Refer to [Source control and environments](/source-control-environments/index.md) to learn more about the features and set up your environments.

</div>

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Adrián Martínez](https://github.com/adrian-martinez-vdshop){:target=\_blank .external-link}

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[ZergRael](https://github.com/ZergRael){:target=\_blank .external-link}

## n8n@1.0.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.0.4...n8n@1.0.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-24

This is a bug fix release.

/// warning | Breaking changes

Please note that this version contains breaking changes if upgrading from a `0.x.x` version. For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@1.0.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.0.3...n8n@1.0.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-19

This is a bug fix release.

/// warning | Breaking changes

Please note that this version contains breaking changes if upgrading from a `0.x.x` version. For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Romain Dunand](https://github.com/airmoi){:target=\_blank .external-link}

[noctarius aka Christoph Engelbert](https://github.com/noctarius){:target=\_blank .external-link}

## n8n@1.0.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.0.2...n8n@1.0.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-13

This release contains API enhancements and adds support for sending messages to forum threads in the Telegram node.

/// warning | Breaking changes

Please note that this version contains breaking changes if upgrading from a `0.x.x` version. For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Kirill](https://github.com/chrtkv){:target=\_blank .external-link}

## n8n@1.0.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.0.1...n8n@1.0.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-05

This is a bug fix release.

/// warning | Breaking changes

Please note that this version contains breaking changes if upgrading from a `0.x.x` version. For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

///

### Contributors

[Romain Dunand](https://github.com/airmoi){:target=\_blank .external-link}

## n8n@1.0.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@1.0.0...n8n@1.0.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-05

/// warning | Breaking changes

Please note that this version contains breaking changes. For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

///

This is n8n's version one release.

For full details, refer to the [n8n v1.0 migration guide](/1-0-migration-checklist.md).

### Highlights

<div class="n8n-new-features" markdown>

#### Python support

Although JavaScript remains the default language, you can now also select Python as an option in the [Code node](/code/code-node.md) and even make use of [many Python modules](https://pyodide.org/en/stable/usage/packages-in-pyodide.html#packages-in-pyodide){:target=\_blank .external link}. Note that Python is unavailable in Code nodes added to a workflow before v1.0.

</div>

### Contributors

[Marten Steketee](https://github.com/Marten-S){:target=\_blank .external-link}

<!-- vale on -->

## sustainable-use-license.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sustainable Use License

description: The n8n Sustainable Use License.

contentType: explanation

---

<!-- vale off -->

# Sustainable Use License

/// note | Proprietary licenses for Enterprise

Proprietary licenses are available for enterprise customers. [Get in touch](mailto:license@n8n.io) for more information.

///

n8n's [Sustainable Use License](https://github.com/n8n-io/n8n/blob/master/LICENSE.md){:target=\\_blank .external-link} and [n8n Enterprise License](https://github.com/n8n-io/n8n/blob/master/LICENSE\_EE.md){:target=\\_blank .external-link} are based on the [fair-code](https://faircode.io/) model.

## License FAQs

### What license do you use?

n8n uses the [Sustainable Use License](https://github.com/n8n-io/n8n/blob/master/LICENSE.md) and [n8n Enterprise License](https://github.com/n8n-io/n8n/blob/master/LICENSE\_EE.md){:target=\_blank .external-link}. These licenses are based on the [fair-code](https://faircode.io/) model.

### What source code is covered by the Sustainable Use License?

The [Sustainable Use License](https://github.com/n8n-io/n8n/blob/master/LICENSE.md) applies to all our source code hosted in our [main GitHub repository](https://github.com/n8n-io/n8n) except:

\* Content of branches other than master.

\* Source code files that contain `.ee.` in their file name. These are licensed under the [n8n Enterprise License](https://github.com/n8n-io/n8n/blob/master/LICENSE\_EE.md){:target=\_blank .external-link}.

### What is the Sustainable Use License?

The Sustainable Use License is a fair-code software license created by n8n in 2022. You can read more about why we did this [here](#why-did-you-create-a-license). The license allows you the free right to use, modify, create derivative works, and redistribute, with three limitations:

\* You may use or modify the software only for your own internal business purposes or for non-commercial or personal use.

\* You may distribute the software or provide it to others only if you do so free of charge for non-commercial purposes.

\* You may not alter, remove, or obscure any licensing, copyright, or other notices of the licensor in the software. Any use of the licensor's trademarks is subject to applicable law.

We encourage anyone who wants to use the Sustainable Use License. If you are building something out in the open, it makes sense to think about licensing earlier in order to avoid problems later. Contact us at [license@n8n.io](mailto:license@n8n.io) if you would like to ask any questions about it.

### What is and isn't allowed under the license in the context of n8n's product?

Our license restricts use to "internal business purposes". In practice this means all use is allowed unless you are selling a product, service, or module in which the value derives entirely or substantially from n8n functionality. Here are some examples that wouldn't be allowed:

\* White-labeling n8n and offering it to your customers for money.

\* Hosting n8n and charging people money to access it.

All of the following examples are allowed under our license:

\* Using n8n to sync the data you control as a company, for example from a CRM to an internal database.

\* Creating an n8n node for your product or any other integration between your product and n8n.

\* Providing consulting services related to n8n, for example building workflows, custom features closely connect to n8n, or code that gets executed by n8n.

\* Supporting n8n, for example by setting it up or maintaining it on an internal company server.

#### Can I use n8n to act as the back-end to power a feature in my app?

Usually yes, as long as the back-end process doesn't use users' own credentials to access their data.

Here are two examples to clarify:

##### Example 1: Sync ACME app with HubSpot

Bob sets up n8n to collect a user's HubSpot credentials to sync data in the ACME app with data in HubSpot.

<span style="color: #BF2F51;">\*\*NOT ALLOWED\*\*</span> under the Sustainable Use License. This use case collects the user's own HubSpot credentials to pull information to feed into the ACME app.

##### Example 2: Embed AI chatbot in ACME app

Bob sets up n8n to embed an AI chatbot within the ACME app. The AI chatbot's credentials in n8n use Bob's company credentials. ACME app end-users only enter their questions or queries to the chatbot.

<span style="color: #1C9985;">\*\*ALLOWED\*\*</span> under the Sustainable Use License. No user credentials are being collected.

### What if I want to use n8n for something that's not permitted by the license?

You must sign a separate commercial agreement with us. We actively encourage software creators to embed n8n within their products; we just ask them to sign an agreement laying out the terms of use, and the fees owed to n8n for using the product in this way. We call this mode of use n8n Embed. You can learn more, and contact us about it [here](https://n8n.io/embed).

If you are unsure whether the use case you have in mind constitutes an internal business purpose or not, take a look at [the examples](#what-is-and-isnt-allowed-under-the-license-in-the-context-of-n8ns-product), and if you're still unclear, email us at [license@n8n.io](mailto:license@n8n.io).

### Why don't you use an open source license?

n8n's mission is to give everyone who uses a computer technical superpowers. We've decided the best way for us to achieve this mission is to make n8n as widely and freely available as possible for users, while ensuring we can build a sustainable, viable business. By making our product free to use, easy to distribute, and source-available we help everyone access the product. By operating as a business, we can continue to release features, fix bugs, and provide reliable software at scale long-term.

### Why did you create a license?

Creating a license was our least favorite option. We only went down this path after reviewing the possible existing licenses and deciding nothing fit our specific needs. There are two ways in which we try to mitigate the pain and friction of using a proprietary license:

1. By using plain English, and keeping it as short as possible.

2. By promoting [fair-code](https://faircode.io/) with the goal of making it a well-known umbrella term to describe software models like ours.

Our goals when we created the Sustainable Use License were:

1. To be as permissive as possible.

2. Safeguarding our ability to build a business.

3. Being as clear as possible what use was permitted or not.

### My company has a policy against using code that restricts commercial use – can I still use n8n?

Provided you are using n8n for internal business purposes, and not making n8n available to your customers for them to connect their accounts and build workflows, you should be able to use n8n. If you are unsure whether the use case you have in mind constitutes an internal business purpose or not, take a look at [the examples](#what-is-and-isnt-allowed-under-the-license-in-the-context-of-n8ns-product), and if you're still unclear, email us at [license@n8n.io](mailto:license@n8n.io).

### What happens to the code I contribute to n8n in light of the Sustainable Use License?

Any code you contribute on GitHub is subject to GitHub's [terms of use](https://docs.github.com/en/site-policy/github-terms/github-terms-of-service#d-user-generated-content). In simple terms, this means you own, and are responsible for, anything you contribute, but that you grant other GitHub users certain rights to use this code. When you contribute code to a repository containing notice of a license, you license the code under the same terms.

n8n asks every contributor to sign our [Contributor License Agreement](https://github.com/n8n-io/n8n/blob/master/CONTRIBUTOR\_LICENSE\_AGREEMENT.md). In addition to the above, this gives n8n the ability to change its license without seeking additional permission. It also means you aren't liable for your contributions (e.g. in case they cause damage to someone else's business).

It's easy to get started contributing code to n8n [here](https://github.com/n8n-io), and we've listed broader ways of participating in our community [here](https://docs.n8n.io/reference/contributing.html).

### Why did you switch to the Sustainable Use License from your previous license arrangement (Apache 2.0 with Commons Clause)?

n8n was licensed under Apache 2.0 with Commons Clause until 17 March 2022. Commons Clause was initiated by various software companies wanting to protect their rights against cloud providers. The concept involved adding a commercial restriction on top of an existing open source license.

However, the use of the Commons Clause as an additional condition to an open source license, as well as the use of wording that's open to interpretation, created some confusion and uncertainty regarding the terms of use. The Commons Clause also restricted people's ability to offer consulting and support services: we realized these services are critical in enabling people to get value from n8n, so we wanted to remove this restriction.

We created the Sustainable Use License to be more permissive and more clear about what use is allowed, while continuing to ensure n8n gets the funding needed to build and improve our product.

### What are the main differences between the Sustainable Use License and your previous license arrangement (Apache 2.0 with Commons Clause)?

There are two main differences between the Sustainable Use License and our previous license arrangement. The first is that we have tightened the definition of how you can use the software. Previously the Commons Clause restricted users ability to "sell" the software; we have redefined this to restrict use to internal business purposes. The second difference is that our previous license restricted people's ability to charge fees for consulting or support services related to the software: we have lifted that restriction altogether.

That means you are now free to offer commercial consulting or support services (e.g. building n8n workflows) without the need for a separate license agreement with us. If you are interested in joining our community of n8n experts providing these services, you can learn more here.

### Is n8n open source?

Although n8n's source code is available under the Sustainable Use License, according to the [Open Source Initiative](https://opensource.org/) (OSI), open source licenses can't include limitations on use, so we do not call ourselves open source. In practice, n8n offers most users many of the same benefits as OSI-approved open source.

We coined the term ['fair-code'](https://faircode.io/) as a way of describing our licensing model, and the model of other companies who are source-available, but restrict commercial use of their source code.

### What is fair-code, and how does the Sustainable Use License relate to it?

Fair-code isn't a software license. It describes a software model where software:

\* Is generally free to use and can be distributed by anybody.

\* Has its source code openly available.

\* Can be extended by anybody in public and private communities.

\* Is commercially restricted by its authors.

The Sustainable Use License is a fair-code license. You can read more about it and see other examples of fair-code licenses [here](https://faircode.io/).

We're always excited to talk about software licenses, fair-code, and other principles around sharing code with interested parties. To get in touch to chat, email [license@n8n.io](mailto:license@n8n.io).

### Can I use n8n's Sustainable Use License for my own project?

Yes! We're excited to see more software use the Sustainable Use License. We'd love to hear about your project if you're using our license: [license@n8n.io](mailto:license@n8n.io).

<!-- vale on -->

## video-courses.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Video courses

description: Links to n8n's video courses on YouTube.

contentType: overview

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# Video courses

n8n provides two video courses on YouTube.

For support, join the [Forum](https://community.n8n.io/){:target=\_blank .external-link}.

## Beginner

The [Beginner](https://www.youtube.com/playlist?list=PLlET0GsrLUL59YbxstZE71WszP3pVnZfI){:target=\_blank .external-link} course covers the basics of n8n:

- [Introduction and workflows](https://youtu.be/4BVTkqbn\_tY?si=g2A5eD8kAoia5k6y){:target=\_blank .external-link}

- [APIs and Webhooks](https://youtu.be/y\_cpFMF1pzk?si=zi3wM4W7nx8Jkcw3){:target=\_blank .external-link}

- [Nodes](https://youtu.be/rCPXBkeBWCQ?si=-T2iUsydwS5ym6yI){:target=\_blank .external-link}

- [Data in n8n](https://youtu.be/2YfWuNziPE4?si=4jB-fubG1\_T0HXYx){:target=\_blank .external-link}

- [Core workflow concepts](https://youtu.be/kkrA7tGHYNo?si=mLVbuV98ohL5YVnm){:target=\_blank .external-link}

- [Useful nodes](https://youtu.be/Rmi-ckbMOQE?si=H\_dF77uf5KJU7RtH){:target=\_blank .external-link}

- [Error handling](https://youtu.be/XEUVl3bbMhI?si=nUyaME5kyxe6daGO){:target=\_blank .external-link}

- [Debugging](https://youtu.be/Gxe\_RfCRH-o?si=F-pAviLTIeL3-X13){:target=\_blank .external-link}

- [Collaboration](https://youtu.be/pI0W-0Qcwmo?si=X7sALFXo2e-cY9FQ){:target=\_blank .external-link}

## Advanced

The [Advanced](https://www.youtube.com/playlist?list=PLlET0GsrLUL5bxmx5c1H1Ms\_OtOPYZIEG){:target=\_blank .external-link} course covers more complex workflows, more technical nodes, and enterprise features:

- [Introduction and complex data flows](https://youtu.be/TFTLMQLozCI?si=vX0ooIH1RmbsgAkC){:target=\_blank .external-link}

- [Advanced technical nodes](https://youtu.be/JM4jqYs4Fxo?si=YSNMeSay3C29C8HS){:target=\_blank .external-link}

- [Pinning and editing output data](https://youtu.be/zcNB8L4\_9mA?si=LZJ9DlYDQQxL7eeP){:target=\_blank .external-link}

- [Sub-workflows](https://youtu.be/xr05Ie\_Hkyg?si=rqqP8llttZPBjBeD){:target=\_blank .external-link}

- [Error workflows](https://youtu.be/77Ewdaby47M?si=6YRlC4nMgG4hVQPV){:target=\_blank .external-link}

- [Building a full example](https://youtu.be/wOKLEfeJLVE?si=YMW5t-PzPq7QKbPY){:target=\_blank .external-link}

- [Handling files](https://youtu.be/2RAZYNigqOY?si=9x4vLX2Qo08xx8vC){:target=\_blank .external-link}

- [Enterprise features](https://youtu.be/fXEubzmVJ\_E?si=aK9\_fI9tkF6F5CtB){:target=\_blank .external-link}

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Advanced AI Documentation and Guides

description: Use n8n's LangChain integrations to build AI-powered functionality within your workflows. Connect your LangChain functionality to other data sources and services.

contentType: overview

---

# Advanced AI

Build AI functionality using n8n: from creating your own chat bot, to using AI to process documents and data from other sources.

/// info | Feature availability

This feature is available on Cloud and self-hosted n8n, in version 1.19.4 and above.

///

<div class="grid cards" markdown>

- \_\_Get started\_\_

Work through the short tutorial to learn the basics of building AI workflows in n8n.

[:octicons-arrow-right-24: Tutorial](/advanced-ai/intro-tutorial.md)

- \_\_Use a Starter Kit\_\_

Try n8n's Self-hosted AI Starter Kit to quickly start building AI workflows.

[:octicons-arrow-right-24: Self-hosted AI Starter Kit](/hosting/starter-kits/ai-starter-kit.md)

- \_\_Explore examples and concepts\_\_

Browse examples and workflow templates to help you build. Includes explanations of important AI concepts.

[:octicons-arrow-right-24: Examples](/advanced-ai/examples/introduction.md)

- \_\_How n8n uses LangChain\_\_

Learn more about how n8n builds on LangChain.

[:octicons-arrow-right-24: LangChain in n8n](/advanced-ai/langchain/overview.md)

- \_\_Browse AI templates\_\_

Explore a wide range of AI workflow templates on the n8n website.

[:octicons-arrow-right-24: AI workflows on n8n.io](https://n8n.io/workflows/?categories=25){:target=\_blank .external-link}

</div>

## Related resources

Related documentation and tools.

### Node types

This feature uses [Cluster nodes](/integrations/builtin/cluster-nodes/index.md): groups of [root](/integrations/builtin/cluster-nodes/root-nodes/index.md) and [sub](/integrations/builtin/cluster-nodes/sub-nodes/index.md) nodes that work together.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/cluster-nodes-summary.md"

### Workflow templates

You can browse [workflow templates](/glossary.md#template-n8n) in-app or on the n8n website [Workflows](https://n8n.io/workflows/?categories=25,26){:target=\_blank .external-link} page.

Refer to [Templates](/workflows/templates.md) for information on accessing templates in-app.

### Chat trigger

Use the [n8n Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md) to trigger a workflow based on chat interactions.

### Chatbot widget

n8n provides a chatbot widget that you can use as a frontend for AI-powered chat workflows. Refer to the [@n8n/chat npm page](https://www.npmjs.com/package/@n8n/chat){:target=\_blank .external-link} for usage information.

## intro-tutorial.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Learn how to build AI workflows with n8n

type: tutorial

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# Build an AI chat agent with n8n

Welcome to the introductory tutorial for building AI workflows with n8n. Whether you have used n8n before, or this is your first time, we will show you how the building blocks of AI workflows fit together and construct a working AI-powered chat agent which you can easily customize for your own purposes.

!["Screenshot of the completed workflow"](/\_images/advanced-ai/ai-intro01.png)

Many people find it easier to take in new information in video format. This tutorial is based on one of n8n's popular videos, linked below. Watch the video or read the steps here, or both!

<iframe width="560" height="315" src="https://www.youtube.com/embed/yzvLfHb0nqE?si=7ruaUEycFcoQbYsD" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture; web-share" referrerpolicy="strict-origin-when-cross-origin" allowfullscreen></iframe>

### What you will need

- \*\*n8n\*\*: For this tutorial we recommend using the [n8n cloud](/manage-cloud/overview.md) service - there is a free trial for new users! For a self hosted service, refer to the [installation pages](/hosting/installation/docker.md).

- \*\*Credentials for a chat model\*\*: This tutorial uses OpenAI, but you can easily use DeepSeek, Google Gemini, Groq, Azure, and others (see the [sub-nodes documentation](/integrations/builtin/cluster-nodes/sub-nodes/index.md) for more).

### What you will learn

- AI concepts in n8n

- How to use the AI Agent node

- Working with Chat input

- Connecting with AI models

- Customising input

- Observing the conversation

- Adding persistence

## AI concepts in n8n

If you're already familiar with AI, feel free to skip this section. This is a basic introduction to AI concepts and how they can be used in n8n workflows.

An [AI agent](/glossary.md#ai-agent) builds on [Large Language Models (LLMs)](/glossary.md#large-language-model-llm), which generate text based

on input by predicting the next word. While LLMs only process input to produce

output, AI agents add goal-oriented functionality. They can use [tools](/glossary.md#ai-tool), process

their outputs, and make decisions to complete tasks and solve problems.

In n8n, the AI agent is represented as a node with some extra connections.

| Feature | LLM | AI Agent |

|---------------------|----------------------------|------------------------------------|

| Core Capability | Text generation | Goal-oriented task completion |

| Decision-Making | None | Yes |

| Uses Tools/APIs | No | Yes |

| Workflow Complexity | Single-step | Multi-step |

| Scope | Generates language | Performs complex, real-world tasks |

| Example | LLM generating a paragraph | An agent scheduling an appointment |

By incorporating the AI agent as a node, n8n can combine AI-driven steps with traditional programming for efficient, real-world workflows. For instance, simpler tasks, like validating an email address, do not require AI, whereas a complex tasks, like processing the \_content\_ of an email or dealing with multimodal inputs (e.g., images, audio), are excellent uses of an AI agent.

## 1. Create a new workflow

--8<-- "\_snippets/try-it-out/new-workflow.md"

## 2. Add a trigger node

Every workflow needs somewhere to start. In n8n these are called ['trigger nodes'](/glossary.md#trigger-node-n8n). For this workflow, we want to start with a chat node.

1. Select \*\*Add first step\*\* or press ++tab++ to open the node menu.

1. Search for \*\*Chat Trigger\*\*. n8n shows a list of nodes that match the search.

1. Select \*\*Chat Trigger\*\* to add the node to the canvas. n8n opens the node.

1. Close the node details view (Select \*\*Back to canvas\*\*) to return to the canvas.

??? explanation "More about the Chat Trigger node..."

The trigger node generates output when there is an event causing it to trigger. In this case we want to be able to type in text to cause the workflow to run. In production, this trigger can be hooked up to a public chat interface as provided by n8n or embedded into another website. To start this simple workflow we will just use the built-in local chat interface to communicate, so no further setup is required.

[[ workflowDemo("file:////advanced-ai/tutorials/chat\_01.json") ]]

## 3. Add an AI Agent Node

The AI Agent node is the core of adding AI to your workflows.

1. Select the \*\*Add node\*\* <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> connector on the trigger node to bring up the node search.

1. Start typing "AI" and choose the \*\*AI agent\*\* node to add it.

1. The editing view of the \*\*AI agent\*\* will now be displayed.

1. There are some fields which can be changed. As we're using the \*\*Chat Trigger\*\* node, the default setting for the source and specification of the prompt don't need to be changed.

[[ workflowDemo("file:////advanced-ai/tutorials/chat\_02.json") ]]

## 4. Configure the node

AI agents require a chat model to be attached to process the incoming prompts.

1. Add a chat model by clicking the plus <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> button underneath the \*\*Chat Model\*\* connection on the \*\*AI Agent\*\* node (it's the first connection along the bottom of the node).

1. The search dialog will appear, filtered on 'Language Models'. These are the models with built-in support in n8n. For this tutorial we will use \*\*OpenAI Chat Model\*\*.

1. Selecting the \*\*OpenAI Chat model\*\* from the list will attach it to the \*\*AI Agent\*\* node and open the node editor. One of the parameters which can be changed is the 'Model'. Note that for the basic OpenAI accounts, only the 'gpt-4o-mini' model is allowed.

??? explanation "Which chat model?"

As mentioned earlier, the LLM is the component which generates the text according to a prompt it is given. LLMs have to be created and trained, usually an intensive process. Different LLMS may have different capabilities or specialties, depending on the data they were trained with.

## 5. Add credentials (if needed)

In order for n8n to communicate with the chat model, it will need some [credentials](/credentials/index.md) (login data giving it access to an account on a different online service). If you already have credentials set up for OpenAI, these should appear by default in the credentials selector. Otherwise you can use the Credentials selector to help you add a new credential.

![image showing the credentials dialog for OpenAI](/\_images/advanced-ai/ai-tutorial-credentials.png)

1. To add a new credential, click on the text which says 'Select credential'. An option to add a new credential will appear

![Screenshot showing create a new credential button](/\_images/advanced-ai/ai-tutorial-create-credential.png)

1. This credential just needs an API key. When adding credentials of any type, check the text to the right-hand side. In this case it has a handy link to take you straight to your OpenAI account to retrieve the API key.

1. The API key is just one long string. That's all you need for this particular credential. Copy it from the OpenAI website and paste it into the \*\*API key\*\* section.

??? explanation "Keeping your credentials safe"

Credentials are private pieces of information issued by apps and services to authenticate you as a user and allow you to connect and share information between the app or service and the n8n node. The type of information required varies depending on the app/service concerned. You should be careful about sharing or revealing the credentials outside of n8n.

## 6. Test the node

Now that the node is connected to the \*\*Chat Trigger\*\* and a chat model, we can test this part of the workflow.

1. Click on the 'Chat' button near the bottom of the canvas. This opens up a local chat window on the left and the AI agent logs on the right.

1. Type in a message and press ++enter++. You will now see the response from the chat model appear below your message.

1. The log window displays the inputs to and outputs from the AI Agent.

![image showing a chat session in progress](/\_images/advanced-ai/ai-intro-chat.png)

??? explanation "Accessing the logs..."

You can access the logs for the AI node even when you aren't using the chat interface. Open up the \*\*AI Agent\*\* node and click on the \*\*Logs\*\* tab in the right hand panel.

![screenshot showing the Logs tab in the AIAgent](/\_images/advanced-ai/ai-intro-logs.png)

## 7. Changing the prompt

The logs in the previous step reveal some extra data - the system prompt. This is the default message that the \*\*AI Agent\*\* primes the chat model with. From the log you can see this is set to "You are a helpful assistant". We can however change this prompt to alter the behavior of the chat model.

1. Open the \*\*AI Agent\*\* node. In the bottom of the panel is a section labeled 'Options' and a selector labeled 'Add Option'. Use this to select 'System message'

1. The system message is now displayed. This is the same priming prompt we noticed before in the logs. Change the prompt to something else to prime the chat model in a different way. You could try something like "You are a brilliant poet who always replies in rhyming couplets" for example.

1. Close the node and return to the chat window. Repeat your message and notice how the output has changed.

![image showing changed text for chat, now it rhymes; if you can believe that](/\_images/advanced-ai/ai-intro-poet.png)

## 8. Adding persistence

The chat model is now giving us useful output, but there is something wrong with it which will become apparent when you try to have a conversation.

1. Use the chat and tell the chat model your name, for example "Hi there, my name is Nick".

1. Wait for the response, then type the message "What's my name?". The AI will not be able to tell you, however apologetic it may seem. The reason for this is we are not saving the context. The AI Agent has no [memory](/glossary.md#ai-memory).

![image showing a conversation illustrating the above](/\_images/advanced-ai/ai-intro-memory.png)

1. In order to remember what has happened in the conversation, the AI Agent needs to preserve context. We can do this by adding memory to the \*\*AI Agent\*\* node. On the canvas click on the <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> on the bottom of the \*\*AI Agent\*\* node labeled "Memory".

1. From the panel which appears, select "Simple Memory". This will use the memory from the instance running n8n, and is usually sufficient for simple usage. The default value of 5 interactions should be sufficient here, but remember where this option is if you may want to change it later.

1. Repeat the exercise of having a conversation above, and see that the AI Agent now remembers your name.

## 9. Saving the workflow

Before we leave the workflow editor, remember to save the workflow or all your changes will be lost.

1. Click on the "Save" button in the top right of the editor window. Your workflow will now be saved and you can return to it later to chat again or add new features.

## Congratulations!

You have taken your first steps in building useful and effective workflows with AI. In this tutorial we have investigated the basic building blocks of an AI workflow, added an \*\*AI Agent\*\* and a chat model, and adjusted the prompt to get the kind of output we wanted. We also added memory so the chat could retain context between messages.

[[ workflowDemo("file:////advanced-ai/tutorials/chat\_complete.json") ]]

## Next steps

Now you have seen how to create a basic AI workflow, there are plenty of resources to build on that knowledge and plenty of examples to give you ideas of where to go next:

\* Learn more about AI concepts and view examples in [Examples and concepts](/advanced-ai/examples/introduction.md).

\* Browse AI [Workflow templates](https://n8n.io/workflows/?categories=25){:target=\_blank .external-link}.

\* Find out how to [enhance the AI agent with tools](/advanced-ai/examples/understand-tools.md).

## rag-in-n8n.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RAG in n8n

description: With Retrieval-Augmented Generation (RAG), you can give your models access to context-specific resources to help generate relevant answers. Learn how it works and how to use RAG in n8n.

contentType: overview

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<!-- vale from-microsoft.Contractions = NO -->

<!-- vale from-microsoft.HeadingPunctuation = NO -->

# RAG in n8n

## What is RAG

[Retrieval-Augmented Generation (RAG)](/glossary.md#ai-retrieval-augmented-generation-rag) is a technique that improves AI responses by combining language models with external data sources. Instead of relying solely on the model's internal training data, RAG systems retrieve relevant documents to [ground](/glossary.md#ai-groundedness) responses in up-to-date, domain-specific, or proprietary knowledge. RAG workflows typically rely on vector stores to manage and search this external data efficiently.

## What is a vector store?

A [vector store](/glossary.md#ai-vector-store) is a special database designed to store and search high-dimensional vectors: numerical representations of text, images, or other data. When you upload a document, the vector store splits it into chunks and converts each chunk into a vector using an [embedding model](/glossary.md#ai-embedding).

You can query these vectors using similarity searches, which construct results based on \*semantic meaning\*, rather than keyword matches. This makes vector stores a powerful foundation for RAG and other AI systems that need to retrieve and reason over large sets of knowledge.

## How to use RAG in n8n

/// note | Start with a RAG template

👉 Try out RAG in n8n with the [RAG Starter Template](https://n8n.io/workflows/5010-rag-starter-template-using-simple-vector-stores-form-trigger-and-openai). The template includes two ready-made workflows: one for uploading files and one for querying them.

///

### Inserting data into your vector store

Before your agent can access custom knowledge, you need to upload that data to a vector store:

1. Add the nodes needed to fetch your source data.

2. Insert a \*\*Vector Store\*\* node (e.g. the [Simple Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoreinmemory.md)) and choose the \*\*Insert Documents\*\* operation.

3. Select an \*\*embedding model\*\*, which converts your text into vector embeddings. Consult the FAQ for more information on [choosing the right embedding model](#how-do-i-choose-the-right-embedding-model).

4. Add a [Default Data Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentdefaultdataloader.md) node, which splits your content into chunks. You can use the default settings or define your own chunking strategy:

\* \*\*Character Text Splitter:\*\* splits by character length.

\* \*\*Recursive Character Text Splitter:\*\* recursively splits by Markdown, HTML, code blocks or simple characters (recommended for most use cases).

\* \*\*Token Text Splitter:\*\* splits by token count.

5. (Optional) Add \*\*metadata\*\* to each chunk to enrich the context and allow better filtering later.

### Querying your data

You can query the data in two main ways: using an agent or directly through a node.

### Using agents

1. Add an [agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to your workflow.

2. Add the vector store as a \*\*tool\*\* and give it a \*\*description\*\* to help the agent understand when to use it:

\* Set the \*\*limit\*\* to define how many chunks to return.

\* Enable \*\*Include Metadata\*\* to provide extra context for each chunk.

3. Add the same \*\*embedding model\*\* you used when inserting the data.

/// tip | Pro tip

To save tokens on an expensive model, you can first use the [Vector Store Question Answer tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to retrieve relevant data, and only then pass the result to the Agent. To see this in action, check out [this template](https://n8n.io/workflows/5011-save-costs-in-rag-workflows-using-the-qanda-tool-with-multiple-models).

///

### Using the node directly

1. Add your vector store node to the canvas and choose the \*\*Get Many\*\* operation.

2. Enter a query or prompt:

\* Set a \*\*limit\*\* for how many chunks to return.

\* Enable \*\*Include Metadata\*\* if needed.

## FAQs

<!-- vale from-microsoft.FirstPerson = NO -->

### How do I choose the right embedding model?

<!-- vale from-microsoft.FirstPerson = YES -->

The right embedding model differs from case to case.

In general, smaller models (for example, `text-embedding-ada-002`) are faster and cheaper and thus ideal for short, general-purpose documents or lightweight RAG workflows. Larger models (for example, `text-embedding-3-large`) offer better semantic understanding. These are best for long documents, complex topics, or when accuracy is critical.

<!-- vale from-microsoft.FirstPerson = NO -->

### What is the best text splitting for my use case?

<!-- vale from-microsoft.FirstPerson = YES -->

This again depends a lot on your data:

\* Small chunks (for example, 200 to 500 tokens) are good for fine-grained retrieval.

\* Large chunks may carry more context but can become diluted or noisy.

Using the right overlap size is important for the AI to understand the context of the chunk. That's also why using the Markdown or Code Block splitting can often help to make chunks better.

Another good approach is to add more context to it (for example, about the document where the chunk came from). If you want you can read more about this, you can check out [this great article from Anthropic](https://www.anthropic.com/news/contextual-retrieval).

## light-evaluations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Light evaluations

description: Use light evaluations during development to build reliable LLM-based workflows by measuring the performance of known test cases.

description: Use light evaluations during development to build reliable LLM-based workflows by checking the results of executing against known test cases.

contentType: howto

---

# Light evaluations

<!-- vale from-microsoft.HeadingPunctuation = NO -->

/// note | Available on registered community and paid plans

Light evaluations are available to registered community users and on all paid plans.

///

## What are light evaluations?

When building your workflow, you often want to test it with a handful of examples to get a sense of how it performs and make improvements. At this stage of workflow development, looking over workflow outputs for each example is often enough. The benefits of setting up more [formal scoring or metrics](/advanced-ai/evaluations/metric-based-evaluations.md) don't yet justify the effort.

Light evaluation allows you to run the examples in a test dataset through your workflow one-by-one, writing the outputs back to your dataset. You can then examine those outputs next to each other, and visually compare them to the expected outputs (if you have them).

## How it works

/// note | Requires Google Sheets

Evaluations use Google Sheets to store the test dataset. To use evaluations, you must configure a [Google Sheets credential](/integrations/builtin/credentials/google/index.md).

///

Light evaluations take place in the 'Editor' tab of your workflow, although you’ll find instructions on how to set it up in the 'Evaluations' tab.

Steps:

1. Create a dataset

2. Wire the dataset up to the workflow

3. Write workflow outputs back to dataset

4. Run evaluation

The following explanation will use a sample workflow that assigns a category and priority to incoming support tickets.

![Example AI workflow ](/\_images/advanced-ai/evaluations/example-ai-workflow.png)

### 1. Create a dataset

Create a Google Sheet with a handful of examples for your workflow. Your sheet should contain column(s) for:

- The workflow input

- (Optional) The expected or correct workflow output

- The actual output

Leave the actual output column or columns blank, since you'll be filling them during the evaluation.

<figure markdown="span">

![Sample dataset for a support ticket classification workflow](/\_images/advanced-ai/evaluations/sample-dataset.png)

<figcaption>A <a href="https://docs.google.com/spreadsheets/d/1uuPS5cHtSNZ6HNLOi75A2m8nVWZrdBZ\_Ivf58osDAS8/edit?gid=294497137#gid=294497137">sample dataset</a> for the support ticket classification workflow.</figcaption>

</figure>

### 2. Wire the dataset up to your workflow

#### Insert an evaluation trigger to pull in your dataset

Each time the [evaluation trigger](/integrations/builtin/core-nodes/n8n-nodes-base.evaluationtrigger.md) runs, it will output a single item representing one row of your dataset.

Clicking the 'Evaluate all' button to the left of the evaluation trigger will run your workflow multiple times in sequence, once for each row in your dataset. This is a special behavior of the evaluation trigger.

While wiring the trigger up, you often only want to run it once. You can do this by either:

- Setting the trigger's 'Max rows to process' to 1

- Clicking on the 'Execute node' button on the trigger (rather than the 'Evaluate all' button)

#### Wire the trigger up to your workflow

You can now connect the evaluation trigger to the rest of your workflow and reference the data that it outputs. At a minimum, you need to use the dataset’s input column(s) later in the workflow.

If you have multiple triggers in your workflow you will need to [merge their branches together](/advanced-ai/evaluations/tips-and-common-issues.md#combining-multiple-triggers).

<figure markdown="span">

![Connecting the evaluation trigger](/\_images/advanced-ai/evaluations/connecting-evaluation-trigger.png)

<figcaption>The support ticket classification workflow with the evaluation trigger added in and wired up.</figcaption>

</figure>

### 3. Write workflow outputs back to dataset

To populate the output column(s) of your dataset when the evaluation runs:

- Insert the 'Set outputs' action of the [evaluation node](/integrations/builtin/core-nodes/n8n-nodes-base.evaluation.md)

- Wire it up to your workflow at a point after it has produced the outputs you're evaluating

- In the node's parameters, map the workflow outputs into the correct dataset column

<figure markdown="span">

![Connecting the set outputs node](/\_images/advanced-ai/evaluations/connecting-set-outputs-node.png)

<figcaption>The support ticket classification workflow with the 'set outputs' node added in and wired up.</figcaption>

</figure>

### 4. Run evaluation

Click on the \*\*Execute workflow\*\* button to the left of the evaluation trigger. The workflow will execute multiple times, once for each row of the dataset:

![Execute workflow button](/\_images/advanced-ai/evaluations/execute-workflow-button.png)

Review the outputs of each execution in the Google Sheet, and examine the execution details using the workflow's 'executions' tab if you need to.

Once your dataset grows past a handful of examples, consider [metric-based evaluation](/advanced-ai/evaluations/metric-based-evaluations.md) to get a numerical view of performance. See also [tips and common issues](/advanced-ai/evaluations/tips-and-common-issues.md).

## metric-based-evaluations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Metric-based evaluations

description: Use metric-based evaluations to measure, score, and improve production AI-based workflow performance over time.

contentType: howto

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# Metric-based evaluations

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/// note | Available on Pro and Enterprise plans

Metric-based evaluation is available on Pro and Enterprise plans. Registered community and Starter plan users can also use it for a single workflow.

///

### What are metric-based evaluations?

Once your workflow is ready for deployment, you often want to test it on more examples than [when you were building it](/advanced-ai/evaluations/light-evaluations.md).

For example, when production executions start to turn up edge cases, you want to add them to your test dataset so that you can make sure they're covered.

For large datasets like the ones built from production data, it can be hard to get a sense of performance just by eyeballing the results. Instead, you must measure performance. Metric-based evaluations can assign one or more scores to each test run, which you can compare to previous runs. Individual scores get rolled up to measure performance on the whole dataset.

This feature allows you to run evaluations that calculate metrics, track how those metrics change between runs and drill down into the reasons for those changes.

Metrics can be deterministic functions (such as the distance between two strings) or you can calculate them using AI. Metrics often involve checking how far away the output is from a \*reference output\* (also called ground truth). To do so, the dataset must contain that reference output. Some evaluations don't need this reference output though (for example, checking text for sentiment or toxicity).

## How it works

/// note | Requires Google Sheets

Evaluations use Google Sheets to store the test dataset. To use evaluations, you must configure a [Google Sheets credential](/integrations/builtin/credentials/google/index.md).

///

1. Set up [light evaluation](/advanced-ai/evaluations/light-evaluations.md)

2. Calculate metrics

3. Write metrics back to evaluation

4. Run evaluation and view results

### 1. Set up light evaluation

Follow the [setup instructions](/advanced-ai/evaluations/light-evaluations.md) to create a dataset and wire it up to your workflow, writing outputs back to the dataset.

The following steps use the same support ticket classification workflow from the light evaluation docs:

![Light evaluation workflow](/\_images/advanced-ai/evaluations/light-evaluation-workflow.png)

### 2. Calculate metrics

Metrics are dimensions used to score the output of your workflow. They often compare the actual workflow output with a reference output. It's common to use AI to calculate metrics, although it's sometimes possible to just use code. In n8n, metrics are always numbers.

You need to add the logic to calculate the metrics for your workflow, at a point after it has produced the outputs. You can add any reference outputs your metric uses as a column in your dataset. This makes sure they it will be available in the workflow, since they will be output by the evaluation trigger.

Examples:

\* [Correctness](https://n8n.io/workflows/4271): whether the output's meaning is consistent with a reference output.

\* [Categorization](https://n8n.io/workflows/4269): whether the output exactly matches the expected output.

\* Helpfulness: whether the answer addresses the question.

\* [String similarity](https://n8n.io/workflows/4274): how close the output is to a reference output, measured character-by-character.

\* [Tool calling](https://n8n.io/workflows/4268): whether the agent called the right tool.

\* [RAG document relevance](https://n8n.io/workflows/4273): when working with a vector database, whether the documents retrieved are relevant to the question.

\* RAG answer groundedness: when working with a vector database, whether the answer is ["grounded"](https://www.deepset.ai/blog/rag-llm-evaluation-groundedness) in the documents retrieved.

Calculating metrics can add latency and cost, so you may only want to do it when running an evaluation and avoid it when making a production execution. You can do this by putting the metric logic after a ['check if evaluating' operation](/integrations/builtin/core-nodes/n8n-nodes-base.evaluation.md#check-if-evaluating).

![Check if evaluating node](/\_images/advanced-ai/evaluations/check-if-evaluating.png)

### 3. Write metrics back to evaluation

n8n needs to know how to extract the metrics you calculated in step 2. Do this by adding an evaluation node with the ['Set metrics' operation](/integrations/builtin/core-nodes/n8n-nodes-base.evaluation.md#set-metrics) and mapping your metrics into it.

![Add set metrics node](/\_images/advanced-ai/evaluations/add-set-metrics.png)

This support ticket classification workflow shows the 'Set outputs' operation added and wired up. Since the metrics in this workflow just check whether the actual output is an exact match of the expected one, the workflow calculates them in an expression in the 'Set metrics' node rather than adding any further nodes to the workflow.

### 4. Run evaluation and view results

Switch to the \*\*Evaluations\*\* tab on your workflow and click the \*\*Run evaluation\*\* button. An evaluation will start. Once the evaluation has finished, it will display a summary score for each metric.

You can see the results for each test case by clicking on the test run row. Clicking on an individual test case will open the execution that produced it (in a new tab).

## overview.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Evaluations

description: Use n8n evaluations to build reliable AI workflows. Build confidence in your LLM-powered workflows by comparing the output from known test cases.

contentType: overview

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# Overview

<!-- vale from-microsoft.HeadingPunctuation = NO -->

## What are evaluations?

Evaluation is a crucial technique for checking that your AI workflow is reliable. It can be the difference between a flaky proof of concept and a solid production workflow. It's important both in the building phase and after deploying to production.

The foundation of evaluation is running a test dataset through your workflow. This dataset contains multiple test cases. Each test case contains a sample input for your workflow, and often includes the expected output(s) too.

Evaluation allows you to:

\* \*\*Test your workflow over a range of inputs\*\* so you know how it performs on edge cases

\* \*\*Make changes with confidence\*\* without inadvertently making things worse elsewhere

\* \*\*Compare performance\*\* across different models or prompts

The following video explains what evaluations are, why they're useful, and how they work:

<div class="video-container">

<iframe width="840" height="472.5" src="https://www.youtube.com/embed/5LlF196PKaE" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

</div>

## Why is evaluation needed?

AI models are fundamentally different than code. Code is deterministic and you can reason about it. This is difficult to do with LLMs, since they're black boxes. Instead, you must \*measure\* LLM output by running data through them and observing the output.

You can only build confidence that your model performs reliably after you have run it over multiple inputs that accurately reflect all the edge cases that it will have to deal with in production.

## Two types of evaluation

### Light evaluation (pre-deployment)

Building a clean, comprehensive dataset is hard. In the initial building phase, it often makes sense to generate just a handful of examples. These can be enough to iterate the workflow to a releasable state (or a proof of concept). You can visually compare the results to get a sense of the workflow's quality, without setting up formal metrics.

### Metric-based evaluation (post-deployment)

Once you deploy your workflow, it's easier to build a bigger, more representative dataset from production executions. When you discover a bug, you can add the input that caused it to the dataset. When fixing the bug, it's important to run the whole dataset over the workflow again as a [regression test](https://en.wikipedia.org/wiki/Regression\_testing) to check that the fix hasn't inadvertently made something else worse.

Since there are too many test cases to check individually, evaluations measure the quality of the outputs using a metric, a numeric value representing a particular characteristic. This also allows you to track quality changes between runs.

### Comparison of evaluation types

| | Light evaluation (pre-deployment) | Metric-based evaluation (post-deployment) |

|-----------------------------------------------------|-----------------------------------------|------------------------------------------------|

| \*\*Performance improvements<br>with each iteration\*\* | Large | Small |

| \*\*Dataset size\*\* | Small | Large |

| \*\*Dataset sources\*\* | Hand-generated<br>AI-generated<br>Other | Production executions<br>AI-generated<br>Other |

| \*\*Actual outputs\*\* | Required | Required |

| \*\*Expected outputs\*\* | Optional | Required (usually) |

| \*\*Evaluation\*\* \*\*metric\*\* | Optional | Required |

## Learn more

\* [Light evaluations](/advanced-ai/evaluations/light-evaluations.md): Perfect for evaluating your AI workflows against hand-selected test cases during development.

\* [Metric-based evaluations](/advanced-ai/evaluations/metric-based-evaluations.md): Advanced evaluations to maintain performance and correctness in production by using scoring and metrics with large datasets.

\* [Tips and common issues](/advanced-ai/evaluations/tips-and-common-issues.md): Learn how to set up specific evaluation use cases and work around common issues.

## tips-and-common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Tips and common issues

description: Details of how to set up specific use cases and address common issues with workflow evaluations.

contentType: reference

---

# Tips and common issues

## Combining multiple triggers

If you have another trigger in the workflow already, you have two potential starting points: that trigger and the [evaluation trigger](/integrations/builtin/core-nodes/n8n-nodes-base.evaluationtrigger.md). To make sure your workflow works as expected no matter which trigger executes, you will need to merge these branches together.

<figure markdown="span">

![Merging trigger branches](/\_images/advanced-ai/evaluations/merging-trigger-branches.png)

<figcaption>Logic to merge two trigger branches together so that they have the same data format and can be referenced from a single node.</figcaption>

</figure>

To do so:

1. \*\*Get the data format of the other trigger\*\*:

\* Execute the other trigger.

\* Open it and navigate to the JSON view of its output pane.

\* Click the \*\*copy\*\* button on the right.

2. \*\*Re-shape the evaluation trigger data to match\*\*:

\* Insert an [Edit Fields (Set) node](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) after the evaluation trigger and connect them together.

\* Change its mode to \*\*JSON\*\*.

\* Paste your data into the 'JSON' field, removing the `[` and `]` on the first and last lines.

\* Switch the field type to \*\*Expression\*\*.

\* Map in the data from the trigger by dragging it from the input pane.

\* For strings, make sure to replace the entire value (including the quotes) and add `.toJsonString()` to the end of the expression.

3. \*\*Merge the branches using a 'No-op' node\*\*: Insert a [No-op node](/integrations/builtin/core-nodes/n8n-nodes-base.noop.md) and wire both the other trigger and the Set node up to it. The 'No-op' node just outputs whatever input it receives.

4. \*\*Reference the 'No-op' node outputs in the rest of the workflow\*\*: Since both paths will flow through this node with the same format, you can be sure that your input data will always be there.

## Avoiding evaluation breaking the chat

n8n's internal chat reads the output data of the last executed node in the workflow. After adding an evaluation node with the ['set outputs' operation](/integrations/builtin/core-nodes/n8n-nodes-base.evaluation.md#set-outputs), this data may not be in the expected format, or even contain the chat response.

![Add second output branch](/\_images/advanced-ai/evaluations/add-second-output-branch.png)

The solution is to add an extra branch coming out of your agent. [Lower branches execute later](/flow-logic/execution-order.md) in n8n, which means any node you attach to this branch will execute last. You can use a no-op node here since it only needs to pass the agent output through.

## Accessing tool data when calculating metrics

Sometimes you need to know what happened in executed sub-nodes of an agent, for example to check whether it executed a tool. You can't reference these nodes directly with expressions, but you can enable the \*\*Return intermediate steps\*\* option in the agent. This will add an extra output field called `intermediateSteps` which you can use in later nodes:

![Enable return intermediate steps](/\_images/advanced-ai/evaluations/enable-return-intermediate-steps.png)

## Multiple evaluations in the same workflow

You can only have one evaluation set up per workflow. In other words, you can only have one evaluation trigger per workflow.

Even so, you can still test different parts of your workflow with different evaluations by putting those parts in [sub-workflows](/flow-logic/subworkflows.md) and evaluating each sub-workflow.

## Dealing with inconsistent results

Metrics can often have noise: they may be different across evaluation runs of the exact same workflow. This is because the workflow itself may return different results, or any LLM-based metrics might have natural variation in them.

You can compensate for this by duplicating the rows of your dataset, so that each row appears more than once in the dataset. Since this means that each input will effectively be running multiple times, it will smooth out any variations.

## agent-chain-comparison.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

title: Agents vs chains

description: A workflow example that demonstrates key differences between agents and chains.

---

# Demonstration of key differences between agents and chains

In this workflow you can choose whether your chat query goes to an [agent](/glossary.md#ai-agent) or [chain](/glossary.md#ai-chain). It shows some of the ways that agents are more powerful than chains.

[[ workflowDemo("file:///advanced-ai/examples/agents\_vs\_chains.json") ]]

## Key features

This workflow uses:

\* [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md): start your workflow and respond to user chat interactions. The node provides a customizable chat interface.

\* [Switch node](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md): directs your query to either the agent or chain, depending on which you specify in your query. If you say "agent" it sends it to the agent. If you say "chain" it sends it to the chain.

\* [Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md): the Agent node interacts with other components of the workflow and makes decisions about what [tools](/glossary.md#ai-tool) to use.

\* [Basic LLM Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md): the Basic LLM Chain node supports chatting with a connected LLM, but doesn't support [memory](/glossary.md#ai-memory) or tools.

## Using the example

--8<-- "\_snippets/examples-color-key.md"

## api-workflow-tool.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

title: Call an API to fetch data

description: Use the n8n workflow tool to load data from an API using the HTTP Request node into your AI workflow.

---

# Call an API to fetch data

Use n8n to bring data from any [API](/glossary.md#api) to your AI. This workflow uses the [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md) to provide the chat interface, and the [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md) to call a second workflow that calls the API. The second workflow uses AI functionality to refine the API request based on the user's query.

[[ workflowDemo("file:///advanced-ai/examples/let\_your\_ai\_call\_an\_api.json") ]]

## Key features

This workflow uses:

\* [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md): start your workflow and respond to user chat interactions. The node provides a customizable chat interface.

\* [Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md): the key piece of the AI workflow. The Agent interacts with other components of the workflow and makes decisions about what tools to use.

\* [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md): plug in n8n workflows as custom tools. In AI, a tool is an interface the AI can use to interact with the world (in this case, the data provided by your workflow). The AI model uses the tool to access information beyond its built-in dataset.

\* A [Basic LLM Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md) with an [Auto-fixing Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserautofixing.md) and [Structured Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserstructured/index.md) to read the user's query and set parameters for the API call based on the user input.

## Using the example

--8<-- "\_snippets/examples-color-key.md"

## data-google-sheets.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

title: Chat with a Google Sheet using AI

description: Use the n8n workflow tool to load data from Google Sheets into your AI workflow.

---

# Chat with a Google Sheet using AI

Use n8n to bring your own data to AI. This workflow uses the [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md) to provide the chat interface, and the [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md) to call a second workflow that queries Google Sheets.

[[ workflowDemo("file:///advanced-ai/examples/chat\_with\_google\_sheets\_docs\_version.json") ]]

## Key features

This workflow uses:

\* [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md): start your workflow and respond to user chat interactions. The node provides a customizable chat interface.

\* [Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md): the key piece of the AI workflow. The Agent interacts with other components of the workflow and makes decisions about what tools to use.

\* [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md): plug in n8n workflows as custom tools. In AI, a tool is an interface the AI can use to interact with the world (in this case, the data provided by your workflow). The AI model uses the tool to access information beyond its built-in dataset.

## Using the example

--8<-- "\_snippets/examples-color-key.md"

## human-fallback.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

title: Set a human fallback for AI workflows

description: Have a workflow that triggers a human answer when the AI can't help.

---

# Have a human fallback for AI workflows

This is a workflow that tries to answer user queries using the standard GPT-4 model. If it can't answer, it sends a message to Slack to ask for human help. It prompts the user to supply an email address.

This workflow uses the [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md) to provide the chat interface, and the [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md) to call a second workflow that handles checking for email addresses and sending the Slack message.

[[ workflowDemo("file:///advanced-ai/examples/ask\_a\_human.json") ]]

## Key features

This workflow uses:

\* [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md): start your workflow and respond to user chat interactions. The node provides a customizable chat interface.

\* [Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md): the key piece of the AI workflow. The Agent interacts with other components of the workflow and makes decisions about what tools to use.

\* [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md): plug in n8n workflows as custom tools. In AI, a tool is an interface the AI can use to interact with the world (in this case, the data provided by your workflow). It allows the AI model to access information beyond its built-in dataset.

## Using the example

--8<-- "\_snippets/examples-color-key.md"

## introduction.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

title: Advanced AI examples and concepts

description: Example workflows and use cases for building AI functionality using n8n.

hide:

- toc

---

# Advanced AI examples and concepts

This section provides explanations of important AI concepts, and workflow templates that highlight those concepts, with explanations and configuration guides. The examples cover common use cases and highlight different features of advanced AI in n8n.

<div class="grid cards" markdown>

- \_\_Agents and chains\_\_

Learn about [agents](/glossary.md#ai-agent) and [chains](/glossary.md#ai-chain) in AI, including exploring key differences using the example workflow.

[:octicons-arrow-right-24: What's a chain in AI?](/advanced-ai/examples/understand-chains.md)

[:octicons-arrow-right-24: What's an agent in AI?](/advanced-ai/examples/understand-agents.md)

[:octicons-arrow-right-24: Demonstration of key differences between agents and chains](/advanced-ai/examples/agent-chain-comparison.md)

- \_\_Call n8n Workflow Tool\_\_

Learn about [tools](/glossary.md#ai-tool) in AI, then explore examples that use n8n workflows as custom tools to give your AI workflow access to more data.

[:octicons-arrow-right-24: What's a tool in AI?](/advanced-ai/examples/understand-tools.md)

[:octicons-arrow-right-24: Chat with Google Sheets](/advanced-ai/examples/data-google-sheets.md)

[:octicons-arrow-right-24: Call an API to fetch data](/advanced-ai/examples/api-workflow-tool.md)

[:octicons-arrow-right-24: Set up a human fallback](/advanced-ai/examples/human-fallback.md)

[:octicons-arrow-right-24: Let AI specify tool parameters with `$fromAI()`](/advanced-ai/examples/using-the-fromai-function.md)

- \_\_Vector databases\_\_

Learn about [vector databases](/glossary.md#ai-vector-store) in AI, along with related concepts including [embeddings](/glossary.md#ai-embedding) and retrievers.

[:octicons-arrow-right-24: What's a vector database?](/advanced-ai/examples/understand-vector-databases.md)

[:octicons-arrow-right-24: Populate a Pinecone vector database from a website](/advanced-ai/examples/vector-store-website.md)

- \_\_Memory\_\_

Learn about [memory](/glossary.md#ai-memory) in AI.

[:octicons-arrow-right-24: What's memory in AI?](/advanced-ai/examples/understand-memory.md)

- \_\_AI workflow templates\_\_

You can browse AI templates, included community contributions, on the n8n website.

[:octicons-arrow-right-24: Browse all AI templates](https://n8n.io/workflows/?categories=25){:target=\_blank .external-link}

</div>

## understand-agents.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: What's an agent in AI?

description: Understand agents in the context of AI. Learn how n8n provides agents.

contentType: explanation

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# What's an agent in AI?

One way to think of an [agent](/glossary.md#ai-agent) is as a [chain](/advanced-ai/examples/understand-chains.md) that knows how to make decisions. Where a chain follows a predetermined sequence of calls to different AI components, an agent uses a language model to determine which actions to take.

Agents are the part of AI that act as decision-makers. They can interact with other agents and [tools](/glossary.md#ai-tool). When you send a query to an agent, it tries to choose the best tools to use to answer. Agents adapt to your specific queries, as well as the prompts that configure their behavior.

## Agents in n8n

n8n provides one Agent node, which can act as different types of agent depending on the settings you choose. Refer to the [Agent node documentation](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) for details on the available agent types.

When execute a workflow containing an agent, the agent runs multiple times. For example, it may do an initial setup, followed by a run to call a tool, then another run to evaluate the tool response and respond to the user.

## understand-chains.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: What's a chain in AI?

description: Understand chains in the context of AI. Learn about chains in n8n.

contentType: explanation

---

# What's a chain in AI?

[Chains](/glossary.md#ai-chain) bring together different components of AI to create a cohesive system. They set up a sequence of calls between the components. These components can include models and [memory](/glossary.md#ai-memory) (though note that in n8n chains can't use memory).

## Chains in n8n

n8n provides three chain nodes:

\* [Basic LLM Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md): use to interact with an LLM, without any additional components.

\* [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md): can connect to a [vector store](/glossary.md#ai-vector-store) using a retriever, or to an n8n workflow using the Workflow Retriever node. Use this if you want to create a workflow that supports asking questions about specific documents.

\* [Summarization Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainsummarization.md): takes an input and returns a summary.

There's an important difference between chains in n8n and in other tools such as LangChain: none of the chain nodes support memory. This means they can't remember previous user queries. If you use LangChain to code an AI application, you can give your application memory. In n8n, if you need your workflow to support memory, use an agent. This is essential if you want users to be able to have a natural ongoing conversation with your app.

## understand-memory.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: What's memory in AI?

description: Understand memory in the context of AI. Learn what's special about memory in n8n.

contentType: explanation

---

# What's memory in AI?

Memory is a key part of AI chat services. The [memory](/glossary.md#ai-memory) keeps a history of previous messages, allowing for an ongoing conversation with the AI, rather than every interaction starting fresh.

## AI memory in n8n

To add memory to your AI workflow you can use either:

\* [Simple Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorybufferwindow/index.md): stores a customizable length of chat history for the current session. This is the easiest to get started with.

\* One of the memory services that n8n provides nodes for. These include:

\* [Motorhead](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymotorhead.md)

\* [Redis Chat Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryredischat.md)

\* [Postgres Chat Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorypostgreschat.md)

\* [Xata](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryxata.md)

\* [Zep](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryzep.md)

If you need to do advanced AI memory management in your workflows, use the [Chat Memory Manager](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymanager.md) node.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-sub-nodes/chat-memory-manager-purpose.md"

## understand-tools.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: What's a tool in AI?

description: Understand tools in the context of AI. Learn what's special about tools in n8n.

contentType: explanation

---

# What's a tool in AI?

In AI, 'tools' has a specific meaning. Tools act like addons that your AI can use to access extra context or resources.

Here are a couple of other ways of expressing it:

> Tools are interfaces that an agent can use to interact with the world ([source](https://langchain-ai.github.io/langgraphjs/how-tos/tool-calling/){:target=\_blank .external-link})

<!-- -->

> We can think of these tools as being almost like functions that your AI model can call ([source](https://www.udemy.com/course/chatgpt-and-langchain-the-complete-developers-masterclass/){:target=\_blank .external-link})

## AI tools in n8n

n8n provides tool [sub-nodes](/glossary.md#sub-node-n8n) that you can connect to your [AI agent](/glossary.md#ai-agent). As well as providing some popular tools, such as [Wikipedia](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolwikipedia.md) and [SerpAPI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolserpapi.md), n8n provides three especially powerful tools:

\* [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md): use this to load any n8n workflow as a tool.

\* [Custom Code Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolcode.md): write code that your agent can run.

\* [HTTP Request Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolhttprequest.md): make calls to fetch a website or data from an API.

The next three examples highlight the Call n8n Workflow Tool:

- [Chat with Google Sheets](/advanced-ai/examples/data-google-sheets.md)

- [Call an API to fetch data](/advanced-ai/examples/api-workflow-tool.md)

- [Set up a human fallback](/advanced-ai/examples/human-fallback.md)

You can also learn how to [let AI dynamically specify parameters for tools with the `$fromAI()` function](/advanced-ai/examples/using-the-fromai-function.md).

## understand-vector-databases.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: What are vector databases?

description: Understand vector databases. Learn how n8n provides vector databases, along with the key components to work with them, including embeddings, retrievers, and document loaders.

contentType: explanation

---

# What are vector databases?

Vector databases store information as numbers:

> A vector database is a type of database that stores data as high-dimensional vectors, which are mathematical representations of features or attributes. ([source](https://learn.microsoft.com/en-us/semantic-kernel/memories/vector-db){:target=\_blank .external-link})

This enables fast and accurate similarity searches. With a vector database, instead of using conventional database queries, you can search for relevant data based on semantic and contextual meaning.

## A simplified example

A vector database could store the sentence "n8n is a source-available automation tool that you can self-host", but instead of storing it as text, the vector database stores an array of dimensions (numbers between 0 and 1) that represent its features. This doesn't mean turning each letter in the sentence into a number. Instead, the vectors in the vector database describe the sentence.

Suppose that in a vector store `0.1` represents `automation tool`, `0.2` represents `source available`, and `0.3` represents `can be self-hosted`. You could end up with the following vectors:

| Sentence | Vector (array of dimensions) |

| -------- | ------ |

| n8n is a source-available automation tool that you can self-host | [0.1, 0.2, 0.3] |

| Zapier is an automation tool | [0.1] |

| Make is an automation tool | [0.1] |

| Confluence is a wiki tool that you can self-host | [0.3] |

/// note | This example is very simplified

In practice, vectors are far more complex. A vector can range in size from tens to thousands of dimensions. The dimensions don't have a one-to-one relationship to a single feature, so you can't translate individual dimensions directly into single concepts. This example gives an approximate mental model, not a true technical understanding.

///

## Demonstrating the power of similarity search

Qdrant provides [vector search demos](https://qdrant.tech/demo/){:target=\_blank .external-link} to help users understand the power of vector databases. The [food discovery demo](https://food-discovery.qdrant.tech/){:target=\_blank .external-link} shows how a vector store can help match pictures based on visual similarities.

> This demo uses data from Delivery Service. Users may like or dislike the photo of a dish, and the app will recommend more similar meals based on how they look. It's also possible to choose to view results from the restaurants within the delivery radius. ([source](https://qdrant.tech/demo/){:target=\_blank .external-link})

For full technical details, refer to the [Qdrant demo-food-discovery GitHub repository](https://github.com/qdrant/demo-food-discovery){:target=\_blank .external-link}.

## Embeddings, retrievers, text splitters, and document loaders

Vector databases require other tools to function:

- Document loaders and text splitters: document loaders pull in documents and data, and prepare them for [embedding](/glossary.md#ai-embedding). Document loaders can use text splitters to break documents into chunks.

- Embeddings: these are the tools that turn the data (text, images, and so on) into vectors, and back into raw data. Note that n8n only supports text embeddings.

- Retrievers: retrievers fetch documents from vector databases. You need to pair them with an embedding to translate the vectors back into data.

## using-the-fromai-function.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Let AI specify tool parameters

description: Understand how n8n's `$fromAI()` function works and how to use it to dynamically populate parameters for AI app tools, or use the built-in automation to complete them instead.

contentType: explanation

tags:

- $fromAI

- $fromAI()

- fromAI

- fromAI()

hide:

- tags

---

# Let AI specify the tool parameters

When configuring [tools](/glossary.md#ai-tool) connected to the Tools Agent, many parameters can be filled in by the AI model itself. The AI model will use the context from the task and information from other connected tools to fill in the appropriate details.

There are two ways to do this, and you can switch between them.

## Let the model fill in the parameter

Each appropriate parameter field in the tool's editing dialog has an extra button at the end:

![image showing stars icon to the right of parameter field](/\_images/advanced-ai/ai-stars.png)

On activating this button, the [AI Agent](/glossary.md#ai-agent) will fill in the expression for you, with no need for any further user input.

The field itself is filled in with a message indicating that the parameter has been defined automatically by the model.

If you want to define the parameter yourself, click on the 'X' in this box to revert to user-defined values. Note that the 'expression' field will now contain the expression generated by this feature, though you can now edit it further to add extra details as described in the following section.

/// warning

Activating this feature will overwrite any manual definition you may have already added.

///

## Use the `$fromAI()` function

The `$fromAI()` function uses AI to dynamically fill in parameters for tools connected to the [Tools AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/tools-agent.md).

/// note | Only for tools

The `$fromAI()` function is only available for tools connected to the AI Agent node. The `$fromAI()` function doesn't work with the [Code](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolcode.md) tool or with [other non-tool cluster sub-nodes](/integrations/builtin/cluster-nodes/sub-nodes/index.md).

///

To use the `$fromAI()` function, call it with the required `key` parameter:

```javascript

{{ $fromAI('email') }}

```

The `key` parameter and other arguments to the `$fromAI()` function aren't references to existing values. Instead, think of these arguments as hints that the AI model will use to populate the right data.

For instance, if you choose a key called `email`, the AI Model will look for an email address in its context, other tools, and input data. In chat workflows, it may ask the user for an email address if it can't find one elsewhere. You can optionally pass other parameters like `description` to give extra context to the AI model.

### Parameters

The `$fromAI()` function accepts the following parameters:

<!-- vale off -->

| Parameter | Type | Required? | Description |

| --------- | ---- | --------- | ----------- |

| `key` | string | :white\_check\_mark: | A string representing the key or name of the argument. This must be between 1 and 64 characters in length and can only contain lowercase letters, uppercase letters, numbers, underscores, and hyphens. |

| `description` | string | :x: | A string describing the argument. |

| `type` | string | :x: | A string specifying the data type. Can be string, number, boolean, or json (defaults to string). |

| `defaultValue` | any | :x: | The default value to use for the argument. |

<!-- vale on -->

### Examples

As an example, you could use the following `$fromAI()` expression to dynamically populate a field with a name:

```javascript

$fromAI("name", "The commenter's name", "string", "Jane Doe")

```

If you don't need the optional parameters, you could simplify this as:

```javascript

$fromAI("name")

```

To dynamically populate the number of items you have in stock, you could use a `$fromAI()` expression like this:

```javascript

$fromAI("numItemsInStock", "Number of items in stock", "number", 5)

```

If you only want to fill in parts of a field with a dynamic value from the model, you can use it in a normal expression as well. For example, if you want the model to fill out the `subject` parameter for an e-mail, but always pre-fix the generated value with the string 'Generated by AI:', you could use the following expression:

```javascript

Generated by AI: {{ $fromAI("subject") }}

```

### Templates

You can see the `$fromAI()` function in action in the following [templates](/glossary.md#template-n8n):

\* [Angie, Personal AI Assistant with Telegram Voice and Text](https://n8n.io/workflows/2462-angie-personal-ai-assistant-with-telegram-voice-and-text/)

\* [Automate Customer Support Issue Resolution using AI Text Classifier](https://n8n.io/workflows/2468-automate-customer-support-issue-resolution-using-ai-text-classifier/)

\* [Scale Deal Flow with a Pitch Deck AI Vision, Chatbot and QDrant Vector Store](https://n8n.io/workflows/2464-scale-deal-flow-with-a-pitch-deck-ai-vision-chatbot-and-qdrant-vector-store/)

## vector-store-website.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

title: Populate a Pinecone vector database from a website

description: Scrape a website, load the data into Pinecone, then query it using a chat workflow.

---

# Populate a Pinecone vector database from a website

Use n8n to scrape a website, load the data into Pinecone, then query it using a chat workflow. This workflow uses the [HTTP node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) to get website data, extracts the relevant content using the [HTML node](/integrations/builtin/core-nodes/n8n-nodes-base.html.md), then uses the [Pinecone Vector Store node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorepinecone.md) to send it to Pinecone.

[[ workflowDemo("file:///advanced-ai/examples/populate\_a\_pinecone\_vector\_database\_from\_a\_website.json") ]]

## Key features

This workflow uses:

\* [HTTP node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md): fetches website data.

\* [HTML node](/integrations/builtin/core-nodes/n8n-nodes-base.html.md): simplifies the data by extracting the main content from the page.

\* [Pinecone Vector Store node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorepinecone.md) and [Embeddings OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsopenai.md): transform the data into vectors and store it in Pinecone.

\* [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md) and [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) to query the vector database.

## Using the example

--8<-- "\_snippets/examples-color-key.md"

## langchain-learning-resources.md

---

contentType: overview

title: LangChain learning resources

description: External resources to learn more about LangChain and AI.

---

# LangChain learning resources

You don't need to know details about LangChain to use n8n, but it can be helpful to learn a few concepts. This pages lists some learning resources that people at n8n have found helpful.

The [LangChain documentation](https://docs.langchain.com/docs/){:target=\_blank .external-link} includes introductions to key concepts and possible use cases. Choose the [LangChain | Python](https://python.langchain.com/docs/get\_started/introduction){:target=\_blank .external-link} or [LangChain | JavaScript](https://js.langchain.com/docs/get\_started/introduction/){:target=\_blank .external-link} documentation for quickstarts, code examples, and API documentation. LangChain also provide [code templates](https://github.com/langchain-ai/langchain/tree/master/cookbook){:target=\_blank .external-link} (Python only), offering ideas for potential use cases and common patterns.

[What Product People Need To Know About LangChain](https://www.commandbar.com/blog/langchain-guide){:target=\_blank .external-link} provides a list of terminology and concepts, explained with helpful metaphors. Aimed at a wide audience.

If you prefer video, this [YouTube series by Greg Kamradt](https://youtu.be/\_v\_fgW2SkkQ?si=8Z2tfAoXnN3lXU9s){:target=\_blank .external-link} works through the LangChain documentation, providing code examples as it goes.

n8n offers space to discuss LangChain on the [Discord](https://discord.gg/bAt54txhHg){:target=\_blank .external-link}. Join to share your projects and discuss ideas with the community.

## langchain-n8n.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

title: LangChain concepts in n8n

description: How LangChain concepts map to n8n, and which n8n nodes to use.

---

# LangChain concepts in n8n

This page explains how LangChain concepts and features map to n8n nodes.

This page includes lists of the LangChain-focused nodes in n8n. You can use any n8n node in a workflow where you interact with LangChain, to link LangChain to other services. The LangChain features uses n8n's [Cluster nodes](/integrations/builtin/cluster-nodes/index.md).

/// note | n8n implements LangChain JS

This feature is n8n's implementation of [LangChain's JavaScript framework](https://js.langchain.com/docs/get\_started/introduction){:target=\_blank .external-link}.

///

## Trigger nodes

[Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md)

## Cluster nodes

--8<-- "\_snippets/integrations/builtin/cluster-nodes/cluster-nodes-summary.md"

### Root nodes

Each cluster starts with one [root node](/glossary.md#root-node-n8n).

#### Chains

A [chain](/glossary.md#ai-chain) is a series of LLMs, and related tools, linked together to support functionality that can't be provided by a single LLM alone.

Available nodes:

\* [Basic LLM Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md)

\* [Retrieval Q&A Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md)

\* [Summarization Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainsummarization.md)

\* [Sentiment Analysis](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.sentimentanalysis.md)

\* [Text Classifier](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.text-classifier.md)

Learn more about [chaining in LangChain](https://js.langchain.com/docs/concepts/lcel){:target=\_blank .external-link}.

#### Agents

> An [agent](/glossary.md#ai-agent){ data-preview} has access to a suite of tools, and determines which ones to use depending on the user input. Agents can use multiple tools, and use the output of one tool as the input to the next. [Source](https://github.com/langchain-ai/langchainjs/blob/def3a26c054575e1ed40b9062087e8c0a8899633/docs/core\_docs/docs/modules/agents/index.mdx){:target=\_blank .external-link}

Available nodes:

\* [Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md)

Learn more about [Agents in LangChain](https://js.langchain.com/docs/concepts/agents){:target=\_blank .external-link}.

#### Vector stores

[Vector stores](/glossary.md#ai-vector-store) store embedded data, and perform vector searches on it.

\* [Simple Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoreinmemory.md)

\* [PGVector Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorepgvector.md)

\* [Pinecone Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorepinecone.md)

\* [Qdrant Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoreqdrant.md)

\* [Supabase Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoresupabase.md)

\* [Zep Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorezep.md)

Learn more about [Vector stores in LangChain](https://js.langchain.com/docs/concepts/vectorstores/){:target=\_blank .external-link}.

#### Miscellaneous

Utility nodes.

[LangChain Code](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.code.md): import LangChain. This means if there is functionality you need that n8n hasn't created a node for, you can still use it.

### Sub-nodes

Each root node can have one or more [sub-nodes](/glossary.md#sub-node-n8n) attached to it.

#### Document loaders

Document loaders add data to your chain as documents. The data source can be a file or web service.

Available nodes:

\* [Default Document Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentdefaultdataloader.md)

\* [GitHub Document Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentgithubloader.md)

Learn more about [Document loaders in LangChain](https://js.langchain.com/docs/concepts/document\_loaders){:target=\_blank .external-link}.

#### Language models

[LLMs (large language models)](/glossary.md#large-language-model-llm) are programs that analyze datasets. They're the key element of working with AI.

Available nodes:

\* [Anthropic Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatanthropic.md)

\* [AWS Bedrock Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatawsbedrock.md)

\* [Cohere Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmcohere.md)

\* [Hugging Face Inference Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmopenhuggingfaceinference.md)

\* [Mistral Cloud Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatmistralcloud.md)

\* [Ollama Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatollama/index.md)

\* [Ollama Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmollama/index.md)

\* [OpenAI Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/index.md)

Learn more about [Language models in LangChain](https://js.langchain.com/docs/concepts/chat\_models){:target=\_blank .external-link}.

#### Memory

[Memory](/glossary.md#ai-memory) retains information about previous queries in a series of queries. For example, when a user interacts with a chat model, it's useful if your application can remember and call on the full conversation, not just the most recent query entered by the user.

Available nodes:

\* [Motorhead](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymotorhead.md)

\* [Redis Chat Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryredischat.md)

\* [Postgres Chat Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorypostgreschat.md)

\* [Simple Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorybufferwindow/index.md)

\* [Xata](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryxata.md)

\* [Zep](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryzep.md)

Learn more about [Memory in LangChain](https://langchain-ai.github.io/langgraphjs/concepts/memory/){:target=\_blank .external-link}.

#### Output parsers

Output parsers take the text generated by an LLM and format it to match the structure you require.

Available nodes:

\* [Auto-fixing Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserautofixing.md)

\* [Item List Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparseritemlist.md)

\* [Structured Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserstructured/index.md)

Learn more about [Output parsers in LangChain](https://js.langchain.com/docs/concepts/output\_parsers/){:target=\_blank .external-link}.

#### Retrievers

\* [Contextual Compression Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievercontextualcompression.md)

\* [MultiQuery Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievermultiquery.md)

\* [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md)

\* [Workflow Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrieverworkflow.md)

#### Text splitters

Text splitters break down data (documents), making it easier for the LLM to process the information and return accurate results.

Available nodes:

\* [Character Text Splitter](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.textsplittercharactertextsplitter.md)

\* [Recursive Character Text Splitter](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.textsplitterrecursivecharactertextsplitter.md)

\* [Token Splitter](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.textsplittertokensplitter.md)

n8n's text splitter nodes implements parts of [LangChain's text\_splitter API](https://js.langchain.com/docs/concepts/text\_splitters/){:target=\_blank .external-link}.

#### Tools

Utility [tools](/glossary.md#ai-tool).

\* [Calculator](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolcalculator.md)

\* [Code Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolcode.md)

\* [SerpAPI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolserpapi.md)

\* [Think Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolthink.md)

\* [Vector Store Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md)

\* [Wikipedia](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolwikipedia.md)

\* [Wolfram|Alpha](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolwolframalpha.md)

\* [Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md)

#### Embeddings

> [Embeddings](/glossary.md#ai-embedding) capture the "relatedness" of text, images, video, or other types of information. ([source](https://supabase.com/docs/guides/ai/concepts){:target=\_blank .external-link})

Available nodes:

\* [Embeddings AWS Bedrock](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsawsbedrock.md)

\* [Embeddings Cohere](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingscohere.md)

\* [Embeddings Google PaLM](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsgooglepalm.md)

\* [Embeddings Hugging Face Inference](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingshuggingfaceinference.md)

\* [Embeddings Mistral Cloud](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsmistralcloud.md)

\* [Embeddings Ollama](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsollama.md)

\* [Embeddings OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsopenai.md)

Learn more about [Text embeddings in LangChain](https://js.langchain.com/docs/concepts/embedding\_models/){:target=\_blank .external-link}.

#### Miscellaneous

\* [Chat Memory Manager](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymanager.md)

## langsmith.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

title: Use LangSmith with n8n

description: How to enable LangSmith for your self-hosted n8n instance.

---

# Use LangSmith with n8n

[LangSmith](https://www.langchain.com/langsmith){:target=\_blank .external-link} is a developer platform created by the LangChain team. You can connect your n8n instance to LangSmith to record and monitor runs in n8n, just as you can in a LangChain application.

/// info | Feature availability

Self-hosted n8n only.

///

## Connect your n8n instance to LangSmith

1. [Log in to LangSmith](https://smith.langchain.com/settings){:target=\_blank .external-link} and get your API key.

1. Set the LangSmith environment variables:

| Variable | Value |

| -------- | ----- |

| LANGCHAIN\_ENDPOINT | `"https://api.smith.langchain.com"` |

| LANGCHAIN\_TRACING\_V2 | `true` |

| LANGCHAIN\_API\_KEY | Set this to your API key |

Set the variables so that they're available globally in the environment where you host your n8n instance. You can do this in the same way as the rest of your general configuration. These aren't n8n environment variables, so don't try to set them using the [n8n configuration file](/hosting/configuration/configuration-methods.md#set-environment-variables-using-a-file).

1. Restart n8n.

For information on using LangSmith, refer to [LangSmith's documentation](https://docs.smith.langchain.com/){:target=\_blank .external-link}.

## overview.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

title: LangChain in n8n

description: Understand how n8n uses LangChain to provide advanced AI functionality.

hide:

- toc

---

# LangChain in n8n

n8n provides a collection of nodes that implement LangChain's functionality. The LangChain nodes are configurable, meaning you can choose your preferred agent, LLM, memory, and so on. Alongside the LangChain nodes, you can connect any n8n node as normal: this means you can integrate your LangChain logic with other data sources and services.

\* [Learning resources](/advanced-ai/langchain/langchain-learning-resources.md): n8n's documentation for LangChain assumes you're familiar with AI and LangChain concepts. This page provides links to learning resources.

\* [LangChain concepts and features in n8n](/advanced-ai/langchain/langchain-n8n.md): how n8n represents LangChain concepts and features.

## api-reference.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

template: api.html

hide:

- toc

- navigation

description: API reference for n8n's public REST API.

contentType: reference

---

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disable-search

hide-hostname

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"lineHeight": "1.2em",

"fontFamily": "\"Open sans\", Helvetica, sans-serif",

"headings": {

"fontFamily": "\"Open sans\", Helvetica, sans-serif"

}

},

"sidebar": {

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"width": "280px"

}

}' />

<script src="https://cdn.redoc.ly/redoc/latest/bundles/redoc.standalone.js"> </script>

## authentication.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Authentication for n8n's public REST API.

contentType: howto

---

# API authentication

n8n uses API keys to authenticate API calls.

/// info | Feature availability

The n8n API isn't available during the free trial. Please upgrade to access this feature.

///

## API Scopes

Users of [enterprise instances](https://n8n.io/enterprise/) can limit which resources and actions a key can access with scopes. API key scopes allow you specify the exact level of access a key needs for its intended purpose.

Non-enterprise API keys have full access to all the account's resources and capabilities.

## Create an API key

1. Log in to n8n.

1. Go to \*\*Settings\*\* > \*\*n8n API\*\*.

1. Select \*\*Create an API key\*\*.

1. Choose a \*\*Label\*\* and set an \*\*Expiration\*\* time for the key.

1. If on an enterprise plan, choose the \*\*Scopes\*\* to give the key.

1. Copy \*\*My API Key\*\* and use this key to authenticate your calls.

## Call the API using your key

Send the API key in your API call as a header named `X-N8N-API-KEY`.

For example, say you want to get all active workflows. Your curl request will look like this:

```shell

# For a self-hosted n8n instance

curl -X 'GET' \

'<N8N\_HOST>:<N8N\_PORT>/<N8N\_PATH>/api/v<version-number>/workflows?active=true' \

-H 'accept: application/json' \

-H 'X-N8N-API-KEY: <your-api-key>'

# For n8n Cloud

curl -X 'GET' \

'<your-cloud-instance>/api/v<version-number>/workflows?active=true' \

-H 'accept: application/json' \

-H 'X-N8N-API-KEY: <your-api-key>'

```

## Delete an API key

1. Log in to n8n.

2. Go to \*\*Settings\*\* > \*\*n8n API\*\*.

3. Select \*\*Delete\*\* next to the key you want to delete.

4. Confirm the delete by selecting \*\*Delete Forever\*\*.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n public REST API Documentation and Guides

description: Access n8n public REST API documentation and guides. Find comprehensive resources to programmatically perform tasks with the public API instead of the GUI.

contentType: overview

search:

boost: 5

---

# n8n public REST API

/// info | Feature availability

The n8n API isn't available during the free trial. Please upgrade to access this feature.

///

Using n8n's public [API](/glossary.md#api), you can programmatically perform many of the same tasks as you can in the GUI. This section introduces n8n's REST API, including:

\* How to [authenticate](/api/authentication.md)

\* [Paginating](/api/pagination.md) results

\* Using the [built-in API playground](/api/using-api-playground.md) (self-hosted n8n only)

\* [Endpoint reference](/api/api-reference.md)

n8n provides an [n8n API node](/integrations/builtin/core-nodes/n8n-nodes-base.n8n.md) to access the API in your workflows.

## Learn about REST APIs

The API documentation assumes you are familiar with REST APIs. If you're not, these resources may be helpful:

\* [KnowledgeOwl's guide to working with APIs](https://support.knowledgeowl.com/help/working-with-apis){:target=\_blank .external-link}: a basic introduction, including examples of how to call REST APIs.

\* [IBM Cloud Learn Hub - What is an Application Programming Interface (API)](https://www.ibm.com/cloud/learn/api){:target=\_blank .external-link}: this gives a general, but technical, introduction to APIs.

\* [IBM Cloud Learn Hub - What is a REST API?](https://www.ibm.com/cloud/learn/rest-apis){:target=\_blank .external-link}: more detailed information about REST APIs.

\* [MDN web docs - An overview of HTTP](https://developer.mozilla.org/en-US/docs/Web/HTTP/Overview){:target=\_blank .external-link}: REST APIs work over HTTP and use HTTP verbs, or methods, to specify the action to perform.

/// tip | Use the API playground (self-hosted n8n only)

Trying out the API in the [playground](/api/using-api-playground.md) can help you understand how APIs work. If you're worried about changing live data, consider setting up a test workflow, or test n8n instance, to explore safely.

///

## pagination.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Pagination in n8n's public REST API.

contentType: howto

---

# API pagination

The default page size is 100 results. You can change the page size limit. The maximum permitted size is 250.

When a response contains more than one page, it includes a cursor, which you can use to request the next pages.

For example, say you want to get all active workflows, 150 at a time.

Get the first page:

```shell

# For a self-hosted n8n instance

curl -X 'GET' \

'<N8N\_HOST>:<N8N\_PORT>/<N8N\_PATH>/api/v<version-number>/workflows?active=true&limit=150' \

-H 'accept: application/json' \

-H 'X-N8N-API-KEY: <your-api-key>'

# For n8n Cloud

curl -X 'GET' \

'<your-cloud-instance>/api/v<version-number>/workflows?active=true&limit=150' \

-H 'accept: application/json' \

-H 'X-N8N-API-KEY: <your-api-key>'

```

The response is in JSON format, and includes a `nextCursor` value. This is an example response.

```js

{

"data": [

// The response contains an object for each workflow

{

// Workflow data

}

],

"nextCursor": "MTIzZTQ1NjctZTg5Yi0xMmQzLWE0NTYtNDI2NjE0MTc0MDA"

}

```

Then to request the next page:

```bash

# For a self-hosted n8n instance

curl -X 'GET' \

'<N8N\_HOST>:<N8N\_PORT>/<N8N\_PATH>/api/v<version-number>/workflows?active=true&limit=150&cursor=MTIzZTQ1NjctZTg5Yi0xMmQzLWE0NTYtNDI2NjE0MTc0MDA' \

-H 'accept: application/json'

# For n8n Cloud

curl -X 'GET' \

'<your-cloud-instance>/api/v<version-number>/workflows?active=true&limit=150&cursor=MTIzZTQ1NjctZTg5Yi0xMmQzLWE0NTYtNDI2NjE0MTc0MDA' \

-H 'accept: application/json'

```

## using-api-playground.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to use the API playground to try out n8n's public REST API.

contentType: howto

---

# Using the API playground

/// info | Feature availability

The API playground isn't available on Cloud. It's available for all self-hosted pricing tiers.

///

The n8n API comes with a built-in Swagger UI playground in self-hosted versions. This provides interactive documentation, where you can try out requests. The path to access the playground depends on your hosting.

n8n constructs the path from values set in your environment variables:

```shell

N8N\_HOST:N8N\_PORT/N8N\_PATH/api/v<api-version-number>/docs

```

The API version number is `1`. There may be multiple versions available in the future.

/// warning | Real data

If you select \*\*Authorize\*\* and enter your API key in the API playground, you have access to your live data. This is useful for trying out requests. Be aware you can change or delete real data.

///

The API includes built-in documentation about credential formats. This is available using the `credentials` endpoint:

```shell

N8N\_HOST:N8N\_PORT/N8N\_PATH/api/v<api-version-number>/credentials/schema/{credentialTypeName}

```

/// note | How to find `credentialTypeName`

To find the type, download your workflow as JSON and examine it. For example, for a Google Drive node the `{credentialTypeName}` is `googleDriveOAuth2Api`:

```json

{

...,

"credentials": {

"googleDriveOAuth2Api": {

"id": "9",

"name": "Google Drive"

}

}

}

```

///

## ai-code.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AI coding

description: Use GPT to generate code in the Code node.

contentType: explanation

---

# AI coding with GPT

Not available on self-hosted.

Python isn't supported.

///

## Use AI in the Code node

--8<-- "\_snippets/code/ai-how-to.md"

## Usage limits

During the trial phase there are no usage limits. If n8n makes the feature permanent, there may be usage limits as part of your pricing tier.

## Feature limits

The ChatGPT implementation in n8n has the following limitations:

\* The AI writes code that manipulates data from the n8n workflow. You can't ask it to pull in data from other sources.

\* The AI doesn't know your data, just the schema, so you need to tell it things like how to find the data you want to extract, or how to check for null.

\* Nodes before the Code node must execute and deliver data to the Code node before you run your AI query.

\* Doesn't work with large incoming data schemas.

\* May have issues if there are a lot of nodes before the code node.

## Writing good prompts

<!-- vale off -->

Writing good prompts increases the chance of getting useful code back.

Some general tips:

\* Provide examples: if possible, give a sample expected output. This helps the AI to better understand the transformation or logic you’re aiming for.

\* Describe the processing steps: if there are specific processing steps or logic that should apply to the data, list them in sequence. For example: "First, filter out all users under 18. Then, sort the remaining users by their last name."

\* Avoid ambiguities: while the AI understands various instructions, being clear and direct ensures you get the most accurate code. Instead of saying "Get the older users," you might say "Filter users who are 60 years and above."

\* Be clear about what you expect as the output. Do you want the data transformed, filtered, aggregated, or sorted? Provide as much detail as possible.

And some n8n-specific guidance:

\* Think about the input data: make sure ChatGPT knows which pieces of the data you want to access, and what the incoming data represents. You may need to tell ChatGPT about the availability of n8n's built-in methods and variables.

\* Declare interactions between nodes: if your logic involves data from multiple nodes, specify how they should interact. "Merge the output of 'Node A' with 'Node B' based on the 'userID' property". if you prefer data to come from certain nodes or to ignore others, be clear: "Only consider data from the 'Purchases' node and ignore the 'Refunds' node."

\* Ensure the output is compatible with n8n. Refer to [Data structure](/data/data-structure.md) for more information on the data structure n8n requires.

### Example prompts

These examples show a range of possible prompts and tasks.

#### Example 1: Find a piece of data inside a second dataset

To try the example yourself, [download the example workflow](/\_workflows/ai-code/find-a-piece-of-data.json) and import it into n8n.

In the third Code node, enter this prompt:

> The slack data contains only one item. The input data represents all Notion users. Sometimes the person property that holds the email can be null. I want to find the notionId of the Slack user and return it.

Take a look at the code the AI generates.

This is the JavaScript you need:

```js

const slackUser = $("Mock Slack").all()[0];

const notionUsers = $input.all();

const slackUserEmail = slackUser.json.email;

const notionUser = notionUsers.find(

(user) => user.json.person && user.json.person.email === slackUserEmail

);

return notionUser ? [{ json: { notionId: notionUser.json.id } }] : [];

```

#### Example 2: Data transformation

To try the example yourself, [download the example workflow](/\_workflows/ai-code/data-transformation.json) and import it into n8n.

In the \*\*Join items\*\* Code node, enter this prompt:

> Return a single line of text that has all usernames listed with a comma. Each username should be enquoted with a double quotation mark.

Take a look at the code the AI generates.

This is the JavaScript you need:

```js

const items = $input.all();

const usernames = items.map((item) => `"${item.json.username}"`);

const result = usernames.join(", ");

return [{ json: { usernames: result } }];

```

#### Example 3: Summarize data and create a Slack message

To try the example yourself, [download the example workflow](/\_workflows/ai-code/summarize-data.json) and import it into n8n.

In the \*\*Summarize\*\* Code node, enter this prompt:

> Create a markdown text for Slack that counts how many ideas, features and bugs have been submitted. The type of submission is saved in the property\_type field. A feature has the property "Feature", a bug has the property "Bug" and an idea has the property "Bug". Also, list the five top submissions by vote in that message. Use "<url|text>" as markdown for links.

Take a look at the code the AI generates.

This is the JavaScript you need:

```js

const submissions = $input.all();

// Count the number of ideas, features, and bugs

let ideaCount = 0;

let featureCount = 0;

let bugCount = 0;

submissions.forEach((submission) => {

switch (submission.json.property\_type[0]) {

case "Idea":

ideaCount++;

break;

case "Feature":

featureCount++;

break;

case "Bug":

bugCount++;

break;

}

});

// Sort submissions by votes and take the top 5

const topSubmissions = submissions

.sort((a, b) => b.json.property\_votes - a.json.property\_votes)

.slice(0, 5);

let topSubmissionText = "";

topSubmissions.forEach((submission) => {

topSubmissionText += `<${submission.json.url}|${submission.json.name}> with ${submission.json.property\_votes} votes\n`;

});

// Construct the Slack message

const slackMessage = `\*Summary of Submissions\*\n

Ideas: ${ideaCount}\n

Features: ${featureCount}\n

Bugs: ${bugCount}\n

Top 5 Submissions:\n

${topSubmissionText}`;

return [{ json: { slackMessage } }];

```

<!-- vale on -->

### Reference incoming node data explicitly

If your incoming data contains nested fields, using dot notation to reference them can help the AI understand what data you want.

!["Screenshot of an n8n code node, highlighting how to reference data with dot notation in an AI query"](/\_images/code/ai-code/reference-data-dot-notation.png)

To try the example yourself, [download the example workflow](/\_workflows/ai-code/reference-incoming-data-explicitly.json) and import it into n8n.

In the second Code node, enter this prompt:

> The data in "Mock data" represents a list of people. For each person, return a new item containing personal\_info.first\_name and work\_info.job\_title.

This is the JavaScript you need:

```js

const items = $input.all();

const newItems = items.map((item) => {

const firstName = item.json.personal\_info.first\_name;

const jobTitle = item.json.work\_info.job\_title;

return {

json: {

firstName,

jobTitle,

},

};

});

return newItems;

```

### Related resources

Pluralsight offer a short guide on [How to use ChatGPT to write code](https://www.pluralsight.com/blog/software-development/how-use-chatgpt-programming-coding){:target=\_blank .external-link}, which includes example prompts.

## Fixing the code

The AI-generated code may work without any changes, but you may have to edit it. You need to be aware of n8n's [Data structure](/data/data-structure.md). You may also find n8n's built-in methods and variables useful.

## code-node.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: [integration, reference]

tags:

- code node

- code

hide:

- tags

---

# Using the Code node

--8<-- "\_snippets/integrations/builtin/core-nodes/code-node.md"

## expressions.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Expressions

Expressions are a powerful feature implemented in all n8n nodes. They allow node parameters to be set dynamically based on data from:

- Previous node executions

- The workflow

- Your n8n environment

You can also execute JavaScript within an expression, making this a convenient and easy way to manipulate data into useful parameter values without writing extensive extra code.

n8n created and uses a templating language called [Tournament](https://github.com/n8n-io/tournament){:target=\_blank .external-link}, and extends it with [custom methods and variables](/code/builtin/overview.md) and [data transformation functions](/code/builtin/data-transformation-functions/index.md). These features make it easier to perform common tasks like getting data from other nodes or accessing workflow metadata.

n8n additionally supports two libraries:

- [Luxon](https://github.com/moment/luxon/){:target=\_blank .external-link}, for working with dates and time.

- [JMESPath](https://jmespath.org/){:target=\_blank .external-link}, for querying JSON.

/// note | Data in n8n

When writing expressions, it's helpful to understand data structure and behavior in n8n. Refer to [Data](/data/index.md) for more information on working with data in your workflows.

///

## Writing expressions

To use an expression to set a parameter value:

1. Hover over the parameter where you want to use an expression.

2. Select \*\*Expressions\*\* in the \*\*Fixed/Expression\*\* toggle.

3. Write your expression in the parameter, or select \*\*Open expression editor\*\* <span class="inline-image">![Open expressions editor icon](/\_images/common-icons/open-expression-editor.png){.off-glb}</span> to open the expressions editor. If you use the expressions editor, you can browse the available data in the \*\*Variable selector\*\*. All expressions have the format `{{ your expression here }}`.

### Example: Get data from webhook body

Consider the following scenario: you have a webhook trigger that receives data through the webhook body. You want to extract some of that data for use in the workflow.

Your webhook data looks similar to this:

```json

[

{

"headers": {

"host": "n8n.instance.address",

...

},

"params": {},

"query": {},

"body": {

"name": "Jim",

"age": 30,

"city": "New York"

}

}

]

```

In the next node in the workflow, you want to get just the value of `city`. You can use the following expression:

```js

{{$json.body.city}}

```

This expression:

1. Accesses the incoming JSON-formatted data using n8n's custom `$json` variable.

2. Finds the value of `city` (in this example, "New York"). Note that this example uses JMESPath syntax to query the JSON data. You can also write this expression as `{{$json['body']['city']}}`.

### Example: Writing longer JavaScript

An expression contains one line of JavaScript. This means you cannot do things like variable assignments or multiple standalone operations.

To understand the limitations of JavaScript in expressions, and start thinking about workarounds, look at the following two pieces of code. Both code examples use the Luxon date and time library to find the time between two dates in months, and encloses the code in handlebar brackets, like an expression.

However, the first example isn't a valid n8n expression:

```js

// This example is split over multiple lines for readability

// It's still invalid when formatted as a single line

{{

function example() {

let end = DateTime.fromISO('2017-03-13');

let start = DateTime.fromISO('2017-02-13');

let diffInMonths = end.diff(start, 'months');

return diffInMonths.toObject();

}

example();

}}

```

While the second example is valid:

```js

{{DateTime.fromISO('2017-03-13').diff(DateTime.fromISO('2017-02-13'), 'months').toObject()}}

```

## Common issues

For common errors or issues with expressions and suggested resolution steps, refer to [Common Issues](/code/cookbook/expressions/common-issues.md).

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Code in n8n Documentation and Guides

description: Access documentation and guides on using code and expressions in n8n and other developer resources.

contentType: overview

---

# Code in n8n

n8n is a low-code tool. This means you can do a lot without code, then add code when needed.

## Code in your workflows

There are two places in your workflows where you can use code:

<div class="grid-cards-vertical cards" markdown>

- \_\_Expressions\_\_

Use [expressions](/glossary.md#expression-n8n) to transform [data](/data/index.md) in your nodes. You can use JavaScript in expressions, as well as n8n's [Built-in methods and variables](/code/builtin/overview.md) and [Data transformation functions](/code/builtin/data-transformation-functions/index.md).

[:octicons-arrow-right-24: Expressions](/code/expressions.md)

- \_\_Code node\_\_

Use the Code node to add JavaScript or Python to your workflow.

[:octicons-arrow-right-24: Code node](/code/code-node.md)

</div>

## Other technical resources

These are features that are relevant to technical users.

### Technical nodes

n8n provides core nodes, which simplify adding key functionality such as API requests, webhooks, scheduling, and file handling.

<div class="grid-cards-vertical cards" markdown>

- \_\_Write a backend\_\_

The [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md), [Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md), and [Code](/code/code-node.md) nodes help you make API calls, respond to webhooks, and write any JavaScript in your workflow.

Use this do things like [Create an API endpoint](https://n8n.io/workflows/1750-creating-an-api-endpoint/){:target=\_blank .external-link}.

[:octicons-arrow-right-24: Core nodes](/integrations/builtin/core-nodes/index.md)

- \_\_Represent complex logic\_\_

You can build complex flows, using nodes like [If](/integrations/builtin/core-nodes/n8n-nodes-base.if.md), [Switch](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md), and [Merge](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) nodes.

[:octicons-arrow-right-24: Flow logic](/flow-logic/index.md)

</div>

### Other developer resources

<div class="grid-cards-vertical cards" markdown>

- \_\_The n8n API\_\_

n8n provides an API, where you can programmatically perform many of the same tasks as you can in the GUI. There's an [n8n API node](/integrations/builtin/core-nodes/n8n-nodes-base.n8n.md) to access the API in your workflows.

[:octicons-arrow-right-24: API](/api/index.md)

- \_\_Self-host\_\_

You can self-host n8n. This keeps your data on your own infrastructure.

[:octicons-arrow-right-24: Hosting](/hosting/index.md)

- \_\_Build your own nodes\_\_

You can build custom nodes, install them on your n8n instance, and publish them to [npm](https://www.npmjs.com/){:target=\_blank .external-link}.

[:octicons-arrow-right-24: Creating nodes](/integrations/creating-nodes/overview.md)

</div>

## variables.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Custom variables allow you to store and reuse values in n8n workflows.

contentType: howto

---

# Custom variables

/// info | Feature availability

\* Available on Self-hosted Enterprise and Pro Cloud plans.

\* You need access to the n8n instance owner account to create and edit variables. All users can use existing variables.

Available in version 0.225.0 and above.

///

Custom variables are read-only variables that you can use to store and reuse values in n8n workflows.

/// warning | Variables are shared

When you create a variable, it's available to everyone on your n8n instance.

///

## Create variables

To create a new variable:

1. On the \*\*Variables\*\* page, select \*\*Add Variable\*\*.

2. Enter a \*\*Key\*\* and \*\*Value\*\*. The maximum key length is 50 characters, and the maximum value length is 220 characters. n8n limits the characters you can use in the key and value to lowercase and uppercase letters, numbers, and underscores (`A-Z`, `a-z`, `0-9`, `\_`).

3. Select \*\*Save\*\*. The variable is now available for use in all workflows in the n8n instance.

## Edit and delete variables

To edit or delete a variable:

1. On the \*\*Variables\*\* page, hover over the variable you want to change.

2. Select \*\*Edit\*\* or \*\*Delete\*\*.

## Use variables in workflows

You can access variables in the Code node and in [expressions](/glossary.md#expression-n8n):

```javascript

// Access a variable

$vars.<variable-name>

```

All variables are strings.

During workflow execution, n8n replaces the variables with the variable value. If the variable has no value, n8n treats its value as `undefined`. Workflows don't automatically fail in this case.

Variables are read-only. You must use the UI to change the values. If you need to set and access custom data within your workflow, use [Workflow static data](/code/cookbook/builtin/get-workflow-static-data.md).

## convenience.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: n8n provides these methods to make it easier to perform common tasks in expressions.

contentType: reference

hide:

- toc

---

# Convenience methods

n8n provides these methods to make it easier to perform common tasks in [expressions](/glossary.md#expression-n8n).

/// note | Python support

You can use Python in the Code node. It isn't available in expressions.

///

=== "JavaScript"

| Method | Description | Available in Code node? |

| ------ | ----------- | :---------------------: |

| `$evaluateExpression(expression: string, itemIndex?: number)` | Evaluates a string as an expression. If you don't provide `itemIndex`, n8n uses the data from item 0 in the Code node. | :white\_check\_mark: |

| `$ifEmpty(value, defaultValue)` | The `$ifEmpty()` function takes two parameters, tests the first to check if it's empty, then returns either the parameter (if not empty) or the second parameter (if the first is empty). The first parameter is empty if it's:<ul><li>`undefined`</li><li>`null`</li><li>An empty string `''`</li><li>An array where `value.length` returns `false`</li><li>An object where `Object.keys(value).length` returns `false`</li></ul> | :white\_check\_mark: |

| `$if()` | The `$if()` function takes three parameters: a condition, the value to return if true, and the value to return if false. | :x: |

| `$max()` | Returns the highest of the provided numbers. | :x: |

| `$min()` | Returns the lowest of the provided numbers. | :x: |

=== "Python"

| Method | Description |

| ------ | ----------- |

| `\_evaluateExpression(expression: string, itemIndex?: number)` | Evaluates a string as an expression. If you don't provide `itemIndex`, n8n uses the data from item 0 in the Code node. |

| `\_ifEmpty(value, defaultValue)` | The `\_ifEmpty()` function takes two parameters, tests the first to check if it's empty, then returns either the parameter (if not empty) or the second parameter (if the first is empty). The first parameter is empty if it's:<ul><li>`undefined`</li><li>`null`</li><li>An empty string `''`</li><li>An array where `value.length` returns `false`</li><li>An object where `Object.keys(value).length` returns `false`</li></ul> | :white\_check\_mark: |

## current-node-input.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Methods for working with the input of the current node.

contentType: reference

hide:

- toc

---

# Current node input

Methods for working with the input of the current node. Some methods and variables aren't available in the Code node.

/// note | Python support

You can use Python in the Code node. It isn't available in expressions.

///

=== "JavaScript"

| Method | Description | Available in Code node? |

| ------ | ----------- | :-------------------------: |

| `$binary` | Shorthand for `$input.item.binary`. Incoming binary data from a node | :x: |

| `$input.item` | The input item of the current node that's being processed. Refer to [Item linking](/data/data-mapping/data-item-linking/index.md) for more information on paired items and item linking. | :white\_check\_mark: |

| `$input.all()` | All input items in current node. | :white\_check\_mark: |

| `$input.first()` | First input item in current node. | :white\_check\_mark: |

| `$input.last()` | Last input item in current node. | :white\_check\_mark: |

| `$input.params` | Object containing the query settings of the previous node. This includes data such as the operation it ran, result limits, and so on. | :white\_check\_mark: |

| `$json` | Shorthand for `$input.item.json`. Incoming JSON data from a node. Refer to [Data structure](/data/data-structure.md) for information on item structure. | :white\_check\_mark: (when running once for each item) |

| `$input.context.noItemsLeft` | Boolean. Only available when working with the Loop Over Items node. Provides information about what's happening in the node. Use this to determine whether the node is still processing items. | :white\_check\_mark: |

=== "Python"

| Method | Description |

| ------ | ----------- |

| `\_input.item` | The input item of the current node that's being processed. Refer to [Item linking](/data/data-mapping/data-item-linking/index.md) for more information on paired items and item linking. |

| `\_input.all()` | All input items in current node. |

| `\_input.first()` | First input item in current node. |

| `\_input.last()` | Last input item in current node. |

| `\_input.params` | Object containing the query settings of the previous node. This includes data such as the operation it ran, result limits, and so on. |

| `\_json` | Shorthand for `\_input.item.json`. Incoming JSON data from a node. Refer to [Data structure](/data/data-structure.md) for information on item structure. Available when you set \*\*Mode\*\* to \*\*Run Once for Each Item\*\*. |

| `\_input.context.noItemsLeft` | Boolean. Only available when working with the Loop Over Items node. Provides information about what's happening in the node. Use this to determine whether the node is still processing items. |

## date-time.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Methods for working with date and time.

contentType: reference

hide:

- toc

---

# Built-in date and time methods

Methods for working with date and time.

/// note | Python support

You can use Python in the Code node. It isn't available in expressions.

///

=== "JavaScript"

| Method | Description | Available in Code node? |

| ------ | ----------- | :-------------------------: |

| `$now` | A Luxon object containing the current timestamp. Equivalent to `DateTime.now()`. | :white\_check\_mark: |

| `$today` | A Luxon object containing the current timestamp, rounded down to the day. Equivalent to `DateTime.now().set({ hour: 0, minute: 0, second: 0, millisecond: 0 })`. | :white\_check\_mark: |

=== "Python"

| Method | Description |

| ------ | ----------- |

| `\_now` | A Luxon object containing the current timestamp. Equivalent to `DateTime.now()`. |

| `\_today` | A Luxon object containing the current timestamp, rounded down to the day. Equivalent to `DateTime.now().set({ hour: 0, minute: 0, second: 0, millisecond: 0 })`. |

n8n passes dates between nodes as strings, so you need to parse them. Luxon helps you do this. Refer to [Date and time with Luxon](/code/cookbook/luxon.md) for more information.

n8n provides built-in convenience functions to support data transformation in expressions for dates. Refer to [Data transformation functions | Dates](/code/builtin/data-transformation-functions/dates.md) for more information.

## http-node-variables.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: n8n provides these methods to make it easier to perform common tasks in expressions.

contentType: reference

hide:

- toc

---

# HTTP node variables

Variables for working with HTTP node requests and responses when using pagination.

Refer to [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) for guidance on using the HTTP node, including configuring pagination.

Refer to [HTTP Request node cookbook | Pagination](/code/cookbook/http-node/pagination.md) for example pagination configurations.

/// note | HTTP node only

These variables are for use in expressions in the HTTP node. You can't use them in other nodes.

///

--8<-- "\_snippets/integrations/builtin/core-nodes/http/pagination-variables.md"

## jmespath.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: A method for working with the JMESPath library in n8n.

contentType: reference

hide:

- toc

---

# JMESPath method

This is an n8n-provided method for working with the [JMESPath](/code/cookbook/jmespath.md) library.

/// note | Python support

You can use Python in the Code node. It isn't available in expressions.

///

=== "JavaScript"

| Method | Description | Available in Code node? |

| ------ | ----------- | :-------------------------: |

| `$jmespath()` | Perform a search on a JSON object using JMESPath. | :white\_check\_mark: |

=== "Python"

| Method | Description |

| ------ | ----------- |

| `\_jmespath()` | Perform a search on a JSON object using JMESPath. |

## langchain-methods.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: n8n provides these methods to make it easier to perform common tasks in the LangChain Code node.

contentType: reference

hide:

- toc

---

# LangChain Code node methods

n8n provides these methods to make it easier to perform common tasks in the [LangChain Code node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.code.md).

/// note | LangChain Code node only

These variables are for use in expressions in the LangChain Code node. You can't use them in other nodes.

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/langchaincode/builtin-methods.md"

## n8n-metadata.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Methods for working with n8n metadata.

contentType: reference

hide:

- toc

---

# n8n metadata

Methods for working with n8n metadata.

This includes:

\* Access to n8n environment variables for self-hosted n8n.

\* Metadata about workflows, executions, and nodes.

\* Information about instance [Variables](/code/variables.md) and [External secrets](/external-secrets.md).

/// note | Python support

You can use Python in the Code node. It isn't available in expressions.

///

=== "JavaScript"

| Method | Description | Available in Code node? |

| ------ | ----------- | :-------------------------: |

| `$env` | Contains n8n instance configuration [environment variables](/hosting/configuration/environment-variables/index.md). | :white\_check\_mark: |

| `$execution.customData` | Set and get custom execution data. Refer to [Custom executions data](/workflows/executions/custom-executions-data.md) for more information. | :white\_check\_mark: |

| `$execution.id` | The unique ID of the current workflow execution. | :white\_check\_mark: |

| `$execution.mode` | Whether the execution was triggered automatically, or by manually running the workflow. Possible values are `test` and `production`. | :white\_check\_mark: |

| `$execution.resumeUrl` | The webhook URL to call to resume a workflow waiting at a [Wait node](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md). | :white\_check\_mark: |

| `$getWorkflowStaticData(type)` | View an [example](/code/cookbook/builtin/get-workflow-static-data.md). Static data doesn't persist when testing workflows. The workflow must be active and called by a trigger or webhook to save static data. This gives access to the static workflow data. | :white\_check\_mark: |

| `$("<node-name>").isExecuted` | Check whether a node has already executed. | :white\_check\_mark: |

| `$itemIndex` | The index of an item in a list of items. | :x: |

| `$nodeVersion` | Get the version of the current node. | :white\_check\_mark: |

| `$prevNode.name` | The name of the node that the current input came from. When using the Merge node, note that `$prevNode` always uses the first input connector. | :white\_check\_mark: |

| `$prevNode.outputIndex` | The index of the output connector that the current input came from. Use this when the previous node had multiple outputs (such as an If or Switch node). When using the Merge node, note that `$prevNode` always uses the first input connector. | :white\_check\_mark: |

| `$prevNode.runIndex` | The run of the previous node that generated the current input. When using the Merge node, note that `$prevNode` always uses the first input connector. | :white\_check\_mark: |

| `$runIndex` | How many times n8n has executed the current node. Zero-based (the first run is 0, the second is 1, and so on). | :white\_check\_mark: |

| `$secrets` | Contains information about your [External secrets](/external-secrets.md) setup. | :white\_check\_mark: |

| `$vars` | Contains the [Variables](/code/variables.md) available in the active environment. | :white\_check\_mark: |

| `$version` | The node version. | :x: |

| `$workflow.active` | Whether the workflow is active (true) or not (false). | :white\_check\_mark: |

| `$workflow.id` | The workflow ID. | :white\_check\_mark: |

| `$workflow.name` | The workflow name. | :white\_check\_mark: |

=== "Python"

| Method | Description |

| ------ | ----------- |

| `\_env` | Contains n8n instance configuration [environment variables](/hosting/configuration/environment-variables/index.md). |

| `\_execution.customData` | Set and get custom execution data. Refer to [Custom executions data](/workflows/executions/custom-executions-data.md) for more information. |

| `\_execution.id` | The unique ID of the current workflow execution. |

| `\_execution.mode` | Whether the execution was triggered automatically, or by manually running the workflow. Possible values are `test` and `production`. |

| `\_execution.resumeUrl` | The webhook URL to call to resume a workflow waiting at a [Wait node](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md). |

| `\_getWorkflowStaticData(type)` | View an [example](/code/cookbook/builtin/get-workflow-static-data.md). Static data doesn't persist when testing workflows. The workflow must be active and called by a trigger or webhook to save static data. This gives access to the static workflow data. |

| `\_("<node-name>").isExecuted` | Check whether a node has already executed. |

| `\_nodeVersion` | Get the version of the current node. | :white\_check\_mark: |

| `\_prevNode.name` | The name of the node that the current input came from. When using the Merge node, note that `\_prevNode` always uses the first input connector. |

| `\_prevNode.outputIndex` | The index of the output connector that the current input came from. Use this when the previous node had multiple outputs (such as an If or Switch node). When using the Merge node, note that `\_prevNode` always uses the first input connector. |

| `\_prevNode.runIndex` | The run of the previous node that generated the current input. When using the Merge node, note that `\_prevNode` always uses the first input connector. |

| `\_runIndex` | How many times n8n has executed the current node. Zero-based (the first run is 0, the second is 1, and so on). |

| `\_secrets` | Contains information about your [External secrets](/external-secrets.md) setup. |

| `\_vars` | Contains the [Variables](/code/variables.md) available in the active environment. |

| `\_workflow.active` | Whether the workflow is active (true) or not (false). |

| `\_workflow.id` | The workflow ID. |

| `\_workflow.name` | The workflow name. |

## output-other-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Methods for working with the output of other nodes.

contentType: reference

hide:

- toc

---

# Output of other nodes

Methods for working with the output of other nodes. Some methods and variables aren't available in the Code node.

/// note | Python support

You can use Python in the Code node. It isn't available in expressions.

///

=== "JavaScript"

| Method | Description | Available in Code node? |

| ------ | ----------- | :-------------------------: |

| `$("<node-name>").all(branchIndex?, runIndex?)` | Returns all items from a given node. If `branchIndex` isn't given it will default to the output that connects `node-name` with the node where you use the expression or code. | :white\_check\_mark: |

| `$("<node-name>").first(branchIndex?, runIndex?)` | The first item output by the given node. If `branchIndex` isn't given it will default to the output that connects `node-name` with the node where you use the expression or code. | :white\_check\_mark: |

| `$("<node-name>").last(branchIndex?, runIndex?)` | The last item output by the given node. If `branchIndex` isn't given it will default to the output that connects `node-name` with the node where you use the expression or code. | :white\_check\_mark: |

| `$("<node-name>").item` | The linked item. This is the item in the specified node used to produce the current item. Refer to [Item linking](/data/data-mapping/data-item-linking/index.md) for more information on item linking. | :x: |

| `$("<node-name>").params` | Object containing the query settings of the given node. This includes data such as the operation it ran, result limits, and so on. | :white\_check\_mark: |

| `$("<node-name>").context` | Boolean. Only available when working with the Loop Over Items node. Provides information about what's happening in the node. Use this to determine whether the node is still processing items. | :white\_check\_mark: |

| `$("<node-name>").itemMatching(currentNodeInputIndex)` | Use instead of `$("<node-name>").item` in the Code node if you need to trace back from an input item. | :white\_check\_mark: |

=== "Python"

| Method | Description | Available in Code node? |

| ------ | ----------- | :-------------------------: |

| `\_("<node-name>").all(branchIndex?, runIndex?)` | Returns all items from a given node. If `branchIndex` isn't given it will default to the output that connects`node-name` with the node where you use the expression or code. | :white\_check\_mark: |

| `\_("<node-name>").first(branchIndex?, runIndex?)` | The first item output by the given node. If `branchIndex` isn't given it will default to the output that connects`node-name` with the node where you use the expression or code. | :white\_check\_mark: |

| `\_("<node-name>").last(branchIndex?, runIndex?)` | The last item output by the given node. If `branchIndex` isn't given it will default to the output that connects`node-name` with the node where you use the expression or code. | :white\_check\_mark: |

| `\_("<node-name>").item` | The linked item. This is the item in the specified node used to produce the current item. Refer to [Item linking](/data/data-mapping/data-item-linking/index.md) for more information on item linking. | :x: |

| `\_("<node-name>").params` | Object containing the query settings of the given node. This includes data such as the operation it ran, result limits, and so on. | :white\_check\_mark: |

| `\_("<node-name>").context` | Boolean. Only available when working with the Loop Over Items node. Provides information about what's happening in the node. Use this to determine whether the node is still processing items. | :white\_check\_mark: |

| `\_("<node-name>").itemMatching(currentNodeInputIndex)` | Use instead of `\_("<node-name>").item` in the Code node if you need to trace back from an input item. Refer to [Retrieve linked items from earlier in the workflow](/code/cookbook/builtin/itemmatching.md) for an example. | :white\_check\_mark: |

## overview.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: n8n's built-in custom methods and variables.

contentType: overview

---

# Built-in methods and variables

n8n provides built-in methods and variables for working with data and accessing n8n data. This section provides a reference of available methods and variables for use in [expressions](/glossary.md#expression-n8n), with a short description.

/// note | Availability in the expressions editor and the Code node

Some methods and variables aren't available in the Code node. These aren't in the documentation.

All data transformation functions are only available in the expressions editor.

///

The [Cookbook](/code/index.md) contains examples for some common tasks, including some [Code node only](/code/cookbook/code-node/index.md) functions.

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## arrays.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data transformation functions for arrays

description: A reference document listing built-in convenience functions to support data transformation in expressions for arrays.

contentType: reference

---

# Arrays

A reference document listing built-in convenience functions to support data transformation in [expressions](/glossary.md#expression-n8n) for arrays.

/// note | JavaScript in expressions

You can use any JavaScript in expressions. Refer to [Expressions](/code/expressions.md) for more information.

///

[[% import "\_macros/data-functions.html" as dataFunctions %]]

[[% for func in df\_array %]]

[[ dataFunctions.dataFunctions("array", func.funcName, func.returns, func.description, func.args, func.examples ) ]]

[[% endfor %]]

## booleans.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data transformation functions for booleans

description: A reference document listing built-in convenience functions to support data transformation in expressions for booleans.

contentType: reference

---

# Booleans

A reference document listing built-in convenience functions to support data transformation in [expressions](/glossary.md#expression-n8n) for arrays.

/// note | JavaScript in expressions

You can use any JavaScript in expressions. Refer to [Expressions](/code/expressions.md) for more information.

///

[[% import "\_macros/data-functions.html" as dataFunctions %]]

[[% for func in df\_boolean %]]

[[ dataFunctions.dataFunctions("boolean", func.funcName, func.returns, func.description, func.args, func.examples ) ]]

[[% endfor %]]

## dates.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data transformation functions for dates

description: A reference document listing built-in convenience functions to support data transformation in expressions for dates.

contentType: reference

---

# Dates

A reference document listing built-in convenience functions to support data transformation in [expressions](/glossary.md#expression-n8n) for dates.

/// note | JavaScript in expressions

You can use any JavaScript in expressions. Refer to [Expressions](/code/expressions.md) for more information.

///

[[% import "\_macros/data-functions.html" as dataFunctions %]]

[[% for func in df\_date %]]

[[ dataFunctions.dataFunctions("date", func.funcName, func.returns, func.description, func.args, func.examples ) ]]

[[% endfor %]]

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data transformation functions

description: Introduction to data transformation functions for expressions.

contentType: overview

---

# Data transformation functions

Data transformation functions are helper functions to make data transformation easier in [expressions](/glossary.md#expression-n8n).

/// note | JavaScript in expressions

You can use any JavaScript in expressions. Refer to [Expressions](/code/expressions.md) for more information.

///

For a list of available functions, refer to the page for your data type:

\* [Arrays](/code/builtin/data-transformation-functions/arrays.md)

\* [Dates](/code/builtin/data-transformation-functions/dates.md)

\* [Numbers](/code/builtin/data-transformation-functions/numbers.md)

\* [Objects](/code/builtin/data-transformation-functions/objects.md)

\* [Strings](/code/builtin/data-transformation-functions/strings.md)

## Usage

Data transformation functions are available in the expressions editor.

The syntax is:

```js

{{ dataItem.function() }}

```

For example, to check if a string is an email:

```js

{{ "example@example.com".isEmail() }}

// Returns true

```

## numbers.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data transformation functions for numbers

description: A reference document listing built-in convenience functions to support data transformation in expressions for numbers.

contentType: reference

---

# Numbers

A reference document listing built-in convenience functions to support data transformation in [expressions](/glossary.md#expression-n8n) for numbers.

/// note | JavaScript in expressions

You can use any JavaScript in expressions. Refer to [Expressions](/code/expressions.md) for more information.

///

[[% import "\_macros/data-functions.html" as dataFunctions %]]

[[% for func in df\_number %]]

[[ dataFunctions.dataFunctions("number", func.funcName, func.returns, func.description, func.args, func.examples ) ]]

[[% endfor %]]

## objects.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data transformation functions for objects

description: A reference document listing built-in convenience functions to support data transformation in expressions for objects.

contentType: reference

---

# Objects

A reference document listing built-in convenience functions to support data transformation in expressions for objects.

/// note | JavaScript in expressions

You can use any JavaScript in expressions. Refer to [Expressions](/code/expressions.md) for more information.

///

[[% import "\_macros/data-functions.html" as dataFunctions %]]

[[% for func in df\_object %]]

[[ dataFunctions.dataFunctions("object", func.funcName, func.returns, func.description, func.args, func.examples ) ]]

[[% endfor %]]

## strings.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data transformation functions for strings

description: A reference document listing built-in convenience functions to support data transformation in expressions for strings.

contentType: reference

---

# Strings

A reference document listing built-in convenience functions to support data transformation in [expressions](/glossary.md#expression-n8n) for strings.

/// note | JavaScript in expressions

You can use any JavaScript in expressions. Refer to [Expressions](/code/expressions.md) for more information.

///

[[% import "\_macros/data-functions.html" as dataFunctions %]]

[[% for func in df\_string %]]

[[ dataFunctions.dataFunctions("string", func.funcName, func.returns, func.description, func.args, func.examples ) ]]

[[% endfor %]]

## jmespath.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Query JSON with JMESPath

description: n8n supports the JMESPath library, to simplify working with JSON formatted data.

contentType: howto

---

# Query JSON with JMESPath

[JMESPath](https://jmespath.org/){:target=\_blank .external-link} is a query language for JSON that you can use to extract and transform elements from a JSON document. For full details of how to use JMESPath, refer to the [JMESPath documentation](https://jmespath.org/tutorial.html){:target=\_blank .external-link}.

## The `jmespath()` method

n8n provides a custom method, `jmespath()`. Use this method to perform a search on a JSON object using the JMESPath query language.

The basic syntax is:

=== "JavaScript"

```js

$jmespath(object, searchString)

```

=== "Python"

```python

\_jmespath(object, searchString)

```

To help understand what the method does, here is the equivalent longer JavaScript:

```js

var jmespath = require('jmespath');

jmespath.search(object, searchString);

```

/// note | Expressions must be single-line

The longer code example doesn't work in Expressions, as they must be single-line.

///

`object` is a JSON object, such as the output of a previous node. `searchString` is an expression written in the JMESPath query language. The [JMESPath Specification](https://jmespath.org/specification.html#jmespath-specification){:target=\_blank .external-link} provides a list of supported expressions, while their [Tutorial](https://jmespath.org/tutorial.html) and [Examples](https://jmespath.org/examples.html){:target=\_blank .external-link} provide interactive examples.

/// warning | Search parameter order

The examples in the [JMESPath Specification](https://jmespath.org/specification.html#jmespath-specification){:target=\_blank .external-link} follow the pattern `search(searchString, object)`. The [JMESPath JavaScript library](https://github.com/jmespath/jmespath.js/){:target=\_blank .external-link}, which n8n uses, supports `search(object, searchString)` instead. This means that when using examples from the JMESPath documentation, you may need to change the order of the search function parameters.

///

## Common tasks

This section provides examples for some common operations. More examples, and detailed guidance, are available in [JMESPath's own documentation](https://jmespath.org/tutorial.html){:target=\_blank .external-link}.

When trying out these examples, you need to set the Code node \*\*Mode\*\* to \*\*Run Once for Each Item\*\*.

### Apply a JMESPath expression to a collection of elements with projections

From the [JMESPath projections documentation](https://jmespath.org/tutorial.html#projections){:target=\_blank .external-link}:

> Projections are one of the key features of JMESPath. Use it to apply an expression to a collection of elements. JMESPath supports five kinds of projections:

>

> \* List Projections

> \* Slice Projections

> \* Object Projections

> \* Flatten Projections

> \* Filter Projections

The following example shows basic usage of list, slice, and object projections. Refer to the [JMESPath projections documentation](https://jmespath.org/tutorial.html#projections){:target=\_blank .external-link} for detailed explanations of each projection type, and more examples.

Given this JSON from a webhook node:

```js

[

{

"headers": {

"host": "n8n.instance.address",

...

},

"params": {},

"query": {},

"body": {

"people": [

{

"first": "James",

"last": "Green"

},

{

"first": "Jacob",

"last": "Jones"

},

{

"first": "Jayden",

"last": "Smith"

}

],

"dogs": {

"Fido": {

"color": "brown",

"age": 7

},

"Spot": {

"color": "black and white",

"age": 5

}

}

}

}

]

```

Retrieve a [list](https://jmespath.org/tutorial.html#list-and-slice-projections){:target=\_blank .external-link} of all the people's first names:

=== "Expressions (JavaScript)"

```js

{{$jmespath($json.body.people, "[\*].first" )}}

// Returns ["James", "Jacob", "Jayden"]

```

=== "Code node (JavaScript)"

```js

let firstNames = $jmespath($json.body.people, "[\*].first" )

return {firstNames};

/\* Returns:

[

{

"firstNames": [

"James",

"Jacob",

"Jayden"

]

}

]

\*/

```

=== "Code node (Python)"

```python

firstNames = \_jmespath(\_json.body.people, "[\*].first" )

return {"firstNames":firstNames}

"""

Returns:

[

{

"firstNames": [

"James",

"Jacob",

"Jayden"

]

}

]

"""

```

Get a [slice](https://jmespath.org/tutorial.html#list-and-slice-projections){:target=\_blank .external-link} of the first names:

=== "Expressions (JavaScript)"

```js

{{$jmespath($json.body.people, "[:2].first")}}

// Returns ["James", "Jacob"]

```

=== "Code node (JavaScript)"

```js

let firstTwoNames = $jmespath($json.body.people, "[:2].first");

return {firstTwoNames};

/\* Returns:

[

{

"firstNames": [

"James",

"Jacob",

"Jayden"

]

}

]

\*/

```

=== "Code node (Python)"

```python

firstTwoNames = \_jmespath(\_json.body.people, "[:2].first" )

return {"firstTwoNames":firstTwoNames}

"""

Returns:

[

{

"firstTwoNames": [

"James",

"Jacob"

]

}

]

"""

```

Get a list of the dogs' ages using [object projections](https://jmespath.org/tutorial.html#object-projections){:target=\_blank .external-link}:

=== "Expressions (JavaScript)"

```js

{{$jmespath($json.body.dogs, "\*.age")}}

// Returns [7,5]

```

=== "Code node (JavaScript)"

```js

let dogsAges = $jmespath($json.body.dogs, "\*.age");

return {dogsAges};

/\* Returns:

[

{

"dogsAges": [

7,

5

]

}

]

\*/

```

=== "Code node (Python)"

```python

dogsAges = \_jmespath(\_json.body.dogs, "\*.age")

return {"dogsAges": dogsAges}

"""

Returns:

[

{

"dogsAges": [

7,

5

]

}

]

"""

```

### Select multiple elements and create a new list or object

Use [Multiselect](https://jmespath.org/tutorial.html#multiselect){:target=\_blank .external-link} to select elements from a JSON object and combine them into a new list or object.

Given this JSON from a webhook node:

```js

[

{

"headers": {

"host": "n8n.instance.address",

...

},

"params": {},

"query": {},

"body": {

"people": [

{

"first": "James",

"last": "Green"

},

{

"first": "Jacob",

"last": "Jones"

},

{

"first": "Jayden",

"last": "Smith"

}

],

"dogs": {

"Fido": {

"color": "brown",

"age": 7

},

"Spot": {

"color": "black and white",

"age": 5

}

}

}

}

]

```

<!-- vale off -->

Use multiselect list to get the first and last names and create new lists containing both names:

<!-- vale on -->

=== "Expressions (JavaScript)"

[[% raw %]]

```js

{{$jmespath($json.body.people, "[].[first, last]")}}

// Returns [["James","Green"],["Jacob","Jones"],["Jayden","Smith"]]

```

[[% endraw %]]

=== "Code node (JavaScript)"

```js

let newList = $jmespath($json.body.people, "[].[first, last]");

return {newList};

/\* Returns:

[

{

"newList": [

[

"James",

"Green"

],

[

"Jacob",

"Jones"

],

[

"Jayden",

"Smith"

]

]

}

]

\*/

```

=== "Code node (Python)"

```python

newList = \_jmespath(\_json.body.people, "[].[first, last]")

return {"newList":newList}

"""

Returns:

[

{

"newList": [

[

"James",

"Green"

],

[

"Jacob",

"Jones"

],

[

"Jayden",

"Smith"

]

]

}

]

"""

```

### An alternative to arrow functions in expressions

For example, generate some input data by returning the below code from the Code node:

```js

return[

{

"json": {

"num\_categories": "0",

"num\_products": "45",

"category\_id": 5529735,

"parent\_id": 1407340,

"pos\_enabled": 1,

"pos\_favorite": 0,

"name": "HP",

"description": "",

"image": ""

}

},

{

"json": {

"num\_categories": "0",

"num\_products": "86",

"category\_id": 5529740,

"parent\_id": 1407340,

"pos\_enabled": 1,

"pos\_favorite": 0,

"name": "Lenovo",

"description": "",

"image": ""

}

}

]

```

You could do a search like "find the item with the name Lenovo and tell me their category ID."

```js

{{ $jmespath($("Code").all(), "[?json.name=='Lenovo'].json.category\_id") }}

```

## luxon.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Date and time with Luxon

description: Use Luxon to work with date and time in n8n.

contentType: howto

---

# Date and time with Luxon

[Luxon](https://github.com/moment/luxon/){:target=\_blank .external-link} is a JavaScript library that makes it easier to work with date and time. For full details of how to use Luxon, refer to [Luxon's documentation](https://moment.github.io/luxon/#/?id=luxon){:target=\_blank .external-link}.

n8n passes dates between nodes as strings, so you need to parse them. Luxon makes this easier.

/// note | Python support

Luxon is a JavaScript library. The two convenience [variables](#variables) created by n8n are available when using Python in the Code node, but their functionality is limited:

\* You can't perform Luxon operations on these variables. For example, there is no Python equivalent for `$today.minus(...)`.

\* The generic Luxon functionality, such as [Convert date string to Luxon](#convert-date-string-to-luxon), isn't available for Python users.

///

## Variables

n8n uses Luxon to provide two custom variables:

- `now`: a Luxon object containing the current timestamp. Equivalent to `DateTime.now()`.

- `today`: a Luxon object containing the current timestamp, rounded down to the day. Equivalent to `DateTime.now().set({ hour: 0, minute: 0, second: 0, millisecond: 0 })`.

Note that these variables can return different time formats when cast as a string. This is the same behavior as Luxon's `DateTime.now()`.

=== "Expressions (JavaScript)"

``` js

{{$now}}

// n8n displays the ISO formatted timestamp

// For example 2022-03-09T14:02:37.065+00:00

{{"Today's date is " + $now}}

// n8n displays "Today's date is <unix timestamp>"

// For example "Today's date is 1646834498755"

```

=== "Code node (JavaScript)"

``` js

$now

// n8n displays <ISO formatted timestamp>

// For example 2022-03-09T14:00:25.058+00:00

let rightNow = "Today's date is " + $now

// n8n displays "Today's date is <unix timestamp>"

// For example "Today's date is 1646834498755"

```

=== "Code node (Python)"

``` python

\_now

# n8n displays <ISO formatted timestamp>

# For example 2022-03-09T14:00:25.058+00:00

rightNow = "Today's date is " + str(\_now)

# n8n displays "Today's date is <unix timestamp>"

# For example "Today's date is 1646834498755"

```

n8n provides built-in convenience functions to support data transformation in expressions for dates. Refer to [Data transformation functions | Dates](/code/builtin/data-transformation-functions/dates.md) for more information.

## Date and time behavior in n8n

Be aware of the following:

\* In a workflow, n8n converts dates and times to strings between nodes. Keep this in mind when doing arithmetic on dates and times from other nodes.

\* With vanilla JavaScript, you can convert a string to a date with `new Date('2019-06-23')`. In Luxon, you must use a function explicitly stating the format, such as `DateTime.fromISO('2019-06-23')` or `DateTime.fromFormat("23-06-2019", "dd-MM-yyyy")`.

## Setting the timezone in n8n

Luxon uses the n8n timezone. This value is either:

\* Default: `America/New York`

\* A custom timezone for your n8n instance, set using the `GENERIC\_TIMEZONE` environment variable.

\* A custom timezone for an individual workflow, configured in workflow settings.

## Common tasks

This section provides examples for some common operations. More examples, and detailed guidance, are available in [Luxon's own documentation](https://moment.github.io/luxon/#/?id=luxon){:target="\_blank" .external-link}.

### Convert date string to Luxon

You can convert date strings and other date formats to a Luxon DateTime object. You can convert from standard formats and from arbitrary strings.

/// note | A difference between Luxon DateTime and JavaScript Date

With vanilla JavaScript, you can convert a string to a date with `new Date('2019-06-23')`. In Luxon, you must use a function explicitly stating the format, such as `DateTime.fromISO('2019-06-23')` or `DateTime.fromFormat("23-06-2019", "dd-MM-yyyy")`.

///

#### If you have a date in a supported standard technical format:

Most dates use `fromISO()`. This creates a Luxon DateTime from an ISO 8601 string. For example:

=== "Expressions (JavaScript)"

```js

{{DateTime.fromISO('2019-06-23T00:00:00.00')}}

```

=== "Code node (JavaScript)"

```js

let luxonDateTime = DateTime.fromISO('2019-06-23T00:00:00.00')

```

Luxon's API documentation has more information on [fromISO](https://moment.github.io/luxon/api-docs/index.html#datetimefromiso){:target="\_blank" .external-link}.

Luxon provides functions to handle conversions for a range of formats. Refer to Luxon's guide to [Parsing technical formats](https://moment.github.io/luxon/#/parsing?id=parsing-technical-formats) for details.

#### If you have a date as a string that doesn't use a standard format:

Use Luxon's [Ad-hoc parsing](https://moment.github.io/luxon/#/parsing?id=ad-hoc-parsing){:target="\_blank" .external-link}. To do this, use the `fromFormat()` function, providing the string and a set of [tokens](https://moment.github.io/luxon/#/parsing?id=table-of-tokens){:target="\_blank" .external-link} that describe the format.

For example, you have n8n's founding date, 23rd June 2019, formatted as `23-06-2019`. You want to turn this into a Luxon object:

=== "Expressions (JavaScript)"

```js

{{DateTime.fromFormat("23-06-2019", "dd-MM-yyyy")}}

```

=== "Code node (JavaScript)"

```js

let newFormat = DateTime.fromFormat("23-06-2019", "dd-MM-yyyy")

```

When using ad-hoc parsing, note Luxon's warning about [Limitations](https://moment.github.io/luxon/#/parsing?id=limitations){:target="\_blank" .external-link}. If you see unexpected results, try their [Debugging](https://moment.github.io/luxon/#/parsing?id=debugging){:target="\_blank" .external-link} guide.

### Get n days from today

Get a number of days before or after today.

=== "Expressions (JavaScript)"

For example, you want to set a field to always show the date seven days before the current date.

In the expressions editor, enter:

``` js

{{$today.minus({days: 7})}}

```

On the 23rd June 2019, this returns `[Object: "2019-06-16T00:00:00.000+00:00"]`.

This example uses n8n's custom variable `$today` for convenience. It's the equivalent of `DateTime.now().set({ hour: 0, minute: 0, second: 0, millisecond: 0 }).minus({days: 7})`.

=== "Code node (JavaScript)"

For example, you want a variable containing the date seven days before the current date.

In the code editor, enter:

``` js

let sevenDaysAgo = $today.minus({days: 7})

```

On the 23rd June 2019, this returns `[Object: "2019-06-16T00:00:00.000+00:00"]`.

This example uses n8n's custom variable `$today` for convenience. It's the equivalent of `DateTime.now().set({ hour: 0, minute: 0, second: 0, millisecond: 0 }).minus({days: 7})`.

For more detailed information and examples, refer to:

\* Luxon's [guide to math](https://moment.github.io/luxon/#/math)

\* Their API documentation on [DateTime plus](https://moment.github.io/luxon/api-docs/index.html#datetimeplus) and [DateTime minus](https://moment.github.io/luxon/api-docs/index.html#datetimeminus)

### Create human-readable dates

In [Get n days from today](#get-n-days-from-today), the example gets the date seven days before the current date, and returns it as `[Object: "yyyy-mm-dd-T00:00:00.000+00:00"]` (for expressions) or `yyyy-mm-dd-T00:00:00.000+00:00` (in the Code node). To make this more readable, you can use Luxon's formatting functions.

For example, you want the field containing the date to be formatted as DD/MM/YYYY, so that on the 23rd June 2019, it returns `23/06/2019`.

This expression gets the date seven days before today, and converts it to the DD/MM/YYYY format.

=== "Expressions (JavaScript)"

```js

{{$today.minus({days: 7}).toLocaleString()}}

```

=== "Code node (JavaScript)"

```js

let readableSevenDaysAgo = $today.minus({days: 7}).toLocaleString()

```

You can alter the format. For example:

=== "Expressions (JavaScript)"

```js

{{$today.minus({days: 7}).toLocaleString({month: 'long', day: 'numeric', year: 'numeric'})}}

```

On 23rd June 2019, this returns "16 June 2019".

=== "Code node (JavaScript)"

```js

let readableSevenDaysAgo = $today.minus({days: 7}).toLocaleString({month: 'long', day: 'numeric', year: 'numeric'})

```

On 23rd June 2019, this returns "16 June 2019".

Refer to Luxon's guide on [toLocaleString (strings for humans)](https://moment.github.io/luxon/#/formatting?id=tolocalestring-strings-for-humans){:target="\_blank" .external-link} for more information.

### Get the time between two dates

To get the time between two dates, use Luxon's diffs feature. This subtracts one date from another and returns a duration.

For example, get the number of months between two dates:

=== "Expressions (JavaScript)"

```js

{{DateTime.fromISO('2019-06-23').diff(DateTime.fromISO('2019-05-23'), 'months').toObject()}}

```

This returns `[Object: {"months":1}]`.

=== "Code node (JavaScript)"

```js

let monthsBetweenDates = DateTime.fromISO('2019-06-23').diff(DateTime.fromISO('2019-05-23'), 'months').toObject()

```

This returns `{"months":1}`.

Refer to Luxon's [Diffs](https://moment.github.io/luxon/#/math?id=diffs){:target=\_blank .external-link} for more information.

### A longer example: How many days to Christmas?

This example brings together several Luxon features, uses JMESPath, and does some basic string manipulation.

The scenario: you want a countdown to 25th December. Every day, it should tell you the number of days remaining to Christmas. You don't want to update it for next year - it needs to seamlessly work for every year.

=== "Expressions (JavaScript)"

```js

{{"There are " + $today.diff(DateTime.fromISO($today.year + '-12-25'), 'days').toObject().days.toString().substring(1) + " days to Christmas!"}}

```

This outputs `"There are <number of days> days to Christmas!"`. For example, on 9th March, it outputs "There are 291 days to Christmas!".

A detailed explanation of what the expression does:

\* `{{`: indicates the start of the expression.

\* `"There are "`: a string.

\* `+`: used to join two strings.

\* `$today.diff()`: This is similar to the example in [Get the time between two dates](#get-the-time-between-two-dates), but it uses n8n's custom `$today` variable.

\* `DateTime.fromISO($today.year + '-12-25'), 'days'`: this part gets the current year using `$today.year`, turns it into an ISO string along with the month and date, and then takes the whole ISO string and converts it to a Luxon DateTime data structure. It also tells Luxon that you want the duration in days.

\* `toObject()` turns the result of diff() into a more usable object. At this point, the expression returns `[Object: {"days":-<number-of-days>}]`. For example, on 9th March, `[Object: {"days":-291}]`.

\* `.days` uses JMESPath syntax to retrieve just the number of days from the object. For more information on using JMESPath with n8n, refer to our [JMESpath](/code/cookbook/jmespath.md) documentation. This gives you the number of days to Christmas, as a negative number.

\* `.toString().substring(1)` turns the number into a string and removes the `-`.

\* `+ " days to Christmas!"`: another string, with a `+` to join it to the previous string.

\* `}}`: indicates the end of the expression.

=== "Code node (JavaScript)"

```js

let daysToChristmas = "There are " + $today.diff(DateTime.fromISO($today.year + '-12-25'), 'days').toObject().days.toString().substring(1) + " days to Christmas!";

```

This outputs `"There are <number of days> days to Christmas!"`. For example, on 9th March, it outputs "There are 291 days to Christmas!".

A detailed explanation of what the code does:

\* `"There are "`: a string.

\* `+`: used to join two strings.

\* `$today.diff()`: This is similar to the example in [Get the time between two dates](#get-the-time-between-two-dates), but it uses n8n's custom `$today` variable.

\* `DateTime.fromISO($today.year + '-12-25'), 'days'`: this part gets the current year using `$today.year`, turns it into an ISO string along with the month and date, and then takes the whole ISO string and converts it to a Luxon DateTime data structure. It also tells Luxon that you want the duration in days.

\* `toObject()` turns the result of diff() into a more usable object. At this point, the expression returns `[Object: {"days":-<number-of-days>}]`. For example, on 9th March, `[Object: {"days":-291}]`.

\* `.days` uses JMESPath syntax to retrieve just the number of days from the object. For more information on using JMESPath with n8n, refer to our [JMESpath](/code/cookbook/jmespath.md) documentation. This gives you the number of days to Christmas, as a negative number.

\* `.toString().substring(1)` turns the number into a string and removes the `-`.

\* `+ " days to Christmas!"`: another string, with a `+` to join it to the previous string.

## all.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

---

# `("<node-name>").all(branchIndex?: number, runIndex?: number)`

This gives access to all the items of the current or parent nodes. If you don't supply any parameters, it returns all the items of the current node.

## Getting items

=== "JavaScript"

```js

// Returns all the items of the given node and current run

let allItems = $("<node-name>").all();

// Returns all items the node "IF" outputs (index: 0 which is Output "true" of its most recent run)

let allItems = $("IF").all();

// Returns all items the node "IF" outputs (index: 0 which is Output "true" of the same run as current node)

let allItems = $("IF").all(0, $runIndex);

// Returns all items the node "IF" outputs (index: 1 which is Output "false" of run 0 which is the first run)

let allItems = $("IF").all(1, 0);

```

=== "Python"

```python

# Returns all the items of the given node and current run

allItems = \_("<node-name>").all();

# Returns all items the node "IF" outputs (index: 0 which is Output "true" of its most recent run)

allItems = \_("IF").all();

# Returns all items the node "IF" outputs (index: 0 which is Output "true" of the same run as current node)

allItems = \_("IF").all(0, \_runIndex);

# Returns all items the node "IF" outputs (index: 1 which is Output "false" of run 0 which is the first run)

allItems = \_("IF").all(1, 0);

```

## Accessing item data

Get all items output by a previous node, and log out the data they contain:

=== "JavaScript"

```typescript

previousNodeData = $("<node-name>").all();

for(let i=0; i<previousNodeData.length; i++) {

console.log(previousNodeData[i].json);

}

```

=== "Python"

```python

previousNodeData = \_("<node-name>").all();

for item in previousNodeData:

# item is of type <class 'pyodide.ffi.JsProxy'>

# You need to convert it to a Dict

itemDict = item.json.to\_py()

print(itemDict)

```

## execution.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

---

# `execution`

## `execution.id`

Contains the unique ID of the current workflow execution.

=== "JavaScript"

```js

let executionId = $execution.id;

```

=== "Python"

```python

executionId = \_execution.id

```

## `execution.resumeUrl`

The webhook URL to call to resume a [waiting](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) workflow.

See the [Wait > On webhook call](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md#on-webhook-call) documentation to learn more.

## `execution.customData`

This is only available in the Code node.

=== "JavaScript"

```js

// Set a single piece of custom execution data

$execution.customData.set("key", "value");

// Set the custom execution data object

$execution.customData.setAll({"key1": "value1", "key2": "value2"})

// Access the current state of the object during the execution

var customData = $execution.customData.getAll()

// Access a specific value set during this execution

var customData = $execution.customData.get("key")

```

=== "Python"

```python

# Set a single piece of custom execution data

\_execution.customData.set("key", "value");

# Set the custom execution data object

\_execution.customData.setAll({"key1": "value1", "key2": "value2"})

# Access the current state of the object during the execution

customData = \_execution.customData.getAll()

# Access a specific value set during this execution

customData = \_execution.customData.get("key")

```

Refer to [Custom executions data](/workflows/executions/custom-executions-data.md) for more information.

## get-workflow-static-data.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

tags:

- "static data"

- "global variables"

hide:

- tags

contentType: reference

---

# `getWorkflowStaticData(type)`

This gives access to the static workflow data.

/// note | Experimental feature

- Static data isn't available when testing workflows. The workflow must be active and called by a [trigger](/glossary.md#trigger-node-n8n) or webhook to save static data.

- This feature may behave unreliably under high-frequency workflow executions.

///

You can save data directly in the workflow. This data should be small.

As an example: you can save a timestamp of the last item processed from

an RSS feed or database. It will always return an object. Properties can then read, delete or

set on that object. When the workflow execution succeeds, n8n checks automatically if the data

has changed and saves it, if necessary.

There are two types of static data, global and node. Global static data is the

same in the whole workflow. Every node in the workflow can access it. The node static data is unique to the node. Only the node that set it can retrieve it again.

Example with global data:

=== "JavaScript"

```javascript

// Get the global workflow static data

const workflowStaticData = $getWorkflowStaticData('global');

// Access its data

const lastExecution = workflowStaticData.lastExecution;

// Update its data

workflowStaticData.lastExecution = new Date().getTime();

// Delete data

delete workflowStaticData.lastExecution;

```

=== "Python"

```python

# Get the global workflow static data

workflowStaticData = \_getWorkflowStaticData('global')

# Access its data

lastExecution = workflowStaticData.lastExecution

# Update its data

workflowStaticData.lastExecution = new Date().getTime()

# Delete data

delete workflowStaticData.lastExecution

```

Example with node data:

=== "JavaScript"

```js

// Get the static data of the node

const nodeStaticData = $getWorkflowStaticData('node');

// Access its data

const lastExecution = nodeStaticData.lastExecution;

// Update its data

nodeStaticData.lastExecution = new Date().getTime();

// Delete data

delete nodeStaticData.lastExecution;

```

=== "Python"

```python

# Get the static data of the node

nodeStaticData = \_getWorkflowStaticData('node')

# Access its data

lastExecution = nodeStaticData.lastExecution

# Update its data

nodeStaticData.lastExecution = new Date().getTime()

# Delete data

delete nodeStaticData.lastExecution

```

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ workflowDemo("https://api.n8n.io/workflows/templates/2538") ]]

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Examples using n8n's built-in methods and variables

n8n provides built-in methods and variables for working with data and accessing n8n data. This section provides usage examples.

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## Related resources

\* [Built-in methods and variables reference](/code/builtin/overview.md)

\* [Expressions](/code/expressions.md)

\* [Code node](/code/code-node.md)

## itemmatching.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to use `("<node-name>").itemMatching(currentNodeinputIndex)`

contentType: howto

---

# Retrieve linked items from earlier in the workflow

Every item in a node's input data links back to the items used in previous nodes to generate it. This is useful if you need to retrieve linked items from further back than the immediate previous node.

To access the linked items from earlier in the workflow, use `("<node-name>").itemMatching(currentNodeinputIndex)`.

For example, consider a workflow that does the following:

1. The Customer Datastore node generates example data:

```json

[

{

"id": "23423532",

"name": "Jay Gatsby",

"email": "gatsby@west-egg.com",

"notes": "Keeps asking about a green light??",

"country": "US",

"created": "1925-04-10"

},

{

"id": "23423533",

"name": "José Arcadio Buendía",

"email": "jab@macondo.co",

"notes": "Lots of people named after him. Very confusing",

"country": "CO",

"created": "1967-05-05"

},

...

]

```

2. The Edit Fields node simplifies this data:

```json

[

{

"name": "Jay Gatsby"

},

{

"name": "José Arcadio Buendía"

},

...

]

```

3. The Code node restore the email address to the correct person:

```json

[

{

"name": "Jay Gatsby",

"restoreEmail": "gatsby@west-egg.com"

},

{

"name": "José Arcadio Buendía",

"restoreEmail": "jab@macondo.co"

},

...

]

```

The Code node does this using the following code:

=== "JavaScript"

```js

for(let i=0; i<$input.all().length; i++) {

$input.all()[i].json.restoreEmail = $('Customer Datastore (n8n training)').itemMatching(i).json.email;

}

return $input.all();

```

=== "Python"

```python

for i,item in enumerate(\_input.all()):

\_input.all()[i].json.restoreEmail = \_('Customer Datastore (n8n training)').itemMatching(i).json.email

return \_input.all();

```

You can view and download the example workflow from [n8n website | itemMatchin usage example ](https://n8n.io/workflows/1966-itemmatching-usage-example/){:target=\_blank .external-link}.

## vars.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Access your environment's custom variables.

contentType: reference

---

# `vars`

/// info | Feature availability

\* Available on Self-hosted Enterprise and Pro and Enterprise Cloud plans.

\* You need access to the n8n instance owner account to create variables.

///

`vars` contains all [Variables](/code/variables.md) for the active environment. It's read-only: you can access variables using `vars`, but must set them using the UI.

=== "JavaScript"

```js

// Access a variable

$vars.<variable-name>

```

=== "Python"

```python

# Access a variable

\_vars.<variable-name>

```

/// note | `vars` and `env`

`vars` gives access to user-created variables. It's part of the [Environments](/source-control-environments/index.md) feature. `env` gives access to the [configuration environment variables](/hosting/configuration/environment-variables/index.md) for your n8n instance.

///

## console-log.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to use console.log() or print()

contentType: howto

---

# Output to the browser console with `console.log()` or `print()` in the Code node

You can use `console.log()` or `print()` in the Code node to help when writing and debugging your code.

For help opening your browser console, refer to [this guide by Balsamiq](https://balsamiq.com/support/faqs/browserconsole/){:target=\_blank .external-link}.

## console.log (JavaScript)

For technical information on `console.log()`, refer to the [MDN developer docs](https://developer.mozilla.org/en-US/docs/Web/API/Console/log){:target=\_blank .external-link}.

For example, copy the following code into a Code node, then open your console and run the node:

```js

let a = "apple";

console.log(a);

```

## print (Python)

For technical information on `print()`, refer to the [Real Python's guide](https://realpython.com/python-print/){:target=\_blank .external-link}.

For example, set your Code node \*\*Language\*\* to \*\*Python\*\*, copy the following code into the node, then open your console and run the node:

```python

a = "apple"

print(a)

```

### Handling an output of `[object Object]`

If the console displays `[object Object]` when you print, check the data type, then convert it as needed.

To check the data type:

```python

print(type(myData))

```

#### JsProxy

If `type()` outputs `<class 'pyodide.ffi.JsProxy'>`, you need to convert the JsProxy to a native Python object using `to\_py()`. This occurs when working with data in the n8n node data structure, such as node inputs and outputs. For example, if you want to print the data from a previous node in the workflow:

```python

previousNodeData = \_("<node-name>").all();

for item in previousNodeData:

# item is of type <class 'pyodide.ffi.JsProxy'>

# You need to convert it to a Dict

itemDict = item.json.to\_py()

print(itemDict)

```

Refer to the Pyodide documentation on [JsProxy](https://pyodide.org/en/stable/usage/api/python-api/ffi.html#pyodide.ffi.JsProxy){:target=\_blank .external-link} for more information on this class.

## get-binary-data-buffer.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Get the binary data buffer

The binary data buffer contains all the binary file data processed by a workflow. You need to access it if you want to perform operations on the binary data, such as:

\* Manipulating the data: for example, adding column headers to a CSV file.

\* Using the data in calculations: for example, calculating a hash value based on it.

\* Complex HTTP requests: for example, combining file upload with sending other data formats.

/// note | Not available in Python

`getBinaryDataBuffer()` isn't supported when using Python.

///

You can access the buffer using n8n's `getBinaryDataBuffer()` function:

```js

/\*

\* itemIndex: number. The index of the item in the input data.

\* binaryPropertyName: string. The name of the binary property.

\* The default in the Read/Write File From Disk node is 'data'.

\*/

let binaryDataBufferItem = await this.helpers.getBinaryDataBuffer(itemIndex, binaryPropertyName);

```

For example:

```js

let binaryDataBufferItem = await this.helpers.getBinaryDataBuffer(0, 'data');

// Returns the data in the binary buffer for the first input item

```

You should always use the `getBinaryDataBuffer()` function, and avoid using older methods of directly accessing the buffer, such as targeting it with expressions like `items[0].binary.data.data`.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Code examples you can use in the Code node.

contentType: overview

---

# Code node cookbook

This section contains examples and recipes for tasks you can do with the Code node.

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## Related resources

\* [Built-in methods and variables reference](/code/builtin/overview.md)

\* [Code node](/code/code-node.md)

## number-items-last-node.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Get number of items returned by the previous node

To get the number of items returned by the previous node:

=== "JavaScript"

```js

if (Object.keys(items[0].json).length === 0) {

return [

{

json: {

results: 0,

}

}

]

}

return [

{

json: {

results: items.length,

}

}

];

```

The output will be similar to the following.

```json

[

{

"results": 8

}

]

```

=== "Python"

```python

if len(items[0].json) == 0:

return [

{

"json": {

"results": 0,

}

}

]

else:

return [

{

"json": {

"results": items.length,

}

}

]

```

The output will be similar to the following.

```json

[

{

"results": 8

}

]

```

## check-incoming-data.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Check incoming data

At times, you may want to check the incoming data. If the incoming data doesn't match a condition, you may want to return a different value. For example, you want to check if a variable from the previous node is empty and return a string if it's empty. Use the following code snippet to return `not found` if the variable is empty.

```javascript

{{$json["variable\_name"]? $json["variable\_name"] :"not found"}}

```

The above expression uses the ternary operator. You can learn more about the ternary operator [here](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators/Conditional\_Operator).

As an alternative, you can use the [nullish coalescing operator (??)](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators/Nullish\_coalescing) or the [logical or operator (||)](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators/Logical\_OR):

```javascript

{{ $x ?? "default value" }}

{{ $x || "default value" }}

```

In either of the above two cases, the value of `$x` will be used if it's set to a non-null, non-false value. The string `default value` is the fallback value.

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Expressions common issues

description: Documentation for common issues and questions related to expressions in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: howto

---

# Expressions common issues

Here are some common errors and issues related to [expressions](/code/expressions.md) and steps to resolve or troubleshoot them.

## The 'JSON Output' in item 0 contains invalid JSON

This error occurs when you use JSON mode but don't provide a valid JSON object. Depending on the problem with the JSON object, the error sometimes display as `The 'JSON Output' in item 0 does not contain a valid JSON object`.

To resolve this, make sure that the code you provide is valid JSON:

- Check the JSON with a [JSON validator](https://jsonlint.com/).

- Check that your JSON object doesn't reference undefined input data. This may occur if the incoming data doesn't always include the same fields.

## Can't get data for expression

This error occurs when n8n can't retrieve the data referenced by an expression. Often, this happens when the preceding node hasn't been run yet.

Another variation of this may appear as `Referenced node is unexecuted`. In that case, the full text of this error will tell you the exact node that isn't executing in this format:

> An expression references the node '&lt;node-name&gt;', but it hasn’t been executed yet. Either change the expression, or re-wire your workflow to make sure that node executes first.

>

To begin troubleshooting, test the workflow up to the named node.

For nodes that use JavaScript or other custom code, you can check if a previous node has executed before trying to use its value by checking the following:

```javascript

$("<node-name>").isExecuted

```

As an example, this JSON references the parameters of the input data. This error will display if you test this step without connecting it to another node:

```javascript

{

"my\_field\_1": {{ $input.params }}

}

```

## Invalid syntax

This error occurs when you use an expression that has a syntax error.

For example, the expression in this JSON includes a trailing period, which results in an invalid syntax error:

```jsx

{

"my\_field\_1": "value",

"my\_field\_2": {{ $('If').item.json. }}

}

```

To resolve this error, check your [expression syntax](https://www.notion.so/code/expressions/) to make sure they follow the expected format.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Code examples you can use in expressions.

contentType: overview

---

# Expressions cookbook

This section contains examples and recipes for tasks you can do with [expressions](/glossary.md#expression-n8n).

/// note | Python support

You can use Python in the Code node. It isn't available in expressions.

///

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## Related resources

\* [Built-in methods and variables reference](/code/builtin/overview.md)

\* [Expressions](/code/expressions.md)

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Examples using n8n's HTTP Request node

The HTTP Request node is one of the most versatile nodes in n8n. Use this node to make HTTP requests to query data from any app or service with a REST API.

Refer to [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) for information on node settings.

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## Related resources

\* [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md)

\* [Built-in methods and variables reference](/code/builtin/overview.md)

\* [Expressions](/code/expressions.md)

## pagination.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Pagination examples for the HTTP Request node.

contentType: howto

---

# Pagination in the HTTP Request node

The HTTP Request node supports pagination. This page provides some example configurations, including using the [HTTP node variables](/code/builtin/http-node-variables.md).

Refer to [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) for more information on the node.

--8<-- "\_snippets/integrations/builtin/core-nodes/http/pagination-api-differences.md"

## Enable pagination

In the HTTP Request node, select \*\*Add Option\*\* > \*\*Pagination\*\*.

## Use a URL from the response to get the next page using `$response`

If the API returns the URL of the next page in its response:

1. Set \*\*Pagination Mode\*\* to \*\*Response Contains Next URL\*\*. n8n displays the parameters for this option.

1. In \*\*Next URL\*\*, use an [expression](/glossary.md#expression-n8n) to set the URL. The exact expression depends on the data returned by your API. For example, if the API includes a parameter called `next-page` in the response body:

```javascript

{{ $response.body["next-page"] }}

```

## Get the next page by number using `$pageCount`

If the API you're using supports targeting a specific page by number:

1. Set \*\*Pagination Mode\*\* to \*\*Update a Parameter in Each Request\*\*.

1. Set \*\*Type\*\* to \*\*Query\*\*.

1. Enter the \*\*Name\*\* of the query parameter. This depends on your API and is usually described in its documentation. For example, some APIs use a query parameter named `page` to set the page. So \*\*Name\*\* would be `page`.

1. Hover over \*\*Value\*\* and toggle \*\*Expression\*\* on.

1. Enter `{{ $pageCount + 1 }}`

`$pageCount` is the number of pages the HTTP Request node has fetched. It starts at zero. Most API pagination counts from one (the first page is page one). This means that adding `+1` to `$pageCount` means the node fetches page one on its first loop, page two on its second, and so on.

## Navigate pagination through body parameters

If the API you're using allows you to paginate through the body parameters:

1. Set the HTTP Request Method to \*\*POST\*\*

1. Set \*\*Pagination Mode\*\* to \*\*Update a Parameter in Each Request\*\*.

1. Select \*\*Body\*\* in the \*\*Type\*\* parameter.

1. Enter the \*\*Name\*\* of the body parameter. This depends on the API you're using. `page` is a common key name.

1. Hover over \*\*Value\*\* and toggle \*\*Expression\*\* on.

1. Enter `{{ $pageCount + 1 }}`

## Set the page size in the query

If the API you're using supports choosing the page size in the query:

1. Select \*\*Send Query Parameters\*\* in main node parameters (this is the parameters you see when you first open the node, not the settings within options).

1. Enter the \*\*Name\*\* of the query parameter. This depends on your API. For example, a lot of APIs use a query parameter named `limit` to set page size. So \*\*Name\*\* would be `limit`.

1. In \*\*Value\*\*, enter your page size.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Text courses

description: Access n8n text courses. Find beginner and intermediate courses to learn how to build automation workflows using n8n.

contentType: overview

---

# Text courses

If you've found your way here, it means you're serious about your interest in automation. Maybe you're tired of manually entering data into the same spreadsheet every day, of clicking through a series of tabs and buttons for that one piece of information you need, of managing tens of different tools and systems.

Whatever the reason, one thing is clear: you shouldn't spend precious time doing things that don't spark joy or contribute to your personal and professional growth.

These tasks can and should be automated! And you don't need advanced technical knowledge or excellent coding skills to do this–with no-code tools like n8n, automation is for everyone.

## Available courses

- [Level 1: Beginner course](/courses/level-one/index.md)

- [Level 2: Intermediate course](/courses/level-two/index.md)

## chapter-1.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

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# Navigating the Editor UI

In this lesson you will learn how to navigate the [Editor UI](/glossary.md#editor-n8n). We will walk through the [canvas](/glossary.md#canvas-n8n) and show you what each icon means and where to find things you will need while building workflows in n8n.

/// warning | n8n version

This course is based on n8n version 1.82.1. In other versions, some user interfaces might look different, but this shouldn't impact the core functionality.

///

## Getting started

Begin by setting up n8n.

We recommend starting with [n8n Cloud](https://app.n8n.cloud/register), a hosted solution that doesn't require installation and includes a free trial.

/// note | Alternative set up

If n8n Cloud isn't a good option for you, you can [self-host with Docker](/hosting/installation/docker.md). This is an advanced option recommended only for technical users familiar with hosting services, Docker, and the command line.

///

For more details on the different ways to set up n8n, see our [platforms documentation](/choose-n8n.md#platforms).

Once you have n8n running, open the Editor UI in a browser window. Log in to your n8n instance. Select \*\*Overview\*\* and then \*\*Create Workflow\*\* to view the main canvas.

It should look like this:

<figure><img src="/\_images/courses/level-one/chapter-one/l1-c1-editor-ui.png" alt="Editor UI" style="width:100%"><figcaption align = "center"><i>Editor UI</i></figcaption></figure>

## Editor UI settings

The editor UI is the web interface where you build [workflows](/workflows/index.md). You can access all your workflows and [credentials](/glossary.md#credential-n8n), as well as support pages, from the Editor UI.

### Left-side panel

On the left side of the \*\*Editor UI\*\*, there is a panel which contains the core functionalities and settings for managing your workflows. Expand and collapse it by selecting the small arrow icon.

The panel contains the following sections:

- \*\*Overview\*\*: Contains all the workflows and credentials you have access to. During this course, create new workflows here.

- \*\*Projects\*\*: (Not available on Community edition) Projects group workflows and credentials. You can assign [roles](/user-management/rbac/role-types.md) to users in a project to control what they can do in a project. A \*\*Personal\*\* project is available by default.

- \*\*Admin Panel\*\*: n8n Cloud only. Access your n8n instance usage, billing, and version settings.

- \*\*Templates\*\*: A collection of pre-made workflows. Great place to get started with common use cases.

- \*\*Variables\*\*: Used to store and access fixed data across your workflows. This feature is available on the Pro and Enterprise Plans.

- \*\*All executions\*\*: Contains information about your workflow executions.

- \*\*Help\*\*: Contains resources around n8n product and community.

- \*\*Update\*\*: (When updates are available) Indicator for any recent product updates.

- \*\*Settings\*\*: Under the ellipsis (`...`) menu by your username. Manage users and access settings for a variety of features.

<figure style="text-align: center;"><img src="/\_images/courses/level-one/chapter-one/l1-c1-side-panel.png" alt="Editor UI left-side menu" style="height: 600px;"><figcaption align = "center"><i>Editor UI left-side menu</i></figcaption></figure>

### Top bar

The top bar of the \*\*Editor UI\*\* contains the following information:

- \*\*Workflow Name\*\*: By default, n8n names a new workflow as "My workflow", but you can edit the name at any time.

- \*\*+ Add Tag\*\*: Tags help you organise your workflows by category, use case, or whatever is relevant for you. Tags are optional.

- \*\*Inactive/active toggle\*\*: This button activates or deactivates the current workflow. By default, workflows are deactivated.

- \*\*Share\*\*: You can share and collaborate with others on workflows on the Starter, Pro, and Enterprise plans.

- \*\*Save\*\*: This button saves the current workflow.

- \*\*History\*\*: Once you save your workflow, you can view previous versions here.

<figure><img src="/\_images/courses/level-one/chapter-one/l1-c1-top-bar.png" alt="Editor UI top bar" style="width:100%"><figcaption align = "center"><i>Editor UI top bar</i></figcaption></figure>

### Canvas

The \*\*canvas\*\* is the gray dotted grid background in the Editor UI. It displays several icons and a node with different functionalities:

- Buttons to zoom the canvas to fit the screen, zoom in or out of the canvas, and tidy up the nodes on screen.

- A button to \*\*Execute workflow\*\* once you add your first node. When you click on it, n8n executes all nodes on the canvas in sequence.

- A button with a \*\*+\*\* sign inside. This button opens the nodes panel.

- A button with a note icon inside. This button adds a [sticky note](/workflows/components/sticky-notes.md) to the canvas (visible when hovering on the top right + icon).

- A dotted square with the text "Add first step." This is where you add your first node.

<figure><img src="/\_images/courses/level-one/chapter-one/l1-c1-canvas.png" alt="Workflow canvas" style="width:100%"><figcaption align = "center"><i>Workflow canvas</i></figcaption></figure>

/// note | Moving the canvas

You can move the workflow canvas around in three ways:

- Select ++ctrl+left-button++ on the canvas and move it around.

- Select ++middle-button++ on the canvas and move it around.

- Place two fingers on your touchpad and slide.

///

Don't worry about workflow execution and activation for now; we'll explain these concepts later on in the course.

## Nodes

You can think of nodes as building blocks that serve different functions that, when put together, make up a functioning machine: an automated workflow.

/// note | Node

A node is an individual step in your workflow: one that either (a) loads, (b) processes, or (c) sends data.

///

Based on their function, n8n classifies nodes into four types:

- \*\*App\*\* or \*\*Action Nodes\*\* add, remove, and edit data; request and send external data; and trigger events in other systems. Refer to the [Action nodes library](/integrations/builtin/app-nodes/index.md) for a full list of these nodes.

- \*\*Trigger Nodes\*\* start a workflow and supply the initial data. Refer to the [Trigger nodes library](/integrations/builtin/trigger-nodes/index.md) for a list of trigger nodes.

- \*\*Core Nodes\*\* can be trigger or app nodes. Whereas most nodes connect to a specific external service, core nodes provide functionality such as logic, scheduling, or generic API calls. Refer to the [Core Nodes library](/integrations/builtin/core-nodes/index.md) for a full list of core nodes.

- \*\*Cluster Nodes\*\* are node groups that work together to provide functionality in a workflow, primarily for AI workflows. Refer to [Cluster nodes](/integrations/builtin/cluster-nodes/index.md) for more information.

/// note | Learn more

Refer to [Node types](/integrations/builtin/node-types.md) for a more detailed explanation of all node types.

///

### Finding nodes

You can find all available nodes in the \*\*nodes panel\*\* on the right side of the Editor UI. There are three ways in which you can open the nodes panel:

- Click the \*\*+\*\* icon in the top right corner of the canvas.

- Click the \*\*+\*\* icon on the right side of an existing node on the canvas (the node to which you want to add another one).

- Click the ++tab++ key on your keyboard.

<figure style="text-align: center; width:50%; margin:auto;"><img src="/\_images/courses/level-one/chapter-one/l1-c1-node-menu-drilldown.gif" alt="Nodes panel"><figcaption align = "center"><i>Nodes panel</i></figcaption></figure>

In the nodes panel, notice that when adding your first node, you will see the different trigger node categories. After you have added your trigger node, you'll see that the nodes panel changes to show Advanced AI, Actions in an App, Data transformation, Flow, Core, and Human in the loop nodes.

If you want to find a specific node, use the search input at the top of the nodes panel.

### Adding nodes

There are two ways to add nodes to your canvas:

- Select the node you want in the nodes panel. The new node will automatically connect to the selected node on the canvas.

- Drag and drop the node from the nodes panel to the canvas.

### Node buttons

If you hover on a node, you'll notice that three icons appear on top:

- Execute the node (Play icon)

- Deactivate/Activate the node (Power icon)

- Delete the node (Trash icon)

There will also be an ellipsis icon, which opens a context menu containing other [node options](/workflows/components/nodes.md#node-controls).

/// note | Moving a workflow

To move a workflow around the canvas, select all nodes with your mouse or ++ctrl+a++, select and hold on a node, then drag it to any point you want on the canvas.

///

## Summary

In this lesson you learned how to navigate the Editor UI, what the icons mean, how to access the left-side and node panels, and how to add nodes to the canvas.

In the next lesson, you will build a mini-workflow to put into practice what you've learned so far.

## chapter-2.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

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<!-- vale from-microsoft.We = NO -->

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# Building a Mini-workflow

In this lesson, you will build a small [workflow](/glossary.md#workflow-n8n) that gets 10 articles about automation from Hacker News. The process consists of five steps:

1. [Add a Manual Trigger node](#1-add-a-manual-trigger-node)

2. [Add the Hacker News node](#2-add-the-hacker-news-node)

3. [Configure the Hacker News node](#3-configure-the-hacker-news-node)

4. [Execute the node](#4-execute-the-node)

5. [Save the workflow](#5-save-the-workflow)

The finished workflow will look like this:

[[ workflowDemo("file:////courses/level-one/chapter-2.json") ]]

## 1. Add a Manual Trigger node

Open the nodes panel (reminder: you can open this by selecting the \*\*+\*\* icon in the top right corner of the [canvas](/glossary.md#canvas-n8n) or selecting ++tab++ on your keyboard).

Then:

1. Search for the \*\*Manual Trigger\*\* node.

2. Select it when it appears in the search.

This will add the [Manual Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.manualworkflowtrigger.md) node to your canvas, which allows you to run the workflow at any time by selecting the \*\*Execute workflow\*\* button.

/// note | Manual triggers

For faster workflow creation, you can skip this step in the future. Adding any other node without a trigger will add the Manual Trigger node to the workflow.

In a real-world scenario, you would probably want to set up a schedule or some other [trigger](/glossary.md#trigger-node-n8n) to run the workflow.

///

## 2. Add the Hacker News node

Select the \*\*+\*\* icon to the right of the Manual Trigger node to open the nodes panel.

Then:

1. Search for the \*\*Hacker News\*\* node.

2. Select it when it appears in the search.

3. In the \*\*Actions\*\* section, select \*\*Get many items\*\*.

n8n adds the node to your canvas and the node window opens to display its configuration details.

## 3. Configure the Hacker News node

When you add a new node to the Editor UI, the node is automatically activated. The node details will open in a window with several options:

- \*\*Parameters\*\*: Adjust parameters to refine and control the node's functionality.

- \*\*Settings\*\*: Adjust settings to control the node's design and executions.

- \*\*Docs\*\*: Open the n8n documentation for this node in a new window.

/// note | Parameters vs. Settings

\* \*\*Parameters\*\* are different for each node, depending on its functionality.

\* \*\*Settings\*\* are the same for all nodes.

///

### Parameters

We need to configure several parameters for the Hacker News node to make it work:

- \*\*Resource\*\*: All <br/>

This resource selects all data records (articles).

- \*\*Operation\*\*: Get Many <br/>

This operation fetches all the selected articles.

- \*\*Limit\*\*: 10 <br/>

This parameter sets a limit to the number of results the Get Many operation returns.

- \*\*Additional Fields\*\* > \*\*Add Field\*\* > \*\*Keyword\*\*: automation <br/>

\*\*Additional fields\*\* are options that you can add to certain nodes to make your request more specific or filter the results. For this example, we want to get only articles that include the keyword "automation." <br/>

The configuration of the parameters for the Hacker News node should now look like this:

<figure><img src="/\_images/courses/level-one/chapter-two/l1-c-2-hacker-news-node-parameters.png" alt="Hacker News node parameters" style="width:100%"><figcaption align = "center"><i>Hacker News node parameters</i></figcaption></figure>

### Settings

The \*\*Settings\*\* section includes several options for node design and executions. In this case, we'll configure only the final two settings, which set the node's appearance in the Editor UI canvas.

In the Hacker News node Settings, edit:

- \*\*Notes\*\*: Get the 10 latest articles.

/// note | Node notes

It's often helpful to add a short description in the node about what it does. This is helpful for complex or shared workflows in particular!

///

- \*\*Display note in flow?\*\*: toggle to true<br/>

This option will display the Note under the node in the canvas.

The configuration of the settings for the Hacker News node should now look like this:

<figure><img src="/\_images/courses/level-one/chapter-two/l1-c2-hacker-news-node-setting-configuration.png" alt="Hacker News node settings" style="width:100%"><figcaption align = "center"><i>Hacker News node settings</i></figcaption></figure>

/// note | Renaming a node

You can rename the node with a name that's more descriptive for your use case. There are three ways to do this:

- Select the node you want to rename and at the same time press the F2 key on your keyboard.

- Double-click on the node to open the node window. Click on the name of the node in the top left corner of the window, rename it as you like, then click \*\*Rename\*\* to save the node under the new name.

- Right-click on the node and select the \*\*Rename\*\* option.

<figure><img src="/\_images/courses/level-one/chapter-two/l1-c2-renaming-a-node-from-the-keyboard.png" alt="Renaming a node" style="width:100%"><figcaption align = "center"><i>Renaming a node from the keyboard</i></figcaption></figure>

To find the original node name (the type of node), open the node window and select \*\*Settings\*\*. The bottom of the page contains the node type and version.

///

## 4. Execute the node

Select the \*\*Execute step\*\* button in the node details window. You should see 10 results in the Output \*\*Table\*\* view.

<!--This screenshot needs updating now that the button says "Execute step" rather than "Test node"-->

<figure><img src="/\_images/courses/level-one/chapter-two/l1-c2-results-in-table-view-for-the-hacker-news-node.png" alt="Results in Table view for the Hacker News node" style="width:100%"><figcaption align = "center"><i>Results in Table view for the Hacker News node</i></figcaption></figure>

### Node executions

/// note | Node execution

A node execution represents a run of that node to retrieve or process the specified data.

///

If a node executes successfully, a small green checkmark appears on top of the node in the canvas

<figure><img src="/\_images/courses/level-one/chapter-two/l1-c2-successfully-executed-workflow.png" alt="Successfully executed workflow" style="width:100%"><figcaption align = "center"><i>Successfully executed workflow</i></figcaption></figure>

If there are no problems with the parameters and everything works fine, the requested data displays in the node window in \*\*Table\*\*, \*\*JSON\*\*, and \*\*Schema\*\* format. You can switch between these views by selecting the one you want from the \*\*Table | JSON | Schema\*\* button at the top of the node window.

/// note | Table vs JSON views

The \*\*Table\*\* view is the default. It displays the requested data in a table, where the rows are the records and the columns are the available attributes of those records.

///

Here's our Hacker News output in JSON view:

<figure><img src="/\_images/courses/level-one/chapter-two/l1-c2-results-in-json-view-for-the-hacker-news-node.png" alt="Results in JSON view for the Hacker News node" style="width:100%"><figcaption align = "center"><i>Results in JSON view for the Hacker News node</i></figcaption></figure>

The node window displays more information about the node execution:

- Next to the \*\*Output\*\* title, notice a small icon (this will be a green checkmark if the node execution succeeded). Beside it, there is an info icon. If you hover on it, you'll get two more pieces of information that can provide insights into the performance of each individual node in a workflow:

- \*\*Start Time\*\*: When the node execution started.

- \*\*Execution Time\*\*: How long it took for the node to return the results from the moment it started executing.

- Just below the \*\*Output\*\* title, you'll notice another piece of information: \*\*10 items\*\*. This field displays the number of items (records) that the node request returned. In this example, it's expected to be 10, since this is the limit we set in step 2. But if you don't set a limit, it's useful to see how many records are actually returned.

/// warning | Error in nodes

A red warning icon on a node means that the node has errors. This might happen if the node credentials are missing or incorrect or the node parameters aren't configured correctly.

///

<figure style="text-align:center;"><img src="/\_images/courses/level-one/chapter-one/error-node.png" alt="Error in nodes" style="width:30%" align="center"><figcaption align = "center"><i>Error in nodes</i></figcaption></figure>

## 5. Save the workflow

Once you're finished editing the node, select \*\*Back to canvas\*\* to return to the main canvas.

By default, your workflow is automatically saved as "My workflow."

For this lesson, rename the workflow to be "Hacker News workflow."

/// note | Reminder

You can rename a workflow by clicking on the workflow's name at the top of the Editor UI.

///

Once you've renamed the workflow, be sure to save it.

There are two ways in which you can save a workflow:

- From the Canvas in Editor UI, click \*\*Ctrl + S\*\* or \*\*Cmd + S\*\* on your keyboard.

- Select the \*\*Save\*\* button in the top right corner of the Editor UI. You may need to leave the node editor first by clicking outside the dialog.

If you see a grey \*\*Saved\*\* text instead of the \*\*Save\*\* button, your workflow was automatically saved.

## Summary

Congratulations, you just built your first workflow! In this lesson, you learned how to use actions in app nodes, configure their parameters and settings, and save and execute your workflow.

In the next lesson, you'll meet your new client, Nathan, who needs to automate his sales reporting work. You will build a more complex workflow for his use case, helping him become more productive at work.

## chapter-3.md

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# Automating a (Real-world) Use Case

Meet Nathan 🙋. Nathan works as an Analytics Manager at ABCorp. His job is to support the ABCorp team with reporting and analytics. Being a true jack of all trades, he also handles several miscellaneous initiatives.

Some things that Nathan does are repetitive and mind-numbing. He wants to automate some of these tasks so that he doesn't burn out. As an \*\*Automation Expert\*\*, you are meeting with Nathan today to help him understand how he can offload some of his responsibilities to n8n.

## Understanding the scenario

\*\*You 👩‍🔧:\*\* Nice to meet you, Nathan. Glad to be doing this! What's a repetitive task that's error-prone and that you'd like to get off your plate first?

\*\*Nathan 🙋:\*\* Thanks for coming in! The most annoying one's gotta be the weekly sales reporting.

I have to collect sales data from our legacy data warehouse, which manages data from the main business processes of an organization, such as sales or production. Now, each sales order can have the status Processing or Booked. I have to calculate the sum of all the Booked orders and announce them in the company Discord every Monday. Then I have to create a spreadsheet of all the Processing sales so that the Sales Managers can review them and check if they need to follow up with customers.

This manual work is tough and requires high attention to detail to make sure that all the numbers are right. Inevitably, I lose my focus and mistype a number or I don't get it done on time. I've been criticized once by my manager for miscalculating the data.

\*\*You 👩‍🔧:\*\* Oh no! Doesn't the data warehouse have a way to export the data?

\*\*Nathan 🙋:\*\* The data warehouse was written in-house ages ago. It doesn't have a CSV export but they recently added a couple of API endpoints that expose this data, if that helps.

\*\*You 👩‍🔧:\*\* Perfect! That's a good start. If you have a generic API, we can add some custom code and a couple of services to make an automated workflow. This gig has n8n written all over it. Let's get started!

## chapter-4.md

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# Designing the Workflow

Now that we know what Nathan wants to automate, let's consider the steps he needs to take to achieve his goals:

1. Get the relevant data (order id, order status, order value, employee name) from the data warehouse

2. Filter the orders by their status (Processing or Booked)

3. Calculate the total value of all the Booked orders

4. Notify the team members about the Booked orders in the company's Discord channel

5. Insert the details about the Processing orders in Airtable for follow-up

6. Schedule this workflow to run every Monday morning

Nathan's workflow involves sending data from the company's data warehouse to two external services:

- Discord

- Airtable

Before that, the data has to be wrangled with general functions (conditional filtering, calculation, scheduling).

n8n provides integrations for all these steps, so Nathan's workflow in n8n would look like this:

[[ workflowDemo("file:////courses/level-one/finished.json") ]]

You will build this workflow in eight steps:

1. [Getting data from the data warehouse](/courses/level-one/chapter-5/chapter-5.1.md)

2. [Inserting data into Airtable](/courses/level-one/chapter-5/chapter-5.2.md)

3. [Filtering orders](/courses/level-one/chapter-5/chapter-5.3.md)

4. [Setting values for processing orders](/courses/level-one/chapter-5/chapter-5.4.md)

5. [Calculating booked orders](/courses/level-one/chapter-5/chapter-5.5.md)

6. [Notifying the team](/courses/level-one/chapter-5/chapter-5.6.md)

7. [Scheduling the workflow](/courses/level-one/chapter-5/chapter-5.7.md)

8. [Activating and examining the workflow](/courses/level-one/chapter-5/chapter-5.8.md)

To build this workflow, you will need the credentials found in the email you received from n8n when you signed up for this course. If you haven't signed up already, you can do it [here](https://n8n-community.typeform.com/to/PDEMrevI?typeform-source=127.0.0.1){:target="\_blank" .external-link}. If you haven't received a confirmation email after signing up, [contact us](mailto:help@n8n.io).

[Start building!](/courses/level-one/chapter-5/chapter-5.1.md){ .md-button }

## chapter-6.md

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# Exporting and importing workflows

In this chapter, you will learn how to export and import workflows.

## Exporting and importing workflows

You can save n8n workflows locally as JSON files. This is useful if you want to share your workflow with someone else or import a workflow from someone else.

--8<-- "\_snippets/workflows/sharing-credentials.md"

<figure><img src="/\_images/courses/level-one/chapter-six/l1-c6-import-export-menu.png" alt="Import/Export menu" style="width:100%"><figcaption align = "center"><i>Import & Export workflows menu</i></figcaption></figure>

You can export and import workflows in three ways:

\* From the \*\*Editor UI\*\* menu:

\* Export: From the top navigation bar, select the three dots in the upper right, then select \*\*Download\*\*. This will download your current workflow as a JSON file on your computer.

\* Import: From the top navigation bar, select the three dots in the upper right, then select \*\*Import from URL\*\* (to import a published workflow) or \*\*Import from File\*\* (to import a workflow as a JSON file).

\* From the \*\*Editor UI\*\* canvas:

\* Export: Select all the nodes on the canvas and use ++ctrl+c++ to copy the workflow JSON. You can paste this into a file or share it directly with other people.

\* Import: You can paste a copied workflow JSON directly into the canvas with ++ctrl+v++.

\* From the command line:

\* Export: See the [full list of commands ](/hosting/cli-commands.md) for exporting workflows or credentials.

\* Import: See the [full list of commands ](/hosting/cli-commands.md#import-workflows-and-credentials) for importing workflows or credentials.

## chapter-7.md

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# Test your knowledge

Congratulations, you finished the n8n Course Level 1!

You've learned a lot about workflow automation and built your first business workflow. Why not showcase your skills?

You can test your knowledge by taking a \*\*quiz\*\*, which consists of questions about the theoretical concepts and workflows covered in this course.

- You need to have at least 80% correct answers in each part to pass the quiz.

- You can take the quiz as many times as you want.

- There's no time limit on answering the quiz questions.

<br/>

[Take the quiz!](https://n8n-community.typeform.com/to/JMoBXeGA){ .md-button }

## What's next?

\* Create new workflows for your work or personal use and share them with us. Don't have any ideas? Find inspiration on our [blog](https://n8n.io/blog/), [YouTube channel](https://www.youtube.com/c/n8n-io), [community forum](https://community.n8n.io), and [Discord server](https://discord.gg/vWwMVThRta).

\* Take the n8n [Course Level 2](/courses/level-two/index.md).

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## index.md

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# Level one: Introduction

Welcome to the \*\*n8n Course Level 1\*\*!

## Is this course right for me?

This course introduces you to the fundamental concepts within n8n and develops your low-code automation expertise.

This course is for you if you:

- Are starting to use n8n for the first time.

- Are looking for some extra help creating your first workflow.

- Want to automate processes in your personal or working life.

This course introduces n8n concepts and demonstrates practical workflow building without assuming any prior familiarity with n8n. If you'd like to get a feel for the basics without as much explanation, consult our [quickstart guide](/try-it-out/tutorial-first-workflow.md).

## What will I learn in this course?

We believe in learning by doing. You can expect some theoretical information about the basic concepts and components of n8n, followed by practice of building workflows step by step.

By the end of this course you will know:

- How to set up n8n and navigate the Editor UI.

- How n8n structures data.

- How to configure different node parameters and add credentials.

- When and how to use conditional logic in workflows.

- How to schedule and control workflows.

- How to import, download, and share workflows with others.

You will build two workflows:

- A two-node workflow to get articles from Hacker News

- A seven-node workflow to help your client get records from a data warehouse, filter them, make calculations, and notify team members about the results

## What do I need to get started?

1. \*\*n8n set up\*\*: You can use [n8n Cloud](/manage-cloud/overview.md) (or the [self-hosted version](/hosting/installation/docker.md) if you have experience hosting services).

2. \*\*A course user ID\*\*: [Sign up here](https://n8n-community.typeform.com/to/PDEMrevI) to get your unique ID and other credentials you will need in the course.

3. Basic knowledge of JavaScript and [APIs](https://blog.n8n.io/what-are-apis-how-to-use-them-with-no-code/) would be helpful, but isn't necessary.

4. An [account on the n8n community forum](https://community.n8n.io/) if you wish to receive a profile badge and avatar upon successful completion.

## How long does the course take?

Completing the course should take around \*\*two hours\*\*. You don't have to complete it in one go; feel free to take breaks and resume whenever you are ready.

## How do I complete the course?

There are two milestones in this course that test your knowledge of what you have learned in the lessons:

- [x] Building the [main workflow](/courses/level-one/chapter-5/chapter-5.1.md)

- [x] Passing the [quiz](https://n8n-community.typeform.com/to/JMoBXeGA) at the end of the course

/// note | Check your progress

You can always \*\*check your progress\*\* throughout the course by entering your unique ID [here](https://internal.users.n8n.cloud/webhook/course-level-1/verify).

///

If you complete the milestones above, you will get [\*\*a badge and an avatar\*\*](https://community.n8n.io/badges/104/completed-n8n-course-level-1) in your forum profile. You can then share your profile and course verification ID to showcase your n8n skills to others.

[Let's get started!](/courses/level-one/chapter-1.md){ .md-button }

## chapter-5.1.md

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# 1. Getting data from the data warehouse

In this part of the workflow, you will learn how to get data by making HTTP requests with the [\*\*HTTP Request\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node.

After completing this section, your workflow will look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.1.json") ]]

First, let's set the scene for building Nathan's workflow.

## Create new workflow

Open your Editor UI and create a new workflow with one of the two possible commands:

- Select ++ctrl+alt+n++ or ++cmd+option+n++ on your keyboard.

- Open the left menu, navigate to \*\*Workflows\*\*, and select \*\*Add workflow\*\*.

Name this new workflow "Nathan's workflow."

The first thing you need to do is get data from ABCorp's old data warehouse.

In a previous chapter, you used an action node designed for a specific service (Hacker News). But not all apps or services have dedicated nodes, like the legacy data warehouse from Nathan's company.

Though we can't directly export the data, Nathan told us that the data warehouse has a couple of API endpoints. That's all we need to access the data using the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node in n8n.

/// note | No node for that service?

The HTTP Request node is one of the most versatile nodes, allowing you to make HTTP requests to query data from apps and services. You can use it to access data from apps or services that don't have a dedicated node in n8n.

///

## Add an HTTP Request node

Now, in your Editor UI, add an HTTP Request node like you learned in the lesson [Adding nodes](/courses/level-one/chapter-1.md#adding-nodes). The node window will open, where you need to configure some parameters.

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-1-http-request-node.png" alt="HTTP Request node" style="width:100%"><figcaption align = "center"><i>HTTP Request node</i></figcaption></figure>

This node will use credentials.

/// note | Credentials

[Credentials](/glossary.md#credential-n8n) are unique pieces of information that identify a user or a service and allow them to access apps or services (in our case, represented as n8n nodes). A common form of credentials is a username and a password, but they can take other forms depending on the service.

///

In this case, you'll need the credentials for the ABCorp data warehouse API included in the email from n8n you received when you signed up for this course. If you haven't signed up yet, [sign up here](https://n8n-community.typeform.com/to/PDEMrevI){:target="\_blank" .external-link}.

In the \*\*Parameters\*\* of the HTTP Request node, make the following adjustments:

- \*\*Method\*\*: This should default to GET. Make sure it's set to GET.

- \*\*URL\*\*: Add the \*\*Dataset URL\*\* you received in the email when you signed up for this course.

- \*\*Send Headers\*\*: Toggle this control to true. In \*\*Specify Headers\*\*, ensure \*\*Using Fields Below\*\* is selected.

- \*\*Header Parameters\*\* > \*\*Name\*\*: Enter `unique\_id`.

- \*\*Header Parameters\*\* > \*\*Value\*\*: The Unique ID you received in the email when you signed up for this course.

- \*\*Authentication\*\*: Select \*\*Generic Credential Type\*\*. This option requires credentials before allowing you to access the data.

- \*\*Generic Auth Type\*\*: Select \*\*Header Auth\*\*. (This field will appear after you select the Generic Credential Type for the Authentication.)

- \*\*Credential for Header Auth\*\*: To add your credentials, select \*\*+ Create new credential\*\*. This will open the Credentials window.

- In the Credentials window, set \*\*Name\*\* to be the \*\*Header Auth name\*\* you received in the email when you signed up for this course.

- In the Credentials window, set \*\*Value\*\* to be the \*\*Header Auth value\*\* you received in the email when you signed up for this course.

- Select the \*\*Save\*\* button in the Credentials window to save your credentials. Your \*\*Credentials Connection\*\* window should look like this:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-1-http-request-node-credentials.png" alt="HTTP Request node credentials" style="width:100%"><figcaption align = "center"><i>HTTP Request node credentials</i></figcaption></figure>

/// note | Credentials naming

New credential names follow the "<node name> account" format by default. You can rename the credentials by clicking on the name, similarly to renaming nodes. It's good practice to give them names that identify the app/service, type, and purpose of the credential. A naming convention makes it easier to keep track of and identify your credentials.

///

Once you save, exit out of the Credentials window to return to the HTTP Request node.

## Get the data

Select the \*\*Execute step\*\* button in the HTTP Request node window. The table view of the HTTP request results should look like this:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-1-http-request-node-window.png" alt="HTTP Request node output" style="width:100%"><figcaption align = "center"><i>HTTP Request node output</i></figcaption></figure>

This view should be familiar to you from the [Building a mini-workflow](/courses/level-one/chapter-2.md) page.

This is the data from ABCorp's data warehouse that Nathan needs to work with. This data set includes sales information from 30 customers with five columns:

- `orderID`: The unique id of each order.

- `customerID`: The unique id of each customer.

- `employeeName`: The name of Nathan's colleague responsible for the customer.

- `orderPrice`: The total price of the customer's order.

- `orderStatus`: Whether the customer's order status is `booked` or still in `processing`.

## What's next?

\*\*Nathan 🙋\*\*: This is great! You already automated an important part of my job with only one node. Now instead of manually accessing the data every time I need it, I can use the HTTP Request Node to automatically get the information.

\*\*You 👩‍🔧\*\*: Exactly! In the next step, I'll help you one step further and insert the data you retrieved into Airtable.

## chapter-5.2.md

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# 2. Inserting data into Airtable

In this step of the workflow, you will learn how to insert the data received from the HTTP Request node into Airtable using the [Airtable node](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md).

/// note | Spreadsheet nodes

You can replace the Airtable node with another spreadsheet app/service. For example, n8n also has a node for [\*\*Google Sheets\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md).

///

After this step, your workflow should look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.2.json") ]]

## Configure your table

If we're going to insert data into Airtable, we first need to set up a table there. To do this:

1. [Create an Airtable account](https://airtable.com/signup){:target="\_blank" .external}.

2. In your Airtable workspace add a new base from scratch and name it, for example, \*beginner course\*.

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-2-create-airtable-base.png" alt="Create an Airtable base" style="width:100%"><figcaption align = "center"><i>Create an Airtable base</i></figcaption></figure>

3. In the beginner course base, by default, you have a table called \*\*Table 1\*\* with four fields: `Name`, `Notes`, `Assignee`, and `Status`. These fields aren't relevant for us since they aren't in our "orders" data set. This brings us to the next point: the names of the fields in Airtable have to match the names of the columns in the node result. Prepare the table by doing the following:

\* Rename the table from \*\*Table 1\*\* to \*\*orders\*\* to make it easier to identify.

\* Delete the 3 blank records created by default.

\* Delete the `Notes`, `Assignee`, and `Status` fields.

\* Edit the `Name` field (the primary field) to read `orderID`, with the \*\*Number\*\* field type.

\* Add the rest of the fields, and their field types, using the table below as a reference:

| Field name | Field type |

|----------------|------------------|

| `orderID` | Number |

| `customerID` | Number |

| `employeeName` | Single line text |

| `orderPrice` | Number |

| `orderStatus` | Single line text |

Now your table should look like this:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-2-orders-table.png" alt="Orders table in Airtable" style="width:100%"><figcaption align = "center"><i>Orders table in Airtable</i></figcaption></figure>

Now that the table is ready, let's return to the workflow in the n8n Editor UI.

## Add an Airtable node to the HTTP Request node

Add an Airtable node connected to the HTTP Request node.

///note | Remember

You can add a node connected to an existing node by selecting the \*\*+\*\* icon next to the existing node.

///

In the node panel:

1. Search for Airtable.

2. Select \*\*Create a record\*\* from the \*\*Record Actions\*\* search results.

This will add the Airtable node to your canvas and open the node details window.

In the Airtable node window, configure the following parameters:

- \*\*Credential to connect with\*\*:

- Select \*\*Create new credential\*\*.

- Keep the default option \*\*Connect using: Access Token\*\* selected.

- \*\*Access token\*\*: Follow the instructions from the [Airtable credential](/integrations/builtin/credentials/airtable.md) page to create your token. Use the recommended scopes and add access to your beginners course base. Save the credential and close the Credential window when you're finished.

- \*\*Resource\*\*: Record.

- \*\*Operation\*\*: Create. This operation will create new records in the table.

- \*\*Base\*\*: You can pick your base from a list (for example, beginner course).

- \*\*Table\*\*: orders.

- \*\*Mapping Column Mode\*\*: Map automatically. In this mode, the incoming data fields must have the same as the columns in Airtable.

## Test the Airtable node

Once you've finished configuring the Airtable node, execute it by selecting \*\*Execute step\*\*. This might take a moment to process, but you can follow the progress by viewing the base in Airtable.

Your results should look like this:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-2-airtable-node.png" alt="Airtable node results" style="width:100%"><figcaption align = "center"><i>Airtable node results</i></figcaption></figure>

All 30 data records will now appear in the orders table in Airtable:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-2-airtable-records.png" alt="Imported records in the orders table" style="width:100%"><figcaption align = "center"><i>Imported records in the orders table</i></figcaption></figure>

## What's next?

\*\*Nathan 🙋\*\*: Wow, this automation is already so useful! But this inserts all collected data from the HTTP Request node into Airtable. Remember that I actually need to insert only processing orders in the table and calculate the price of booked orders?

\*\*You 👩‍🔧\*\*: Sure, no problem. As a next step, I'll use a new node to filter the orders based on their status.

## chapter-5.3.md

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# 3. Filtering Orders

In this step of the workflow, you will learn how to filter data using conditional logic and how to use expressions in nodes using the [If node](/integrations/builtin/core-nodes/n8n-nodes-base.if.md).

After this step, your workflow should look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.3.json") ]]

To insert only processing orders into Airtable we need to filter our data by `orderStatus`. Basically, we want to tell the program that \_if\_ the `orderStatus` is processing, \_then\_ insert all records with this status into Airtable; \_else\_, for example, if the `orderStatus` isn't \*processing\*, calculate the sum of all orders with the other `orderStatus` (`booked`).

This if-then-else command is conditional logic. In n8n workflows, you can add conditional logic with the [If node](/integrations/builtin/core-nodes/n8n-nodes-base.if.md), which splits a workflow conditionally based on comparison operations.

/// note | If vs. Switch

If you need to filter data on more than boolean values (true and false), use the [Switch node](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md). The Switch node is similar to the If node, but supports multiple output connectors.

///

## Add If node before the Airtable node

First, let's add an If node between the connection from the HTTP Request node to the Airtable node:

1. Hover over the arrow connection the \*\*HTTP Request\*\* node and the \*\*Airtable\*\* node.

2. Select the \*\*+\*\* sign between the HTTP Request node and the Airtable node.

## Configure the If node

Selecting the plus removes the connection to the Airtable node to the HTTP request. Now, let's add an If node connected to the HTTP Request node:

1. Search for the If node.

2. Select it when it appears in the search.

For the If node, we'll use an expression.

/// note | Expressions

An [expression](/glossary.md#expression-n8n) is a string of characters and symbols in a programming language that can be evaluated to get a value, often according to its input. In n8n workflows, you can use expressions in a node to refer to another node for input data. In our example, the If node references the data output by the HTTP Request node.

///

In the If node window, configure the parameters:

- Set the `value1` placeholder to `{{ $json.orderStatus }}` with the following steps:

1. Hover over the value1 field.

2. Select the \*\*Expression\*\* tab on the right side of the `value1` field.

3. Next, open the expression editor by selecting the link icon:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-3-if-node-open-editor.png" alt="Opening the Expression Editor" style="width:100%"><figcaption align = "center"><i>Opening the Expression Editor</i></figcaption></figure>

4. Use the left-side panel to select \*\*HTTP Request\*\* > \*\*orderStatus\*\* and drag it into the \*\*Expression\*\* field in the center of the window.

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-3-if-node-expression-editor.png" alt="Expression Editor in the IF node" style="width:100%"><figcaption align = "center"><i>Expression Editor in the If node</i></figcaption></figure>

6. Once you add the expression, close the \*\*Edit Expression\*\* dialog.

- \*\*Operation\*\*: Select \*\*String\*\* > \*\*is equal to\*\*

- Set the `value2` placeholder to `processing`.

/// warning | Data Type

Make sure to select the correct data type (boolean, date & time, number, or string) when you select the \*\*Operation\*\*.

///

Select \*\*Execute step\*\* to test the If node.

Your results should look like this:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-3-if-node-output.png" alt="If node output" style="width:100%"><figcaption align = "center"><i>If node output</i></figcaption></figure>

Note that the orders with a `processing` order status should show for the \*\*True Branch\*\* output, while the orders with a `booked` order status should show in the \*\*False Branch\*\* output.

Close the If node detail view when you're finished.

## Insert data into Airtable

Next, we want to insert this data into Airtable. Remember what Nathan said at the end of the [Inserting data into Airtable](/courses/level-one/chapter-5/chapter-5.2.md) lesson?

> I actually need to insert only processing orders in the table...

Since Nathan only needs the `processing` orders in the table, we'll connect the Airtable node to the If node's `true` connector.

In this case, since the Airtable node is already on our canvas, select the \*\*If node\*\* `true` connector and drag it to the Airtable node.

It's a good idea at this point to retest the Airtable node. Before you do, open your table in Airtable and delete all existing rows. Then open the Airtable node window in n8n and select \*\*Execute step\*\*.

Review your data in Airtable to be sure your workflow only added the correct orders (those with `orderStatus` of `processing`). There should be 14 records now instead of 30.

At this stage, your workflow should look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.3.json") ]]

## What's next?

\*\*Nathan 🙋\*\*: This If node is so useful for filtering data! Now I have all the information about processing orders. I actually only need the `employeeName` and `orderID`, but I guess I can keep all the other fields just in case.

\*\*You 👩‍🔧\*\*: Actually, I wouldn't recommend doing that. Inserting more data requires more computational power, the data transfer is slower and takes longer, and takes up more storage resources in your table. In this particular case, 14 records with 5 fields might not seem like it'd make a significant difference, but if your business grows to thousands of records and dozens of fields, things add up and even one extra column can affect performance.

\*\*Nathan 🙋\*\*: Oh, that's good to know. Can you select only two fields from the processing orders?

\*\*You 👩‍🔧\*\*: Sure, I'll do that in the next step.

## chapter-5.4.md

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# 4. Setting Values for Processing Orders

In this step of the workflow, you will learn how to select and set data before transferring it to Airtable using the Edit Fields (Set) node. After this step, your workflow should look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.4.json") ]]

The next step in Nathan's workflow is to filter the data to only insert the `employeeName` and `orderID` of all `processing` orders into Airtable.

For this, you need to use the [Edit Fields (Set) node](/integrations/builtin/core-nodes/n8n-nodes-base.set.md), which allows you to select and set the data you want to transfer from one node to another.

/// note | Edit Fields node

The Edit Fields node can set completely new data as well as overwrite data that already exists. This node is crucial in workflows which expect incoming data from previous nodes, such as when inserting values into spreadsheets or databases.

///

## Add another node before the Airtable node

In your workflow, add another node before the \*\*Airtable node\*\* from the \*\*If node\*\* in the same way we did it in the [Filtering Orders](/courses/level-one/chapter-5/chapter-5.3.md#add-if-node-before-the-airtable-node) lesson on the If node's `true` connector. Feel free to drag the Airtable node further away if your canvas feels crowded.

## Configure the Edit Fields node

Now search for the \*\*Edit Fields (Set) node\*\* after you've selected the \*\*+\*\* sign coming off the If node's `true` connector.

With the Edit Fields node window open, configure these parameters:

- Ensure \*\*Mode\*\* is set to \*\*Manual Mapping\*\*.

- While you can use the \*\*Expression editor\*\* we used in the [Filtering Orders](/courses/level-one/chapter-5/chapter-5.3.md) lesson, this time, let's drag the fields from the \*\*Input\*\* into the \*\*Fields to Set\*\*:

- Drag \*\*If\*\* > \*\*orderID\*\* as the first field.

- Drag \*\*If\*\* > \*\*employeeName\*\* as the second field.

- Ensure that \*\*Include Other Input Fields\*\* is set to false.

Select \*\*Execute step\*\*. You should see the following results:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-4-set-node.png" alt="Edit Fields (Set) node" style="width:100%"><figcaption align = "center"><i>Edit Fields (Set) node</i></figcaption></figure>

## Add data to Airtable

Next, let's insert these values into Airtable:

1. Go to your Airtable base.

2. Add a new table called `processingOrders`.

3. Replace the existing columns with two new columns:

- `orderID` (primary field): Number

- `employeeName`: Single line text

///note | Reminder

If you get stuck, refer to the [Inserting data into Airtable](/courses/level-one/chapter-5/chapter-5.2.md) lesson.

///

4. Delete the three empty rows in the new table.

5. In n8n, connect the Edit Fields node\*\* connector to the \*\*Airtable node\*\*.

6. Update the Airtable node configuration to point to the new `processingOrders` table instead of the `orders` table.

7. Test your Airtable node to be sure it inserts records into the new `processingOrders` table.

At this stage, your workflow should now look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.4.json") ]]

## What's next?

\*\*Nathan 🙋\*\*: You've already automated half of my work! Now I still need to calculate the booked orders for my colleagues. Can we automate that as well?

\*\*You 👩‍🔧\*\*: Yes! In the next step, I'll use some JavaScript code in a node to calculate the booked orders.

## chapter-5.5.md

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# 5. Calculating Booked Orders

In this step of the workflow you will learn how n8n structures data and how to add custom JavaScript code to perform calculations using the Code node. After this step, your workflow should look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.5.json") ]]

The next step in Nathan's workflow is to calculate two values from the booked orders:

- The total number of booked orders

- The total value of all booked orders

To calculate data and add more functionality to your workflows you can use the Code node, which lets you write custom JavaScript code.

## About the Code node

/// warning | Code node modes

The Code node has two operational \*\*modes\*\*, depending on how you want to process items:

\* \*\*Run Once for All Items\*\* allows you to write code to process all input items at once, as a group.

\* \*\*Run Once for Each Item\*\* executes your code once for each input item.

Learn more about how to use the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md).

///

In n8n, the data that's passed between nodes is an array of objects with the following JSON structure:

```json

[

{

"json": { // (1)!

"apple": "beets",

"carrot": {

"dill": 1

}

},

"binary": { // (2)!

"apple-picture": { // (3)!

"data": "....", // (4)!

"mimeType": "image/png", // (5)!

"fileExtension": "png", // (6)!

"fileName": "example.png", // (7)!

}

}

},

...

]

```

1. (required) n8n stores the actual data within a nested `json` key. This property is required, but can be set to anything from an empty object (like `{}`) to arrays and deeply nested data. The code node automatically wraps the data in a `json` object and parent array (`[]`) if it's missing.

2. (optional) Binary data of item. Most items in n8n don't contain binary data.

3. (required) Arbitrary key name for the binary data.

4. (required) Base64-encoded binary data.

5. (optional) Should set if possible.

6. (optional) Should set if possible.

7. (optional) Should set if possible.

You can learn more about the expected format on the [n8n data structure](/data/data-structure.md) page.

## Configure the Code node

Now let's see how to accomplish Nathan's task using the Code node.

In your workflow, add a \*\*Code node\*\* connected to the `false` branch of the \*\*If node\*\*.

With the Code node window open, configure these parameters:

- \*\*Mode\*\*: Select \*\*Run Once for All Items\*\*.

- \*\*Language\*\*: Select \*\*JavaScript\*\*.

/// note | Using Python in code nodes

While we use JavaScript below, you can also use Python in the Code node. To learn more, refer to the [Code node](/code/code-node.md) documentation.

///

- Copy the Code below and paste it into the \*\*Code\*\* box to replace the existing code:

```javascript

let items = $input.all();

let totalBooked = items.length;

let bookedSum = 0;

for (let i=0; i < items.length; i++) {

bookedSum = bookedSum + items[i].json.orderPrice;

}

return [{ json: {totalBooked, bookedSum} }];

```

Notice the format in which we return the results of the calculation:

```javascript

return [{ json: {totalBooked, bookedSum} }]

```

/// warning | Data structure error

If you don't use the correct data structure, you will get an error message: `Error: Always an Array of items has to be returned!`

///

Now select \*\*Execute step\*\* and you should see the following results:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-5-code-node.png" alt="Code node output" style="width:100%"><figcaption align = "center"><i>Code node output</i></figcaption></figure>

## What's next?

\*\*Nathan 🙋\*\*: Wow, the Code node is powerful! This means that if I have some basic JavaScript skills I can power up my workflows.

\*\*You 👩‍🔧\*\*: Yes! You can progress from no-code to low-code!

\*\*Nathan 🙋\*\*: Now, how do I send the calculations for the booked orders to my team's Discord channel?

\*\*You 👩‍🔧\*\*: There's an n8n node for that. I'll set it up in the next step.

## chapter-5.6.md

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# 6. Notifying the Team

In this step of the workflow, you will learn how to send messages to a Discord channel using the [Discord node](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md). After this step, your workflow should look like this:

[[ workflowDemo("file:////courses/level-one/chapter-5/chapter-5.6.json") ]]

Now that you have a calculated summary of the booked orders, you need to notify Nathan's team in their Discord channel. For this workflow, you will send messages to the [n8n server](https://discord.gg/G98WXzsjky) on Discord.

Before you begin the steps below, use the link above to connect to the n8n server on Discord. Be sure you can access the `#course-level-1` channel.

/// note | Communication app nodes

You can replace the Discord node with another communication app. For example, n8n also has nodes for [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) and [Mattermost](/integrations/builtin/app-nodes/n8n-nodes-base.mattermost.md).

///

In your workflow, add a Discord node connected to the Code node.

When you search for the Discord node, look for \*\*Message Actions\*\* and select \*\*Send a message\*\* to add the node.

In the Discord node window, configure these parameters:

- \*\*Connection Type\*\*: Select \*\*Webhook\*\*.

- \*\*Credential for Discord Webhook\*\*: Select \*\*- Create New Credential -\*\*.

- Copy the \*\*Webhook URL\*\* from the email you received when you signed up for this course and paste it into the \*\*Webhook URL\*\* field of the credentials.

- Select \*\*Save\*\* and then close the credentials dialog.

- \*\*Operation\*\*: Select \*\*Send a Message\*\*.

- \*\*Message\*\*:

- Select the \*\*Expression\*\* tab on the right side of the Message field.

- Copy the text below and paste it into the \*\*Expression\*\* window, or construct it manually using the \*\*Expression Editor\*\*.

```

This week we've {{$json["totalBooked"]}} booked orders with a total value of {{$json["bookedSum"]}}. My Unique ID: {{ $('HTTP Request').params["headerParameters"]["parameters"][0]["value"] }}

```

Now select \*\*Execute step\*\* in the Discord node. If all works well, you should see this output in n8n:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-6-discord-output.png" alt="Discord node output" style="width:100%"><figcaption align = "center"><i>Discord node output</i></figcaption></figure>

And your message should appear in the Discord channel #course-level-1:

<figure><img src="/\_images/courses/level-one/chapter-two/discord-output.png" alt="Discord message" style="width:100%"><figcaption align = "center"><i>Discord message</i></figcaption></figure>

## What's next?

\*\*Nathan 🙋\*\*: Incredible, you've saved me hours of tedious work already! Now I can execute this workflow when I need it. I just need to remember to run it every Monday morning at 9 AM.

\*\*You 👩‍🔧\*\*: Don't worry about that, you can actually schedule the workflow to run on a specific day, time, or interval. I'll set this up in the next step.

## chapter-5.7.md

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# 7. Scheduling the Workflow

In this step of the workflow, you will learn how to schedule your workflow so that it runs automatically at a set time/interval using the Schedule Trigger node. After this step, your workflow should look like this:

[[ workflowDemo("file:////courses/level-one/finished.json") ]]

The workflow you've built so far executes only when you click on \*\*Test Workflow\*\*. But Nathan needs it to run automatically every Monday morning. You can do this with the [Schedule Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md), which allows you to schedule workflows to run periodically at fixed dates, times, or intervals.

To achieve this, we'll remove the Manual Trigger node we started with and replace it with a Schedule Trigger node instead.

## Remove the Manual Trigger node

First, let's remove the Manual Trigger node:

1. Select the Manual Trigger node connected to your HTTP Request node.

2. Select the trash can icon to delete.

This removes the Manual Trigger node and you'll see an "Add first step" option.

## Add the Schedule Trigger node

1. Open the nodes panel and search for \*\*Schedule Trigger\*\*.

2. Select it when it appears in the search results.

In the Schedule Trigger node window, configure these parameters:

- \*\*Trigger Interval\*\*: Select \*\*Weeks\*\*.

- \*\*Weeks Between Triggers\*\*: Enter `1`.

- \*\*Trigger on weekdays\*\*: Select \*\*Monday\*\* (and remove \*\*Sunday\*\* if added by default).

- \*\*Trigger at Hour\*\*: Select \*\*9am\*\*.

- \*\*Trigger at Minute\*\*: Enter `0`.

Your Schedule Trigger node should look like this:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-7-schedule-trigger-node.png" alt="Schedule Trigger Node" style="width:100%"><figcaption align = "center"><i>Schedule Trigger Node</i></figcaption></figure>

/// warning | Keep in mind

To ensure accurate scheduling with the Schedule Trigger node, be sure to set the correct timezone for your [n8n instance](/manage-cloud/set-cloud-timezone.md) or the [workflow's settings](/workflows/settings.md). The Schedule Trigger node will use the workflow's timezone if it's set; it will fall back to the n8n instance's timezone if it's not.

///

## Connect the Schedule Trigger node

Return to the canvas and connect your Schedule Trigger node to the HTTP Request node by dragging the arrow from it to the HTTP Request node.

Your full workflow should look like this:

[[ workflowDemo("file:////courses/level-one/finished.json") ]]

## What's next?

\*\*You 👩‍🔧\*\*: That was it for the workflow! I've added and configured all necessary nodes. Now every time you click on \*\*Execute workflow\*\*, n8n will execute all the nodes: getting, filtering, calculating, and transferring the sales data.

\*\*Nathan 🙋\*\*: This is just what I needed! My workflow will run automatically every Monday morning, correct?

\*\*You 👩‍🔧\*\*: Not so fast. To do that, you need to activate your workflow. I'll do this in the next step and show you how to interpret the execution log.

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## chapter-5.8.md

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# 8. Activating and Examining the Workflow

In this step of the workflow, you will learn how to activate your workflow and change the default workflow settings.

Activating a workflow means that it will run automatically every time a trigger node receives input or meets a condition. By default, all newly created workflows start deactivated.

To activate your workflow, set the \*\*Inactive\*\* toggle in the top navigation of the Editor UI to be \*\*Activated\*\*. Nathan's workflow will now be executed automatically every Monday at 9 AM:

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-8-activated-workflow.png" alt="Activated workflow" style="width:100%"><figcaption align = "center"><i>Activated workflow</i></figcaption></figure>

## Workflow Executions

An execution represents a completed run of a workflow, from the first to the last node. n8n logs workflow executions, allowing you to see if the workflow succeeded or not. The execution log is useful for debugging your workflow and seeing at what stage it runs into issues.

To view the executions for a specific workflow, you can switch to the \*\*Executions\*\* tab when the workflow is open on the canvas. Use the \*\*Editor\*\* tab to swap back to the node editor.

To see the execution log for the entire n8n instance, in your Editor UI, select \*\*Overview\*\* and then select the \*\*Executions\*\* tab in the main panel.

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-8-execution-list.png" alt="Execution List" style="width:100%"><figcaption align = "center"><i>Execution List</i></figcaption></figure>

The \*\*Executions\*\* window displays a table with the following information:

- \*\*Name\*\*: The name of the workflow

- \*\*Started At\*\*: The date and time when the workflow started

- \*\*Status\*\*: The status of the workflow (Waiting, Running, Succeeded, Cancelled, or Failed) and the amount of time it took the workflow to execute

- \*\*Execution ID\*\*: The ID of this workflow execution

/// note | Workflow execution status

You can filter the displayed \*\*Executions\*\* by workflow and by status (\*\*Any Status\*\*, \*\*Failed\*\*, \*\*Cancelled\*\*, \*\*Running\*\*, \*\*Success\*\*, or \*\*Waiting\*\*).

The information displayed here depends on which executions you configure to save in the [\*\*Workflow Settings\*\*](/workflows/settings.md).

///

## Workflow Settings

You can customize your workflows and executions, or overwrite some global default settings in [\*\*Workflow Settings\*\*](/workflows/settings.md).

Access these settings by selecting the three dots in the upper right corner of the Editor UI when the workflow is open on the canvas, then select \*\*Settings\*\*.

<figure><img src="/\_images/courses/level-one/chapter-five/l1-c5-5-8-workflow-settings.png" alt="Workflow Settings" style="width:100%"><figcaption align = "center"><i>Workflow Settings</i></figcaption></figure>

In the \*\*Workflow Settings\*\* window you can configure the following settings:

- \*\*Execution Order\*\*: Choose the execution logic for multi-branch workflows. You should leave this set to `v1` if you don't have workflows that rely on the legacy execution ordering.

- [\*\*Error Workflow\*\*](/flow-logic/error-handling.md): A workflow to run if the execution of the current workflow fails.

- \*\*This workflow can be called by\*\*: Workflows allowed to call this workflow using the [Execute Sub-workflow node](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md).

- \*\*Timezone\*\*: The timezone to use in the current workflow. If not set, the global timezone. In particular, this setting is important for the [Schedule Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md), as you want to make sure that the workflow gets executed at the right time.

- \*\*Save failed production executions\*\*: If n8n should save the Execution data of the workflow when it fails. Default is to save.

- \*\*Save successful production executions\*\*: If n8n should save the Execution data of the workflow when it succeeds. Default is to save.

- \*\*Save manual executions\*\*: If n8n should save executions started from the Editor UI. Default is to save.

- \*\*Save execution progress\*\*: If n8n should save the execution data of each node. If set to Save, you can resume the workflow from where it stopped in case of an error, though keep in mind that this might make the execution slower. Default is to not save.

- \*\*Timeout Workflow\*\*: Whether to cancel a workflow execution after a specific period of time. Default is to not timeout.

## What's next?

\*\*You 👩‍🔧\*\*: That was it! Now you have a 7-node workflow that will run automatically every Monday morning. You don't have to worry about remembering to wrangle the data. Instead, you can start your week with more meaningful or exciting work.

\*\*Nathan 🙋\*\*: This workflow is incredibly helpful, thank you! Now, what's next for you?

\*\*You 👩‍🔧\*\*: I'd like to build more workflows, share them with others, and use some workflows built by other people.

## chapter-1.md

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# Understanding the data structure

In this chapter, you will learn about the data structure of n8n and how to use the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md){:target="\_blank"} to transform data and simulate node outputs.

## Data structure of n8n

In a basic sense, n8n nodes function as an Extract, Transform, Load (ETL) tool. The nodes allow you to access (extract) data from multiple disparate sources, modify (transform) that data in a particular way, and pass (load) it along to where it needs to be.

The data that moves along from node to node in your workflow must be in a format (structure) that can be recognized and interpreted by each node. In n8n, this required structure is an array of objects.

/// note | About array of objects

An array is a list of values. The array can be empty or contain several elements. Each element is stored at a position (index) in the list, starting at 0, and can be referenced by the index number. For example, in the array `["Leonardo", "Michelangelo", "Donatello", "Raphael"];` the element `Donatello` is stored at index 2.

An object stores key-value pairs, instead of values at numbered indexes as in arrays. The order of the pairs isn't important, as the values can be accessed by referencing the key name. For example, the object below contains two properties (`name` and `color`):

```json

{

name: 'Michelangelo',

color: 'blue',

}

```

An array of objects is an array that contains one or more objects. For example, the array `turtles` below contains four objects:

```javascript

var turtles = [

{

name: 'Michelangelo',

color: 'orange',

},

{

name: 'Donatello',

color: 'purple',

},

{

name: 'Raphael',

color: 'red',

},

{

name: 'Leonardo',

color: 'blue',

}

];

```

You can access the properties of an object using dot notation with the syntax `object.property`. For example, `turtles[1].color` gets the color of the second turtle.

///

Data sent from one node to another is sent as an array of JSON objects. The elements in this collection are called items.

<figure><img src="/\_images/courses/level-two/chapter-one/explanation\_items.png" alt="" style="width:100%"><figcaption align = "center"><i>Items</i></figcaption></figure>

An n8n node performs its action on each item of incoming data.

<figure><img src="/\_images/flow-logic/looping/customer\_datastore\_node.png"><figcaption align = "center"><i>Items in the Customer Datastore node</i></figcaption></figure>

## Creating data sets with the Code node

Now that you are familiar with the n8n data structure, you can use it to create your own data sets or simulate node outputs. To do this, use the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md){:target="\_blank"} to write JavaScript code defining your array of objects with the following structure:

```javascript

return [

{

json: {

apple: 'beets',

}

}

];

```

For example, the array of objects representing the Ninja turtles would look like this in the Code node:

<figure><img src="/\_images/courses/level-two/chapter-one/exercise\_function\_notnested.png" alt="" style="width:100%"><figcaption align = "center"><i>Array of objects in the Code node</i></figcaption></figure>

/// warning | JSON objects

Notice that this array of objects contains an extra key: `json`. n8n expects you to wrap each object in an array in another object, with the key `json`.

<figure><img src="/\_images/courses/level-two/chapter-one/explanation\_datastructure.png" alt="" style="width:100%"><figcaption align = "center"><i>Illustration of data structure in n8n</i></figcaption></figure>

It's good practice to pass the data in the right structure used by n8n. But don't worry if you forget to add the `json` key to an item, n8n (version 0.166.0 and above) adds it automatically.

///

You can also have nested pairs, for example if you want to define a primary and a secondary color. In this case, you need to further wrap the key-value pairs in curly braces `{}`.

/// note | n8n data structure video

[This talk](https://www.youtube.com/watch?v=mQHT3Unn4tY) offers a more detailed explanation of data structure in n8n.

<iframe width="560" height="315" src="https://www.youtube.com/embed/mQHT3Unn4tY" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

///

### Exercise

In a Code node, create an array of objects named `myContacts` that contains the properties `name` and `email`, and the `email` property is further split into `personal` and `work`.

??? note "Show me the solution"

In the \*\*Code node\*\*, in the JavaScript Code field you have to write the following code:

```javascript

var myContacts = [

{

json: {

name: 'Alice',

email: {

personal: 'alice@home.com',

work: 'alice@wonderland.org'

},

}

},

{

json: {

name: 'Bob',

email: {

personal: 'bob@mail.com',

work: 'contact@thebuilder.com'

},

}

},

];

return myContacts;

```

When you execute the \*\*Code node\*\*, the result should look like this:

<figure><img src="/\_images/courses/level-two/chapter-one/exercise\_function.png" alt="" style="width:100%"><figcaption align = "center"><i>Result of Code node</i></figcaption></figure>

## Referencing node data with the Code node

Just like you can use [expressions](/code/expressions.md) to reference data from other nodes, you can also use some [methods and variables](/code/builtin/overview.md) in the \*\*Code node\*\*.

Please make sure you read these pages before continuing to the next exercise.

### Exercise

Let's build on the previous exercise, in which you used the Code node to create a data set of two contacts with their names and emails. Now, connect a second Code node to the first one. In the new node, write code to create a new column named `workEmail` that references the work email of the first contact.

??? note "Show me the solution"

In the \*\*Code node\*\*, in the JavaScript Code field you have to write the following code:

```javascript

let items = $input.all();

items[0].json.workEmail = items[0].json.email['work'];

return items;

```

When you execute the \*\*Code node\*\*, the result should look like this:

<figure><img src="/\_images/courses/level-two/chapter-one/exercise\_function\_reference.png" alt="" style="width:100%"><figcaption align = "center"><i>Code node reference</i></figcaption></figure>

## Transforming data

The incoming data from some nodes may have a different data structure than the one used in n8n. In this case, you need to [transform the data](/data/transforming-data.md){:target="\_blank" .external}, so that each item can be processed individually.

The two most common operations for data transformation are:

- Creating multiple items from one item

- Creating a single item from multiple items

There are several ways to transform data for the purposes mentioned above:

- Use n8n's [data transformation nodes](/data/index.md#data-transformation-nodes). Use these nodes to modify the structure of incoming data that contain lists (arrays) without needing to use JavaScript code in the \*\*Code node\*\*:

- Use the [\*\*Split Out node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.splitout.md) to separate a single data item containing a list into multiple items.

- Use the [\*\*Aggregate node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.aggregate.md) to take separate items, or portions of them, and group them together into individual items.

- Use the \*\*Code node\*\* to write JavaScript functions to modify the data structure of incoming data using the \*\*Run Once for All Items\*\* mode:

- To create multiple items from a single item, you can use JavaScript code like this. This example assumes that the item has a key named `data` set to an array of items in the form of: `[{ "data": [{<item\_1>}, {<item\_2>}, ...] }]`:

```javascript

return $input.first().json.data.map(item => {

return {

json: item

}

});

```

- To create a single item from multiple items, you can use this JavaScript code:

```javascript

return [

{

json: {

data\_object: $input.all().map(item => item.json)

}

}

];

```

These JavaScript examples assume your entire input is what you want to transform. As in the exercise above, you can also execute either operation on a specific field by identifying that in the items list, for example, if our workEmail example had multiple emails in a single field, we could run some code like this:

```javascript

let items = $input.all();

return items[0].json.workEmail.map(item => {

return {

json: item

}

});

```

### Exercise

1. Use the \*\*HTTP Request node\*\* to make a GET request to the PokéAPI `https://pokeapi.co/api/v2/pokemon`. (This API requires no authentication).

2. Transform the data in the `results` field with the \*\*Split Out node\*\*.

3. Transform the data in the `results` field with the \*\*Code node\*\*.

??? note "Show me the solution"

1. To get the pokemon from the PokéAPI, execute the \*\*HTTP Request node\*\* with the following parameters:

- \*\*Authentication\*\*: None

- \*\*Request Method\*\*: GET

- \*\*URL\*\*: https://pokeapi.co/api/v2/pokemon

2. To transform the data with the \*\*Split Out node\*\*, connect this node to the \*\*HTTP Request node\*\* and set the following parameters:

- \*\*Field To Split Out\*\*: results

- \*\*Include\*\*: No Other Fields

3. To transform the data with the \*\*Code node\*\*, connect this node to the \*\*HTTP Request node\*\* and write the following code in the JavaScript Code field:

```javascript

let items = $input.all();

return items[0].json.results.map(item => {

return {

json: item

}

});

```

## chapter-2.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Processing different data types

In this chapter, you will learn how to process different types of data using [n8n core nodes](/workflows/components/nodes.md).

## HTML and XML data

You're most likely familiar with HTML and XML.

/// note | HTML vs. XML

HTML is a markup language used to describe the structure and semantics of a web page. XML looks similar to HTML, but the tag names are different, as they describe the kind of data they hold.

///

If you need to process HTML or XML data in your n8n workflows, use the [\*\*HTML node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.html.md) or the [\*\*XML node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.xml.md).

Use the \*\*HTML node\*\* to extract HTML content of a webpage by referencing CSS selectors. This is useful if you want to collect structured information from a website (web-scraping).

### HTML Exercise

Let's get the title of the latest n8n blog post:

1. Use the \*\*HTTP Request node\*\* to make a GET request to the URL `https://blog.n8n.io/` (this endpoint requires no authentication).

2. Connect an \*\*HTML node\*\* and configure it to extract the title of the first blog post on the page.

- Hint: If you're not familiar with CSS selectors or reading HTML, the CSS selector `.post .item-title a` should help!

??? note "Show me the solution"

1. Configure the HTTP Request node with the following parameters:

- \*\*Authentication\*\*: None

- \*\*Request Method\*\*: GET

- \*\*URL\*\*: https://blog.n8n.io/

The result should look like this:

<figure><img src="/\_images/courses/level-two/chapter-two/exercise\_html\_httprequestnode.png" alt="Result of HTTP Request node" style="width:100%"><figcaption align = "center"><i>Result of HTTP Request node</i></figcaption></figure>

2. Connect an \*\*HTML node\*\* to the \*\*HTTP Request node\*\* and configure the former's parameters:

- \*\*Operation\*\*: Extract HTML Content

- \*\*Source Data\*\*: JSON

- \*\*JSON Property\*\*: data

- \*\*Extraction Values\*\*:

- \*\*Key\*\*: title

- \*\*CSS Selector\*\*: `.post .item-title a`

- \*\*Return Value\*\*: HTML

You can add more values to extract more data.

The result should look like this:

<figure><img src="/\_images/courses/level-two/chapter-two/exercise\_html\_htmlextractnode.png" alt="Result of HTML Extract node" style="width:100%"><figcaption align = "center"><i>Result of HTML Extract node</i></figcaption></figure>

Use the \*\*XML node\*\* to convert XML to JSON and JSON to XML. This operation is useful if you work with different web services that use either XML or JSON and need to get and submit data between them in the two formats.

### XML Exercise

In the [final exercise of Chapter 1](/courses/level-two/chapter-1.md#exercise\_2), you used an \*\*HTTP Request node\*\* to make a request to the PokéAPI. In this exercise, we'll return to that same API but we'll convert the output to XML:

1. Add an \*\*HTTP Request node\*\* that makes the same request to the PokéAPI at `https://pokeapi.co/api/v2/pokemon`.

2. Use the XML node to convert the JSON output to XML.

??? note "Show me the solution"

1. To get the pokemon from the PokéAPI, execute the \*\*HTTP Request node\*\* with the following parameters:

- \*\*Authentication\*\*: None

- \*\*Request Method\*\*: GET

- \*\*URL\*\*: https://pokeapi.co/api/v2/pokemon

2. Connect an \*\*XML node\*\* to it with the following parameters:

- \*\*Mode\*\*: JSON to XML

- \*\*Property name\*\*: data

The result should look like this:

<figure><img src="/\_images/courses/level-two/chapter-two/exercise\_html\_xmlnode\_table.png" alt="Table view of XML Node (JSON to XML)" style="width:100%"><figcaption align = "center"><i>XML node (JSON to XML) – Table View</i></figcaption></figure>

To transform data the other way around, select the mode \*\*XML to JSON\*\*.

## Date, time, and interval data

Date and time data types include `DATE`, `TIME`, `DATETIME`, `TIMESTAMP`, and `YEAR`. The dates and times can be passed in different formats, for example:

<!-- vale off -->

- `DATE`: March 29 2022, 29-03-2022, 2022/03/29

- `TIME`: 08:30:00, 8:30, 20:30

- `DATETIME`: 2022/03/29 08:30:00

- `TIMESTAMP`: 1616108400 (Unix timestamp), 1616108400000 (Unix ms timestamp)

- `YEAR`: 2022, 22

<!-- vale on -->

There are a few ways you can work with dates and times:

- Use the [\*\*Date & Time node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.datetime.md) to convert date and time data to different formats and calculate dates.

- Use [\*\*Schedule Trigger node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) to schedule workflows to run at a specific time, interval, or duration.

Sometimes, you might need to pause the workflow execution. This might be necessary if you know that a service doesn't process the data instantly or it's slow to return all the results. In these cases, you don't want n8n to pass incomplete data to the next node.

If you run into situations like this, use the [\*\*Wait node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) after the node that you want to delay. The \*\*Wait node\*\* pauses the workflow execution and will resume execution:

- At a specific time.

- After a specified time interval.

- On a webhook call.

### Date Exercise

Build a workflow that adds five days to an input date from the Customer Datastore node that you used before. Then, if the calculated date occurred after 1959, the workflow waits 1 minute before [setting](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) the calculated date as a value. The workflow should be triggered every 30 minutes.

To begin:

<!-- To do: need to figure out what the actual desired output is here since Date & Time options have changed and I'm unclear what the Set node should be doing-->

1. Add the \*\*Customer Datastore (n8n training) node\*\* with the \*\*Get All People\*\* action selected. Return All.

2. Add the \*\*Date & Time node\*\* to Round Up the created Date from the datastore to End of Month. Output this to field new-date. Include all input fields.

3. Add the \*\*If node\*\* to check if that new rounded date is after `1960-01-01 00:00:00`.

4. Add the \*\*Wait node\*\* to the True output of that node and set it to wait for one minute.

5. Add the \*\*Edit Fields (Set) node\*\* to set a new field called outputValue to a String containing new-date. Include all input fields.

6. Add the \*\*Schedule Trigger node\*\* at the beginning of the workflow to trigger it every 30 minutes. (You can keep the [Manual Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.manualworkflowtrigger.md) for testing!)

??? note "Show me the solution"

1. Add the \*\*Customer Datastore (n8n training) node\*\* with the \*\*Get All People\*\* action selected.

- Select the option to \*\*Return All\*\*.

2. Add a \*\*Date & Time node\*\* connected to the Customer Datastore node. Select the option to \*\*Round a Date\*\*.

- Add the `created` date as the \*\*Date\*\* to round.

- Select `Round Up` as the \*\*Mode\*\* and `End of Month` as the \*\*To\*\*.

- Set the \*\*Output Field Name\*\* as `new-date`.

- In \*\*Options\*\*, select \*\*Add Option\*\* and use the control to \*\*Include Input Fields\*\*

3. Add an \*\*If node\*\* connected to the \*\*Date & Time node\*\*.

- Add the new-date field as the first part of the condition.

- Set the comparison to \*\*Date &Time > is after\*\*

- Add `1960-01-01 00:00:00` as the second part of the expression. (This should produce 3 items in the True Branch and 2 items in the False Branch)

4. Add a \*\*Wait node\*\* to the True output of the \*\*If node\*\*.

- Set \*\*Resume\*\* to `After Time interval`.

- Set \*\*Wait Amount\*\* to `1.00`.

- Set \*\*Wait Unit\*\* to `Minutes`.

5. Add an \*\*Edit Fields (Set) node\*\* to the \*\*Wait node\*\*.

- Use either JSON or Manual Mapping \*\*Mode\*\*.

- Set a new field called `outputValue` to be the value of the new-date field.

- Select the option to \*\*Include Other Input Fields\*\* and include \*\*All\*\* fields.

6. Add a \*\*Schedule Trigger node\*\* at the beginning of the workflow.

- Set the \*\*Trigger Interval\*\* to use `Minutes`.

- Set the \*\*Minutes Between Triggers\*\* to 30.

- To test your schedule, be sure to activate the workflow.

- Be sure to connect this node to the \*\*Customer Datastore (n8n training) node\*\* you began with!

The workflow should look like this:

<figure><img src="/\_images/courses/level-two/chapter-two/exercise\_datetime.png" alt="Workflow for transforming dates" style="width:100%"><figcaption align = "center"><i>Workflow for transforming dates</i></figcaption></figure>

To check the configuration of each node, you can copy the JSON code of this workflow and either paste it into the Editor UI or save it as a file and import from file into a new workflow. See [Export and import workflows](/workflows/export-import.md) for more information.

```json

{

"name": "Course 2, Ch 2, Date exercise",

"nodes": [

{

"parameters": {},

"id": "6bf64d5c-4b00-43cf-8439-3cbf5e5f203b",

"name": "When clicking \"Execute workflow\"",

"type": "n8n-nodes-base.manualTrigger",

"typeVersion": 1,

"position": [

620,

280

]

},

{

"parameters": {

"operation": "getAllPeople",

"returnAll": true

},

"id": "a08a8157-99ee-4d50-8fe4-b6d7e16e858e",

"name": "Customer Datastore (n8n training)",

"type": "n8n-nodes-base.n8nTrainingCustomerDatastore",

"typeVersion": 1,

"position": [

840,

360

]

},

{

"parameters": {

"operation": "roundDate",

"date": "={{ $json.created }}",

"mode": "roundUp",

"outputFieldName": "new-date",

"options": {

"includeInputFields": true

}

},

"id": "f66a4356-2584-44b6-a4e9-1e3b5de53e71",

"name": "Date & Time",

"type": "n8n-nodes-base.dateTime",

"typeVersion": 2,

"position": [

1080,

360

]

},

{

"parameters": {

"conditions": {

"options": {

"caseSensitive": true,

"leftValue": "",

"typeValidation": "strict"

},

"conditions": [

{

"id": "7c82823a-e603-4166-8866-493f643ba354",

"leftValue": "={{ $json['new-date'] }}",

"rightValue": "1960-01-01T00:00:00",

"operator": {

"type": "dateTime",

"operation": "after"

}

}

],

"combinator": "and"

},

"options": {}

},

"id": "cea39877-6183-4ea0-9400-e80523636912",

"name": "If",

"type": "n8n-nodes-base.if",

"typeVersion": 2,

"position": [

1280,

360

]

},

{

"parameters": {

"amount": 1,

"unit": "minutes"

},

"id": "5aa860b7-c73c-4df0-ad63-215850166f13",

"name": "Wait",

"type": "n8n-nodes-base.wait",

"typeVersion": 1.1,

"position": [

1480,

260

],

"webhookId": "be78732e-787d-463e-9210-2c7e8239761e"

},

{

"parameters": {

"assignments": {

"assignments": [

{

"id": "e058832a-2461-4c6d-b584-043ecc036427",

"name": "outputValue",

"value": "={{ $json['new-date'] }}",

"type": "string"

}

]

},

"includeOtherFields": true,

"options": {}

},

"id": "be034e9e-3cf1-4264-9d15-b6760ce28f91",

"name": "Edit Fields",

"type": "n8n-nodes-base.set",

"typeVersion": 3.3,

"position": [

1700,

260

]

},

{

"parameters": {

"rule": {

"interval": [

{

"field": "minutes",

"minutesInterval": 30

}

]

}

},

"id": "6e8e4308-d0e0-4d0d-bc29-5131b57cf061",

"name": "Schedule Trigger",

"type": "n8n-nodes-base.scheduleTrigger",

"typeVersion": 1.1,

"position": [

620,

480

]

}

],

"pinData": {},

"connections": {

"When clicking \"Execute workflow\"": {

"main": [

[

{

"node": "Customer Datastore (n8n training)",

"type": "main",

"index": 0

}

]

]

},

"Customer Datastore (n8n training)": {

"main": [

[

{

"node": "Date & Time",

"type": "main",

"index": 0

}

]

]

},

"Date & Time": {

"main": [

[

{

"node": "If",

"type": "main",

"index": 0

}

]

]

},

"If": {

"main": [

[

{

"node": "Wait",

"type": "main",

"index": 0

}

]

]

},

"Wait": {

"main": [

[

{

"node": "Edit Fields",

"type": "main",

"index": 0

}

]

]

},

"Schedule Trigger": {

"main": [

[

{

"node": "Customer Datastore (n8n training)",

"type": "main",

"index": 0

}

]

]

}

}

}

```

## Binary data

Up to now, you have mainly worked with text data. But what if you want to process data that's not text, like images or PDF files? These types of files are represented in the binary numeral system, so they're considered binary data. In this form, binary data doesn't offer you useful information, so you'll need to convert it into a readable form.

In n8n, you can process binary data with the following nodes:

- [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) to request and send files from/to web resources and APIs.

- [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) to read and write files from/to the machine where n8n is running.

- [Convert to File](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) to take input data and output it as a file.

- [Extract From File](/integrations/builtin/core-nodes/n8n-nodes-base.extractfromfile.md) to get data from a binary format and convert it to JSON.

/// note | Reading and writing files is only available on self-hosted n8n

Reading and writing files to disk isn't available on n8n Cloud. You'll read and write to the machine where you installed n8n. If you run n8n in Docker, your command runs in the n8n container and not the Docker host. The Read/Write Files From Disk node looks for files relative to the n8n install path. n8n recommends using absolute file paths to prevent any errors.

///

To read or write a binary file, you need to write the path (location) of the file in the node's `File(s) Selector` parameter (for the Read operation) or in the node's `File Path and Name` parameter (for the Write operation).

/// warning | Naming the right path

The file path looks slightly different depending on how you are running n8n:

- npm: `~/my\_file.json`

- n8n cloud / Docker: `/tmp/my\_file.json`

///

### Binary Exercise 1

For our first binary exercise, let's convert a PDF file to JSON:

1. Make an HTTP request to get this PDF file: `https://media.kaspersky.com/pdf/Kaspersky\_Lab\_Whitepaper\_Anti\_blocker.pdf.`

2. Use the \*\*Extract From File node\*\* to convert the file from binary to JSON.

??? note "Show me the solution"

In the \*\*HTTP Request node\*\*, you should see the PDF file, like this:

<figure><img src="/\_images/courses/level-two/chapter-two/exercise\_binarydata\_httprequest\_file.png" alt="HTTP Request node to get PDF" style="width:100%"><figcaption align = "center"><i>HTTP Request node to get PDF</i></figcaption></figure>

When you convert the PDF from binary to JSON using the \*\*Extract From File node\*\*, the result should look like this:

<figure><img src="/\_images/courses/level-two/chapter-two/exercise\_binarydata\_movedata\_btoj.png" alt="Extract From File node" style="width:100%"><figcaption align = "center"><i>Extract From File node</i></figcaption></figure>

To check the configuration of the nodes, you can copy the JSON workflow code below and paste it into your Editor UI:

```json

{

"name": "Binary to JSON",

"nodes": [

{

"parameters": {},

"id": "78639a25-b69a-4b9c-84e0-69e045bed1a3",

"name": "When clicking \"Execute Workflow\"",

"type": "n8n-nodes-base.manualTrigger",

"typeVersion": 1,

"position": [

480,

520

]

},

{

"parameters": {

"url": "https://media.kaspersky.com/pdf/Kaspersky\_Lab\_Whitepaper\_Anti\_blocker.pdf",

"options": {}

},

"id": "a11310df-1287-4e9a-b993-baa6bd4265a6",

"name": "HTTP Request",

"type": "n8n-nodes-base.httpRequest",

"typeVersion": 4.1,

"position": [

700,

520

]

},

{

"parameters": {

"operation": "pdf",

"options": {}

},

"id": "88697b6b-fb02-4c3d-a715-750d60413e9f",

"name": "Extract From File",

"type": "n8n-nodes-base.extractFromFile",

"typeVersion": 1,

"position": [

920,

520

]

}

],

"pinData": {},

"connections": {

"When clicking \"Execute Workflow\"": {

"main": [

[

{

"node": "HTTP Request",

"type": "main",

"index": 0

}

]

]

},

"HTTP Request": {

"main": [

[

{

"node": "Extract From File",

"type": "main",

"index": 0

}

]

]

}

}

}

```

### Binary Exercise 2

For our second binary exercise, let's convert some JSON data to binary:

1. Make an HTTP request to the Poetry DB API `https://poetrydb.org/random/1`.

2. Convert the returned data from JSON to binary using the \*\*Convert to File node\*\*.

3. Write the new binary file data to the machine where n8n is running using the \*\*Read/Write Files From Disk node\*\*.

4. To check that it worked out, use the \*\*Read/Write Files From Disk node\*\* to read the generated binary file.

??? note "Show me the solution"

The workflow for this exercise looks like this:

<figure><img src="/\_images/courses/level-two/chapter-two/exercise\_binarydata.png" alt="Workflow for moving JSON to binary data" style="width:100%"><figcaption align = "center"><i>Workflow for moving JSON to binary data</i></figcaption></figure>

To check the configuration of the nodes, you can copy the JSON workflow code below and paste it into your Editor UI:

```json

{

"name": "JSON to file and Read-Write",

"nodes": [

{

"parameters": {},

"id": "78639a25-b69a-4b9c-84e0-69e045bed1a3",

"name": "When clicking \"Execute Workflow\"",

"type": "n8n-nodes-base.manualTrigger",

"typeVersion": 1,

"position": [

480,

520

]

},

{

"parameters": {

"url": "https://poetrydb.org/random/1",

"options": {}

},

"id": "a11310df-1287-4e9a-b993-baa6bd4265a6",

"name": "HTTP Request",

"type": "n8n-nodes-base.httpRequest",

"typeVersion": 4.1,

"position": [

680,

520

]

},

{

"parameters": {

"operation": "toJson",

"options": {}

},

"id": "06be18f6-f193-48e2-a8d9-35f4779d8324",

"name": "Convert to File",

"type": "n8n-nodes-base.convertToFile",

"typeVersion": 1,

"position": [

880,

520

]

},

{

"parameters": {

"operation": "write",

"fileName": "/tmp/poetrydb.json",

"options": {}

},

"id": "f2048e5d-fa8f-4708-b15a-d07de359f2e5",

"name": "Read/Write Files from Disk",

"type": "n8n-nodes-base.readWriteFile",

"typeVersion": 1,

"position": [

1080,

520

]

},

{

"parameters": {

"fileSelector": "={{ $json.fileName }}",

"options": {}

},

"id": "d630906c-09d4-49f4-ba14-416c0f4de1c8",

"name": "Read/Write Files from Disk1",

"type": "n8n-nodes-base.readWriteFile",

"typeVersion": 1,

"position": [

1280,

520

]

}

],

"pinData": {},

"connections": {

"When clicking \"Execute Workflow\"": {

"main": [

[

{

"node": "HTTP Request",

"type": "main",

"index": 0

}

]

]

},

"HTTP Request": {

"main": [

[

{

"node": "Convert to File",

"type": "main",

"index": 0

}

]

]

},

"Convert to File": {

"main": [

[

{

"node": "Read/Write Files from Disk",

"type": "main",

"index": 0

}

]

]

},

"Read/Write Files from Disk": {

"main": [

[

{

"node": "Read/Write Files from Disk1",

"type": "main",

"index": 0

}

]

]

}

}

}

```

## chapter-3.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Merging and splitting data

In this chapter, you will learn how to merge and split data, and in what cases it might be useful to perform these operations.

## Merging data

In some cases, you might need to merge (combine) and process data from different sources.

Merging data can involve:

- Creating one data set from multiple sources.

- Synchronizing data between multiple systems. This could include removing duplicate data or updating data in one system when it changes in another.

/// note | One-way vs. two-way sync

In a one-way sync, data is synchronized in one direction. One system serves as the single source of truth. When information changes in that main system, it automatically changes in the secondary system; but if information changes in the secondary system, the changes aren't reflected in the main system.

In a two-way sync, data is synchronized in both directions (between both systems). When information changes in either of the two systems, it automatically changes in the other one as well.

[This blog tutorial](https://blog.n8n.io/how-to-sync-data-between-two-systems/) explains how to sync data one-way and two-way between two CRMs.

///

In n8n, you can merge data from two different nodes using the [Merge node](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md){:target="\_blank"}, which provides several merging options:

- [Append](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md#append){:target="\_blank"}

- [Combine](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md#combine){:target="\_blank"}

- [Merge by Fields](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md#combine-by-matching-fields){:target="\_blank"}: requires input fields to match on

- [Merge by Position](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md#combine-by-position){:target="\_blank"}

- [Combine all possible combinations](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md#combine-by-all-possible-combinations){:target="\_blank"}

- [Choose Branch](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md#choose-branch){:target="\_blank"}

Notice that Combine > Merge by Fields requires you enter input fields to match on. These fields should contain identical values between the data sources so n8n can properly match data together. In the \*\*Merge node\*\*, they're called `Input 1 Field` and `Input 2 Field`.

<figure><img src="/\_images/courses/level-two/chapter-three/explanation\_mergepropertyinput.png" alt="Property Input fields in the Merge node" style="width:100%"><figcaption align = "center"><i>Property Input fields in the Merge node</i></figcaption></figure>

/// warning | Property Input in dot notation

If you want to reference nested values in the \*\*Merge node\*\* parameters `Input 1 Field` and `Input 2 Field`, you need to enter the property key in dot-notation format (as text, not as an expression).

///

/// note

You can also find the \*\*Merge node\*\* under the alias Join. This might be more intuitive if you're familiar with SQL joins.

///

### Merge Exercise

Build a workflow that merges data from the Customer Datastore node and Code node.

1. Add a \*\*Merge node\*\* that takes `Input 1` from a \*\*Customer Datastore node\*\* and `Input 2` from a \*\*Code node\*\*.

2. In the \*\*Customer Datastore node\*\*, run the operation \*\*Get All People\*\*.

3. In the \*\*Code node\*\*, create an array of two objects with three properties: `name`, `language`, and `country`, where the property `country` has two sub-properties `code` and `name`.

- Fill out the values of these properties with the information of two characters from the Customer Database.

- For example, Jay Gatsby's language is English and country name is United States.

4. In the \*\*Merge node\*\*, try out different merge options.

??? note "Show me the solution"

The workflow for this exercise looks like this:

<figure><img src="/\_images/courses/level-two/chapter-three/exercise\_merge.png" alt="Workflow exercise for merging data" style="width:100%"><figcaption align = "center"><i>Workflow exercise for merging data</i></figcaption></figure>

If you merge data with the option \*\*Keep Matches\*\* using the name as the input fields to match, the result should look like this (note this example only contains Jay Gatsby; yours might look different depending on which characters you selected):

<figure><img src="/\_images/courses/level-two/chapter-three/exercise\_merge\_kkm.png" alt="Output of Merge node with option to keep matches" style="width:100%"><figcaption align = "center"><i>Output of Merge node with option to keep matches</i></figcaption></figure>

To check the configuration of the nodes, you can copy the JSON workflow code below and paste it into your Editor UI:

```json

{

"meta": {

"templateCredsSetupCompleted": true,

"instanceId": "cb484ba7b742928a2048bf8829668bed5b5ad9787579adea888f05980292a4a7"

},

"nodes": [

{

"parameters": {

"mode": "combine",

"mergeByFields": {

"values": [

{

"field1": "name",

"field2": "name"

}

]

},

"options": {}

},

"id": "578365f3-26dd-4fa6-9858-f0a5fdfc413b",

"name": "Merge",

"type": "n8n-nodes-base.merge",

"typeVersion": 2.1,

"position": [

720,

580

]

},

{

"parameters": {},

"id": "71aa5aad-afdf-4f8a-bca0-34450eee8acc",

"name": "When clicking \"Execute workflow\"",

"type": "n8n-nodes-base.manualTrigger",

"typeVersion": 1,

"position": [

260,

560

]

},

{

"parameters": {

"operation": "getAllPeople"

},

"id": "497174fe-3cab-4160-8103-78b44efd038d",

"name": "Customer Datastore (n8n training)",

"type": "n8n-nodes-base.n8nTrainingCustomerDatastore",

"typeVersion": 1,

"position": [

500,

460

]

},

{

"parameters": {

"jsCode": "return [\n {\n 'name': 'Jay Gatsby',\n 'language': 'English',\n 'country': {\n 'code': 'US',\n 'name': 'United States'\n }\n \n }\n \n];"

},

"id": "387e8a1e-e796-4f05-8e75-7ce25c786c5f",

"name": "Code",

"type": "n8n-nodes-base.code",

"typeVersion": 2,

"position": [

500,

720

]

}

],

"connections": {

"When clicking \"Execute workflow\"": {

"main": [

[

{

"node": "Customer Datastore (n8n training)",

"type": "main",

"index": 0

},

{

"node": "Code",

"type": "main",

"index": 0

}

]

]

},

"Customer Datastore (n8n training)": {

"main": [

[

{

"node": "Merge",

"type": "main",

"index": 0

}

]

]

},

"Code": {

"main": [

[

{

"node": "Merge",

"type": "main",

"index": 1

}

]

]

}

},

"pinData": {}

}

```

## Looping

In some cases, you might need to perform the same operation on each element of an array or each data item (for example sending a message to every contact in your address book). In technical terms, you need to iterate through the data (with loops).

n8n generally handles this repetitive processing automatically, as the nodes run once for each item, so you don't need to build loops into your workflows.

However, there are some [exceptions of nodes and operations](/flow-logic/looping.md#node-exceptions){:target="\_blank"} that will require you to build a loop into your workflow.

To [create a loop in an n8n workflow](/flow-logic/looping.md#using-loops-in-n8n){:target="\_blank"}, you need to connect the output of one node to the input of a previous node, and add an \*\*If node\*\* to check when to stop the loop.

## Splitting data in batches

If you need to process large volumes of incoming data, execute the \*\*Code node\*\* multiple times, or avoid API rate limits, it's best to split the data into batches (groups) and process these batches.

For these processes, use the [\*\*Loop Over Items node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md){:target="\_blank"}. This node splits input data into a specified batch size and, with each iteration, returns a predefined amount of data.

/// warning | Execution of Loop Over Items node

The \*\*Loop Over Items node\*\* stops executing after all the incoming items get divided into batches and passed on to the next node in the workflow, so it's not necessary to add an \*\*If node\*\* to stop the loop.

///

### Loop/Batch Exercise

Build a workflow that reads the RSS feed from Medium and dev.to. The workflow should consist of three nodes:

1. A \*\*Code node\*\* that returns the URLs of the RSS feeds of Medium (`https://medium.com/feed/n8n-io`) and dev.to (`https://dev.to/feed/n8n`).

2. A \*\*Loop Over Items node\*\* with `Batch Size: 1`, that takes in the inputs from the \*\*Code node\*\* and \*\*RSS Read node\*\* and iterates over the items.

3. An \*\*RSS Read node\*\* that gets the URL of the Medium RSS feed, passed as an expression: `{{ $json.url }}`.

- The \*\*RSS Read node\*\* is one of the [exception nodes](/flow-logic/looping.md#node-exceptions){:target="\_blank"} which processes only the first item it receives, so the \*\*Loop Over Items node\*\* is necessary for iterating over multiple items.

??? note "Show me the solution"

1. Add a \*\*Code Node\*\*. You can format the code in several ways, one way is:

- Set \*\*Mode\*\* to `Run Once for All Items`.

- Set \*\*Language\*\* to `JavaScript`.

- Copy the code below and paste it into the JavaScript Code editor:

```javascript

let urls = [

{

json: {

url: 'https://medium.com/feed/n8n-io'

}

},

{

json: {

url: 'https://dev.to/feed/n8n'

}

}

]

return urls;

```

2. Add a \*\*Loop Over Items node\*\* connected to the \*\*Code node\*\*.

- Set \*\*Batch Size\*\* to `1`.

3. The \*\*Loop Over Items node\*\* automatically adds a node called "Replace Me". Replace that node with an \*\*RSS Read node\*\*.

- Set the \*\*URL\*\* to use the url from the Code Node: `{{ $json.url }}`.

The workflow for this exercise looks like this:

<figure><img src="/\_images/courses/level-two/chapter-three/exercise\_splitinbatches.png" alt="Workflow for getting RSS feeds from two blogs" style="width:100%"><figcaption align = "center"><i>Workflow for getting RSS feeds from two blogs</i></figcaption></figure>

To check the configuration of the nodes, you can copy the JSON workflow code below and paste it into your Editor UI:

```json

{

"meta": {

"templateCredsSetupCompleted": true,

"instanceId": "cb484ba7b742928a2048bf8829668bed5b5ad9787579adea888f05980292a4a7"

},

"nodes": [

{

"parameters": {},

"id": "ed8dc090-ae8c-4db6-a93b-0fa873015c25",

"name": "When clicking \"Execute workflow\"",

"type": "n8n-nodes-base.manualTrigger",

"typeVersion": 1,

"position": [

460,

460

]

},

{

"parameters": {

"jsCode": "let urls = [\n {\n json: {\n url: 'https://medium.com/feed/n8n-io'\n }\n },\n {\n json: {\n url: 'https://dev.to/feed/n8n'\n } \n }\n]\n\nreturn urls;"

},

"id": "1df2a9bf-f970-4e04-b906-92dbbc9e8d3a",

"name": "Code",

"type": "n8n-nodes-base.code",

"typeVersion": 2,

"position": [

680,

460

]

},

{

"parameters": {

"options": {}

},

"id": "3cce249a-0eab-42e2-90e3-dbdf3684e012",

"name": "Loop Over Items",

"type": "n8n-nodes-base.splitInBatches",

"typeVersion": 3,

"position": [

900,

460

]

},

{

"parameters": {

"url": "={{ $json.url }}",

"options": {}

},

"id": "50e1c1dc-9a5d-42d3-b7c0-accc31636aa6",

"name": "RSS Read",

"type": "n8n-nodes-base.rssFeedRead",

"typeVersion": 1,

"position": [

1120,

460

]

}

],

"connections": {

"When clicking \"Execute workflow\"": {

"main": [

[

{

"node": "Code",

"type": "main",

"index": 0

}

]

]

},

"Code": {

"main": [

[

{

"node": "Loop Over Items",

"type": "main",

"index": 0

}

]

]

},

"Loop Over Items": {

"main": [

null,

[

{

"node": "RSS Read",

"type": "main",

"index": 0

}

]

]

},

"RSS Read": {

"main": [

[

{

"node": "Loop Over Items",

"type": "main",

"index": 0

}

]

]

}

},

"pinData": {}

}

```

## chapter-4.md

---

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# Dealing with errors in workflows

Sometimes you build a nice workflow, but it fails when you try to execute it. Workflow executions may fail for a variety of reasons, ranging from straightforward problems with incorrectly configuring a node or a failure in a third-party service to more mysterious errors.

But don't panic. In this lesson, you'll learn how you can troubleshoot errors so you can get your workflow up and running as soon as possible.

## Checking failed workflows

n8n tracks executions of your workflows.

When one of your workflows fails, you can check the Executions log to see what went wrong. The Executions log shows you a list of the latest execution time, status, mode, and running time of your saved workflows.

Open the Executions log by selecting [\*\*Executions\*\*](/workflows/executions/index.md#execution-modes) in the left-side panel.

To investigate a specific failed execution from the list, select the name or the \*\*View\*\* button that appears when you hover over the row of the respective execution.

<figure><img src="/\_images/courses/level-two/chapter-four/explanation\_workflowexecutions.png" alt="Executions log" style="width:100%"><figcaption align = "center"><i>Executions log</i></figcaption></figure>

This will open the workflow in read-only mode, where you can see the execution of each node. This representation can help you identify at what point the workflow ran into issues.

To toggle between viewing the execution and the editor, select the \*\*Editor | Executions\*\* button at the top of the page.

<figure><img src="/\_images/courses/level-two/chapter-four/explanation\_workflowexecutions\_readonly.png" alt="Workflow execution view" style="width:100%"><figcaption align = "center"><i>Workflow execution view</i></figcaption></figure>

## Catching erroring workflows

To catch failed workflows, create a separate [\*\*Error Workflow\*\*](/flow-logic/error-handling.md) with the [\*\*Error Trigger node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.errortrigger.md). This workflow will only execute if the main workflow execution fails.

Use additional nodes in your \*\*Error Workflow\*\* that make sense, like sending notifications about the failed workflow and its errors using email or Slack.

To receive error messages for a failed workflow, set the \*\*Error Workflow\*\* in the [Workflow Settings](/workflows/settings.md) to an Error Workflow that uses an \*\*Error Trigger node\*\*.

The only difference between a regular workflow and an Error Workflow is that the latter contains an \*\*Error Trigger node\*\*. Make sure to create this node before you set this as another workflow's designated Error Workflow.

/// note | Error workflows

- If a workflow uses the Error Trigger node, you don't have to activate the workflow.

- If a workflow contains the Error Trigger node, by default, the workflow uses itself as the error workflow.

- You can't test error workflows when running workflows manually. The Error trigger only runs when an automatic workflow errors.

- You can set the same Error Workflow for multiple workflows.

///

### Exercise

In the previous chapters, you've built several small workflows. Now, pick one of them that you want to monitor and create an Error Workflow for it:

1. Create a new Error Workflow.

2. Add the \*\*Error Trigger node\*\*.

3. Connect a node for the communication platform of your choice to the Error Trigger node, like [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md), [Discord](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md), [Telegram](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md), or even [Gmail](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) or a more generic [Send Email](/integrations/builtin/core-nodes/n8n-nodes-base.sendemail.md).

4. In the workflow you want to monitor, open the [Workflow Settings](/workflows/settings.md) and select the new Error Workflow you just created. Note that this workflow needs to run automatically to trigger the error workflow.

??? note "Show me the solution"

The workflow for this exercise looks like this:

<figure><img src="/\_images/courses/level-two/chapter-four/exercise\_errors\_errortriggernode\_workflow.png" alt="" style="width:100%"><figcaption align = "center"><i>Error workflow</i></figcaption></figure>

To check the configuration of the nodes, you can copy the JSON workflow code below and paste it into your Editor UI:

```json

{

"nodes": [

{

"parameters": {},

"name": "Error Trigger",

"type": "n8n-nodes-base.errorTrigger",

"typeVersion": 1,

"position": [

720,

-380

]

},

{

"parameters": {

"channel": "channelname",

"text": "=This workflow {{$node[\"Error Trigger\"].json[\"workflow\"][\"name\"]}}failed.\nHave a look at it here: {{$node[\"Error Trigger\"].json[\"execution\"][\"url\"]}}",

"attachments": [],

"otherOptions": {}

},

"name": "Slack",

"type": "n8n-nodes-base.slack",

"position": [

900,

-380

],

"typeVersion": 1,

"credentials": {

"slackApi": {

"id": "17",

"name": "slack\_credentials"

}

}

}

],

"connections": {

"Error Trigger": {

"main": [

[

{

"node": "Slack",

"type": "main",

"index": 0

}

]

]

}

}

}

```

## Throwing exceptions in workflows

Another way of troubleshooting workflows is to include a [\*\*Stop and Error node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.stopanderror.md) in your workflow. This node throws an error. You can specify the error type:

- \*\*Error Message\*\*: returns a custom message about the error

- \*\*Error Object\*\*: returns the type of error

You can only use the \*\*Stop and Error node\*\* as the last node in a workflow.

/// note | When to throw errors

Throwing exceptions with the \*\*Stop and Error node\*\* is useful for verifying the data (or assumptions about the data) from a node and returning custom error messages.

If you are working with data from a third-party service, you may come across problems such as:

- Wrongly formatted JSON output

- Data with the wrong type (for example, numeric data that has a non-numeric value)

- Missing values

- Errors from remote servers

Though this kind of invalid data might not cause the workflow to fail right away, it could cause problems later on, and then it can become difficult to track the source error. This is why it's better to throw an error at the time you know there might be a problem.

<figure><img src="/\_images/courses/level-two/chapter-four/exercise\_errors\_stopanderror.png" alt="Stop and Error node with error message" style="width:100%"><figcaption align = "center"><i>Stop and Error node with error message</i></figcaption></figure>

///

## chapter-6.md

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# Test your knowledge

Congratulations, you finished the n8n Course Level 2!

You've learned a lot about workflow automation and built quite a complex business workflow. Why not showcase your skills?

You can test your knowledge by taking a \*\*quiz\*\*, which consists of questions about the theoretical concepts and workflows covered in this course.

- You need to have at least 80% correct answers to pass the quiz.

- You can take the quiz as many times as you want.

- There's no time limit on answering the quiz questions.

<br/>

[Take the quiz!](https://n8n-community.typeform.com/to/r9hDbytg){ .md-button }

## What's next?

- Create new workflows for your work or personal use and share them with us. Don't have any ideas? Find inspiration on the [workflows page](https://n8n.io/workflows){:target="\_blank" .external-link} and on our [blog](https://n8n.io/blog/){:target="\_blank" .external-link}.

- Dive deeper into n8n's features by reading the [docs](/index.md).

## index.md

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# Level two: Introduction

Welcome to the \*\*n8n Course Level 2\*\*!

## Is this course right for me?

This course is for you if you:

- Want to automate somewhat complex business processes.

- Want to dive deeper into n8n after taking the [Level 1 course](/courses/level-one/index.md).

## What will I learn in this course?

The focus in this course is on working with data. You will learn how to:

- Use the data structure of n8n correctly.

- Process different data types (for example, XML, HTML, date, time, and binary data).

- Merge data from different sources (for example, a database, spreadsheet, or CRM).

- Use functions and JavaScript code in the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md).

- Deal with error workflows and workflow errors.

You will learn all this by completing short practical exercises after the theoretical explanations and building a business workflow following instructions.

## What do I need to get started?

To follow along this course (at a comfortable pace) you will need the following:

- \*\*n8n set up\*\*: You can use the [self-hosted version](/hosting/installation/npm.md) or [n8n Cloud](/manage-cloud/overview.md).

- \*\*A user ID\*\*: [Sign up here](https://n8n-community.typeform.com/to/HQoQ7nXg){:target="\_blank" .external-link} to get your unique ID and other credentials you will need in the course.

- \*\*Basic n8n skills\*\*: We strongly recommend taking the [Level 1 course](/courses/level-one/index.md) before this one.

- \*\*Basic JavaScript understanding\*\*

## How long does the course take?

Completing the course should take around \*\*two hours\*\*. You don't have to complete it in one go; feel free to take breaks and resume whenever you are ready.

## How do I complete the course?

There are two milestones in this course that test your knowledge of what you have learned in the lessons:

- [x] Building the [main workflow](/courses/level-two/chapter-5/chapter-5.0.md)

- [x] Passing the [quiz](https://n8n-community.typeform.com/to/r9hDbytg){:target="\_blank" .external} at the end of the course

You can always \*\*check your progress\*\* throughout the course by entering your unique ID [here](https://internal.users.n8n.cloud/webhook/course-level-2/verify){:target="\_blank" .external-link}.

If you successfully complete the milestones above, you will get [\*\*a badge and an avatar\*\*](https://community.n8n.io/badges/105/completed-n8n-course-level-2){:target="\_blank" .external} in your forum profile. You can then share your profile and course verification ID to showcase your n8n skills to others.

[Let's get started!](/courses/level-two/chapter-1.md){ .md-button }

## chapter-5.0.md

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# Automating a business workflow

Remember [our friend Nathan](/courses/level-one/chapter-3.md)?

\*\*Nathan 🙋:\*\* Hello, it's me again. My manager was so impressed with my first workflow automation solution that she entrusted me with more responsibility.<br/>

\*\*You 👩‍🔧:\*\* More work and responsibility. Congratulations, I guess. What do you need to do now?<br/>

\*\*Nathan 🙋:\*\* I got access to all our sales data and I'm now responsible for creating two reports: one for regional sales and one for orders prices. They're based on data from different sources and come in different formats.<br/>

\*\*You 👩‍🔧:\*\* Sounds like a lot of manual work, but the kind that can be automated. Let's do it!

## Workflow design

Now that we know what Nathan wants to automate, let's list the steps he needs to take to achieve this:

1. Get and combine data from all necessary sources.

2. Sort the data and format the dates.

3. Write binary files.

4. Send notifications using email and Discord.

n8n provides [core nodes](/integrations/builtin/node-types.md#core-nodes) for all these steps. This use case is somewhat complex. We should build it from three separate workflows:

1. A workflow that merges the company data with external information.

2. A workflow that generates the reports.

3. A workflow that monitors errors in the second workflow.

## Workflow prerequisites

To build the workflows, you will need the following:

\* An [Airtable](https://airtable.com/){:target="\_blank" .external-link} account and [credentials](/integrations/builtin/credentials/airtable.md).

\* A [Google](https://www.google.com/account/about/){:target="\_blank" .external-link} account and [credentials](/integrations/builtin/credentials/google/index.md) to access Gmail.

\* A [Discord](https://discord.com/){:target="\_blank" .external-link} account and webhook URL (you receive this using email when you sign up for this course).

Next, you will build these three workflows with step-by-step instructions.

## chapter-5.1.md

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# Workflow 1: Merging data

Nathan's company stores its customer data in Airtable. This data contains information about the customers' ID, country, email, and join date, but lacks data about their respective region and subregion. You need to fill in these last two fields in order to create the reports for regional sales.

To accomplish this task, you first need to make a copy of this table in your Airtable account:

<iframe class="airtable-embed" src="https://airtable.com/embed/shrNX9tjPkVLABbNz?backgroundColor=orange&viewControls=on" frameborder="0" onmousewheel="" width="100%" height="533" style="background: transparent; border: 1px solid #ccc;"></iframe>

Next, build a small workflow that merges data from Airtable and a REST Countries API:

1. Use the [\*\*Airtable node\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md) to list the data in the Airtable table named `customers`.

2. Use the [\*\*HTTP Request node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) to get data from the REST Countries API: `https://restcountries.com/v3.1/all`, and send the query parameter name `fields` with the value `name,region,subregion`. This will return data about world countries, split out into separate items.

3. Use the [\*\*Merge node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) to merge data from Airtable and the Countries API by country name, represented as `customerCountry` in Airtable and `name.common` in the Countries API, respectively.

4. Use another Airtable node to update the fields `region` and `subregion` in Airtable with the data from the Countries API.

The workflow should look like this:

<figure><img src="/\_images/courses/level-two/chapter-five/workflow1.png" alt="Workflow 1 for merging data from Airtable and the Countries API" style="width:100%"><figcaption align = "center"><i>Workflow 1 for merging data from Airtable and the Countries API</i></figcaption></figure>

/// question | Quiz questions

\* How many items does the \*\*HTTP Request node\*\* return?

\* How many items does the \*\*Merge node\*\* return?

\* How many unique regions are assigned in the customers table?

\* What's the subregion assigned to the customerID 10?

///

## chapter-5.2.md

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# Workflow 2: Generating reports

In this workflow, you will merge data from different sources, transform binary data, generate files, and send notifications about them. The final workflow should look like this:

<figure><img src="/\_images/courses/level-two/chapter-five/workflow2.png" alt="Workflow 2 for aggregating data and generating files" style="width:100%"><figcaption align = "center"><i>Workflow 2 for aggregating data and generating files</i></figcaption></figure>

To make things easier, let's split the workflow into three parts.

## Part 1: Getting data from different sources

The first part of the workflow consists of five nodes:

<figure><img src="/\_images/courses/level-two/chapter-five/workflow2\_1.png" alt="Workflow 1: Getting data from different sources" style="width:100%"><figcaption align = "center"><i>Workflow 1: Getting data from different sources</i></figcaption></figure>

1. Use the [\*\*HTTP Request node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) to get data from the API endpoint that stores company data. Configure the following node parameters:

- \*\*Method\*\*: Get

- \*\*URL\*\*: The \*\*Dataset URL\*\* you received in the email when you signed up for this course.

- \*\*Authentication\*\*: Generic Credential Type

- \*\*Generic Auth Type\*\*: Header Auth

- \*\*Credentials for Header Auth\*\*: The Header Auth name and Header Auth value you received in the email when you signed up for this course.

- \*\*Send Headers\*\*: Toggle to true

- \*\*Specify Headers\*\*: Select `Using Fields Below`

- \*\*Name\*\*: `unique\_id`

- \*\*Value\*\*: The unique ID you received in the email when you signed up for this course.

2. Use the [\*\*Airtable node\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md) to list data from the `customers` table (where you updated the fields `region` and `subregion`).

3. Use the [\*\*Merge node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) to merge data from the Airtable and HTTP Request node, based on matching the input fields for `customerID`.

4. Use the [\*\*Sort node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.sort.md) to sort data by `orderPrice` in descending order.

/// question | Quiz questions

\* What's the name of the employee assigned to customer 1?

\* What's the order status of customer 2?

\* What's the highest order price?

///

## Part 2: Generating file for regional sales

The second part of the workflow consists of four nodes:

<figure><img src="/\_images/courses/level-two/chapter-five/workflow2\_2.png" alt="Workflow 2: Generating file for regional sales" style="width:100%"><figcaption align = "center"><i>Workflow 2: Generating file for regional sales</i></figcaption></figure>

1. Use the [\*\*If node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) to filter to only display orders from the region `Americas`.

2. Use the [\*\*Convert to File\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) to transform the incoming data from JSON to binary format. Convert each item to a separate file. (Bonus points if you can figure out how to name each report based on the orderID!)

3. Use the [\*\*Gmail node\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) (or another email node) to send the files using email to an address you have access to. Note that you need to add an attachment with the data property.

4. Use the [\*\*Discord node\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md) to send a message in the n8n Discord channel `#course-level-two`. In the node, configure the following parameters:

\* \*\*Webhook URL\*\*: The Discord URL you received in the email when you signed up for this course.

\* \*\*Text\*\*: "I sent the file using email with the label ID `{label ID}`. My ID: " followed by the unique ID emailed to you when you registered for this course. <br/> Note that you need to replace the text in curly braces `{}` with [expressions](/glossary.md#expression-n8n) that reference the data from the nodes.

/// question | Quiz questions

\* How many orders are assigned to the `Americas` region?

\* What's the total price of the orders in the `Americas` region?

\* How many items does the \*\*Write Binary File node\*\* return?

///

## Part 3: Generating files for total sales

The third part of the workflow consists of five nodes:

<figure><img src="/\_images/courses/level-two/chapter-five/workflow2\_3.png" alt="Workflow 3: Generating files for total sales" style="width:100%"><figcaption align = "center"><i>Workflow 3: Generating files for total sales</i></figcaption></figure>

1. Use the [\*\*Loop Over Items node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) to split data from the Item Lists node into batches of 5.

2. Use the [\*\*Set node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) to set four values, referenced with expressions from the previous node: `customerEmail`, `customerRegion`, `customerSince`, and `orderPrice`.

3. Use the [\*\*Date & Time node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.datetime.md) to change the date format of the field `customerSince` to the format MM/DD/YYYY.

- Set the \*\*Include Input Fields\*\* option to keep all the data together.

4. Use the [\*\*Convert to File node\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) to create a CSV spreadsheet with the file name set as the expression: `{{$runIndex > 0 ? 'file\_low\_orders':'file\_high\_orders'}}`.

5. Use the [\*\*Discord node\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md) to send a message in the n8n Discord channel `#course-level-two`. In the node, configure the following parameters:

\* \*\*Webhook URL\*\*: The Discord URL you received in the email when you signed up for this course.

\* \*\*Text\*\*: "I created the spreadsheet `{file name}`. My ID:" followed by the unique ID emailed to you when you registered for this course. <br/> Note that you need to replace `{file name}` with an expression that references data from the previous \*\*Convert to File node\*\*.<br/>

/// question | Quiz questions

\* What's the lowest order price in the first batch of items?

\* What's the formatted date of customer 7?

\* How many items does the \*\*Convert to File node\*\* return?

///

??? note "Show me the solution"

To check the configuration of the nodes, you can copy the JSON workflow code below and paste it into your Editor UI:

```json

{

"meta": {

"templateCredsSetupCompleted": true,

"instanceId": "cb484ba7b742928a2048bf8829668bed5b5ad9787579adea888f05980292a4a7"

},

"nodes": [

{

"parameters": {

"sendTo": "bart@n8n.io",

"subject": "Your TPS Reports",

"emailType": "text",

"message": "Please find your TPS report attached.",

"options": {

"attachmentsUi": {

"attachmentsBinary": [

{}

]

}

}

},

"id": "d889eb42-8b34-4718-b961-38c8e7839ea6",

"name": "Gmail",

"type": "n8n-nodes-base.gmail",

"typeVersion": 2.1,

"position": [

2100,

500

],

"credentials": {

"gmailOAuth2": {

"id": "HFesCcFcn1NW81yu",

"name": "Gmail account 7"

}

}

},

{

"parameters": {},

"id": "c0236456-40be-4f8f-a730-e56cb62b7b5c",

"name": "When clicking \"Execute workflow\"",

"type": "n8n-nodes-base.manualTrigger",

"typeVersion": 1,

"position": [

780,

600

]

},

{

"parameters": {

"url": "https://internal.users.n8n.cloud/webhook/level2-erp",

"authentication": "genericCredentialType",

"genericAuthType": "httpHeaderAuth",

"sendHeaders": true,

"headerParameters": {

"parameters": [

{

"name": "unique\_id",

"value": "recFIcD6UlSyxaVMQ"

}

]

},

"options": {}

},

"id": "cc106fa0-6630-4c84-aea4-a4c7a3c149e9",

"name": "HTTP Request",

"type": "n8n-nodes-base.httpRequest",

"typeVersion": 4.1,

"position": [

1000,

500

],

"credentials": {

"httpHeaderAuth": {

"id": "qeHdJdqqqaTC69cm",

"name": "Course L2 Credentials"

}

}

},

{

"parameters": {

"operation": "search",

"base": {

"\_\_rl": true,

"value": "apprtKkVasbQDbFa1",

"mode": "list",

"cachedResultName": "All your base",

"cachedResultUrl": "https://airtable.com/apprtKkVasbQDbFa1"

},

"table": {

"\_\_rl": true,

"value": "tblInZ7jeNdlUOvxZ",

"mode": "list",

"cachedResultName": "Course L2, Workflow 1",

"cachedResultUrl": "https://airtable.com/apprtKkVasbQDbFa1/tblInZ7jeNdlUOvxZ"

},

"options": {}

},

"id": "e5ae1927-b531-401c-9cb2-ecf1f2836ba6",

"name": "Airtable",

"type": "n8n-nodes-base.airtable",

"typeVersion": 2,

"position": [

1000,

700

],

"credentials": {

"airtableTokenApi": {

"id": "MIplo6lY3AEsdf7L",

"name": "Airtable Personal Access Token account 4"

}

}

},

{

"parameters": {

"mode": "combine",

"mergeByFields": {

"values": [

{

"field1": "customerID",

"field2": "customerID"

}

]

},

"options": {}

},

"id": "1cddc984-7fca-45e0-83b8-0c502cb4c78c",

"name": "Merge",

"type": "n8n-nodes-base.merge",

"typeVersion": 2.1,

"position": [

1220,

600

]

},

{

"parameters": {

"sortFieldsUi": {

"sortField": [

{

"fieldName": "orderPrice",

"order": "descending"

}

]

},

"options": {}

},

"id": "2f55af2e-f69b-4f61-a9e5-c7eefaad93ba",

"name": "Sort",

"type": "n8n-nodes-base.sort",

"typeVersion": 1,

"position": [

1440,

600

]

},

{

"parameters": {

"conditions": {

"options": {

"caseSensitive": true,

"leftValue": "",

"typeValidation": "strict"

},

"conditions": [

{

"id": "d3afe65c-7c80-4caa-9d1c-33c62fbc2197",

"leftValue": "={{ $json.region }}",

"rightValue": "Americas",

"operator": {

"type": "string",

"operation": "equals",

"name": "filter.operator.equals"

}

}

],

"combinator": "and"

},

"options": {}

},

"id": "2ed874a9-5bcf-4cc9-9b52-ea503a562892",

"name": "If",

"type": "n8n-nodes-base.if",

"typeVersion": 2,

"position": [

1660,

500

]

},

{

"parameters": {

"operation": "toJson",

"mode": "each",

"options": {

"fileName": "=report\_orderID\_{{ $('If').item.json.orderID }}.json"

}

},

"id": "d93b4429-2200-4a84-8505-16266fedfccd",

"name": "Convert to File",

"type": "n8n-nodes-base.convertToFile",

"typeVersion": 1.1,

"position": [

1880,

500

]

},

{

"parameters": {

"authentication": "webhook",

"content": "I sent the file using email with the label ID and wrote the binary file {file name}. My ID: 123",

"options": {}

},

"id": "26f43f2c-1422-40de-9f40-dd2d80926b1c",

"name": "Discord",

"type": "n8n-nodes-base.discord",

"typeVersion": 2,

"position": [

2320,

500

],

"credentials": {

"discordWebhookApi": {

"id": "WEBrtPdoLrhlDYKr",

"name": "L2 Course Discord Webhook account"

}

}

},

{

"parameters": {

"batchSize": 5,

"options": {}

},

"id": "0fa1fbf6-fe77-4044-a445-c49a1db37dec",

"name": "Loop Over Items",

"type": "n8n-nodes-base.splitInBatches",

"typeVersion": 3,

"position": [

1660,

700

]

},

{

"parameters": {

"assignments": {

"assignments": [

{

"id": "ce839b80-c50d-48f5-9a24-bb2df6fdd2ff",

"name": "customerEmail",

"value": "={{ $json.customerEmail }}",

"type": "string"

},

{

"id": "0c613366-3808-45a2-89cc-b34c7b9f3fb7",

"name": "region",

"value": "={{ $json.region }}",

"type": "string"

},

{

"id": "0f19a88c-deb0-4119-8965-06ed62a840b2",

"name": "customerSince",

"value": "={{ $json.customerSince }}",

"type": "string"

},

{

"id": "a7e890d6-86af-4839-b5df-d2a4efe923f7",

"name": "orderPrice",

"value": "={{ $json.orderPrice }}",

"type": "number"

}

]

},

"options": {}

},

"id": "09b8584c-4ead-4007-a6cd-edaa4669a757",

"name": "Edit Fields",

"type": "n8n-nodes-base.set",

"typeVersion": 3.3,

"position": [

1880,

700

]

},

{

"parameters": {

"operation": "formatDate",

"date": "={{ $json.customerSince }}",

"options": {

"includeInputFields": true

}

},

"id": "c96fae90-e080-48dd-9bff-3e4506aafb86",

"name": "Date & Time",

"type": "n8n-nodes-base.dateTime",

"typeVersion": 2,

"position": [

2100,

700

]

},

{

"parameters": {

"options": {

"fileName": "={{$runIndex > 0 ? 'file\_low\_orders':'file\_high\_orders'}}"

}

},

"id": "43dc8634-2f16-442b-a754-89f47c51c591",

"name": "Convert to File1",

"type": "n8n-nodes-base.convertToFile",

"typeVersion": 1.1,

"position": [

2320,

700

]

},

{

"parameters": {

"authentication": "webhook",

"content": "I created the spreadsheet {file name}. My ID: 123",

"options": {}

},

"id": "05da1c22-d1f6-4ea6-9102-f74f9ae2e9d3",

"name": "Discord1",

"type": "n8n-nodes-base.discord",

"typeVersion": 2,

"position": [

2540,

700

],

"credentials": {

"discordWebhookApi": {

"id": "WEBrtPdoLrhlDYKr",

"name": "L2 Course Discord Webhook account"

}

}

}

],

"connections": {

"Gmail": {

"main": [

[

{

"node": "Discord",

"type": "main",

"index": 0

}

]

]

},

"When clicking \"Execute workflow\"": {

"main": [

[

{

"node": "HTTP Request",

"type": "main",

"index": 0

},

{

"node": "Airtable",

"type": "main",

"index": 0

}

]

]

},

"HTTP Request": {

"main": [

[

{

"node": "Merge",

"type": "main",

"index": 0

}

]

]

},

"Airtable": {

"main": [

[

{

"node": "Merge",

"type": "main",

"index": 1

}

]

]

},

"Merge": {

"main": [

[

{

"node": "Sort",

"type": "main",

"index": 0

}

]

]

},

"Sort": {

"main": [

[

{

"node": "Loop Over Items",

"type": "main",

"index": 0

},

{

"node": "If",

"type": "main",

"index": 0

}

]

]

},

"If": {

"main": [

[

{

"node": "Convert to File",

"type": "main",

"index": 0

}

]

]

},

"Convert to File": {

"main": [

[

{

"node": "Gmail",

"type": "main",

"index": 0

}

]

]

},

"Loop Over Items": {

"main": [

null,

[

{

"node": "Edit Fields",

"type": "main",

"index": 0

}

]

]

},

"Edit Fields": {

"main": [

[

{

"node": "Date & Time",

"type": "main",

"index": 0

}

]

]

},

"Date & Time": {

"main": [

[

{

"node": "Convert to File1",

"type": "main",

"index": 0

}

]

]

},

"Convert to File1": {

"main": [

[

{

"node": "Discord1",

"type": "main",

"index": 0

}

]

]

},

"Discord1": {

"main": [

[

{

"node": "Loop Over Items",

"type": "main",

"index": 0

}

]

]

}

},

"pinData": {}

}

```

## chapter-5.3.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Workflow 3: Monitoring workflow errors

Last but not least, let's help Nathan know if there are any errors running the workflow.

To accomplish this task, create an Error workflow that monitors the main workflow:

1. Create a new workflow.

2. Add an \*\*Error Trigger node\*\* (and execute it as a test).

3. Connect a \*\*Discord node\*\* to the \*\*Error Trigger node\*\* and configure these fields:<br/>

\* \*\*Webhook URL\*\*: The Discord URL that you received in the email from n8n when you signed up for this course.

\* \*\*Text\*\*: "The workflow `{workflow name}` failed, with the error message: `{execution error message}`. Last node executed: `{name of the last executed node}`. Check this workflow execution here: `{execution URL}` My Unique ID: " followed by the unique ID emailed to you when you registered for this course.

Note that you need to replace the text in curly brackets `{}` with expressions that take the respective information from the Error Trigger node.<br/>

4. Execute the Discord node.

5. Set the newly created workflow as the \*\*Error Workflow\*\* for the main workflow you created in the previous lesson.

The workflow should look like this:

<figure><img src="/\_images/courses/level-two/chapter-five/workflow3.png" alt="Workflow 3 for monitoring workflow errors" style="width:100%"><figcaption align = "center"><i>Workflow 3 for monitoring workflow errors</i></figcaption></figure>

/// question | Quiz questions

\* What fields does the \*\*Error Trigger node\*\* return?

\* What information about the execution does the \*\*Error Trigger node\*\* return?

\* What information about the workflow does the \*\*Error Trigger node\*\* return?

\* What's the expression to reference the workflow name?

///

## add-edit-credentials.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Creating and editing credentials.

contentType: howto

---

# Create and edit credentials

Credentials are securely stored authentication information used to connect n8n workflows to external services such as APIs, or databases.

## Create a credential

1. Select the <span class="inline-image">![universal create resource icon](/\_images/common-icons/universal-resource-button.png){.off-glb}</span> \*\*button\*\* in the upper-left corner of the side menu. Select credential.

2. If your n8n instance supports [projects](/glossary.md#project-n8n), you'll also need to choose whether to create the credential inside your personal space or a specific project you have access to. If you're using the community version, you'll create the credential inside your personal space.

3. Select the app or service you wish to connect to.

Or:

1. Using the <span class="inline-image">![universal create resource icon](/\_images/common-icons/universal-resource-button.png){.off-glb}</span> \*\*Create\*\* button in the upper-right corner from either the \*\*Overview\*\* page or a specific project. Select Credential.

2. If you're doing this from the \*\*Overview\*\* page, you'll create the credential inside your personal space. If you're doing this from inside a project, you'll create the credential inside that specific project.

3. Select the app or service you wish to connect to.

You can also create new credential in the credential drop down when editing a node on the workflow editor.

Once in the credential modal, enter the details required by your service. Refer to your service's page in the [credentials library](/integrations/builtin/credentials/index.md) for guidance.

When you save a credential, n8n tests it to confirm it works.

/// note | Credentials naming

n8n names new credentials "\*node name\* account" by default. You can rename the credentials by clicking on the name, similarly to renaming nodes. It's good practice to give them names that identify the app or service, type, and purpose of the credential. A naming convention makes it easier to keep track of and identify your credentials.

///

## Expressions in credentials

You can use [expressions](/glossary.md#expression-n8n) to set credentials dynamically as your workflow runs:

1. In your workflow, find the data path containing the credential. This varies depending on the exact parameter names in your data. Make sure that the data containing the credential is available in the workflow when you get to the node that needs it.

1. When creating your credential, hover over the field where you want to use an expression.

1. Toggle \*\*Expression\*\* on.

1. Enter your expression.

### Example workflow

[[ workflowDemo("file:///credentials/dynamic\_credentials\_using\_expressions.json") ]]

#### Using the example

--8<-- "\_snippets/examples-color-key.md"

## credential-sharing.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Credential sharing

description: Share credentials within an organization.

contentType: howto

---

# Credential sharing

/// info | Feature availability

Available on all Cloud plans, and Enterprise self-hosted plans.

///

You can share a credential directly with other users to use in their own workflows. Or share a credential in a [project](/glossary.md#project-n8n) for all members of that project to use. Any users using a shared credential won't be able to view or edit the credential details.

Users can share credentials they created and own. Only project admins can share credentials created in and owned by a project. Instance owners and instance admins can view and share all credentials on an instance.

Refer to [Account types](/user-management/account-types.md) for more information about owners and admins.

In [projects](/user-management/rbac/index.md), a user's role controls how they can interact with the workflows and credentials associated to the projects they're a member of.

## Share a credential

To share a credential:

1. From the left menu, select either \*\*Overview\*\* or a project.

2. Select \*\*Credentials\*\* to see a list of your credentials.

3. Select the credential you want to share.

4. Select \*\*Sharing\*\*.

5. In the \*\*Share with projects or users\*\* dropdown, browse or search for the user or project with which you want to share your credentials.

6. Select a user or project.

7. Select \*\*Save\*\* to apply the changes.

## Remove access to a credential

To unshare a credential:

1. From the left menu, select either \*\*Overview\*\* or a project.

2. Select \*\*Credentials\*\* to see a list of your credentials.

3. Select the credential you want to unshare.

4. Select \*\*Sharing\*\*.

5. Select \*\*trash icon\*\*<span class="inline-image">![Trash icon](/\_images/common-icons/delete-node.png){.off-glb}</span> on the user or project you want to remove from the list of shared users and projects.

6. Select \*\*Save\*\* to apply the changes.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Authenticating with the services you're connecting to.

contentType: overview

---

# Credentials

[Credentials](/glossary.md#credential-n8n) are private pieces of information issued by apps and services to authenticate you as a user and allow you to connect and share information between the app or service and the n8n node.

Access the credentials UI by opening the left menu and selecting \*\*Credentials\*\*. n8n lists credentials you created on the \*\*My credentials\*\* tab. The \*\*All credentials\*\* tab shows all credentials you can use, included credentials shared with you by other users.

\* [Create and edit credentials](/credentials/add-edit-credentials.md).

\* Learn about [credential sharing](/credentials/credential-sharing.md).

\* Find information on setting up credentials for your services in the [credentials library](/integrations/builtin/credentials/index.md).

## binary-data.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Binary data

description: Understand and use binary data in n8n.

contentType: overview

tags:

- binary data

hide:

- tags

---

# Binary data

Binary data is any file-type data, such as image files or documents.

This page collects resources relating to binary data in n8n.

## Working with binary data in your workflows

You can process binary data in n8n workflows. n8n provides nodes to help you work with binary data. You can also use code.

### Nodes

There are three key nodes dedicated to handling binary data files:

- [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) to read and write files from/to the machine where n8n is running.

- [Convert to File](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) to take input data and output it as a file.

- [Extract From File](/integrations/builtin/core-nodes/n8n-nodes-base.extractfromfile.md) to get data from a binary format and convert it to JSON.

There are separate nodes for working with XML and HTML data:

\* [HTML](/integrations/builtin/core-nodes/n8n-nodes-base.html.md)

\* [XML](/integrations/builtin/core-nodes/n8n-nodes-base.xml.md)

And nodes for performing common tasks:

\* [Compression](/integrations/builtin/core-nodes/n8n-nodes-base.compression.md)

\* [Edit Image](/integrations/builtin/core-nodes/n8n-nodes-base.editimage.md)

\* [FTP](/integrations/builtin/core-nodes/n8n-nodes-base.ftp.md)

You can trigger a workflow based on changes to a local file using the [Local File trigger](/integrations/builtin/core-nodes/n8n-nodes-base.localfiletrigger.md).

To split or concatenate binary data items, use the [data transformation nodes](/data/index.md#data-transformation-nodes).

### Code

You can use the [Code node](/code/code-node.md) to manipulate binary data in your workflows. For example, [Get the binary data buffer](/code/cookbook/code-node/get-binary-data-buffer.md): get the binary data available in your workflow.

## Configure binary data mode when self-hosting

You can configure how your self-hosted n8n instance handles binary data using the [Binary data environment variables](/hosting/configuration/environment-variables/binary-data.md). This includes tasks such as setting the storage path and choosing how to store binary data.

Your configuration affects how well n8n scales: [Scaling | Binary data filesystem mode](/hosting/scaling/binary-data.md).

Reading and writing binary files can have security implications. If you want to disable reading and writing binary data, use the `NODES\_EXCLUDE` environment variable. Refer to [Environment variables | Nodes](/hosting/configuration/environment-variables/nodes.md) for more information.

## code.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Processing data with code

## Function

A function is a block of code designed to perform a certain task. In n8n, you can write custom JavaScript or Python code snippets to add, remove, and update the data you receive from a node.

The [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) node gives you access to the incoming data and you can manipulate it. With this node you can create any function you want using JavaScript code.

## data-editing.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# Data editing

n8n allows you to edit [pinned data](/data/data-pinning.md). This means you can check different scenarios without setting up each scenario and sending the relevant data from your external system. It makes it easier to test edge cases.

/// note | For development only

Data editing isn't available for production workflow executions. It's a feature to help test workflows during development.

///

## Edit output data

To edit output data:

1. Run the node to load data.

2. In the \*\*OUTPUT\*\* view, select \*\*JSON\*\* to switch to JSON view.

3. Select \*\*Edit\*\* <span class="inline-image">![Edit data icon](/\_images/data/data-pinning/edit-data.png){.off-glb}</span>.

4. Edit your data.

5. Select \*\*Save\*\*. n8n saves your data changes and pins your data.

## Use data from previous executions

You can copy data from nodes in previous workflow executions:

1. Open the left menu.

2. Select \*\*Executions\*\*.

3. Browse the workflow executions list to find the one with the data you want to copy.

4. Select \*\*Open Past Execution\*\* <span class="inline-image">![Open past execution icon](/\_images/data/data-pinning/open-execution.png){.off-glb}</span>.

5. Double click the node whose data you want to copy.

6. If it's table layout, select \*\*JSON\*\* to switch to JSON view.

7. There are two ways to copy the JSON:

1. Select the JSON you want by highlighting it, like selecting text. Then use `ctrl` + `c` to copy it.

2. Select the JSON you want to copy by clicking on a parameter. Then:

1. Hover over the JSON. n8n displays the \*\*Copy\*\* <span class="inline-image">![Copy data icon](/\_images/data/data-pinning/copy-data.png){.off-glb}</span> button.

2. Select \*\*Copy\*\* <span class="inline-image">![Copy data icon](/\_images/data/data-pinning/copy-data.png){.off-glb}</span>.

3. You can choose what to copy:

\* \*\*Copy Item Path\*\* and \*\*Copy Parameter Path\*\* gives you expressions that access parts of the JSON.

\* \*\*Copy Value\*\*: copies the entire selected JSON.

8. Return to the workflow you're working on:

1. Open the left menu.

2. Select \*\*Workflows\*\*.

3. Select \*\*Open\*\*.

4. Select the workflow you want to open.

9. Open the node where you want to use the copied data.

10. If there is no data, run the node to load data.

11. In the \*\*OUTPUT\*\* view, select \*\*JSON\*\* to switch to JSON view.

12. Select \*\*Edit\*\* <span class="inline-image">![Edit data icon](/\_images/data/data-pinning/edit-data.png){.off-glb}</span>.

15. Paste in the data from the previous execution.

16. Select \*\*Save\*\*. n8n saves your data changes and pins your data.

## data-filtering.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Data filtering

/// info | Feature availability

Available on Cloud Pro and Enterprise plans.

///

Search and filter data in the node \*\*INPUT\*\* and \*\*OUTPUT\*\* panels. Use this to check your node's data.

To search:

1. In a node, select \*\*Search\*\* <span class="inline-image">![Search icon](/\_images/common-icons/search.png){.off-glb}</span> in the \*\*INPUT\*\* or \*\*OUTPUT\*\* panel.

1. Enter your search term.

n8n filters as you type your search, displaying the objects or rows containing the term.

Filtering is purely visual: n8n doesn't change or delete data. The filter resets when you close and reopen the node.

## data-flow-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data flow within nodes

description: How nodes process data items.

contentType: explanation

---

# Data flow within nodes

--8<-- "\_snippets/flow-logic/data-flow-nodes.md"

## data-mocking.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Data mocking

description: Ways to mock data in your n8n workflow.

contentType: howto

---

# Data mocking

Data mocking is simulating or faking data. It's useful when developing a workflow. By mocking data, you can:

- Avoid making repeated calls to your data source. This saves time and costs.

- Work with a small, predictable dataset during initial development.

- Avoid the risk of overwriting live data: in the early stages of building your workflow, you don't need to connect your real data source.

## Mocking with real data using data pinning

Using [data pinning](/data/data-pinning.md), you load real data into your workflow, then pin it in the output panel of a node. Using this approach you have realistic data, with only one call to your data source. You can [edit pinned data](/data/data-editing.md).

Use this approach when you need to configure your workflow to handle the exact data structure and parameters provided by your data source.

--8<-- "\_snippets/data/how-to-pin-data.md"

## Generate custom data using the Code or Edit Fields nodes

You can create a custom dataset in your workflow using either the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) or the [Edit Fields (Set) node](/integrations/builtin/core-nodes/n8n-nodes-base.set.md).

In the Code node, you can create any data set you want, and return it as the node output. In the Edit Fields node, select \*\*Add fields\*\* to add your custom data.

The Edit Fields node is a good choice for small tests. To create more complex datasets, use the Code node.

## Output a sample data set from the Customer Datastore node

The Customer Datastore node provides a fake dataset to work with. Add and execute the node to explore the data.

Use this approach if you need some test data when exploring n8n, and you don't have a real use-case to work with.

## data-pinning.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# Data pinning

You can 'pin' data during workflow development. Data pinning means saving the output data of a node, and using the saved data instead of fetching fresh data in future workflow executions.

You can use this when working with data from external sources to avoid having to repeat requests to the external system. This can save time and resources:

\* If your workflow relies on an external system to trigger it, such as a webhook call, being able to pin data means you don't need to use the external system every time you test the workflow.

\* If the external resource has data or usage limits, pinning data during tests avoids consuming your resource limits.

\* You can fetch and pin the data you want to test, then have confidence that the data is consistent in all your workflow tests.

You can only pin data for nodes that have a single main output ("error" outputs don't count for this purpose).

/// note | For development only

Data pinning isn't available for production workflow executions. It's a feature to help test workflows during development.

///

## Pin data

--8<-- "\_snippets/data/how-to-pin-data.md"

## Unpin data

When data pinning is active, a banner appears at the top of the node's output panel indicating that n8n has pinned the data. To unpin data and fetch fresh data on the next execution, select the \*\*Unpin\*\* link in the banner.

## data-structure.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

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# Data structure

In n8n, all data passed between nodes is an array of objects. It has the following structure:

```json

[

{

// For most data:

// Wrap each item in another object, with the key 'json'

"json": {

// Example data

"apple": "beets",

"carrot": {

"dill": 1

}

},

// For binary data:

// Wrap each item in another object, with the key 'binary'

"binary": {

// Example data

"apple-picture": {

"data": "....", // Base64 encoded binary data (required)

"mimeType": "image/png", // Best practice to set if possible (optional)

"fileExtension": "png", // Best practice to set if possible (optional)

"fileName": "example.png", // Best practice to set if possible (optional)

}

}

},

]

```

/// note | Skipping the `json` key and array syntax

From 0.166.0 on, when using the Function node or Code node, n8n automatically adds the `json` key if it's missing. It also automatically wraps your items in an array (`[]`) if needed. This is only the case when using the Function or Code nodes. When building your own nodes, you must still make sure the node returns data with the `json` key.

///

## Data item processing

--8<-- "\_snippets/flow-logic/data-flow-nodes.md"

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

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# Data

Data is the information that n8n nodes receive and process. For basic usage of n8n you don't need to understand data structures and manipulation. However, it becomes important if you want to:

- Create your own node

- Write custom [expressions](/glossary.md#expression-n8n)

- Use the Function or Function Item node

This section covers:

\* [Data structure](/data/data-structure.md)

\* [Data flow within nodes](/data/data-flow-nodes.md)

\* [Transforming data](/data/transforming-data.md)

\* [Process data using code](/data/code.md)

\* [Pinning](/data/data-pinning.md) and [editing](/data/data-editing.md) data during workflow development.

\* [Data mapping](/data/data-mapping/index.md) and [Item linking](/data/data-mapping/data-item-linking/index.md): how data items link to each other.

## Related resources

### Data transformation nodes

n8n provides a collection of nodes to transform data:

\* [Aggregate](/integrations/builtin/core-nodes/n8n-nodes-base.aggregate.md): take separate items, or portions of them, and group them together into individual items.

\* [Limit](/integrations/builtin/core-nodes/n8n-nodes-base.aggregate.md): remove items beyond a defined maximum number.

\* [Remove Duplicates](/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates/index.md): identify and delete items that are identical across all fields or a subset of fields.

\* [Sort](/integrations/builtin/core-nodes/n8n-nodes-base.sort.md): organize lists of in a desired ordering, or generate a random selection.

\* [Split Out](/integrations/builtin/core-nodes/n8n-nodes-base.splitout.md): separate a single data item containing a list into multiple items.

\* [Summarize](/integrations/builtin/core-nodes/n8n-nodes-base.summarize.md): aggregate items together, in a manner similar to Excel pivot tables.

## schema-preview.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Schema preview

description:

contentType: overview

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# Schema Preview

Schema Preview exposes expected schema data from the previous node in the Node Editor without the user having to provide credentials or execute the node. This makes it possible to construct workflows without having to provide credentials in advance. The preview doesn't include mock data, but it does expose the expected fields, making it possible to select and incorporate them into the input of subsequent nodes.

## Using the preview

1. There must be a node with Schema Preview available in your workflow.

1. When clicking on the details of the next node in the sequence, the Schema Preview data will show up in the Node Editor where schema data would typically be exposed.

1. Use data from the Schema Preview just as you would other schemas - drag and drop fields as input into your node parameters and settings.

## transforming-data.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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# Transforming data

n8n uses a predefined [data structure](/data/data-structure.md) that allows all nodes to process incoming data correctly.

Your incoming data may have a different data structure, in which case you will need to transform it to allow each item to be processed individually.

For example, the image below shows the output of an [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node that returns data incompatible with n8n's data structure. The node returns the data and displays that only one item was returned.

![HTTP Request node output](/\_images/data/transforming-data/HTTPRequest\_output.png)

To transform this kind of structure into the n8n data structure you can use the data transformation nodes:

\* [Aggregate](/integrations/builtin/core-nodes/n8n-nodes-base.aggregate.md): take separate items, or portions of them, and group them together into individual items.

\* [Limit](/integrations/builtin/core-nodes/n8n-nodes-base.limit.md): remove items beyond a defined maximum number.

\* [Remove Duplicates](/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates/index.md): identify and delete items that are identical across all fields or a subset of fields.

\* [Sort](/integrations/builtin/core-nodes/n8n-nodes-base.sort.md): organize lists of in a desired ordering, or generate a random selection.

\* [Split Out](/integrations/builtin/core-nodes/n8n-nodes-base.splitout.md): separate a single data item containing a list into multiple items.

\* [Summarize](/integrations/builtin/core-nodes/n8n-nodes-base.summarize.md): aggregate items together, in a manner similar to Excel pivot tables.

## data-mapping-expressions.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# Mapping in the expressions editor

These examples show how to access linked items in the expressions editor. Refer to [expressions](/code/expressions.md) for more information on expressions, including built in variables and methods.

For information on errors with mapping and linking items, refer to [Item linking errors](/data/data-mapping/data-item-linking/item-linking-errors.md).

## Access the linked item in a previous node's output

When you use this, n8n works back up the item linking chain, to find the parent item in the given node.

```js

// Returns the linked item

{{$("<node-name>").item}}

```

As a longer example, consider a scenario where a node earlier in the workflow has the following output data:

```json

[

{

"id": "23423532",

"name": "Jay Gatsby",

},

{

"id": "23423533",

"name": "José Arcadio Buendía",

},

{

"id": "23423534",

"name": "Max Sendak",

},

{

"id": "23423535",

"name": "Zaphod Beeblebrox",

},

{

"id": "23423536",

"name": "Edmund Pevensie",

}

]

```

To extract the name, use the following expression:

```js

{{$("<node-name>").item.json.name}}

```

### Access the linked item in the current node's input

In this case, the item linking is within the node: find the input item that the node links to an output item.

```js

// Returns the linked item

{{$input.item}}

```

As a longer example, consider a scenario where the current node has the following input data:

```json

[

{

"id": "23423532",

"name": "Jay Gatsby",

},

{

"id": "23423533",

"name": "José Arcadio Buendía",

},

{

"id": "23423534",

"name": "Max Sendak",

},

{

"id": "23423535",

"name": "Zaphod Beeblebrox",

},

{

"id": "23423536",

"name": "Edmund Pevensie",

}

]

```

To extract the name, you'd normally use drag-and-drop [Data mapping](/data/data-mapping/index.md), but you could also write the following expression:

```js

{{$input.item.json.name}}

```

## data-mapping-ui.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# Mapping in the UI

Data mapping means referencing data from previous nodes. It doesn't include changing (transforming) data, just referencing it.

You can map data in the following ways:

\* Using the expressions editor.

\* By dragging and dropping data from the \*\*INPUT\*\* into parameters. This generates the expression for you.

For information on errors with mapping and linking items, refer to [Item linking errors](/data/data-mapping/data-item-linking/item-linking-errors.md).

## How to drag and drop data

1. Run your workflow to load data.

2. Open the node where you need to map data.

3. You can map in table, JSON, and schema view:

\* In table view: click and hold a table heading to map top level data, or a field in the table to map nested data.

\* In JSON view: click and hold a key.

\* In schema view: click and hold a key.

4. Drag the item into the field where you want to use the data.

### Understand what you're mapping with drag and drop

Data mapping maps the key path, and loads the key's value into the field. For example, given the following data:

```js

[

{

"fruit": "apples",

"color": "green"

}

]

```

You can map `fruit` by dragging and dropping \*\*fruit\*\* from the \*\*INPUT\*\* into the field where you want to use its value. This creates an expression, `{{ $json.fruit }}`. When the node iterates over input items, the value of the field becomes the value of `fruit` for each item.

### Understand nested data

Given the following data:

```js

[

{

"name": "First item",

"nested": {

"example-number-field": 1,

"example-string-field": "apples"

}

},

{

"name": "Second item",

"nested": {

"example-number-field": 2,

"example-string-field": "oranges"

}

}

]

```

n8n displays it in table form like this:

!["Screenshot of a table in the INPUT panel. It includes a top level field named "nested." This field contains nested data, which is indicated in bold."](/\_images/data/data-mapping/nested-data.png)

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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# Data mapping

Data mapping means referencing data from previous nodes.

This section contains guidance on:

\* Mapping data in most scenarios: [Data mapping in the UI](/data/data-mapping/data-mapping-ui.md) and [Data mapping in expression](/data/data-mapping/data-mapping-expressions.md)

\* How to handle [item linking](/data/data-mapping/data-item-linking/index.md) when using the Code node or building your own nodes.

## index.md

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# Data item linking

An item is a single piece of data. Nodes receive one or more items, operate on them, and output new items. Each item links back to previous items.

You need to understand this behavior if you're:

\* Building a programmatic-style node that implements complex behaviors with its input and output data.

\* Using the Code node or expressions editor to access data from earlier items in the workflow.

\* Using the Code node for complex behaviors with input and output data.

This section provides:

\* A conceptual overview of [Item linking concepts](/data/data-mapping/data-item-linking/item-linking-concepts.md).

\* Information on [Item linking for node creators](/data/data-mapping/data-item-linking/item-linking-node-building.md).

\* Support for end users who need to [Work with the data path](/data/data-mapping/data-item-linking/item-linking-code-node.md) to retrieve item data from previous nodes, and link items when using the Code node.

\* Guidance on troubleshooting [Errors](/data/data-mapping/data-item-linking/item-linking-errors.md).

## item-linking-code-node.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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# Item linking in the Code node

--8<-- "\_snippets/data/data-mapping/item-linking-code-node.md"

## item-linking-concepts.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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# Item linking concepts

Each output item created by a node includes metadata that links them to the input item (or items) that the node used to generate them. This creates a chain of items that you can work back along to access previous items. This can be complicated to understand, especially if the node splits or merges data. You need to understand item linking when building your own programmatic nodes, or in some scenarios using the Code node.

This document provides a conceptual overview of this feature. For usage details, refer to:

\* [Item linking for node creators](/data/data-mapping/data-item-linking/item-linking-node-building.md), for details on how to handle item linking when building a node.

\* [Item linking in the Code node](/data/data-mapping/data-item-linking/item-linking-code-node.md), to learn how to handle item linking in the Code node.

\* [Item linking errors](/data/data-mapping/data-item-linking/item-linking-errors.md), to understand the errors you may encounter in the editor UI.

## n8n's automatic item linking

If a node doesn't control how to link input items to output items, n8n tries to guess how to link the items automatically:

\* Single input, single output: the output links to the input.

\* Single input, multiple outputs: all outputs link to that input.

\* Multiple inputs and outputs:

\* If you keep the input items, but change the order (or remove some but keep others), n8n can automatically add the correct linked item information.

\* If the number of inputs and outputs is equal, n8n links the items in order. This means that output-1 links to input-1, output-2 to input-2, and so on.

\* If the number isn't equal, or you create completely new items, n8n can't automatically link items.

If n8n can't link items automatically, and the node doesn't handle the item linking, n8n displays an error. Refer to [Item linking errors](/data/data-mapping/data-item-linking/item-linking-errors.md) for more information.

## Item linking example

![A diagram showing the threads linking multiple items back through a workflow](/\_images/data/data-mapping/data-item-linking/item-linking-multiple-lines.png)

In this example, it's possible for n8n to link an item in one node back several steps, despite the item order changing. This means the node that sorts movies alphabetically can access information about the linked item in the node that gets famous movie actors.

The methods for accessing linked items are different depending on whether you're using the UI, expressions, or the code node. Explore the following resources:

\* [Mapping in the UI](/data/data-mapping/data-mapping-ui.md)

\* [Mapping in the expressions editor](/data/data-mapping/data-mapping-expressions.md)

\* [Item linking in the Code node](/data/data-mapping/data-item-linking/item-linking-code-node.md)

\* [Item linking errors](/data/data-mapping/data-item-linking/item-linking-errors.md)

## item-linking-errors.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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# Item linking errors

In n8n you can reference data from any previous node. This doesn't have to be the node just before: it can be any previous node in the chain. When referencing nodes further back, you use the expression syntax `$(node\_name).item`.

<figure markdown>

![A diagram showing the threads linking multiple items back through a workflow](/\_images/data/data-mapping/data-item-linking/item-linking-multiple-lines.png)

<figcaption markdown>Diagram of threads for different items. Due to the item linking, you can get the actor for each movie using `$('Get famous movie actors').item`.</figcaption>

</figure>

Since the previous node can have multiple items in it, n8n needs to know which one to use. When using `.item`, n8n figures this out for you behind the scenes. Refer to [Item linking concepts](/data/data-mapping/data-item-linking/item-linking-concepts.md) for detailed information on how this works.

`.item` fails if information is missing. To figure out which item to use, n8n maintains a thread back through the workflow's nodes for each item. For a given item, this thread tells n8n which items in previous nodes generated it. To find the matching item in a given previous node, n8n follows this thread back until it reaches the node in question.

When using `.item`, n8n displays an error when:

- The thread is broken

- The thread points to more than one item in the previous node (as it's unclear which one to use)

To solve these errors, you can either avoid using `.item`, or fix the root cause.

You can avoid `.item` by using `.first()`, `.last()` or `.all()[index]` instead. They require you to know the position of the item that you’re targeting within the target node's output items. Refer to [Built in methods and variables | Output of other nodes](/code/builtin/output-other-nodes.md) for more detail on these methods.

The fix for the root cause depends on the exact error.

### Fix for 'Info for expressions missing from previous node'

If you see this error message:

> ERROR: Info for expression missing from previous node

There's a node in the chain that doesn't return pairing information. The solution here depends on the type of the previous node:

- Code nodes: make sure you return which input items the node used to produce each output item. Refer to [Item linking in the code node](/data/data-mapping/data-item-linking/item-linking-code-node.md) for more information.

- Custom or community nodes: the node creator needs to update the node to return which input items it uses to produce each output item. Refer to [Item linking for node creators](/data/data-mapping/data-item-linking/item-linking-node-building.md) for more information.

### Fix for 'Multiple matching items for expression'

This is the error message:

> ERROR: Multiple matching items for expression

Sometimes n8n uses multiple items to create a single item. Examples include the Summarize, Aggregate, and Merge nodes. These nodes can combine information from multiple items.

When you use `.item` and there are multiple possible matches, n8n doesn't know which one to use. To solve this you can either:

- Use `.first()`, `.last()` or `.all()[index]` instead. Refer to [Built in methods and variables | Output of other nodes](/code/builtin/output-other-nodes.md) for more detail on these methods.

- Reference a different node that contains the same information, but doesn't have multiple matching items.

## item-linking-node-building.md

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# Item linking for node creators

--8<-- "\_snippets/data/data-mapping/item-linking-node-creators.md"

## configuration.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Embed Configuration

description: Learn how to configure your n8n Embed.

contentType: howto

---

# Configuration

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## Authentication

You can secure n8n by setting up [User management](/user-management/index.md), n8n's built-in authentication feature.

n8n supports [LDAP](/user-management/ldap.md) and [SAML](/user-management/saml/index.md).

### Credential overwrites

To offer OAuth login to users, it's possible to overwrite [credentials](/glossary.md#credential-n8n) on a global basis. This credential data isn't visible to users but the backend uses it automatically.

In the Editor UI, n8n hides all overwritten fields by default. This means that users are able to authenticate using OAuth by pressing the "connect" button on the credentials.

n8n offers two ways to apply credential overwrites: using Environment Variable and using the REST API.

#### Using environment variables

You can set credential overwrites using environment variable by setting the `CREDENTIALS\_OVERWRITE\_DATA` to `{ CREDENTIAL\_NAME: { PARAMETER: VALUE }}`.

/// warning

Even though this is possible, it isn't recommended. Environment variables aren't protected in n8n, so the data can leak to users.

///

#### Using REST APIs

The recommended way is to load the data using a custom REST endpoint. Set the `CREDENTIALS\_OVERWRITE\_ENDPOINT` to a path under which this endpoint should be made available.

/// note

The endpoints can be called just one at a time for security reasons.

///

For example:

1. Activate the endpoint by setting the environment variable in the environment n8n runs under:

```sh

export CREDENTIALS\_OVERWRITE\_ENDPOINT=send-credentials

```

2. A JSON file with the credentials to overwrite is then needed. For example, a `oauth-credentials.json` file to overwrite credentials for Asana and GitHub could look like this:

```json

{

"asanaOAuth2Api": {

"clientId": "<id>",

"clientSecret": "<secret>"

},

"githubOAuth2Api": {

"clientId": "<id>",

"clientSecret": "<secret>"

}

}

```

3. Then apply it to the instance by sending it using curl:

```sh

curl -H "Content-Type: application/json" --data @oauth-credentials.json http://localhost:5678/send-credentials

```

/// note

There are cases when credentials are based on others. For example, the `googleSheetsOAuth2Api` extends the `googleOAuth2Api`.

In this case, you can set parameters on the parent credentials (`googleOAuth2Api`) for all child-credentials (`googleSheetsOAuth2Api`) to use.

///

## Environment variables

n8n has many [environment variables](/hosting/configuration/environment-variables/index.md) you can configure. Here are the most relevant environment variables for your hosted solution:

| Variable | Type | Default | Description |

| :------- | :--- | :------ | :---------- |

| `EXECUTIONS\_TIMEOUT` | Number | `-1` | Sets a default timeout (in seconds) to all workflows after which n8n stops their execution. Users can override this for individual workflows up to the duration set in `EXECUTIONS\_TIMEOUT\_MAX`. Set `EXECUTIONS\_TIMEOUT` to `-1` to disable. |

| `EXECUTIONS\_DATA\_PRUNE` | Boolean | `true` | Whether to delete data of past executions on a rolling basis. |

| `EXECUTIONS\_DATA\_MAX\_AGE` | Number | `336` | The execution age (in hours) before it's deleted. |

| `EXECUTIONS\_DATA\_PRUNE\_MAX\_COUNT` | Number | `10000` | Maximum number of executions to keep in the database. 0 = no limit |

| `NODES\_EXCLUDE` | Array of strings | - | Specify which nodes not to load. For example, to block nodes that can be a security risk if users aren't trustworthy: `NODES\_EXCLUDE: "[\"n8n-nodes-base.executeCommand\", \"n8n-nodes-base.readWriteFile\"]"` |

| `NODES\_INCLUDE` | Array of strings | - | Specify which nodes to load. |

| `N8N\_TEMPLATES\_ENABLED` | Boolean | `true` | Enable [workflow templates](/glossary.md#template-n8n) (true) or disable (false). |

| `N8N\_TEMPLATES\_HOST` | String | `https://api.n8n.io` | Change this if creating your own workflow template library. Note that to use your own workflow templates library, your API must provide the same endpoints and response structure as n8n's. Refer to [Workflow templates](/workflows/templates.md) for more information. |

## Backend hooks

It's possible to define external hooks that n8n executes whenever a specific operation runs. You can use these, for example, to log data, change data, or forbid an action by throwing an error.

### Available hooks

| Hook | Arguments | Description |

| :------- | :---------| :---------- |

| `credentials.create` | `[credentialData: ICredentialsDb]` | Called before new credentials get created. Use to restrict the number of credentials. |

| `credentials.delete` | `[id: credentialId]` | Called before credentials get deleted. |

| `credentials.update` | `[credentialData: ICredentialsDb]` | Called before existing credentials are saved. |

| `frontend.settings` | `[frontendSettings: IN8nUISettings]` | Gets called on n8n startup. Allows you to, for example, overwrite frontend data like the displayed OAuth URL. |

| `n8n.ready` | `[app: App]` | Called once n8n is ready. Use to, for example, register custom API endpoints. |

| `n8n.stop` | | Called when an n8n process gets stopped. Allows you to save some process data. |

| `oauth1.authenticate` | `[oAuthOptions: clientOAuth1.Options, oauthRequestData: {oauth\_callback: string}]` | Called before an OAuth1 authentication. Use to overwrite an OAuth callback URL. |

| `oauth2.callback` | `[oAuth2Parameters: {clientId: string, clientSecret: string \| undefined, accessTokenUri: string, authorizationUri: string, redirectUri: string, scopes: string[]}]` | Called in an OAuth2 callback. Use to overwrite an OAuth callback URL. |

| `workflow.activate` | `[workflowData: IWorkflowDb]` | Called before a workflow gets activated. Use to restrict the number of active workflows. |

| `workflow.afterDelete` | `[workflowId: string]` | Called after a workflow gets deleted. |

| `workflow.afterUpdate` | `[workflowData: IWorkflowBase]` | Called after an existing workflow gets saved. |

| `workflow.create` | `[workflowData: IWorkflowBase]` | Called before a workflow gets created. Use to restrict the number of saved workflows. |

| `workflow.delete` | `[workflowId: string]` | Called before a workflow gets delete. |

| `workflow.postExecute` | `[run: IRun, workflowData: IWorkflowBase]` | Called after a workflow gets executed. |

| `workflow.preExecute` | `[workflow: Workflow: mode: WorkflowExecuteMode]` | Called before a workflow gets executed. Allows you to count or limit the number of workflow executions. |

| `workflow.update` | `[workflowData: IWorkflowBase]` | Called before an existing workflow gets saved. |

### Registering hooks

Set hooks by registering a hook file that contains the hook functions.

To register a hook, set the environment variable `EXTERNAL\_HOOK\_FILES`.

You can set the variable to a single file:

`EXTERNAL\_HOOK\_FILES=/data/hook.js`

Or to contain multiple files separated by a semicolon:

`EXTERNAL\_HOOK\_FILES=/data/hook1.js;/data/hook2.js`

### Backend hook files

Hook files are regular JavaScript files that have the following format:

```js

module.exports = {

"frontend": {

"settings": [

async function (settings) {

settings.oauthCallbackUrls.oauth1 = 'https://n8n.example.com/oauth1/callback';

settings.oauthCallbackUrls.oauth2 = 'https://n8n.example.com/oauth2/callback';

}

]

},

"workflow": {

"activate": [

async function (workflowData) {

const activeWorkflows = await this.dbCollections.Workflow.count({ active: true });

if (activeWorkflows > 1) {

throw new Error(

'Active workflow limit reached.'

);

}

}

]

}

}

```

### Backend hook functions

A hook or a hook file can contain multiple hook functions, with all functions executed one after another.

If the parameters of the hook function are objects, it's possible to change the data of that parameter to change the behavior of n8n.

You can also access the database in any hook function using `this.dbCollections` (refer to the code sample in [Backend hook files](#backend-hook-files).

## Frontend external hooks

Like backend external hooks, it's possible to define external hooks in the frontend code that get executed by n8n whenever a user performs a specific operation. You can use them, for example, to log data and change data.

### Available hooks

| Hook | Description |

| :------- | :---------- |

| `credentialsEdit.credentialTypeChanged` | Called when an existing credential's type changes. |

| `credentials.create` | Called when someone creates a new credential. |

| `credentialsList.dialogVisibleChanged` | |

| `dataDisplay.nodeTypeChanged` | |

| `dataDisplay.onDocumentationUrlClick` | Called when someone selects the help documentation link. |

| `execution.open` | Called when an existing execution opens. |

| `executionsList.openDialog` | Called when someone selects an execution from existing Workflow Executions. |

| `expressionEdit.itemSelected` | |

| `expressionEdit.dialogVisibleChanged` | |

| `nodeCreateList.filteredNodeTypesComputed` | |

| `nodeCreateList.nodeFilterChanged` | Called when someone makes any changes to the node panel filter. |

| `nodeCreateList.selectedTypeChanged` | |

| `nodeCreateList.mounted` | |

| `nodeCreateList.destroyed` | |

| `nodeSettings.credentialSelected` | |

| `nodeSettings.valueChanged` | |

| `nodeView.createNodeActiveChanged` | |

| `nodeView.addNodeButton` | |

| `nodeView.createNodeActiveChanged` | |

| `nodeView.mount` | |

| `pushConnection.executionFinished` | |

| `showMessage.showError` | |

| `runData.displayModeChanged` | |

| `workflow.activeChange` | |

| `workflow.activeChangeCurrent` | |

| `workflow.afterUpdate` | Called when someone updates an existing workflow. |

| `workflow.open` | |

| `workflowRun.runError` | |

| `workflowRun.runWorkflow` | Called when a workflow executes. |

| `workflowSettings.dialogVisibleChanged` | |

| `workflowSettings.saveSettings` | Called when someone saves the settings of a workflow. |

### Registering hooks

You can set hooks by loading the hooks script on the page. One way to do this is by creating a hooks file in the project and adding a script tag in your `editor-ui/public/index.html` file:

```html

<script src="frontend-hooks.js"></script>

```

### Frontend hook files

Frontend external hook files are regular JavaScript files which have the following format:

```js

window.n8nExternalHooks = {

nodeView: {

mount: [

function (store, meta) {

// do something

},

],

createNodeActiveChanged: [

function (store, meta) {

// do something

},

function (store, meta) {

// do something else

},

],

addNodeButton: [

function (store, meta) {

// do something

},

],

},

};

```

### Frontend hook functions

You can define multiple hook functions per hook. Each hook function is invoked with the following arguments arguments:

\* `store`: The Vuex store object. You can use this to change or get data from the store.

\* `metadata`: The object that contains any data provided by the hook. To see what's passed, search for the hook in the `editor-ui` package.

## deployment.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

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# Deployment

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See the [hosting documentation](https://docs.n8n.io/reference/server-setup.html) for detailed setup options.

## User data

n8n recommends that you follow the same or similar practices used internally for n8n Cloud: Save user data using [Rook](https://rook.io/) and, if an n8n server goes down, a new instance starts on another machine using the same data.

Due to this, you don't need to use backups except in case of a catastrophic failure, or when a user wants to reactivate their account within your prescribed retention period (two weeks for n8n Cloud).

## Backups

n8n recommends creating nightly backups by attaching another container, and copying all data to this second container. In this manner, RAM usage is negligible, and so doesn't impact the amount of users you can place on the server.

## Restarting

If your instance is down or restarting, missed executions (for example, Cron or Webhook nodes) during this time aren't recoverable. If it's important for you to maintain 100% uptime, you need to build another proxy in front of it which caches the data.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Embed Documentation and Guides

description: Learn how to white label and integrate n8n into your products with the Embed feature. Includes usage, costs, licensing, and support details.

contentType: overview

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# n8n Embed

n8n Embed is part of n8n's paid offering. Using Embed, you can white label n8n, or incorporate it in your software as part of your commercial product.

For more information about when to use Embed, as well as costs and licensing processes, refer to [Embed](https://n8n.io/embed/){:target=\_blank .external-link} on the n8n website.

## Support

The [community forum](https://community.n8n.io/) can help with various issues. If you are a current Embed customer, you can also contact n8n support, using the email provided when you bought the license.

## Russia and Belarus

n8n Embed isn't available in Russia and Belarus. Refer to n8n's blog post [Update on n8n cloud accounts in Russia and Belarus](https://blog.n8n.io/update-on-n8n-cloud-accounts-in-russia-and-belarus/){:target=\_blank .external-link} for more information.

## managing-workflows.md

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contentType: howto

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# Workflow management in Embed

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When managing an embedded n8n deployment, spanning across teams or organizations, you will likely need to run the same (or similar) workflows for multiple users. There are two available options for doing so:

| Solution | Pros | Cons |

| -------- | ---- | ---- |

| Create a workflow for each user | No limitation on how workflow starts (can use any trigger) | Requires managing multiple workflows. |

| Create a single workflow, and pass it user credentials when executing | Simplified workflow management (only need to change one workflow). | To run the workflow, your product must call it |

/// warning

The APIs referenced in this document are subject to change at any time. Be sure the check for continued functionality with each version upgrade.

///

## Workflow per user

There are three general steps to follow:

\* Obtain the credentials for each user, and any additional parameters that may be required based on the workflow.

\* Create the [n8n credentials](/glossary.md#credential-n8n) for this user.

\* Create the workflow.

### 1. Obtain user credentials

Here you need to capture all credentials for any node/service this user must authenticate with, along with any additional parameters required for the particular workflow. The credentials and any parameters needed will depend on your workflow and what you are trying to do.

### 2. Create user credentials

After all relevant credential details have been obtained, you can proceed to create the relevant service credentials in n8n. This can be done using the Editor UI or API call.

#### Using the Editor UI

1. From the menu select \*\*Credentials\*\* > \*\*New\*\*.

1. Use the drop-down to select the \*\*Credential type\*\* to create, for example \*Airtable\*.

![Create New Credentials drop-down](/\_images/embed/managing-workflows/create\_new\_credentials.png)

1. In the \*\*Create New Credentials\*\* modal, enter the corresponding credentials details for the user, and select the nodes that will have access to these credentials.

![Create New Credentials modal](/\_images/embed/managing-workflows/create\_new\_credentials2.png)

1. Click \*\*Create\*\* to finish and save.

#### Using the API

The frontend API used by the Editor UI can also be called to achieve the same result. The API endpoint is in the format: `https://<n8n-domain>/rest/credentials`.

For example, to create the credentials in the Editor UI example above, the request would be:

```

POST https://<n8n-domain>/rest/credentials

```

With the request body:

```json

{

"name":"MyAirtable",

"type":"airtableApi",

"nodesAccess":[

{

"nodeType":"n8n-nodes-base.airtable"

}

],

"data":{

"apiKey":"q12we34r5t67yu"

}

}

```

The response will contain the ID of the new credentials, which you will use when creating the workflow for this user:

```json

{

"data":{

"name":"MyAirtable",

"type":"airtableApi",

"data":{

"apiKey":"q12we34r5t67yu"

},

"nodesAccess":[

{

"nodeType":"n8n-nodes-base.airtable",

"date":"2021-09-10T07:41:27.770Z"

}

],

"id":"29",

"createdAt":"2021-09-10T07:41:27.777Z",

"updatedAt":"2021-09-10T07:41:27.777Z"

}

}

```

### 3. Create the workflow

Best practice is to have a “base” workflow that you then duplicate and customize for each new user with their credentials (and any other details).

You can duplicate and customize your template workflow using either the Editor UI or API call.

#### Using the Editor UI

1. From the menu select \*\*Workflows\*\* > \*\*Open\*\* to open the template workflow to be duplicated.

1. Select \*\*Workflows\*\* > \*\*Duplicate\*\*, then enter a name for this new workflow and click \*\*Save\*\*.

![Duplicate workflow](/\_images/embed/managing-workflows/duplicate\_workflow.png)

1. Update all relevant nodes to use the credentials for this user (created above).

1. \*\*Save\*\* this workflow set it to \*\*Active\*\* using the toggle in the top-right corner.

#### Using the API

1. Fetch the JSON of the template workflow using the endpoint: `https://<n8n-domain>/rest/workflows/<workflow\_id>`

```

GET https://<n8n-domain>/rest/workflows/1012

```

The response will contain the JSON data of the selected workflow:

```json

{

"data": {

"id": "1012",

"name": "Nathan's Workflow",

"active": false,

"nodes": [

{

"parameters": {},

"name": "Start",

"type": "n8n-nodes-base.start",

"typeVersion": 1,

"position": [

130,

640

]

},

{

"parameters": {

"authentication": "headerAuth",

"url": "https://internal.users.n8n.cloud/webhook/custom-erp",

"options": {

"splitIntoItems": true

},

"headerParametersUi": {

"parameter": [

{

"name": "unique\_id",

"value": "recLhLYQbzNSFtHNq"

}

]

}

},

"name": "HTTP Request",

"type": "n8n-nodes-base.httpRequest",

"typeVersion": 1,

"position": [

430,

300

],

"credentials": {

"httpHeaderAuth": "beginner\_course"

}

},

{

"parameters": {

"operation": "append",

"application": "appKBGQfbm6NfW6bv",

"table": "processingOrders",

"options": {}

},

"name": "Airtable",

"type": "n8n-nodes-base.airtable",

"typeVersion": 1,

"position": [

990,

210

],

"credentials": {

"airtableApi": "Airtable"

}

},

{

"parameters": {

"conditions": {

"string": [

{

"value1": "={{$json[\"orderStatus\"]}}",

"value2": "processing"

}

]

}

},

"name": "IF",

"type": "n8n-nodes-base.if",

"typeVersion": 1,

"position": [

630,

300

]

},

{

"parameters": {

"keepOnlySet": true,

"values": {

"number": [

{

"name": "=orderId",

"value": "={{$json[\"orderID\"]}}"

}

],

"string": [

{

"name": "employeeName",

"value": "={{$json[\"employeeName\"]}}"

}

]

},

"options": {}

},

"name": "Set",

"type": "n8n-nodes-base.set",

"typeVersion": 1,

"position": [

800,

210

]

},

{

"parameters": {

"functionCode": "let totalBooked = items.length;\nlet bookedSum = 0;\n\nfor(let i=0; i < items.length; i++) {\n bookedSum = bookedSum + items[i].json.orderPrice;\n}\nreturn [{json:{totalBooked, bookedSum}}]\n"

},

"name": "Function",

"type": "n8n-nodes-base.function",

"typeVersion": 1,

"position": [

800,

400

]

},

{

"parameters": {

"webhookUri": "https://discord.com/api/webhooks/865213348202151968/oD5\_WPDQwtr22Vjd\_82QP3-\_4b\_lGhAeM7RynQ8Js5DzyXrQEnj0zeAQIA6fki1JLtXE",

"text": "=This week we have {{$json[\"totalBooked\"]}} booked orders with a total value of {{$json[\"bookedSum\"]}}. My Unique ID: {{$node[\"HTTP Request\"].parameter[\"headerParametersUi\"][\"parameter\"][0][\"value\"]}}"

},

"name": "Discord",

"type": "n8n-nodes-base.discord",

"typeVersion": 1,

"position": [

1000,

400

]

},

{

"parameters": {

"triggerTimes": {

"item": [

{

"mode": "everyWeek",

"hour": 9

}

]

}

},

"name": "Cron",

"type": "n8n-nodes-base.cron",

"typeVersion": 1,

"position": [

220,

300

]

}

],

"connections": {

"HTTP Request": {

"main": [

[

{

"node": "IF",

"type": "main",

"index": 0

}

]

]

},

"Start": {

"main": [

[]

]

},

"IF": {

"main": [

[

{

"node": "Set",

"type": "main",

"index": 0

}

],

[

{

"node": "Function",

"type": "main",

"index": 0

}

]

]

},

"Set": {

"main": [

[

{

"node": "Airtable",

"type": "main",

"index": 0

}

]

]

},

"Function": {

"main": [

[

{

"node": "Discord",

"type": "main",

"index": 0

}

]

]

},

"Cron": {

"main": [

[

{

"node": "HTTP Request",

"type": "main",

"index": 0

}

]

]

}

},

"createdAt": "2021-07-16T11:15:46.066Z",

"updatedAt": "2021-07-16T12:05:44.045Z",

"settings": {},

"staticData": null,

"tags": []

}

}

```

1. Save the returned JSON data and update any relevant credentials and fields for the new user.

1. Create a new workflow using the updated JSON as the request body at endpoint: `https://<n8n-domain>/rest/workflows`

```

POST https://<n8n-domain>/rest/workflows/

```

The response will contain the ID of the new workflow, which you will use in the next step.

1. Lastly, activate the new workflow:

```

PATCH https://<n8n-domain>/rest/workflows/1012

```

Passing the additional value `active` in your JSON payload:

```json

// ...

"active":true,

"settings": {},

"staticData": null,

"tags": []

```

## Single workflow

There are four steps to follow to implement this method:

\* Obtain the credentials for each user, and any additional parameters that may be required based on the workflow. See [Obtain user credentials](#1-obtain-user-credentials) above.

\* Create the n8n credentials for this user. See [Create user credentials](#2-create-user-credentials) above.

\* Create the workflow.

\* Call the workflow as needed.

### Create the workflow

The details and scope of this workflow will vary greatly according to the individual use case, however there are a few design implementations to keep in mind:

\* This workflow must be triggered by a [Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) node.

\* The incoming webhook call must contain the user’s credentials and any other workflow parameters required.

\* Each node where the user’s credentials are needed should use an [expression](/code/expressions.md) so that the node’s credential field reads the credential provided in the webhook call.

\* Save and activate the workflow, ensuring the production URL is selected for the Webhook node. Refer to [webhook node](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) for more information.

### Call the workflow

For each new user, or for any existing user as may be needed, call the webhook defined as the workflow trigger and provide the necessary credentials (and any other workflow parameters).

## prerequisites.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

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# Prerequisites

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The requirements provided here are an example based on n8n Cloud and are for illustrative purposes only. Your requirements may vary depending on the number of users, workflows, and executions. Contact n8n for more information.

| Component | Sizing | Supported |

| :-------- | :----- | :-------- |

| CPU/vCPU | Minimum 10 CPU cycles, scaling as needed | Any public or private cloud |

| Database | 512 MB - 4 GB SSD | SQLite or PostgreSQL |

| Memory | 320 MB - 2 GB | |

## CPU considerations

n8n isn't CPU intensive so even small instances (of providers such as AWS and GCP) should be enough for most use cases. Usually, memory requirements supersede CPU requirements, so focus resources there when planning your infrastructure.

## Database considerations

n8n uses its database to store [credentials](/glossary.md#credential-n8n), past executions, and workflows.

A core feature of n8n is the flexibility to choose a database. All the supported databases have different advantages and disadvantages, which you have to consider individually and pick the one that best suits your needs. By default n8n creates an SQLite database if no database exists at the given location.

n8n recommends that every n8n instance have a dedicated database. This helps to prevent dependencies and potential performance degradation. If it isn't possible to provide a dedicated database for every n8n instance, n8n recommends making use of Postgres's schema feature.

For Postgres, the database must already exist on the DB-instance. The database user for the n8n process needs to have full permissions on all tables that they're using or creating. n8n creates and maintains the database schema.

### Best practices

\* SSD storage.

\* In containerized cloud environments, ensure that the volume is persisted and mounted when stopping/starting a container. If not, all data is lost.

\* If using Postgres, don't use the `tablePrefix` configuration option. It will be deprecated in the near future.

\* Pay attention to the changelog of new versions and consider reverting migrations before downgrading.

\* Set up at least the basic database security and stability mechanisms such as IP allow lists and backups.

## Memory considerations

An n8n instance doesn't typically require large amounts of available memory. For example an n8n Cloud instance at idle requires ~100MB. It's the nature of your workflows and the data being processed that determines your memory requirements.

For example, while most nodes just pass data to the next node in the workflow, the [Code node](/code/code-node.md) creates a pre-processing and post-processing copy of the data. When dealing will large binary files, this can consume all available resources.

## white-labelling.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# White labelling

--8<-- "\_snippets/embed-license.md"

White labelling n8n means customizing the frontend styling and assets to match your brand identity. The process involves changing two packages in n8n's source code [github.com/n8n-io/n8n](https://github.com/n8n-io/n8n){:target=\_blank .external-link}:

\* [packages/design-system](https://github.com/n8n-io/n8n/tree/master/packages/design-system){:target=\_blank .external-link}: n8n's [storybook](https://storybook.js.org/){:target=\_blank .external-link} design system with CSS styles and Vue.js components

\* [packages/editor-ui](https://github.com/n8n-io/n8n/tree/master/packages/editor-ui){:target=\_blank .external-link}: n8n's [Vue.js](https://vuejs.org/){:target=\_blank .external-link} frontend build with [Vite.js](https://vitejs.dev){:target=\_blank .external-link}

## Prerequisites

You need the following installed on your development machine:

--8<-- "\_snippets/integrations/creating-nodes/prerequisites.md"

Create a fork of [n8n's repository](https://github.com/n8n-io/n8n){:target=\_blank .external-link} and clone your new repository.

```shell

git clone https://github.com/<your-organization>/n8n.git n8n

cd n8n

```

Install all dependencies, build and start n8n.

```shell

npm install

npm run build

npm run start

```

Whenever you make changes you need to rebuild and restart n8n. While developing you can use `npm run dev` to automatically rebuild and restart n8n anytime you make code changes.

## Theme colors

To customize theme colors open [packages/design-system](https://github.com/n8n-io/n8n/tree/master/packages/design-system){:target=\_blank .external-link} and start with:

- [packages/design-system/src/css/\_tokens.scss](https://github.com/n8n-io/n8n/blob/master/packages/design-system/src/css/\_tokens.scss){:target=\_blank .external-link}

- [packages/design-system/src/css/\_tokens.dark.scss](https://github.com/n8n-io/n8n/blob/master/packages/design-system/src/css/\_tokens.dark.scss){:target=\_blank .external-link}

At the top of `\_tokens.scss` you will find `--color-primary` variables as HSL colors:

```scss

@mixin theme {

--color-primary-h: 6.9;

--color-primary-s: 100%;

--color-primary-l: 67.6%;

```

In the following example the primary color changes to <span style="color:#0099ff">#0099ff</span>. To convert to HSL you can use a [color converter tool](https://www.w3schools.com/colors/colors\_converter.asp){:target=\_blank .external-link}.

```scss

@mixin theme {

--color-primary-h: 204;

--color-primary-s: 100%;

--color-primary-l: 50%;

```

![Example Theme Color Customization](/\_images/embed/white-label/color-transition.gif)

## Theme logos

To change the editor’s logo assets look into [packages/editor-ui/public](https://github.com/n8n-io/n8n/tree/master/packages/editor-ui/public){:target=\_blank .external-link} and replace:

- favicon-16x16.png

- favicon-32x32.png

- favicon.ico

- n8n-logo.svg

- n8n-logo-collapsed.svg

- n8n-logo-expanded.svg

Replace these logo assets. n8n uses them in Vue.js components, including:

\* [MainSidebar.vue](https://github.com/n8n-io/n8n/blob/master/packages/editor-ui/src/components/MainSidebar.vue){:target=\_blank .external-link}: top/left logo in the main sidebar.

\* [Logo.vue](https://github.com/n8n-io/n8n/blob/master/packages/editor-ui/src/components/Logo.vue): reused in other components.

In the following example replace `n8n-logo-collapsed.svg` and `n8n-logo-expanded.svg` to update the main sidebar's logo assets.

![Example Logo Main Sidebar](/\_images/embed/white-label/logo-main-sidebar.png)

If your logo assets require different sizing or placement you can customize SCSS styles at the bottom of [MainSidebar.vue](https://github.com/n8n-io/n8n/blob/master/packages/editor-ui/src/components/MainSidebar.vue){:target=\_blank .external-link}.

```scss

.logoItem {

display: flex;

justify-content: space-between;

height: $header-height;

line-height: $header-height;

margin: 0 !important;

border-radius: 0 !important;

border-bottom: var(--border-width-base) var(--border-style-base) var(--color-background-xlight);

cursor: default;

&:hover, &:global(.is-active):hover {

background-color: initial !important;

}

\* { vertical-align: middle; }

.icon {

height: 18px;

position: relative;

left: 6px;

}

}

```

## Text localization

To change all text occurrences like `n8n` or `n8n.io` to your brand identity you can customize n8n's English internationalization file: [packages/editor-ui/src/plugins/i18n/locales/en.json](https://github.com/n8n-io/n8n/blob/master/packages/editor-ui/src/plugins/i18n/locales/en.json){:target=\_blank .external-link}.

n8n uses the [Vue I18n](https://kazupon.github.io/vue-i18n/){:target=\_blank .external-link} internationalization plugin for Vue.js to translate the majority of UI texts. To search and replace text occurrences inside `en.json` you can use [Linked locale messages](https://kazupon.github.io/vue-i18n/guide/messages.html#linked-locale-messages){:target=\_blank .external-link}.

In the following example add the `\_brand.name` translation key to white label n8n's [AboutModal.vue](https://github.com/n8n-io/n8n/blob/master/packages/editor-ui/src/components/AboutModal.vue){:target=\_blank .external-link}.

```js

{

"\_brand.name": "My Brand",

//replace n8n with link to \_brand.name

"about.aboutN8n": "About @:\_brand.name",

"about.n8nVersion": "@:\_brand.name Version",

}

```

![Example About Modal Localization](/\_images/embed/white-label/about-modal.png)

### Window title

To change n8n's window title to your brand name, edit the following:

- [packages/editor-ui/index.html](https://github.com/n8n-io/n8n/blob/master/packages/editor-ui/index.html){:target=\_blank .external-link}

- [packages/editor-ui/src/components/mixins/titleChange.ts](https://github.com/n8n-io/n8n/blob/master/packages/editor-ui/src/components/mixins/titleChange.ts){:target=\_blank .external-link}

The following example replaces all occurrences of `n8n` and `n8n.io` with `My Brand` in `index.html` and `titleChange.ts`.

```html

<!DOCTYPE html>

<html lang="en">

<head>

<!-- Replace html title attribute -->

<title>My Brand - Workflow Automation</title>

</head>

```

```typescript

$titleSet(workflow: string, status: WorkflowTitleStatus) {

// replace n8n prefix

window.document.title = `My Brand - ${icon} ${workflow}`;

},

$titleReset() {

// replace n8n prefix

document.title = `My Brand - Workflow Automation`;

},

```

![Example Window Title Localization](/\_images/embed/white-label/window-title.png)

## workflow-templates.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Workflow templates

--8<-- "\_snippets/embed-license.md"

n8n provides a library of workflow [templates](/glossary.md#template-n8n). When embedding n8n, you can:

\* Continue to use n8n's workflow templates library (this is the default behavior)

\* Disable workflow templates

\* Create your own workflow templates library

## Disable workflow templates

--8<-- "\_snippets/workflows/templates/disable-templates.md"

## Use your own workflow templates library

--8<-- "\_snippets/workflows/templates/custom-templates-library.md"

## Add your workflows to the n8n library

--8<-- "\_snippets/workflows/templates/submit-templates.md"

## error-handling.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

description: How to handle execution errors.

---

# Error handling

When designing your flow logic, it's a good practice to consider potential errors, and set up methods to handle them gracefully. With an error workflow, you can control how n8n responds to a workflow execution failure.

/// note | Investigating errors

To investigate failed executions, you can:

\* Review your [Executions](/workflows/executions/index.md), for a [single workflow](/workflows/executions/single-workflow-executions.md) or [all workflows you have access to](/workflows/executions/all-executions.md). You can [load data from previous execution](/workflows/executions/debug.md) into your current workflow.

\* Enable [Log streaming](/log-streaming.md).

///

## Create and set an error workflow

For each workflow, you can set an error workflow in \*\*Workflow Settings\*\*. It runs if an execution fails. This means you can, for example, send email or Slack alerts when a workflow execution errors. The error workflow must start with the [Error Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.errortrigger.md).

You can use the same error workflow for multiple workflows.

--8<-- "\_snippets/flow-logic/create-set-error-workflow.md"

## Error data

--8<-- "\_snippets/integrations/builtin/core-nodes/error-trigger/error-data.md"

## Cause a workflow execution failure using Stop And Error

When you create and set an error workflow, n8n runs it when an execution fails. Usually, this is due to things like errors in node settings, or the workflow running out of memory.

You can add the [Stop And Error](/integrations/builtin/core-nodes/n8n-nodes-base.stopanderror.md) node to your workflow to force executions to fail under your chosen circumstances, and trigger the error workflow.

## execution-order.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Execution order in multi-branch workflows

description: How n8n decides the node execution order in multi-branch workflows.

contentType: explanation

---

# Execution order in multi-branch workflows

n8n's node execution order depends on the version of n8n you're using:

\* For workflows created before version 1.0: n8n executes the first node of each branch, then the second node of each branch, and so on.

\* For workflows created in version 1.0 and above: executes each branch in turn, completing one branch before starting another. n8n orders the branches based on their position on the [canvas](/glossary.md#canvas-n8n), from topmost to bottommost. If two branches are at the same height, the leftmost branch executes first.

You can change the execution order in your [workflow settings](/workflows/settings.md).

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Flow logic

description: How to represent logic in n8n workflows.

contentType: overview

---

# Flow logic

n8n allows you to represent complex logic in your workflows.

[[% import "\_macros/section-toc.html" as sectionToc %]]

This section covers:

[[ sectionToc.sectionToc(page) ]]

## Related sections

You need some understanding of [Data](/data/index.md) in n8n, including [Data structure](/data/data-structure.md) and [Data flow within nodes](/data/data-flow-nodes.md).

When building your logic, you'll use n8n's [Core nodes](/integrations/builtin/core-nodes/index.md), including:

\* Splitting: [IF](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) and [Switch](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md).

\* Merging: [Merge](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md), [Compare Datasets](/integrations/builtin/core-nodes/n8n-nodes-base.comparedatasets.md), and [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md).

\* Looping: [IF](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) and [Loop Over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md).

\* Waiting: [Wait](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md).

\* Creating sub-workflows: [Execute Workflow](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md) and [Execute Workflow Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflowtrigger.md).

\* Error handling: [Stop And Error](/integrations/builtin/core-nodes/n8n-nodes-base.stopanderror.md) and [Error Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.errortrigger.md).

## looping.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# Looping in n8n

Looping is useful when you want to process multiple items or perform an action repeatedly, such as sending a message to every contact in your address book. n8n handles this repetitive processing automatically, meaning you don't need to specifically build loops into your workflows. There are [some nodes](#node-exceptions) where this isn't true.

## Using loops in n8n

n8n nodes take any number of items as input, process these items, and output the results. You can think of each item as a single data point, or a single row in the output table of a node.

![The Customer Datastore node output](/\_images/flow-logic/looping/customer\_datastore\_node.png)

Nodes usually run once for each item. For example, if you wanted to send the name and notes of the customers in the Customer Datastore node as a message on Slack, you would:

1. Connect the Slack node to the Customer Datastore node.

2. Configure the parameters.

3. Execute the node.

You would receive five messages: one for each item.

This is how you can process multiple items without having to explicitly connect nodes in a loop.

### Executing nodes once

For situations where you don't want a node to process all received items, for example sending a Slack message only to the first customer, you can do so by toggling the \*\*Execute Once\*\* parameter in the \*\*Settings\*\* tab of that node This setting is helpful when the incoming data contains multiple items and you want to only process the first one.

## Creating loops

n8n typically handles the iteration for all incoming items. However, there are certain scenarios where you will have to create a loop to iterate through all items. Refer to [Node exceptions](#node-exceptions) for a list of nodes that don't automatically iterate over all incoming items.

### Loop until a condition is met

To create a loop in an n8n workflow, connect the output of one node to the input of a previous node. Add an [IF](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) node to check when to stop the loop.

Here is an [example workflow](https://n8n.io/workflows/1130) that implements a loop with an `IF` node:

![Editor UI view of sample workflow](/\_images/flow-logic/looping/example\_workflow.png)

### Loop until all items are processed

Use the [Loop Over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) node when you want to loop until all items are processed. To process each item individually, set \*\*Batch Size\*\* to `1`.

You can batch the data in groups and process these batches. This approach is useful for avoiding API rate limits when processing large incoming data or when you want to process a specific group of returned items.

The Loop Over Items node stops executing after all the incoming items get divided into batches and passed on to the next node in the workflow so it's not necessary to add an IF node to stop the loop.

## Node exceptions

Nodes and operations where you need to design a loop into your workflow:

\* [CrateDB](/integrations/builtin/app-nodes/n8n-nodes-base.cratedb.md) executes once for `insert` and `update`.

\* [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) node in \*\*Run Once for All Items\*\* mode: processes all the items based on the entered code snippet.

\* [Execute Workflow](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md) node in \*\*Run Once for All Items\*\* mode.

\* [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md): you must handle pagination yourself. If your API call returns paginated results you must create a loop to fetch one page at a time.

\* [Microsoft SQL](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftsql.md) executes once for `insert`, `update`, and `delete`.

\* [MongoDB](/integrations/builtin/app-nodes/n8n-nodes-base.mongodb.md) executes once for `insert` and `update`.

\* [QuestDB](/integrations/builtin/app-nodes/n8n-nodes-base.questdb.md) executes once for `insert`.

\* [Redis](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md):

\* Info: this operation executes only once, regardless of the number of items in the incoming data.

\* [RSS Read](/integrations/builtin/core-nodes/n8n-nodes-base.rssfeedread.md) executes once for the requested URL.

\* [TimescaleDB](/integrations/builtin/app-nodes/n8n-nodes-base.timescaledb.md) executes once for `insert` and `update`.

## merging.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

description: Merge data streams in you n8n workflows.

---

# Merging data

Merging brings multiple data streams together. You can achieve this using different nodes depending on your workflow requirements.

- Merge data from different data streams or nodes: Use the [Merge](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) node to combine data from various sources into one.

- Merge data from multiple node executions: Use the [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) node for complex scenarios where you need to merge data from multiple executions of a node or multiple nodes.

- Compare and merge data: Use the [Compare Datasets](/integrations/builtin/core-nodes/n8n-nodes-base.comparedatasets.md) node to compare, merge, and output data streams based on the comparison.

Explore each method in more detail in the sections below.

## Merge data from different data streams

If your workflow [splits](/flow-logic/splitting.md), you combine the separate streams back into one stream.

Here's an [example workflow](https://n8n.io/workflows/1747-joining-different-datasets/) showing different types of merging: appending data sets, keeping only new items, and keeping only existing items. The [Merge node](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) documentation contains details on each of the merge operations.

[[ workflowDemo("https://api.n8n.io/workflows/templates/1747") ]]

## Merge data from different nodes

You can use the Merge node to combine data from two previous nodes, even if the workflow hasn't split into separate data streams. This can be useful if you want to generate a single dataset from the data generated by multiple nodes.

<figure markdown="span">

![Merging data from two previous nodes. The diagram shows three nodes lined up sequentially. The first node is labeled Fetch data, the second is labeled Modify data, and the third is labeled Merge: append both data sets. Arrows connect nodes 1 to 2, 2 to 3, and 1 to 3.](/\_images/flow-logic/merging/merge-node-data.png)

<figcaption>Merging data from two previous nodes</figcaption>

</figure>

## Merge data from multiple node executions

Use the Code node to merge data from multiple node executions. This is useful in some [Looping](/flow-logic/looping.md) scenarios.

/// note | Node executions and workflow executions

This section describes merging data from multiple node executions. This is when a node executes multiple times during a single workflow execution.

///

Refer to this [example workflow](https://n8n.io/workflows/1814-merge-multiple-runs-into-one/){:target=\_blank .external-link} using Loop Over Items and Wait to artificially create multiple executions.

[[ workflowDemo("https://api.n8n.io/workflows/templates/1814") ]]

## Compare, merge, and split again

The [Compare Datasets](/integrations/builtin/core-nodes/n8n-nodes-base.comparedatasets.md) node compares data streams before merging them. It outputs up to four different data streams.

Refer to this [example workflow](https://n8n.io/workflows/1943-comparing-data-with-the-compare-datasets-node/){:target=\_blank .external-link} for an example.

[[ workflowDemo("https://api.n8n.io/workflows/templates/1943") ]]

## splitting.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Split workflows into multiple paths using If and Switch

contentType: howto

---

# Splitting workflows with conditional nodes

Splitting uses the [IF](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) or [Switch](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md) nodes. It turns a single-branch workflow into a multi-branch workflow. This is a key piece of representing complex logic in n8n.

Compare these workflows:

!["Diagram representing two workflows. One has three steps and follows a linear process, with a user submitting a bug, and the workflow emailing a support team. The second workflow starts the same way, but then splits depending on whether the user marked the issue as urgent. It then splits again depending on the user's support plan"](/\_images/flow-logic/splitting/single-multi-branch-workflow.png)

This is the power of splitting and conditional nodes in n8n.

Refer to the [IF](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) or [Switch](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md) documentation for usage details.

## subworkflows.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

description: Call workflows from other workflows, and split large workflows into smaller components.

---

# Sub-workflows

You can call one workflow from another workflow. This allows you to build modular, microservice-like workflows. It can also help if your workflow grows large enough to encounter [memory issues](/hosting/scaling/memory-errors.md). Creating sub-workflows uses the [Execute Workflow](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md) and [Execute Sub-workflow Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflowtrigger.md) nodes.

Sub-wokflow executions don't count towards your plan's monthly execution or active workflow limits.

## Set up and use a sub-workflow

This section walks through setting up both the parent workflow and sub-workflow.

--8<-- "\_snippets/flow-logic/subworkflow-usage.md"

## How data passes between workflows

--8<-- "\_snippets/flow-logic/subworkflow-data-flow.md"

## Sub-workflow conversion

See [sub-workflow conversion](/workflows/subworkflow-conversion.md) for how to divide your existing workflows into sub-workflows.

## waiting.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Waiting

description: How to make your workflow execution wait.

contentType: howto

---

# Waiting

Waiting allows you to pause a workflow mid-execution, then resume where the workflow left off, with the same data. This is useful if you need to rate limit your calls to a service, or wait for an external event to complete. You can wait for a specified duration, or until a webhook fires.

Making a workflow wait uses the [Wait](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) node. Refer to the node documentation for usage details.

n8n provides a workflow template with a basic example of [Rate limiting and waiting for external events](https://n8n.io/workflows/1749-rate-limiting-and-waiting-for-external-events/){:target=\_blank .external-link}.

## contributing.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Learn how to contribute to n8n.

contentType: howto

---

# How can you contribute?

There are a several ways in which you can contribute to n8n, depending on your skills and interests. Each form of contribution is valuable to us!

## Share some love: Review us

- Star n8n on [GitHub](https://github.com/n8n-io/n8n){:target=\_blank class=.external-link} and [Docker Hub](https://hub.docker.com/r/n8nio/n8n){:target=\_blank class=.external-link}.

- Follow us on [Twitter](https://twitter.com/n8n\_io){:target=\_blank class=.external-link}, [LinkedIn](https://www.linkedin.com/company/28491094), and [Facebook](https://www.facebook.com/n8nio/){:target=\_blank class=.external-link}.

- Upvote n8n on [AlternativeTo](https://alternativeto.net/software/n8n-io/){:target=\_blank class=.external-link} and [Alternative.me](https://alternative.me/n8n-io){:target=\_blank class=.external-link}.

- Add n8n to your stack on [Stackshare](https://stackshare.io/n8n){:target=\_blank class=.external-link}.

- Write a review about n8n on [G2](https://www.g2.com/products/n8n/reviews){:target=\_blank class=.external-link}, [Slant](https://www.slant.co/improve/options/37977/~n8n-review){:target=\_blank class=.external-link}, and [Capterra](https://www.capterra.com/p/198028/n8n-io/){:target=\_blank class=.external-link}.

## Help out the community

You can participate in the [forum](https://community.n8n.io/){:target=\_blank class=.external-link} and help the community members out with their questions.

When sharing workflows in the community forum for debugging, use code blocks. Use triple backticks ` ``` ` to wrap the workflow JSON in a code block.

The following video demonstrates the steps of sharing workflows on the community forum:

<div class="video-container">

<iframe width="840" height="472.5" src="https://www.youtube.com/embed/dVC8yLqUvCE" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

</div>

## Contribute a workflow template

--8<-- "\_snippets/workflows/templates/submit-templates.md"

## Build a node

Create an integration for a third party service. Check out [the node creation docs](/integrations/creating-nodes/overview.md) for guidance on how to create and publish a community node.

## Contribute to the code

There are different ways in which you can contribute to the n8n code base:

- Fix [issues](https://github.com/n8n-io/n8n/issues){:target=\_blank class=.external-link} reported on GitHub. The [CONTRIBUTING guide](https://github.com/n8n-io/n8n/blob/master/CONTRIBUTING.md){:target=\_blank class=.external-link} will help you get your development environment ready in minutes.

- Add additional functionality to an existing third party integration.

- Add a new feature to n8n.

## Contribute to the docs

You can contribute to the n8n documentation, for example by documenting nodes or fixing issues.

The repository for the docs is [here](https://github.com/n8n-io/n8n-docs){:target=\_blank class=.external-link} and the guidelines for contributing to the docs are [here](https://github.com/n8n-io/n8n-docs/blob/master/CONTRIBUTING.md){:target=\_blank class=.external-link}.

## Contribute to the blog

You can write an article for the [n8n blog](https://blog.n8n.io/){:target=\_blank class=.external-link}. Your article can be, for example, a [workflow tutorial](https://blog.n8n.io/tag/tutorial/){:target=\_blank class=.external-link}, an opinion piece on automation, or some domain-specific [automation guides](https://blog.n8n.io/tag/guide/){:target=\_blank class=.external-link}.

### How to submit a post

n8n appreciates all contributions. Publishing a tutorial on your own site that supports the community is a great contribution. If you want n8n to highlight your post on the blog, follow these steps:

1. Email your idea to [marketing@n8n.io](mailto:marketing@n8n.io) with the subject "Blog contribution: [Your Topic]."

2. Submit your draft:

- Write your post in a Google Doc following the [style guide](https://www.notion.so/97dc73436a624933b75ddc941a361b70?pvs=21){:target=\_blank class=.external-link}.

- If your blog post includes example workflows, include the workflow JSON in a separate section at the end.

- For author credit, provide a second Google Doc with your full name, a short byline, and your image. n8n will use this to create your author page and credit you as the author of the post.

3. Wait for feedback. We will respond if your draft fits with the blog's strategy and requirements. If you don't hear back within 30 days, it means we won't be moving forward with your blog post.

## Refer a candidate

Do you know someone who would be a great fit for one of our [open positions](https://n8n.io/careers){:target=\_blank class=.external-link}? Refer them to us! In return, we'll pay you €1,000 when the referral successfully passes their probationary period.

Here's how this works:

1. \*\*Search\*\*: Have a look at the description and requirements of each role, and consider if someone you know would be a great fit.

2. \*\*Referral\*\*: Once you've identified a potential candidate, send an email to [Jobs at n8n](mailto:jobs@n8n.io) with the subject line \*Employee referral - [job title]\* and a short description of the person you're referring (and the reason why). Also, tell your referral to apply for the job through our [careers page](https://n8n.io/careers){:target=\_blank class=.external-link}.

3. \*\*Evaluation\*\*: We'll screen the application and inform you about the next steps of the hiring process.

4. \*\*Reward\*\*: As soon as your referral has successfully finished the probationary period, we'll reward you for your efforts by transferring the €1,000 to your bank account.

## help.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to get help and support with n8n.

contentType: howto

hide:

- toc

---

# Get help with n8n

If you need more help with n8n, you can ask for support in the [forum](https://community.n8n.io/){:target=\_blank class=.external-link}. This is the best source of answers, as both the n8n support team and community members can help.

If your Cloud instance is having issues, or if you're an enterprise customer who needs support, you can contact [help@n8n.io](mailto:help@n8n.io).

## Use the About n8n debug tool

Whether you're posting to the forum or emailing customer support, you'll get help faster if you provide details about your n8n instance in your first post or email.

The fastest way to do this is to use the \*\*About n8n\*\* debug tool:

1. Open the left-side panel.

2. Select \*\*Help\*\*.

3. Select \*\*About n8n\*\*.

4. The \*\*About n8n\*\* modal opens to display your current information.

5. Select \*\*Copy debug information\*\* to copy your information.

6. n8n recommends pasting this information into your forum post or support email.

/// note | Don't see \*\*Copy debug\*\*?

The \*\*Copy debug\*\* option is available beginning in n8n version 1.49.0.

If you're using an earlier version of n8n, n8n recommends manually providing this information:

\* n8n version

\* Database

\* n8n EXECUTIONS\_PROCESS setting

\* Running n8n via (Docker, npm, n8n cloud)

\* Operating system

///

## cli-commands.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: CLI commands available in n8n.

contentType: reference

---

# CLI commands for n8n

n8n includes a CLI (command line interface), allowing you to perform actions using the CLI rather than the n8n editor. These include starting workflows, and exporting and importing workflows and credentials.

## Running CLI commands

You can use CLI commands with self-hosted n8n. Depending on how you choose to install n8n, there are differences in how to run the commands:

\* npm: the `n8n` command is directly available. The documentation uses this in the examples below.

\* Docker: the `n8n` command is available within your Docker container:

```sh

docker exec -u node -it <n8n-container-name> <n8n-cli-command>

```

## Start a workflow

You can start workflows directly using the CLI.

Execute a saved workflow by its ID:

```bash

n8n execute --id <ID>

```

## Change the active status of a workflow

You can change the active status of a workflow using the CLI.

/// note | Restart required

These commands operate on your n8n database. If you execute them while n8n is running, the changes don't take effect until you restart n8n.

///

Set the active status of a workflow by its ID to false:

```bash

n8n update:workflow --id=<ID> --active=false

```

Set the active status of a workflow by its ID to true:

```bash

n8n update:workflow --id=<ID> --active=true

```

Set the active status to false for all the workflows:

```bash

n8n update:workflow --all --active=false

```

Set the active status to true for all the workflows:

```bash

n8n update:workflow --all --active=true

```

## Export workflows and credentials

You can export your workflows and credentials from n8n using the CLI.

Command flags:

| Flag | Description |

|-------------|-------|

| --help | Help prompt. |

| --all | Exports all workflows/credentials. |

| --backup | Sets --all --pretty --separate for backups. You can optionally set --output. |

| --id | The ID of the workflow to export. |

| --output | Outputs file name or directory if using separate files. |

| --pretty | Formats the output in an easier to read fashion. |

| --separate | Exports one file per workflow (useful for versioning). Must set a directory using --output. |

| --decrypted | Exports the credentials in a plain text format. |

### Workflows

Export all your workflows to the standard output (terminal):

```bash

n8n export:workflow --all

```

Export a workflow by its ID and specify the output file name:

```bash

n8n export:workflow --id=<ID> --output=file.json

```

Export all workflows to a specific directory in a single file:

```bash

n8n export:workflow --all --output=backups/latest/file.json

```

Export all the workflows to a specific directory using the `--backup` flag (details above):

```bash

n8n export:workflow --backup --output=backups/latest/

```

### Credentials

Export all your credentials to the standard output (terminal):

```bash

n8n export:credentials --all

```

Export credentials by their ID and specify the output file name:

```bash

n8n export:credentials --id=<ID> --output=file.json

```

Export all credentials to a specific directory in a single file:

```bash

n8n export:credentials --all --output=backups/latest/file.json

```

Export all the credentials to a specific directory using the `--backup` flag (details above):

```bash

n8n export:credentials --backup --output=backups/latest/

```

Export all the credentials in plain text format. You can use this to migrate from one installation to another that has a different secret key in the configuration file.

/// warning | Sensitive information

All sensitive information is visible in the files.

///

```bash

n8n export:credentials --all --decrypted --output=backups/decrypted.json

```

## Import workflows and credentials

You can import your workflows and credentials from n8n using the CLI.

/// warning | Update the IDs

When exporting workflows and credentials, n8n also exports their IDs. If you have workflows and credentials with the same IDs in your existing database, they will be overwritten. To avoid this, delete or change the IDs before importing.

///

Available flags:

| Flag | Description |

|------|-------------|

| --help | Help prompt. |

| --input | Input file name or directory if you use --separate. |

| --projectId | Import the workflow or credential to the specified project. Can't be used with `--userId`. |

| --separate | Imports `\*.json` files from directory provided by --input. |

| --userId | Import the workflow or credential to the specified user. Can't be used with `--projectId`. |

/// note | Migrating to SQLite

n8n limits workflow and credential names to 128 characters, but SQLite doesn't enforce size limits.

This might result in errors like \*\*Data too long for column name\*\* during the import process.

In this case, you can edit the names from the n8n interface and export again, or edit the JSON file directly before importing.

///

### Workflows

Import workflows from a specific file:

```bash

n8n import:workflow --input=file.json

```

Import all the workflow files as JSON from the specified directory:

```bash

n8n import:workflow --separate --input=backups/latest/

```

### Credentials

Import credentials from a specific file:

```bash

n8n import:credentials --input=file.json

```

Import all the credentials files as JSON from the specified directory:

```bash

n8n import:credentials --separate --input=backups/latest/

```

## License

### Clear

Clear your existing license from n8n's database and reset n8n to default features:

```sh

n8n license:clear

```

If your license includes [floating entitlements](/glossary.md#entitlement-n8n), running this command will also attempt to release them back to the pool, making them available for other instances.

### Info

Display information about the existing license:

```sh

n8n license:info

```

## User management

You can reset user management using the n8n CLI. This returns user management to its pre-setup state. It removes all user accounts.

Use this if you forget your password, and don't have SMTP set up to do password resets by email.

```sh

n8n user-management:reset

```

### Disable MFA for a user

If a user loses their recovery codes you can disable MFA for a user with this command. The user will then be able to log back in to set up MFA again.

```sh

n8n mfa:disable --email=johndoe@example.com

```

### Disable LDAP

You can reset the LDAP settings using the command below.

```sh

n8n ldap:reset

```

## Uninstall community nodes and credentials

You can manage [community nodes](/integrations/community-nodes/installation/index.md) using the n8n CLI. For now, you can only uninstall community nodes and credentials, which is useful if a community node causes instability.

Command flags:

| Flag | Description |

|--------------|----------------------------------------------------------------------------------------------------------------------------------|

| --help | Show CLI help. |

| --credential | The credential type. Get this value by visiting the node's `<NODE>.credential.ts` file and getting the value of `name`. |

| --package | Package name of the community node. |

| --uninstall | Uninstalls the node. |

| --userId | The ID of the user who owns the credential. On self-hosted, query the database. On cloud, query the API with your API key. |

### Nodes

Uninstall a community node by package name:

```sh

n8n community-node --uninstall --package <COMMUNITY\_NODE\_NAME>

```

For example, to uninstall the [Evolution API community node](https://www.npmjs.com/package/n8n-nodes-evolution-api), type:

```sh

n8n community-node --uninstall --package n8n-nodes-evolution-api

```

### Credentials

Uninstall a community node credential:

```sh

n8n community-node --uninstall --credential <CREDENTIAL\_TYPE> --userId <ID>

```

For example, to uninstall the [Evolution API community node credential](https://www.npmjs.com/package/n8n-nodes-evolution-api), visit the [repository](https://github.com/oriondesign2015/n8n-nodes-evolution-api) and navigate to the [`credentials.ts` file](https://github.com/oriondesign2015/n8n-nodes-evolution-api/blob/main/credentials/EvolutionApi.credentials.ts) to find the `name`:

```sh

n8n community-node --uninstall --credential evolutionApi --userId 1234

```

## Security audit

You can run a [security audit](/hosting/securing/security-audit.md) on your n8n instance, to detect common security issues.

```sh

n8n audit

```

## community-edition-features.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Community edition features

description: Differences in available features between the Community edition and other paid plans.

contentType: explanation

tags:

- Community edition

- Enterprise edition

hide:

- tags

---

# Community Edition Features

The community edition includes almost the complete feature set of n8n, except for the features listed here.

The community edition doesn't include these features:

- [Custom Variables](/code/variables.md)

- [Environments](/source-control-environments/index.md)

- [External secrets](/external-secrets.md)

- [External storage for binary data](/hosting/scaling/external-storage.md)

- [Log streaming](/log-streaming.md) ([Logging](/hosting/logging-monitoring/logging.md) \_is\_ included)

- [Multi-main mode](/hosting/scaling/queue-mode.md#multi-main-setup) ([Queue mode](/hosting/scaling/queue-mode.md) \_is\_ included)

- [Projects](/user-management/rbac/projects.md)

- SSO ([SAML](/hosting/securing/set-up-sso.md), [LDAP](/user-management/ldap.md))

- Sharing ([workflows](/workflows/sharing.md), [credentials](/credentials/credential-sharing.md)) (Only the instance owner and the user who creates them can access workflows and credentials)

- [Version control using Git](/source-control-environments/index.md)

- [Workflow history](/workflows/history.md) (You can get one day of workflow history with the community edition by [registering](#registered-community-edition))

These features are available on the Enterprise Cloud plan, including the self-hosted Enterprise edition. Some of these features are available on the Starter and Pro Cloud plan.

See [pricing](https://n8n.io/pricing/){:target=\_blank .external-link} for reference.

## Registered Community Edition

You can unlock extra features by registering your n8n community edition. You register with your email and receive a license key.

Registering unlocks these features for the community edition:

\* [Folders](/release-notes.md#folders): Organize your workflows into tidy folders

\* [Debug in editor](/workflows/executions/debug.md): Copy and [pin](/glossary.md#data-pinning-n8n) execution data when working on a workflow

\* One day of [workflow history](/workflows/history.md): 24 hours of workflow history so you can revert back to previous workflow versions

\* [Custom execution data](/workflows/executions/custom-executions-data.md): Save, find, and annotate execution metadata

To register a new community edition instance, select the option during your initial account creation.

To register an existing community edition instance:

1. Select the \*\*three dots icon\*\* <span class="inline-image">![three dots icon](/\_images/common-icons/three-dots-horizontal.png){.off-glb}</span> in the lower-left corner.

1. Select \*\*Settings\*\* and then \*\*Usage and plan\*\*.

1. Select \*\*Unlock\*\* to enter your email and then select \*\*Send me a free license key\*\*.

1. Check your email for the account you entered.

Once you have a license key, activate it by clicking the button in the license email or by visiting \*\*Options > Settings > Usage and plan\*\* and selecting \*\*Enter activation key\*\*.

Once activated, your license will not expire. We may change the unlocked features in the future. This will not impact previously unlocked features.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Hosting Documentation and Guides

description: Access n8n hosting documentation and guides. Find comprehensive resources to help you set up and manage your self-hosted n8n instances.

contentType: overview

hide:

- toc

---

# Self-hosting n8n

This section provides guidance on setting up n8n for both the Enterprise and Community self-hosted editions. The Community edition is free, the Enterprise edition isn't.

See [Community edition features](/hosting/community-edition-features.md) for a list of available features.

<div class="grid-cards-vertical cards" markdown>

- \_\_Installation and server setups\_\_

Install n8n on any platform using npm or Docker. Or follow our guides to popular hosting platforms.

[:octicons-arrow-right-24: Docker installation guide](/hosting/installation/docker.md)

- \_\_Configuration\_\_

Learn how to configure n8n with environment variables.

[:octicons-arrow-right-24: Environment Variables](/hosting/configuration/environment-variables/index.md)

- \_\_Users and authentication\_\_

Choose and set up user authentication for your n8n instance.

[:octicons-arrow-right-24: Authentication](/hosting/configuration/user-management-self-hosted.md)

- \_\_Scaling\_\_

Manage data, modes, and processes to keep n8n running smoothly at scale.

[:octicons-arrow-right-24: Scaling](/hosting/scaling/queue-mode.md)

- \_\_Securing n8n\_\_

Secure your n8n instance by setting up SSL, SSO, or 2FA or blocking or opting out of some data collection or features.

[:octicons-arrow-right-24: Securing n8n guide](/hosting/securing/overview.md)

- \_\_Starter kits\_\_

New to n8n or AI? Try our Self-hosted AI Starter Kit. Curated by n8n, it combines the self-hosted n8n platform with compatible AI products and components to get you started building self-hosted AI workflows.

[:octicons-arrow-right-24: Starter kits](/hosting/starter-kits/ai-starter-kit.md)

</div>

--8<-- "\_snippets/self-hosting/warning.md"

## database-structure.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Understand the n8n database structure

contentType: explanation

---

# Database structure

This page describes the purpose of each table in the n8n database.

## Database and query technology

By default, n8n uses SQLite as the database. If you are using another database the structure will be similar, but the data-types may be different depending on the database.

n8n uses [TypeORM](https://github.com/typeorm/typeorm){:target=\_blank .external-link} for queries and migrations.

To inspect the n8n database, you can use [DBeaver](https://dbeaver.io){:target=\_blank .external-link}, which is an open-source universal database tool.

## Tables

These are the tables n8n creates during setup.

<!-- vale off -->

### auth\_identity

Stores details of external authentication providers when using [SAML](/user-management/saml/index.md).

### auth\_provider\_sync\_history

Stores the history of a SAML connection.

### credentials\_entity

Stores the [credentials](/glossary.md#credential-n8n) used to authenticate with integrations.

### event\_destinations

Contains the destination configurations for [Log streaming](/log-streaming.md).

### execution\_data

Contains the workflow at time of running, and the execution data.

### execution\_entity

Stores all saved workflow executions. Workflow settings can affect which executions n8n saves.

### execution\_metadata

Stores [Custom executions data](/workflows/executions/custom-executions-data.md).

### installed\_nodes

Lists the [community nodes](/integrations/community-nodes/installation/index.md) installed in your n8n instance.

### installed\_packages

Details of npm community nodes packages installed in your n8n instance. [installed\_nodes](#installed\_nodes) lists each individual node. `installed\_packages` lists npm packages, which may contain more than one node.

### migrations

A log of all database migrations. Read more about [Migrations](https://github.com/typeorm/typeorm/blob/master/docs/migrations.md){:target=\_blank .external-link} in TypeORM's documentation.

### project

Lists the [projects](/user-management/rbac/projects.md) in your instance.

### project\_relation

Describes the relationship between a user and a [project](/user-management/rbac/projects.md), including the user's [role type](/user-management/rbac/role-types.md).

### role

Not currently used. For use in future work on custom roles.

### settings

Records custom instance settings. These are settings that you can't control using environment variables. They include:

\* Whether the instance owner is set up

\* Whether the user chose to skip owner and user management setup

\* License key

### shared\_credentials

Maps credentials to users.

### shared\_workflow

Maps workflows to users.

### tag\_entity

All workflow tags created in the n8n instance. This table lists the tags. [workflows\_tags](#workflows\_tags) records which workflows have which tags.

### user

Contains user data.

### variables

Store [variables](/code/variables.md).

### webhook\_entity

Records the active webhooks in your n8n instance's workflows. This isn't just webhooks uses in the Webhook node. It includes all active webhooks used by any trigger node.

### workflow\_entity

Your n8n instance's saved workflows.

### workflow\_history

Store previous versions of workflows.

### workflow\_statistics

Counts workflow IDs and their status.

### workflows\_tags

Maps tags to workflows. [tag\_entity](#tag\_entity) contains tag details.

## Entity Relationship Diagram (ERD)

!["n8n ERD"](/\_images/hosting/architecture/n8n-database-diagram.png)

<!-- vale on -->

## overview.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Understand n8n's architecture

contentType: overview

---

# Architecture

Understanding n8n's underlying architecture is helpful if you need to:

\* Embed n8n

\* Customize n8n's default databases

This section is a work in progress. If you have questions, please try the [forum](https://community.n8n.io/){:target=\_blank .external-link} and let n8n know which architecture documents would be useful for you.

## configuration-methods.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Configuration methods

description: How to set environment variables for n8n.

contentType: howto

---

# Configuration

You can change n8n's settings using environment variables. For a full list of available configurations see [Environment Variables](/hosting/configuration/environment-variables/index.md).

## Set environment variables by command line

### npm

For npm, set your desired environment variables in terminal using the `export` command as shown below:

```bash

export <variable>=<value>

```

### Docker

In Docker you can use the `-e` flag from the command line:

```bash

docker run -it --rm \

--name n8n \

-p 5678:5678 \

-e N8N\_TEMPLATES\_ENABLED="false" \

docker.n8n.io/n8nio/n8n

```

## Set environment variables using a file

You can also configure n8n using a configuration file.

Only define the values that need to be different from the default in your configuration file. You can use multiple files. For example, you can have a file with generic base settings, and files with specific values for different environments.

### npm

Set the path to the JSON configuration file using the environment variable `N8N\_CONFIG\_FILES`:

```shell

# Bash - Single file

export N8N\_CONFIG\_FILES=/<path-to-config>/my-config.json

# Bash - Multiple files are comma-separated

export N8N\_CONFIG\_FILES=/<path-to-config>/my-config.json,/<path-to-config>/production.json

# PowerShell - Single file, persist for current user

# Note that setting scope (Process, User, Machine) has no effect on Unix systems

[Environment]::SetEnvironmentVariable('N8N\_CONFIG\_FILES', '<path-to-config>\config.json', 'User')

```

Example file:

```json

{

"executions": {

"saveDataOnSuccess": "none"

},

"generic": {

"timezone": "Europe/Berlin"

},

"nodes": {

"exclude": "[\"n8n-nodes-base.executeCommand\",\"n8n-nodes-base.writeBinaryFile\"]"

}

}

```

/// note | Formatting as JSON

You can't always work out the correct JSON from the [Environment variables reference](/hosting/configuration/environment-variables/index.md). For example, to set `N8N\_METRICS` to `true`, you need to do:

```json

{

"endpoints": {

"metrics": {

"enable": true

}

}

}

```

Refer to the [Schema file in the source code](https://github.com/n8n-io/n8n/blob/master/packages/cli/src/config/schema.ts){:target=\_blank .external-link} for full details of the expected settings.

///

### Docker

In Docker, you can set your environment variables in the `n8n: environment:` element of your `docker-compose.yaml` file.

For example:

```yaml

n8n:

environment:

- N8N\_TEMPLATES\_ENABLED=false

```

### Keeping sensitive data in separate files

You can append `\_FILE` to individual environment variables to provide their configuration in a separate file, enabling you to avoid passing sensitive details using environment variables. n8n loads the data from the file with the given name, making it possible to load data from [Docker-Secrets](https://docs.docker.com/engine/swarm/secrets/){:target=\_blank .external-link} and [Kubernetes-Secrets](https://kubernetes.io/docs/concepts/configuration/secret/){:target=\_blank .external-link}.

Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for details on each variable.

While most environment variables can use the `\_FILE` suffix, it's more beneficial for sensitive data such as [credentials](/glossary.md#credential-n8n) and database configuration. Here are some examples:

```yaml

CREDENTIALS\_OVERWRITE\_DATA\_FILE=/path/to/credentials\_data

DB\_TYPE\_FILE=/path/to/db\_type

DB\_POSTGRESDB\_DATABASE\_FILE=/path/to/database\_name

DB\_POSTGRESDB\_HOST\_FILE=/path/to/database\_host

DB\_POSTGRESDB\_PORT\_FILE=/path/to/database\_port

DB\_POSTGRESDB\_USER\_FILE=/path/to/database\_user

DB\_POSTGRESDB\_PASSWORD\_FILE=/path/to/database\_password

DB\_POSTGRESDB\_SCHEMA\_FILE=/path/to/database\_schema

DB\_POSTGRESDB\_SSL\_CA\_FILE=/path/to/ssl\_ca

DB\_POSTGRESDB\_SSL\_CERT\_FILE=/path/to/ssl\_cert

DB\_POSTGRESDB\_SSL\_KEY\_FILE=/path/to/ssl\_key

DB\_POSTGRESDB\_SSL\_REJECT\_UNAUTHORIZED\_FILE=/path/to/ssl\_reject\_unauth

```

## supported-databases-settings.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

---

# Supported databases

By default, n8n uses SQLite to save credentials, past executions, and workflows. n8n also supports PostgresDB.

## Shared settings

The following environment variables get used by all databases:

- `DB\_TABLE\_PREFIX` (default: -) - Prefix for table names

## PostgresDB

To use PostgresDB as the database, you can provide the following environment variables:

- `DB\_TYPE=postgresdb`

- `DB\_POSTGRESDB\_DATABASE` (default: 'n8n')

- `DB\_POSTGRESDB\_HOST` (default: 'localhost')

- `DB\_POSTGRESDB\_PORT` (default: 5432)

- `DB\_POSTGRESDB\_USER` (default: 'postgres')

- `DB\_POSTGRESDB\_PASSWORD` (default: empty)

- `DB\_POSTGRESDB\_SCHEMA` (default: 'public')

- `DB\_POSTGRESDB\_SSL\_CA` (default: undefined): Path to the server's CA certificate used to validate the connection (opportunistic encryption isn't supported)

- `DB\_POSTGRESDB\_SSL\_CERT` (default: undefined): Path to the client's TLS certificate

- `DB\_POSTGRESDB\_SSL\_KEY` (default: undefined): Path to the client's private key corresponding to the certificate

- `DB\_POSTGRESDB\_SSL\_REJECT\_UNAUTHORIZED` (default: true): If TLS connections that fail validation should be rejected

```bash

export DB\_TYPE=postgresdb

export DB\_POSTGRESDB\_DATABASE=n8n

export DB\_POSTGRESDB\_HOST=postgresdb

export DB\_POSTGRESDB\_PORT=5432

export DB\_POSTGRESDB\_USER=n8n

export DB\_POSTGRESDB\_PASSWORD=n8n

export DB\_POSTGRESDB\_SCHEMA=n8n

# optional:

export DB\_POSTGRESDB\_SSL\_CA=$(pwd)/ca.crt

export DB\_POSTGRESDB\_SSL\_REJECT\_UNAUTHORIZED=false

n8n start

```

### Required permissions

n8n needs to create and modify the schemas of the tables it uses.

Recommended permissions:

```sql

CREATE DATABASE n8n-db;

CREATE USER n8n-user WITH PASSWORD 'random-password';

GRANT ALL PRIVILEGES ON DATABASE n8n-db TO n8n-user;

```

### TLS

You can choose between these configurations:

- Not declaring (default): Connect with `SSL=off`

- Declaring only the CA and unauthorized flag: Connect with `SSL=on` and verify the server's signature

- Declaring `\_{CERT,KEY}` and the above: Use the certificate and key for client TLS authentication

## SQLite

This is the default database that gets used if nothing is defined.

The database file is located at:

`~/.n8n/database.sqlite`

## task-runners.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Task runners

description: How to configure task runners to execute tasks using internal or external runner processes.

contentType: howto

---

# Task runners

Task runners are a generic mechanism to execute tasks in a secure and performant way. They're used to execute user-provided JavaScript code in the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md).

This document describes how task runners work and how you can configure them.

## How it works

The task runner feature consists of three components: a task runner, a task broker, and a task requester.

![Task runner overview](/\_images/hosting/configuration/task-runner-concept.png)

Task runners connect to the task broker using a websocket connection. A task requester submits a task request to the broker where an available task runner can pick it up for execution.

The runner executes the task and submits the results to the task requester. The task broker coordinates communication between the runner and the requester.

The n8n instance (main and worker) acts as the broker. The Code node in this case is the task requester.

## Task runner modes

You can use task runners in two different modes: internal and external.

### Internal mode

In internal mode, the n8n instance launches the task runner as a child process. The n8n process monitors and manages the life cycle of the task runner. The task runner process shares the same `uid` and `gid` as n8n.

### External mode

In external mode, an external orchestrator (for example, Kubernetes) launches the task runner instead of n8n. Typically, this means you would configure the task runner to run as a side-car container next to n8n.

![Task runner deployed as a side-car container](/\_images/hosting/configuration/task-runner-external-mode.png)

In this mode, the orchestrator monitors and manages the life cycle of the task runner container. The task runner is fully isolated from the n8n instance.

When using the [Queue mode](/hosting/scaling/queue-mode.md), each n8n container (main and workers) needs to have its own task runner.

## Setting up external mode

Use the following details to configure task runners in external mode

### Configuring n8n instance in external mode

You can configure n8n to use external task runners by setting the following environment variables:

| Environment variables | Description |

|--------------------------------------------------------|------------------------------------------------------------|

| `N8N\_RUNNERS\_ENABLED=true` | Enables task runners. |

| `N8N\_RUNNERS\_MODE=external` | Use task runners in external mode. |

| `N8N\_RUNNERS\_AUTH\_TOKEN=<random secure shared secret>` | A shared secret task runners use to connect to the broker. |

| `N8N\_RUNNERS\_BROKER\_LISTEN\_ADDRESS=0.0.0.0` | By default, the task broker only listens to localhost. When using multiple containers (for example, with Docker Compose), it needs to be able to accept external connections. |

For full list of environment variables see [task runner environment variables](/hosting/configuration/environment-variables/task-runners.md).

### Configuring task runners in external mode

The task runner comes bundled within the n8n Docker image. The Docker image also includes the task runner launcher.

The launcher can start the runner on-demand, which means lower memory usage when there's no work needed, but a short delay (few hundred ms) in cold-start. The launcher also monitors the runner and restarts it in case of infinite loops or other issues.

Run a task runner container from the n8n Docker image by setting the following properties:

| Configuration | Description |

|-----------------|---------------------------------------------------------|

| `command` | `["/usr/local/bin/task-runner-launcher", "javascript"]` |

| `livenessProbe` | `GET /healthz`, port `5680` |

Set the following environment variables for the container, adjusted to fit your needs:

| Environment variables | Description |

| ------ | ----- |

| `N8N\_RUNNERS\_AUTH\_TOKEN=<random secure shared secret>` | The shared secret the task runner uses to connect to the broker. |

| `N8N\_RUNNERS\_MAX\_CONCURRENCY=5` | The number of concurrent tasks the runner can execute. |

| `N8N\_RUNNERS\_TASK\_BROKER\_URI=localhost:5679` | The address of the task broker server within the n8n instance. |

| `N8N\_RUNNERS\_AUTO\_SHUTDOWN\_TIMEOUT=15` | Number of seconds of inactivity to wait before shutting down the task runner process. The launcher will automatically start the runner again when there are new tasks to execute. Set to `0` to disable automatic shutdown. |

| `NODE\_OPTIONS=--max-old-space-size=<limit>` | The memory limit for the task runner Node.js process. This should be lower than the limit for container so that the runner runs out of memory before the container. That way, the launcher is able to monitor the runner. |

| `GENERIC\_TIMEZONE` | The [same default timezone as configured for the n8n instance](/hosting/configuration/environment-variables/timezone-localization.md). |

For full list of environment variables see [task runner environment variables](/hosting/configuration/environment-variables/task-runners.md).

## user-management-self-hosted.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Configure self-hosted n8n for user management

contentType: howto

---

# Configure self-hosted n8n for user management

User management in n8n allows you to invite people to work in your n8n instance.

This document describes how to configure your n8n instance to support user management, and the steps to start inviting users.

Refer to the main [User management](/user-management/index.md) guide for more information about usage, including:

\* [Managing users](/user-management/manage-users.md)

\* [Account types](/user-management/account-types.md)

\* [Best practices](/user-management/best-practices.md)

For LDAP setup information, refer to [LDAP](/user-management/ldap.md).

For SAML setup information, refer to [SAML](/user-management/saml/index.md).

/// note | Basic auth and JWT removed

n8n removed support for basic auth and JWT in version 1.0.

///

## Setup

There are three stages to set up user management in n8n:

1. Configure your n8n instance to use your SMTP server.

2. Start n8n and follow the setup steps in the app.

3. Invite users.

### Step one: SMTP

n8n recommends setting up an SMTP server, for user invites and password resets.

/// note | Optional from 0.210.1

From version 0.210.1 onward, this step is optional. You can choose to manually copy and send invite links instead of setting up SMTP. Note that if you skip this step, users can't reset passwords.

///

Get the following information from your SMTP provider:

\* Server name

\* SMTP username

\* SMTP password

\* SMTP sender name

To set up SMTP with n8n, configure the SMTP environment variables for your n8n instance. For information on how to set environment variables, refer to [Configuration](/hosting/configuration/configuration-methods.md)

<!-- vale off -->

| Variable | Type | Description | Required? |

| -------- | ---- | ----------- | --------- |

| `N8N\_EMAIL\_MODE` | string | `smtp` | Required |

| `N8N\_SMTP\_HOST` | string | \_your\_SMTP\_server\_name\_ | Required |

| `N8N\_SMTP\_PORT` | number | \_your\_SMTP\_server\_port\_ Default is `465`.| Optional |

| `N8N\_SMTP\_USER` | string | \_your\_SMTP\_username\_ | Optional |

| `N8N\_SMTP\_PASS` | string | \_your\_SMTP\_password\_ | Optional |

| `N8N\_SMTP\_OAUTH\_SERVICE\_CLIENT` | string | \_your\_OAuth\_service\_client\_ | Optional |

| `N8N\_SMTP\_OAUTH\_PRIVATE\_KEY` | string | \_your\_OAuth\_private\_key\_ | Optional |

| `N8N\_SMTP\_SENDER` | string | Sender email address. You can optionally include the sender name. Example with name: \_N8N `<contact@n8n.com>`\_ | Required |

| `N8N\_SMTP\_SSL` | boolean | Whether to use SSL for SMTP (true) or not (false). Defaults to `true`. | Optional |

| `N8N\_UM\_EMAIL\_TEMPLATES\_INVITE` | string | Full path to your HTML email template. This overrides the default template for invite emails. | Optional |

| `N8N\_UM\_EMAIL\_TEMPLATES\_PWRESET` | string | Full path to your HTML email template. This overrides the default template for password reset emails. | Optional |

| `N8N\_UM\_EMAIL\_TEMPLATES\_WORKFLOW\_SHARED` | String | Overrides the default HTML template for notifying users that a credential was shared. Provide the full path to the template. | Optional |

| `N8N\_UM\_EMAIL\_TEMPLATES\_CREDENTIALS\_SHARED` | String | Overrides the default HTML template for notifying users that a credential was shared. Provide the full path to the template. | Optional |

| `N8N\_UM\_EMAIL\_TEMPLATES\_PROJECT\_SHARED` | String | Overrides the default HTML template for notifying users that a project was shared. Provide the full path to the template. | Optional |

<!-- vale on-->

If your n8n instance is already running, you need to restart it to enable the new SMTP settings.

/// note | More configuration options

There are more configuration options available as environment variables. Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for a list. These include options to disable tags, workflow templates, and the personalization survey, if you don't want your users to see them.

///

/// note | New to SMTP?

If you're not familiar with SMTP, this [blog post by SendGrid](https://sendgrid.com/blog/what-is-an-smtp-server/) offers a short introduction, while [Wikipedia's Simple Mail Transfer Protocol article](https://en.wikipedia.org/wiki/Simple\_Mail\_Transfer\_Protocol) provides more detailed technical background.

///

### Step two: In-app setup

--8<-- "\_snippets/user-management/in-app-setup.md"

### Step three: Invite users

--8<-- "\_snippets/user-management/invite-users.md"

## base-url.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Configure the Base URL for n8n's front end access

description: Configure the Base URL environment variable to define the front end's access path to the back end's REST API for n8n.

contentType: howto

---

# Configure the Base URL for n8n's front end access

/// warning | Requires manual UI build

This use case involves configuring the `VUE\_APP\_URL\_BASE\_API` environmental variable which requires a manual build of the `n8n-editor-ui` package. You can't use it with the default n8n Docker image where the default setting for this variable is `/`, meaning that it uses the root-domain.

///

You can configure the Base URL that the front end uses to connect to the back end's REST API. This is relevant when you want to host n8n's front end and back end separately.

```bash

export VUE\_APP\_URL\_BASE\_API=https://n8n.example.com/

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/deployment.md) for more information on this variable.

## custom-certificate-authority.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Configure n8n to use your own certificate authority

description: Customize the n8n container to work with self signed certificates when connecting to services.

contentType: howto

---

# Configure n8n to use your own certificate authority or self-signed certificate

You can add your own certificate authority (CA) or self-signed certificate to n8n. This means you are able to trust a certain SSL certificate instead of trusting all invalid certificates, which is a potential security risk.

/// note | Available in version 1.42.0

This feature is only available in version 1.42.0+.

///

To use this feature you need to place your certificates in a folder and mount the folder to `/opt/custom-certificates` in the container.

## Docker

The examples below assume you have a folder called `pki` that contains your certificates in either the directory you run the command from or next to your docker compose file.

### Docker CLI

When using the CLI you can use the `-v` flag from the command line:

```bash

docker run -it --rm \

--name n8n \

-p 5678:5678 \

-v ./pki:/opt/custom-certificates \

docker.n8n.io/n8nio/n8n

```

### Docker Compose

```yaml

name: n8n

services:

n8n:

volumes:

- ./pki:/opt/custom-certificates

container\_name: n8n

ports:

- 5678:5678

image: docker.n8n.io/n8nio/n8n

```

You should also give the right permissions to the imported certs. You can do this once the container is running (assuming n8n as the container name):

```bash

docker exec --user 0 n8n chown -R 1000:1000 /opt/custom-certificates

```

## custom-nodes-location.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Specify location for your custom nodes

description: Add folders and specify paths for your custom nodes.

contentType: howto

---

# Specify location for your custom nodes

Every user can add custom nodes that get loaded by n8n on startup. The default

location is in the subfolder `.n8n/custom` of the user who started n8n.

You can define more folders with an environment variable:

```bash

export N8N\_CUSTOM\_EXTENSIONS="/home/jim/n8n/custom-nodes;/data/n8n/nodes"

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/nodes.md) for more information on this variable.

## encryption-key.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Set a custom encryption key

description: Set a custom encryption key for n8n to securely encrypt credentials.

contentType: howto

---

# Set a custom encryption key

n8n creates a random encryption key automatically on the first launch and saves

it in the `~/.n8n` folder. n8n uses that key to encrypt the credentials before

they get saved to the database. If the key isn't yet in the settings file,

you can set it using an environment variable, so that n8n

uses your custom key instead of generating a new one.

In [queue mode](/hosting/scaling/queue-mode.md), you must specify the encryption key environment variable for all workers.

```bash

export N8N\_ENCRYPTION\_KEY=<SOME RANDOM STRING>

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/deployment.md) for more information on this variable.

## execution-timeout.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Configure workflow timeout settings

description: Set execution timeouts to determine how long workflows can run.

contentType: howto

---

# Configure workflow timeout settings

A workflow times out and gets canceled after this time (in seconds). If the workflow runs in the main process, a soft timeout happens (takes effect after the current node finishes). If a workflow runs in its own process, n8n attempts a soft timeout first, then kills the process after waiting for a fifth of the given timeout duration.

`EXECUTIONS\_TIMEOUT` default is `-1`. For example, if you want to set the timeout to one hour:

```bash

export EXECUTIONS\_TIMEOUT=3600

```

You can also set maximum execution time (in seconds) for each workflow individually. For example, if you want to set maximum execution time to two hours:

```bash

export EXECUTIONS\_TIMEOUT\_MAX=7200

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/executions.md) for more information on these variables.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Configuration examples

description: An overview containing different configuration examples.

contentType: overview

---

# Configuration examples

This section contains examples for how to configure n8n to solve particular use cases.

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## isolation.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Isolate n8n

description: Prevent your n8n instance from connecting with n8n's servers.

contentType: howto

---

# Isolate n8n

By default, a self-hosted n8n instance sends data to n8n's servers. It notifies users about available updates, workflow templates, and diagnostics.

To prevent your n8n instance from connecting to n8n's servers, set these environment variables to false:

```

N8N\_DIAGNOSTICS\_ENABLED=false

N8N\_VERSION\_NOTIFICATIONS\_ENABLED=false

N8N\_TEMPLATES\_ENABLED=false

```

Unset n8n's diagnostics configuration:

```

EXTERNAL\_FRONTEND\_HOOKS\_URLS=

N8N\_DIAGNOSTICS\_CONFIG\_FRONTEND=

N8N\_DIAGNOSTICS\_CONFIG\_BACKEND=

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/deployment.md) for more information on these variables.

## modules-in-code-node.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Enable modules in Code node

description: Allow the use of both built-in and external modules within the Code node.

contentType: howto

---

# Enable modules in Code node

For security reasons, the Code node restricts importing modules. It's possible to lift that restriction for built-in and external modules by setting the following environment variables:

- `NODE\_FUNCTION\_ALLOW\_BUILTIN`: For built-in modules

- `NODE\_FUNCTION\_ALLOW\_EXTERNAL`: For external modules sourced from n8n/node\_modules directory. External module support is disabled when an environment variable isn't set.

```bash

# Allows usage of all builtin modules

export NODE\_FUNCTION\_ALLOW\_BUILTIN=\*

# Allows usage of only crypto

export NODE\_FUNCTION\_ALLOW\_BUILTIN=crypto

# Allows usage of only crypto and fs

export NODE\_FUNCTION\_ALLOW\_BUILTIN=crypto,fs

# Allow usage of external npm modules.

export NODE\_FUNCTION\_ALLOW\_EXTERNAL=moment,lodash

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/nodes.md) for more information on these variables.

## prometheus.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Enable Prometheus metrics

description: Enable Prometheus metrics endpoint.

contentType: howto

---

# Enable Prometheus metrics

To collect and expose metrics, n8n uses the [prom-client](https://www.npmjs.com/package/prom-client){:target="\_blank" .external-link} library.

The `/metrics` endpoint is disabled by default, but it's possible to enable it using the `N8N\_METRICS` environment variable.

```bash

export N8N\_METRICS=true

```

Refer to the respective [Environment Variables](/hosting/configuration/environment-variables/endpoints.md) (`N8N\_METRICS\_INCLUDE\_\*`) for configuring which metrics and labels should get exposed.

Both `main` and `worker` instances are able to expose metrics.

## Queue metrics

To enable queue metrics, set the `N8N\_METRICS\_INCLUDE\_QUEUE\_METRICS` env var to `true`. You can adjust the refresh rate with `N8N\_METRICS\_QUEUE\_METRICS\_INTERVAL`.

Queue metrics are only available for the `main` instance in single-main mode.

```

# HELP n8n\_scaling\_mode\_queue\_jobs\_active Current number of jobs being processed across all workers in scaling mode.

# TYPE n8n\_scaling\_mode\_queue\_jobs\_active gauge

n8n\_scaling\_mode\_queue\_jobs\_active 0

# HELP n8n\_scaling\_mode\_queue\_jobs\_completed Total number of jobs completed across all workers in scaling mode since instance start.

# TYPE n8n\_scaling\_mode\_queue\_jobs\_completed counter

n8n\_scaling\_mode\_queue\_jobs\_completed 0

# HELP n8n\_scaling\_mode\_queue\_jobs\_failed Total number of jobs failed across all workers in scaling mode since instance start.

# TYPE n8n\_scaling\_mode\_queue\_jobs\_failed counter

n8n\_scaling\_mode\_queue\_jobs\_failed 0

# HELP n8n\_scaling\_mode\_queue\_jobs\_waiting Current number of enqueued jobs waiting for pickup in scaling mode.

# TYPE n8n\_scaling\_mode\_queue\_jobs\_waiting gauge

n8n\_scaling\_mode\_queue\_jobs\_waiting 0

```

## time-zone.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Set the self-hosted instance timezone

description: Change the default timezone for your self-hosted n8n instance.

contentType: howto

---

# Set the self-hosted instance timezone

The default timezone is America/New\_York. For instance, the Schedule node uses it to know at what time the workflow should start. To set a different default timezone, set `GENERIC\_TIMEZONE` to the appropriate value. For example, if you want to set the timezone to Berlin (Germany):

```bash

export GENERIC\_TIMEZONE=Europe/Berlin

```

You can find the name of your timezone [here](https://momentjs.com/timezone/){:target="\_blank" .external-link}.

Refer to [Environment variables reference](/hosting/configuration/environment-variables/timezone-localization.md) for more information on this variable.

## user-folder.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Specify user folder path

description: Specify location of the folder that stores user-specific data.

contentType: howto

---

# Specify user folder path

n8n saves user-specific data like the encryption key, SQLite database file, and

the ID of the tunnel (if used) in the subfolder `.n8n` of the user who started n8n. It's possible to overwrite the user-folder using an environment variable.

```bash

export N8N\_USER\_FOLDER=/home/jim/n8n

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/deployment.md) for more information on this variable.

## webhook-url.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Configure webhook URLs with reverse proxy

description: Customize n8n webhook URLs for compatibility with reverse proxy setups.

contentType: howto

---

# Configure n8n webhooks with reverse proxy

n8n creates the webhook URL by combining `N8N\_PROTOCOL`, `N8N\_HOST` and `N8N\_PORT`. If n8n runs behind a reverse proxy, that won't work. That's because n8n runs internally on port 5678 but the reverse proxy exposes it to the web on port 443. In that case, it's important to set the webhook URL manually so that n8n can display it in the Editor UI and register the correct webhook URLs with external services.

```bash

export WEBHOOK\_URL=https://n8n.example.com/

```

Refer to [Environment variables reference](/hosting/configuration/environment-variables/endpoints.md) for more information on this variable.

## binary-data.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Binary data environment variables

description: Customize binary data storage modes and paths with environment variables for your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Binary data environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

By default, n8n uses memory to store binary data. Enterprise users can choose to use an external service instead. Refer to [External storage](/hosting/scaling/external-storage.md) for more information on using external storage for binary data.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_AVAILABLE\_BINARY\_DATA\_MODES` | String | `filesystem` | A comma separated list of available binary data modes. |

| `N8N\_BINARY\_DATA\_STORAGE\_PATH` | String | `N8N\_USER\_FOLDER/binaryData` | The path where n8n stores binary data. |

| `N8N\_DEFAULT\_BINARY\_DATA\_MODE` | String | `default` | The default binary data mode. `default` keeps binary data in memory. Set to `filesystem` to use the filesystem, or `s3` to AWS S3. Note that binary data pruning operates on the active binary data mode. For example, if your instance stored data in S3, and you later switched to filesystem mode, n8n only prunes binary data in the filesystem. This may change in future. |

## credentials.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Credentials environment variables

description: Manage default credentials and override them through environment variables your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Credentials environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

Enable credential overwrites using the following environment variables. Refer to [Credential overwrites](/embed/configuration.md#credential-overwrites) for details.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `CREDENTIALS\_OVERWRITE\_DATA`<br>/`\_FILE` | \* | - | Overwrites for credentials. |

| `CREDENTIALS\_OVERWRITE\_ENDPOINT` | String | - | The API endpoint to fetch credentials. |

| `CREDENTIALS\_DEFAULT\_NAME` | String | `My credentials` | The default name for credentials. |

## database.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Database environment variables

description: Set up and configure databases with environment variables for your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Database environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

By default, n8n uses SQLite. n8n also supports PostgreSQL. n8n [removed support for MySQL and MariaDB](/1-0-migration-checklist.md#mysql-and-mariadb) in v1.0.

This page outlines environment variables to configure your chosen database for your self-hosted n8n instance.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `DB\_TYPE`<br>/`\_FILE` | Enum string:<br> `sqlite`, `postgresdb` | `sqlite` | The database to use. |

| `DB\_TABLE\_PREFIX` | \* | - | Prefix to use for table names. |

| `DB\_PING\_INTERVAL\_SECONDS` | Number | `2` | The interval, in seconds, between pings to the database to check if the connection is still alive. |

## PostgreSQL

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `DB\_POSTGRESDB\_DATABASE`<br>/`\_FILE` | String | `n8n` | The name of the PostgreSQL database. |

| `DB\_POSTGRESDB\_HOST`<br>/`\_FILE` | String | `localhost` | The PostgreSQL host. |

| `DB\_POSTGRESDB\_PORT`<br>/`\_FILE` | Number | `5432` | The PostgreSQL port. |

| `DB\_POSTGRESDB\_USER`<br>/`\_FILE` | String | `postgres` | The PostgreSQL user. |

| `DB\_POSTGRESDB\_PASSWORD`<br>/`\_FILE` | String | - | The PostgreSQL password. |

| `DB\_POSTGRESDB\_POOL\_SIZE`<br>/`\_FILE` | Number | `2` | Control how many parallel open Postgres connections n8n should have. Increasing it may help with resource utilization, but too many connections may degrade performance. |

| `DB\_POSTGRESDB\_CONNECTION\_TIMEOUT`<br>/`\_FILE` | Number | `20000` | Postgres connection timeout (ms).

| `DB\_POSTGRESDB\_IDLE\_CONNECTION\_TIMEOUT`<br>/`\_FILE` | Number | `30000` | Amount of time before an idle connection is eligible for eviction for being idle.

| `DB\_POSTGRESDB\_SCHEMA`<br>/`\_FILE` | String | `public` | The PostgreSQL schema. |

| `DB\_POSTGRESDB\_SSL\_ENABLED`<br>/`\_FILE` | Boolean | `false` | Whether to enable SSL. Automatically enabled if `DB\_POSTGRESDB\_SSL\_CA`, `DB\_POSTGRESDB\_SSL\_CERT` or `DB\_POSTGRESDB\_SSL\_KEY` is defined. |

| `DB\_POSTGRESDB\_SSL\_CA`<br>/`\_FILE` | String | - | The PostgreSQL SSL certificate authority. |

| `DB\_POSTGRESDB\_SSL\_CERT`<br>/`\_FILE` | String | - | The PostgreSQL SSL certificate. |

| `DB\_POSTGRESDB\_SSL\_KEY`<br>/`\_FILE` | String | - | The PostgreSQL SSL key. |

| `DB\_POSTGRESDB\_SSL\_REJECT\_UNAUTHORIZED`<br>/`\_FILE` | Boolean | `true` | If n8n should reject unauthorized SSL connections (true) or not (false). |

## SQLite

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `DB\_SQLITE\_POOL\_SIZE` | Number | `0` | Controls whether to open the SQLite file in [WAL mode](https://www.sqlite.org/wal.html) or [rollback journal mode](https://www.sqlite.org/lockingv3.html#rollback). Uses rollback journal mode when set to zero. When greater than zero, uses WAL mode with the value determining the number of parallel SQL read connections to configure. WAL mode is much more performant and reliable than the rollback journal mode. |

| `DB\_SQLITE\_VACUUM\_ON\_STARTUP` | Boolean | `false` | Runs [VACUUM](https://www.sqlite.org/lang\_vacuum.html){:target="\_blank" .external-link} operation on startup to rebuild the database. Reduces file size and optimizes indexes. This is a long running blocking operation and increases start-up time. |

## deployment.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Deployment environment variables

description: Configure deployment options and application accessibility with environment variables for your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Deployment environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

This page lists the deployment configuration options for your self-hosted n8n instance, including setting up access URLs, enabling templates, customizing encryption, and configuring server details.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_EDITOR\_BASE\_URL` | String | - | Public URL where users can access the editor. Also used for emails sent from n8n and the redirect URL for SAML based authentication. |

| `N8N\_CONFIG\_FILES` | String | - | Use to provide the path to any JSON [configuration file](/hosting/configuration/configuration-methods.md). |

| `N8N\_DISABLE\_UI` | Boolean | `false` | Set to `true` to disable the UI. |

| `N8N\_PREVIEW\_MODE` | Boolean | `false` | Set to `true` to run in preview mode. |

| `N8N\_TEMPLATES\_ENABLED` | Boolean | `false` | Enables [workflow templates](/glossary.md#template-n8n) (true) or disable (false). |

| `N8N\_TEMPLATES\_HOST` | String | `https://api.n8n.io` | Change this if creating your own workflow template library. Note that to use your own workflow templates library, your API must provide the same endpoints and response structure as n8n's. Refer to [Workflow templates](/workflows/templates.md) for more information. |

| `N8N\_ENCRYPTION\_KEY` | String | Random key generated by n8n | Provide a custom key used to encrypt credentials in the n8n database. By default n8n generates a random key on first launch. |

| `N8N\_USER\_FOLDER` | String | `user-folder` | Provide the path where n8n will create the `.n8n` folder. This directory stores user-specific data, such as database file and encryption key. |

| `N8N\_PATH` | String | `/` | The path n8n deploys to. |

| `N8N\_HOST` | String | `localhost` | Host name n8n runs on. |

| `N8N\_PORT` | Number | `5678` | The HTTP port n8n runs on. |

| `N8N\_LISTEN\_ADDRESS` | String | `::` | The IP address n8n should listen on. |

| `N8N\_PROTOCOL` | Enum string: `http`, `https` | `http` | The protocol used to reach n8n. |

| `N8N\_SSL\_KEY` | String | - | The SSL key for HTTPS protocol. |

| `N8N\_SSL\_CERT` | String | - | The SSL certificate for HTTPS protocol. |

| `N8N\_PERSONALIZATION\_ENABLED` | Boolean | `true` | Whether to ask users personalisation questions and then customise n8n accordingly. |

| `N8N\_VERSION\_NOTIFICATIONS\_ENABLED` | Boolean | `true` | When enabled, n8n sends notifications of new versions and security updates. |

| `N8N\_VERSION\_NOTIFICATIONS\_ENDPOINT` | String | `https://api.n8n.io/versions/` | The endpoint to retrieve where version information. |

| `N8N\_VERSION\_NOTIFICATIONS\_INFO\_URL` | String | `https://docs.n8n.io/getting-started/installation/updating.html` | The URL displayed in the New Versions panel for more information. |

| `N8N\_DIAGNOSTICS\_ENABLED` | Boolean | `true` | Whether to share selected, anonymous [telemetry](/privacy-security/privacy.md) with n8n. Note that if you set this to `false`, you can't enable Ask AI in the Code node. |

| `N8N\_DIAGNOSTICS\_CONFIG\_FRONTEND` | String | `1zPn9bgWPzlQc0p8Gj1uiK6DOTn;https://telemetry.n8n.io` | Telemetry configuration for the frontend. |

| `N8N\_DIAGNOSTICS\_CONFIG\_BACKEND` | String | `1zPn7YoGC3ZXE9zLeTKLuQCB4F6;https://telemetry.n8n.io/v1/batch` | Telemetry configuration for the backend. |

| `N8N\_PUSH\_BACKEND` | String | `websocket` | Choose whether the n8n backend uses server-sent events (`sse`) or WebSockets (`websocket`) to send changes to the UI. |

| `VUE\_APP\_URL\_BASE\_API` | String | `http://localhost:5678/` | Used when building the `n8n-editor-ui` package manually to set how the frontend can reach the backend API. Refer to [Configure the Base URL](/hosting/configuration/configuration-examples/base-url.md). |

| `N8N\_HIRING\_BANNER\_ENABLED` | Boolean | `true` | Whether to show the n8n hiring banner in the console (true) or not (false). |

| `N8N\_PUBLIC\_API\_SWAGGERUI\_DISABLED` | Boolean | `false` | Whether the Swagger UI (API playground) is disabled (true) or not (false). |

| `N8N\_PUBLIC\_API\_DISABLED` | Boolean | `false` | Whether to disable the public API (true) or not (false). |

| `N8N\_PUBLIC\_API\_ENDPOINT` | String | `api` | Path for the public API endpoints. |

| `N8N\_GRACEFUL\_SHUTDOWN\_TIMEOUT` | Number | `30` | How long should the n8n process wait (in seconds) for components to shut down before exiting the process. |

| `N8N\_DEV\_RELOAD` | Boolean | `false` | When working on the n8n source code, set this to `true` to automatically reload or restart the application when changes occur in the source code files. |

| `N8N\_REINSTALL\_MISSING\_PACKAGES` | Boolean | `false` | If set to `true`, n8n will automatically attempt to reinstall any missing packages. |

| `N8N\_TUNNEL\_SUBDOMAIN` | String | - | Specifies the subdomain for the n8n tunnel. If not set, n8n generates a random subdomain.|

| `N8N\_PROXY\_HOPS` | Number | 0 | Number of reverse-proxies n8n is running behind. |

## endpoints.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Endpoints environment variables

description: Customize the application's API and webhook endpoints with environment variables for your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Endpoints environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

This page lists environment variables for customizing endpoints in n8n.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_PAYLOAD\_SIZE\_MAX` | Number | `16` | The maximum payload size in MiB. |

| `N8N\_FORMDATA\_FILE\_SIZE\_MAX` | Number | `200` | Max payload size for files in form-data webhook payloads in MiB. |

| `N8N\_METRICS` | Boolean | `false` | Whether to enable the `/metrics` endpoint. |

| `N8N\_METRICS\_PREFIX` | String | `n8n\_` | Optional prefix for n8n specific metrics names. |

| `N8N\_METRICS\_INCLUDE\_DEFAULT\_METRICS` | Boolean | `true` | Whether to expose default system and node.js metrics. |

| `N8N\_METRICS\_INCLUDE\_CACHE\_METRICS` | Boolean | false | Whether to include metrics (true) for cache hits and misses, or not include them (false). |

| `N8N\_METRICS\_INCLUDE\_MESSAGE\_EVENT\_BUS\_METRICS` | Boolean | `false` | Whether to include metrics (true) for events, or not include them (false). |

| `N8N\_METRICS\_INCLUDE\_WORKFLOW\_ID\_LABEL` | Boolean | `false` | Whether to include a label for the workflow ID on workflow metrics. |

| `N8N\_METRICS\_INCLUDE\_NODE\_TYPE\_LABEL` | Boolean | `false` | Whether to include a label for the node type on node metrics. |

| `N8N\_METRICS\_INCLUDE\_CREDENTIAL\_TYPE\_LABEL` | Boolean | `false` | Whether to include a label for the credential type on credential metrics. |

| `N8N\_METRICS\_INCLUDE\_API\_ENDPOINTS` | Boolean | `false` | Whether to expose metrics for API endpoints. |

| `N8N\_METRICS\_INCLUDE\_API\_PATH\_LABEL` | Boolean | `false` | Whether to include a label for the path of API invocations. |

| `N8N\_METRICS\_INCLUDE\_API\_METHOD\_LABEL` | Boolean | `false` | Whether to include a label for the HTTP method (GET, POST, ...) of API invocations. |

| `N8N\_METRICS\_INCLUDE\_API\_STATUS\_CODE\_LABEL` | Boolean | `false` | Whether to include a label for the HTTP status code (200, 404, ...) of API invocations. |

| `N8N\_METRICS\_INCLUDE\_QUEUE\_METRICS` | Boolean | `false` | Whether to include metrics for jobs in scaling mode. Not supported in multi-main setup. |

| `N8N\_METRICS\_QUEUE\_METRICS\_INTERVAL` | Integer | `20` | How often (in seconds) to update queue metrics. |

| `N8N\_ENDPOINT\_REST` | String | `rest` | The path used for REST endpoint. |

| `N8N\_ENDPOINT\_WEBHOOK` | String | `webhook` | The path used for webhook endpoint. |

| `N8N\_ENDPOINT\_WEBHOOK\_TEST` | String | `webhook-test` | The path used for test-webhook endpoint. |

| `N8N\_ENDPOINT\_WEBHOOK\_WAIT` | String | `webhook-waiting` | The path used for waiting-webhook endpoint. |

| `WEBHOOK\_URL` | String | - | Used to manually provide the Webhook URL when running n8n behind a reverse proxy. See [here](/hosting/configuration/configuration-examples/webhook-url.md) for more details. |

| `N8N\_DISABLE\_PRODUCTION\_MAIN\_PROCESS` | Boolean | `false` | Disable production webhooks from main process. This helps ensure no HTTP traffic load to main process when using webhook-specific processes. |

## executions.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Executions environment variables

description: Environment variables to configure settings related to workflow executions.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Executions environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

This page lists environment variables to configure workflow execution settings.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `EXECUTIONS\_MODE` | Enum string: `regular`, `queue` | `regular` | Whether executions should run directly or using queue.<br><br>Refer to [Queue mode](/hosting/scaling/queue-mode.md) for more details. |

| `EXECUTIONS\_TIMEOUT` | Number | `-1` | Sets a default timeout (in seconds) to all workflows after which n8n stops their execution. Users can override this for individual workflows up to the duration set in `EXECUTIONS\_TIMEOUT\_MAX`. Set `EXECUTIONS\_TIMEOUT` to `-1` to disable. |

| `EXECUTIONS\_TIMEOUT\_MAX` | Number | `3600` | The maximum execution time (in seconds) that users can set for an individual workflow. |

| `EXECUTIONS\_DATA\_SAVE\_ON\_ERROR` | Enum string: `all`, `none` | `all` | Whether n8n saves execution data on error. |

| `EXECUTIONS\_DATA\_SAVE\_ON\_SUCCESS` | Enum string: `all`, `none` | `all` | Whether n8n saves execution data on success. |

| `EXECUTIONS\_DATA\_SAVE\_ON\_PROGRESS` | Boolean | `false` | Whether to save progress for each node executed (true) or not (false). |

| `EXECUTIONS\_DATA\_SAVE\_MANUAL\_EXECUTIONS` | Boolean | `true` | Whether to save data of executions when started manually. |

| `EXECUTIONS\_DATA\_PRUNE` | Boolean | `true` | Whether to delete data of past executions on a rolling basis. |

| `EXECUTIONS\_DATA\_MAX\_AGE` | Number | `336` | The execution age (in hours) before it's deleted. |

| `EXECUTIONS\_DATA\_PRUNE\_MAX\_COUNT` | Number | `10000` | Maximum number of executions to keep in the database. 0 = no limit |

| `EXECUTIONS\_DATA\_HARD\_DELETE\_BUFFER` | Number | `1` | How old (hours) the finished execution data has to be to get hard-deleted. By default, this buffer excludes recent executions as the user may need them while building a workflow. |

| `EXECUTIONS\_DATA\_PRUNE\_HARD\_DELETE\_INTERVAL` | Number | `15` | How often (minutes) execution data should be hard-deleted. |

| `EXECUTIONS\_DATA\_PRUNE\_SOFT\_DELETE\_INTERVAL` | Number | `60` | How often (minutes) execution data should be soft-deleted. |

| `N8N\_CONCURRENCY\_PRODUCTION\_LIMIT` | Number | `-1` | Max production executions allowed to run concurrently, in both regular and scaling modes. `-1` to disable in regular mode. |

## external-data-storage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: External data storage environment variables

description: Environment variables to configure external data storage for your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

- external storage

- storage

hide:

- toc

- tags

---

# External data storage environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

Refer to [External storage](/hosting/scaling/external-storage.md) for more information on using external storage for binary data.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_EXTERNAL\_STORAGE\_S3\_HOST` | String | - | Host of the n8n bucket in S3-compatible external storage. For example, `s3.us-east-1.amazonaws.com` |

| `N8N\_EXTERNAL\_STORAGE\_S3\_BUCKET\_NAME` | String | - | Name of the n8n bucket in S3-compatible external storage. |

| `N8N\_EXTERNAL\_STORAGE\_S3\_BUCKET\_REGION` | String | - | Region of the n8n bucket in S3-compatible external storage. For example, `us-east-1`|

| `N8N\_EXTERNAL\_STORAGE\_S3\_ACCESS\_KEY` | String | - | Access key in S3-compatible external storage |

| `N8N\_EXTERNAL\_STORAGE\_S3\_ACCESS\_SECRET` | String | - | Access secret in S3-compatible external storage. |

| `N8N\_EXTERNAL\_STORAGE\_S3\_AUTH\_AUTO\_DETECT` | Boolean | - | Use automatic credential detection to authenticate S3 calls for external storage. This will ignore the access key and access secret and use the default [credential provider chain](https://docs.aws.amazon.com/sdk-for-javascript/v3/developer-guide/setting-credentials-node.html#credchain). |

## external-hooks.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: External hooks environment variables

description: Environment variables to integrate external hooks into your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# External hooks environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

You can define external hooks that n8n executes whenever a specific operation runs. Refer to [Backend hooks](/embed/configuration.md#backend-hooks) for examples of available hooks and [Hook files](/embed/configuration.md#backend-hook-files) for information on file formatting.

| Variable | Type | Description |

| :------- | :---- | :---------- |

| `EXTERNAL\_HOOK\_FILES` | String | Files containing backend external hooks. Provide multiple files as a colon-separated list ("`:`"). |

| `EXTERNAL\_FRONTEND\_HOOKS\_URLS` | String | URLs to files containing frontend external hooks. Provide multiple URLs as a colon-separated list ("`:`"). |

## external-secrets.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: External secrets environment variables

description: Configure the interval for checking updates to external secrets in self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# External secrets environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

You can use an external secrets store to manage credentials for n8n. Refer to [External secrets](/external-secrets.md) for details.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_EXTERNAL\_SECRETS\_UPDATE\_INTERVAL` | Number | `300` (5 minutes) | How often (in seconds) to check for secret updates. |

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Environment Variables Overview

description: An overview of configuration environment variables for self-hosted n8n.

contentType: overview

tags:

- environment variables

hide:

- toc

- tags

---

# Environment variables overview

This section lists the environment variables that you can use to change n8n's configuration settings when self-hosting n8n.

/// note | File-based configuration

You can provide a [configuration file](/hosting/configuration/configuration-methods.md) for n8n. You can also append `\_FILE` to certain variables to provide their configuration in a separate file.

///

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## insights.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Insights environment variables

description: Configure insights metrics collection with environment variables for your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Insights environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

Insights gives instance owners and admins visibility into how workflows perform over time. Refer to [Insights](/insights.md) for details.

| Variable | Type | Default | Description |

|:---------------------------------------------------------|:-------|:--------|:----------------------------------------------------------------------------------------|

| `N8N\_DISABLED\_MODULES` | String | - | Set to `insights` to disable the feature and metrics collection for an instance. |

| `N8N\_INSIGHTS\_COMPACTION\_BATCH\_SIZE` | Number | 500 | The number of raw insights data to compact in a single batch. |

| `N8N\_INSIGHTS\_COMPACTION\_DAILY\_TO\_WEEKLY\_THRESHOLD\_DAYS` | Number | 180 | The maximum age (in days) of daily insights data to compact. |

| `N8N\_INSIGHTS\_COMPACTION\_HOURLY\_TO\_DAILY\_THRESHOLD\_DAYS` | Number | 90 | The maximum age (in days) of hourly insights data to compact. |

| `N8N\_INSIGHTS\_COMPACTION\_INTERVAL\_MINUTES` | Number | 60 | Interval (in minutes) at which compaction should run. |

| `N8N\_INSIGHTS\_FLUSH\_BATCH\_SIZE` | Number | 1000 | The maximum number of insights data to keep in the buffer before flushing. |

| `N8N\_INSIGHTS\_FLUSH\_INTERVAL\_SECONDS` | Number | 30 | The interval (in seconds) at which the insights data should be flushed to the database. |

## licenses.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: License environment variables

description: Environment variables to configure license settings in n8n, including options to hide the usage page, manage license activation and auto-renewal settings, and specify the server URL for license retrieval.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# License environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

To enable certain licensed features, you must first activate your license. You can do this either through the UI or by setting environment variables. For more information, see [license key](/license-key.md).

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_HIDE\_USAGE\_PAGE` | boolean | `false` | Hide the usage and plans page in the app. |

| `N8N\_LICENSE\_ACTIVATION\_KEY` | String | `''` | Activation key to initialize license. Not applicable if the n8n instance was already activated. |

| `N8N\_LICENSE\_AUTO\_RENEW\_ENABLED` | Boolean | `true` | Enables (true) or disables (false) autorenewal for licenses. <br>If disabled, you need to manually renew the license every 10 days by navigating to \*\*Settings\*\* > \*\*Usage and plan\*\*, and pressing `F5`. Failure to renew the license will disable all licensed features. |

| `N8N\_LICENSE\_DETACH\_FLOATING\_ON\_SHUTDOWN` | Boolean | `true` | Controls whether the instance releases [floating entitlements](/glossary.md#entitlement-n8n) back to the pool upon shutdown. Set to `true` to allow other instances to reuse the entitlements, or `false` to retain them. <br> For production instances that must always keep their licensed features, set this to `false`. |

| `N8N\_LICENSE\_SERVER\_URL` | String | `https://license.n8n.io/v1` | Server URL to retrieve license. |

| `N8N\_LICENSE\_TENANT\_ID` | Number | `1` | Tenant ID associated with the license. Only set this variable if explicitly instructed by n8n. |

| `https\_proxy\_license\_server` | String | `https://user:pass@proxy:port` | Proxy server URL for HTTPS requests to retrieve license. This variable name needs to be lowercase. |

## logs.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Logs environment variables

description: Environment variables to configure logging and diagnostic data.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Logs environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

This page lists environment variables to set up logging for debugging. Refer to [Logging in n8n](/hosting/logging-monitoring/logging.md) for details.

## n8n logs

<!-- vale off -->

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_LOG\_LEVEL` | Enum string: `info`, `warn`, `error`, `debug` | `info` | Log output level. Refer to [Log levels](/hosting/logging-monitoring/logging.md#log-levels) for details. |

| `N8N\_LOG\_OUTPUT` | Enum string: `console`, `file` | `console` | Where to output logs. Provide multiple values as a comma-separated list. |

| `N8N\_LOG\_FORMAT` | Enum string: `text`, `json` | `text` | The log format to use. `text` prints human readable messages. `json` prints one JSON object per line containing the message, level, timestamp, and all metadata. This is useful for production monitoring as well as debugging. |

| `N8N\_LOG\_FILE\_COUNT\_MAX` | Number | `100` | Max number of log files to keep. |

| `N8N\_LOG\_FILE\_SIZE\_MAX` | Number | `16` | Max size of each log file in MB. |

| `N8N\_LOG\_FILE\_LOCATION` | String | `<n8n-directory-path>/logs/n8n.log` | Log file location. Requires N8N\_LOG\_OUTPUT set to `file`. |

| `DB\_LOGGING\_ENABLED` | Boolean | `false` | Whether to enable database-specific logging. |

| `DB\_LOGGING\_OPTIONS` | Enum string: `query`, `error`, `schema`, `warn`, `info`, `log` | `error` | Database log output level. To enable all logging, specify `all`. Refer to [TypeORM logging options](https://orkhan.gitbook.io/typeorm/docs/logging#logging-options){:target=\_blank .external-link} |

| `DB\_LOGGING\_MAX\_EXECUTION\_TIME` | Number | `1000` | Maximum execution time (in milliseconds) before n8n logs a warning. Set to `0` to disable long running query warning. |

| `CODE\_ENABLE\_STDOUT` | Boolean | `false` | Set to `true` to send Code node logs to process's stdout for debugging, monitoring, or logging purposes. |

| `NO\_COLOR` | any | `undefined` | Set to any value to output logs without ANSI colors. For more information, see the [no-color.org website](https://no-color.org/){:target=\_blank .external-link}. |

<!-- vale on -->

## Log streaming

Refer to [Log streaming](/log-streaming.md) for more information on this feature.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_EVENTBUS\_CHECKUNSENTINTERVAL` | Number | `0` | How often (in milliseconds) to check for unsent event messages. Can in rare cases send message twice. Set to `0` to disable it. |

| `N8N\_EVENTBUS\_LOGWRITER\_SYNCFILEACCESS` | Boolean | `false` | Whether all file access happens synchronously within the thread (true) or not (false). |

| `N8N\_EVENTBUS\_LOGWRITER\_KEEPLOGCOUNT` | Number | `3` | Number of event log files to keep. |

| `N8N\_EVENTBUS\_LOGWRITER\_MAXFILESIZEINKB` | Number | `10240` | Maximum size (in kilo-bytes) of an event log file before a new one starts. |

| `N8N\_EVENTBUS\_LOGWRITER\_LOGBASENAME` | String | `n8nEventLog` | Basename of the event log file. |

## nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Nodes environment variables

description: Environment variable to configure nodes management in self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Nodes environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

This page lists the environment variables configuration options for managing [nodes](/glossary.md#node-n8n) in n8n, including specifying which nodes to load or exclude, importing built-in or external modules in the Code node, and enabling community nodes.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `NODES\_INCLUDE` | Array of strings | - | Specify which nodes to load. |

| `NODES\_EXCLUDE` | Array of strings | - | Specify which nodes not to load. For example, to block nodes that can be a security risk if users aren't trustworthy: `NODES\_EXCLUDE: "[\"n8n-nodes-base.executeCommand\", \"n8n-nodes-base.readWriteFile\"]"` |

| `NODE\_FUNCTION\_ALLOW\_BUILTIN` | String | - | Permit users to import specific built-in modules in the Code node. Use \* to allow all. n8n disables importing modules by default. |

| `NODE\_FUNCTION\_ALLOW\_EXTERNAL` | String | - | Permit users to import specific external modules (from `n8n/node\_modules`) in the Code node. n8n disables importing modules by default. |

| `NODES\_ERROR\_TRIGGER\_TYPE` | String | `n8n-nodes-base.errorTrigger` | Specify which node type to use as Error Trigger. |

| `N8N\_CUSTOM\_EXTENSIONS` | String | - | Specify the path to directories containing your custom nodes. |

| `N8N\_COMMUNITY\_PACKAGES\_ENABLED` | Boolean | `true` | Enables (true) or disables (false) the functionality to install and load community nodes. If set to false, neither verified nor unverified community packages will be available, regardless of their individual settings. |

| `N8N\_COMMUNITY\_PACKAGES\_REGISTRY` | String | `https://registry.npmjs.org` | NPM registry URL to pull community packages from (license required). |

| `N8N\_VERIFIED\_PACKAGES\_ENABLED` | Boolean | `true` | When `N8N\_COMMUNITY\_PACKAGES\_ENABLED` is true, this variable controls whether to show verified community nodes in the nodes panel for installation and use (true) or to hide them (false). |

| `N8N\_UNVERIFIED\_PACKAGES\_ENABLED` | Boolean | `true` | When `N8N\_COMMUNITY\_PACKAGES\_ENABLED` is true, this variable controls whether to enable the installation and use of unverified community nodes from an NPM registry (true) or not (false). |

| `N8N\_COMMUNITY\_PACKAGES\_PREVENT\_LOADING` | Boolean | `false` | Prevents (true) or allows (false) loading installed community nodes on instance startup. Use this if a faulty node prevents the instance from starting. |

## queue-mode.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Queue mode environment variables

description: Environment variables to configure queue mode on your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Queue mode environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

You can run n8n in different modes depending on your needs. Queue mode provides the best scalability. Refer to [Queue mode](/hosting/scaling/queue-mode.md) for more information.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `QUEUE\_BULL\_PREFIX` | String | - | Prefix to use for all queue keys. |

| `QUEUE\_BULL\_REDIS\_DB` | Number | `0` | The Redis database used. |

| `QUEUE\_BULL\_REDIS\_HOST` | String | `localhost` | The Redis host. |

| `QUEUE\_BULL\_REDIS\_PORT` | Number | `6379` | The Redis port used. |

| `QUEUE\_BULL\_REDIS\_USERNAME` | String | - | The Redis username (needs Redis version 6 or above). Don't define it for Redis < 6 compatibility |

| `QUEUE\_BULL\_REDIS\_PASSWORD` | String | - | The Redis password. |

| `QUEUE\_BULL\_REDIS\_TIMEOUT\_THRESHOLD` | Number | `10000` | The Redis timeout threshold (in ms). |

| `QUEUE\_BULL\_REDIS\_CLUSTER\_NODES` | String | - | Expects a comma-separated list of Redis Cluster nodes in the format `host:port`, for the Redis client to initially connect to. If running in queue mode (`EXECUTIONS\_MODE = queue`), setting this variable will create a Redis Cluster client instead of a Redis client, and n8n will ignore `QUEUE\_BULL\_REDIS\_HOST` and `QUEUE\_BULL\_REDIS\_PORT`. |

| `QUEUE\_BULL\_REDIS\_TLS` | Boolean | `false` | Enable TLS on Redis connections. |

| `QUEUE\_BULL\_REDIS\_DUALSTACK` | Boolean | `false` | Enable dual-stack support (IPv4 and IPv6) on Redis connections. |

| `QUEUE\_WORKER\_TIMEOUT` (\*\*deprecated\*\*) | Number | `30` | \*\*Deprecated\*\* Use `N8N\_GRACEFUL\_SHUTDOWN\_TIMEOUT` instead.<br/><br/>How long should n8n wait (seconds) for running executions before exiting worker process on shutdown. |

| `QUEUE\_HEALTH\_CHECK\_ACTIVE` | Boolean | `false` | Whether to enable health checks (true) or disable (false). |

| `QUEUE\_HEALTH\_CHECK\_PORT` | Number | - | The port to serve health checks on. |

| `QUEUE\_WORKER\_LOCK\_DURATION` | Number | `30000` | How long (in ms) is the lease period for a worker to work on a message. |

| `QUEUE\_WORKER\_LOCK\_RENEW\_TIME` | Number | `15000` | How frequently (in ms) should a worker renew the lease time. |

| `QUEUE\_WORKER\_STALLED\_INTERVAL` | Number | `30000` | How often should a worker check for stalled jobs (use 0 for never). |

| `QUEUE\_WORKER\_MAX\_STALLED\_COUNT` | Number | `1` | Maximum amount of times a stalled job will be re-processed. |

## Multi-main setup

Refer to [Configuring multi-main setup](/hosting/scaling/queue-mode.md#configuring-multi-main-setup) for details.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_MULTI\_MAIN\_SETUP\_ENABLED` | Boolean | `false` | Whether to enable multi-main setup for queue mode (license required). |

| `N8N\_MULTI\_MAIN\_SETUP\_KEY\_TTL` | Number | `10` | Time to live (in seconds) for leader key in multi-main setup. |

| `N8N\_MULTI\_MAIN\_SETUP\_CHECK\_INTERVAL` | Number | `3` | Interval (in seconds) for leader check in multi-main setup. |

## security.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Security environment variables

description: Configure authentication and environment variable access in self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Security environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_BLOCK\_ENV\_ACCESS\_IN\_NODE` | Boolean | `false` | Whether to allow users to access environment variables in expressions and the Code node (false) or not (true). |

| `N8N\_BLOCK\_FILE\_ACCESS\_TO\_N8N\_FILES` | Boolean | `true` | Set to `true` to block access to all files in the `.n8n` directory and user defined configuration files. |

| `N8N\_ENFORCE\_SETTINGS\_FILE\_PERMISSIONS` | Boolean | `false` | Set to `true` to try to set 0600 permissions for the settings file, giving only the owner read and write access. |

| `N8N\_RESTRICT\_FILE\_ACCESS\_TO` | String | | Limits access to files in these directories. Provide multiple files as a colon-separated list ("`:`"). |

| `N8N\_SECURITY\_AUDIT\_DAYS\_ABANDONED\_WORKFLOW` | Number | 90 | Number of days to consider a workflow abandoned if it's not executed. |

| `N8N\_SECURE\_COOKIE` | Boolean | `true` | Ensures that cookies are only sent over HTTPS, enhancing security.|

| `N8N\_SAMESITE\_COOKIE` | Enum string: `strict`, `lax`, `none` | `lax` | Controls cross-site cookie behavior ([learn more](https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/Set-Cookie/SameSite)):<ul><li>`strict`: Sent only for first-party requests.</li><li>`lax` (default): Sent with top-level navigation requests.</li><li>`none`: Sent in all contexts (requires HTTPS).</li></ul> |

## source-control.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Source control environment variables

description: Environment variable to set the default SSH key type for source control setup.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Source control environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

n8n uses Git-based source control to support environments. Refer to [Source control and environments](/source-control-environments/setup.md) for more information on how to link a Git repository to an n8n instance and configure your source control.

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_SOURCECONTROL\_DEFAULT\_SSH\_KEY\_TYPE` | String | `ed25519` | Set to `rsa` to make RSA the default SSH key type for [Source control setup](/source-control-environments/setup.md). |

## task-runners.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Task runner environment variables

description: Environment variables to confgure task runners your self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Task runner environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

[Task runners](/hosting/configuration/task-runners.md) execute code defined by the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md).

## n8n instance environment variables

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_RUNNERS\_ENABLED` | Boolean | `false` | Are task runners enabled. |

| `N8N\_RUNNERS\_MODE` | Enum string: `internal`, `external` | `internal` | How to launch and run the task runner. `internal` means n8n will launch a task runner as child process. `external` means an external orchestrator will launch the task runner. |

| `N8N\_RUNNERS\_AUTH\_TOKEN` | String | Random string | Shared secret used by a task runner to authenticate to n8n. Required when using `external` mode. |

| `N8N\_RUNNERS\_BROKER\_PORT` | Number | `5679` | Port the task broker listens on for task runner connections. |

| `N8N\_RUNNERS\_BROKER\_LISTEN\_ADDRESS` | String | `127.0.0.1` | Address the task broker listens on. |

| `N8N\_RUNNERS\_MAX\_PAYLOAD` | Number | `1 073 741 824` | Maximum payload size in bytes for communication between a task broker and a task runner. |

| `N8N\_RUNNERS\_MAX\_OLD\_SPACE\_SIZE` | String | | The `--max-old-space-size` option to use for a task runner (in MB). By default, Node.js will set this based on available memory. |

| `N8N\_RUNNERS\_MAX\_CONCURRENCY` | Number | `5` | The number of concurrent tasks a task runner can execute at a time. |

| `N8N\_RUNNERS\_TASK\_TIMEOUT` | Number | `60` | How long (in seconds) a task can take to complete before the task aborts and the runner restarts. Must be greater than 0. |

| `N8N\_RUNNERS\_HEARTBEAT\_INTERVAL` | Number | `30` | How often (in seconds) the runner must send a heartbeat to the broker, else the task aborts and the runner restarts. Must be greater than 0. |

| `N8N\_RUNNERS\_INSECURE\_MODE` | Boolean | `false` | Whether to disable all security measures in the task runner, for compatibility with modules that rely on insecure JS features. \*\*Discouraged for production use.\*\* |

## Task runner launcher environment variables

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_RUNNERS\_LAUNCHER\_LOG\_LEVEL` | Enum string: `debug`, `info`, `warn`, `error` | `info` | Which log messages to show. |

| `N8N\_RUNNERS\_AUTH\_TOKEN` | String | - | Shared secret used to authenticate to n8n. |

| `N8N\_RUNNERS\_AUTO\_SHUTDOWN\_TIMEOUT` | Number | `15` | The number of seconds to wait before shutting down an idle runner. |

| `N8N\_RUNNERS\_TASK\_BROKER\_URI` | String | `http://127.0.0.1:5679` | The URI of the task broker server (n8n instance). |

| `N8N\_RUNNERS\_LAUNCHER\_HEALTH\_CHECK\_PORT` | Number | `5680` | Port for the launcher's health check server. |

| `N8N\_RUNNERS\_MAX\_PAYLOAD` | Number | `1 073 741 824` | Maximum payload size in bytes for communication between a task broker and a task runner. |

| `N8N\_RUNNERS\_MAX\_CONCURRENCY` | Number | `5` | The number of concurrent tasks a task runner can execute at a time. |

| `NODE\_OPTIONS` | String | - | [Options](https://nodejs.org/api/cli.html#node\_optionsoptions) for Node.js. |

## Task runner environment variables

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_RUNNERS\_GRANT\_TOKEN` | String | Random string | Token the runner uses to authenticate with the task broker. This is automatically provided by the launcher. |

| `N8N\_RUNNERS\_AUTO\_SHUTDOWN\_TIMEOUT` | Number | `15` | The number of seconds to wait before shutting down an idle runner. |

| `N8N\_RUNNERS\_TASK\_BROKER\_URI` | String | `http://127.0.0.1:5679` | The URI of the task broker server (n8n instance). |

| `N8N\_RUNNERS\_LAUNCHER\_HEALTH\_CHECK\_PORT` | Number | `5680` | Port for the launcher's health check server. |

| `N8N\_RUNNERS\_MAX\_PAYLOAD` | Number | `1 073 741 824` | Maximum payload size in bytes for communication between a task broker and a task runner. |

| `N8N\_RUNNERS\_MAX\_CONCURRENCY` | Number | `5` | The number of concurrent tasks a task runner can execute at a time. |

| `NODE\_FUNCTION\_ALLOW\_BUILTIN` | String | - | Permit users to import specific built-in modules in the Code node. Use \* to allow all. n8n disables importing modules by default. |

| `NODE\_FUNCTION\_ALLOW\_EXTERNAL` | String | - | Permit users to import specific external modules (from `n8n/node\_modules`) in the Code node. n8n disables importing modules by default. |

| `N8N\_RUNNERS\_ALLOW\_PROTOTYPE\_MUTATION` | Boolean | `false` | Whether to allow prototype mutation for external libraries. Set to `true` to allow modules that rely on runtime prototype mutation (for example, [`puppeteer`](https://pptr.dev/)) at the cost of relaxing security. |

| `GENERIC\_TIMEZONE` | \* | `America/New\_York` | The [same default timezone as configured for the n8n instance](/hosting/configuration/environment-variables/timezone-localization.md). |

## timezone-localization.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Timezone and localization environment variables

description: Set the timezone and default language locale for self-hosted n8n instance.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Timezone and localization environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `GENERIC\_TIMEZONE` | \* | `America/New\_York` |The n8n instance timezone. Important for schedule nodes (such as Cron). |

| `N8N\_DEFAULT\_LOCALE` | String | `en` | A locale identifier, compatible with the [Accept-Language header](https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/Accept-Language){:target="\_blank" .external-link}. n8n doesn't support regional identifiers, such as `de-AT`. When running in a locale other than the default, n8n displays UI strings in the selected locale, and falls back to `en` for any untranslated strings. |

## user-management-smtp-2fa.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: User management SMTP, and two-factor authentication environment variables

description: Environment variables to set up user management and emails.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# User management SMTP, and two-factor authentication environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

Refer to [User management](/hosting/configuration/user-management-self-hosted.md) for more information on setting up user management and emails.

<!-- vale off -->

| Variable | Type | Default | Description |

| :------- | :--- | :------ | :---------- |

| `N8N\_EMAIL\_MODE` | String | `smtp` | Enable emails. |

| `N8N\_SMTP\_HOST` | String | - | \_your\_SMTP\_server\_name\_ |

| `N8N\_SMTP\_PORT` | Number | - | \_your\_SMTP\_server\_port\_ |

| `N8N\_SMTP\_USER` | String | - | \_your\_SMTP\_username\_ |

| `N8N\_SMTP\_PASS` | String | - | \_your\_SMTP\_password\_ |

| `N8N\_SMTP\_OAUTH\_SERVICE\_CLIENT` | String | - | If using 2LO with a service account this is your client ID |

| `N8N\_SMTP\_OAUTH\_PRIVATE\_KEY` | String | - | If using 2LO with a service account this is your private key |

| `N8N\_SMTP\_SENDER` | String | - | Sender email address. You can optionally include the sender name. Example with name: \_N8N `<contact@n8n.com>`\_ |

| `N8N\_SMTP\_SSL` | Boolean | `true` | Whether to use SSL for SMTP (true) or not (false). |

| `N8N\_SMTP\_STARTTLS` | Boolean | `true` | Whether to use STARTTLS for SMTP (true) or not (false). |

| `N8N\_UM\_EMAIL\_TEMPLATES\_INVITE` | String | - | Full path to your HTML email template. This overrides the default template for invite emails. |

| `N8N\_UM\_EMAIL\_TEMPLATES\_PWRESET` | String | - | Full path to your HTML email template. This overrides the default template for password reset emails. |

| `N8N\_UM\_EMAIL\_TEMPLATES\_WORKFLOW\_SHARED` | String | - | Overrides the default HTML template for notifying users that a workflow was shared. Provide the full path to the template. |

| `N8N\_UM\_EMAIL\_TEMPLATES\_CREDENTIALS\_SHARED` | String | - | Overrides the default HTML template for notifying users that a credential was shared. Provide the full path to the template. |

| `N8N\_UM\_EMAIL\_TEMPLATES\_PROJECT\_SHARED` | String | - | Overrides the default HTML template for notifying users that a project was shared. Provide the full path to the template. |

| `N8N\_USER\_MANAGEMENT\_JWT\_SECRET` | String | - | Set a specific JWT secret. By default, n8n generates one on start. |

| `N8N\_USER\_MANAGEMENT\_JWT\_DURATION\_HOURS` | Number | 168 | Set an expiration date for the JWTs in hours. |

| `N8N\_USER\_MANAGEMENT\_JWT\_REFRESH\_TIMEOUT\_HOURS` | Number | 0 | How many hours before the JWT expires to automatically refresh it. 0 means 25% of `N8N\_USER\_MANAGEMENT\_JWT\_DURATION\_HOURS`. -1 means it will never refresh, which forces users to log in again after the period defined in `N8N\_USER\_MANAGEMENT\_JWT\_DURATION\_HOURS`. |

| `N8N\_MFA\_ENABLED` | Boolean | `true` | Whether to enable two-factor authentication (true) or disable (false). n8n ignores this if existing users have 2FA enabled. |

<!-- vale on -->

## workflows.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Workflows environment variables

description: Environment variables to configure workflows in n8n, including default naming, onboarding flow preferences, tag management, and caller policy settings.

contentType: reference

tags:

- environment variables

hide:

- toc

- tags

---

# Workflows environment variables

--8<-- "\_snippets/self-hosting/file-based-configuration.md"

| Variable | Type | Default | Description |

| :------- | :---- | :------- | :---------- |

| `N8N\_ONBOARDING\_FLOW\_DISABLED` | Boolean | `false` | Whether to disable onboarding tips when creating a new workflow (true) or not (false). |

| `N8N\_WORKFLOW\_ACTIVATION\_BATCH\_SIZE` | Number | `1` | How many workflows to activate simultaneously during startup.

| `N8N\_WORKFLOW\_CALLER\_POLICY\_DEFAULT\_OPTION` | String | `workflowsFromSameOwner` | Which workflows can call a workflow. Options are: `any`, `none`, `workflowsFromAList`, `workflowsFromSameOwner`. This feature requires [Workflow sharing](/workflows/sharing.md). |

| `N8N\_WORKFLOW\_TAGS\_DISABLED` | Boolean | `false` | Whether to disable workflow tags (true) or enable tags (false). |

| `WORKFLOWS\_DEFAULT\_NAME` | String | `My workflow` | The default name used for new workflows. |

## docker.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Docker Installation

[Docker](https://www.docker.com/){:target=\_blank .external-link} offers the following advantages:

\* Installs n8n in a clean environment.

\* Easier setup for your preferred database.

\* Can avoid issues due to different operating systems, as Docker provides a consistent system.

\* Can avoid compatibility issues due to differences in operating systems and tools.

\* Makes migrating to new hosts or environments more straightforward.

You can also use n8n in Docker with [Docker Compose](/hosting/installation/server-setups/docker-compose.md). You can find Docker Compose configurations for various architectures in the [n8n-hosting repository](https://github.com/n8n-io/n8n-hosting).

--8<-- "\_snippets/self-hosting/warning.md"

## Prerequisites

Before proceeding, install [Docker Desktop](https://docs.docker.com/get-docker/){:target=\_blank .external-link}.

/// note | Linux Users

Docker Desktop is available for Mac and Windows. Linux users must install [Docker Engine](https://docs.docker.com/engine/install/) and [Docker Compose](https://docs.docker.com/compose/install/) individually for your distribution.

///

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Starting n8n

From your terminal, run:

```sh

docker volume create n8n\_data

docker run -it --rm --name n8n -p 5678:5678 -v n8n\_data:/home/node/.n8n docker.n8n.io/n8nio/n8n

```

This command creates a volume to store persistent data, downloads the required n8n image, and starts your container, exposed on port `5678`. To save your work between container restarts, it also mounts a docker volume, `n8n\_data`, to persist your data locally.

Once running, you can access n8n by opening:

[http://localhost:5678](http://localhost:5678)

## Using with PostgreSQL

By default, n8n uses SQLite to save [credentials](/glossary.md#credential-n8n), past executions, and workflows. n8n also supports PostgreSQL, configurable using environment variables as detailed below.

When using PostgreSQL, it's still important to persist the data stored in the `/home/node/.n8n` folder. This includes n8n user data and, even more importantly, the encryption key for credentials. It's also the name of the webhook when using the [n8n tunnel](#n8n-with-tunnel).

If n8n can't find the `/home/node/.n8n` directory on startup, it automatically creates one. In this case, all existing credentials that n8n saved with a different encryption key will no longer work.

/// note | Keep in mind

While persisting the `/home/node/.n8n` directory with PostgreSQL is the recommended best practice, it's not explicitly required. You can provide the encryption key by passing the [`N8N\_ENCRYPTION\_KEY` environment variable](/hosting/configuration/environment-variables/deployment.md) when starting your Docker container.

///

To use n8n with PostgreSQL, execute the following commands, replacing the placeholders (depicted within angled brackets, for example `<POSTGRES\_USER>`) with your actual values:

```sh

docker volume create n8n\_data

docker run -it --rm \

--name n8n \

-p 5678:5678 \

-e DB\_TYPE=postgresdb \

-e DB\_POSTGRESDB\_DATABASE=<POSTGRES\_DATABASE> \

-e DB\_POSTGRESDB\_HOST=<POSTGRES\_HOST> \

-e DB\_POSTGRESDB\_PORT=<POSTGRES\_PORT> \

-e DB\_POSTGRESDB\_USER=<POSTGRES\_USER> \

-e DB\_POSTGRESDB\_SCHEMA=<POSTGRES\_SCHEMA> \

-e DB\_POSTGRESDB\_PASSWORD=<POSTGRES\_PASSWORD> \

-v n8n\_data:/home/node/.n8n \

docker.n8n.io/n8nio/n8n

```

You can find a complete `docker-compose` file for PostgreSQL in the [n8n hosting repository](https://github.com/n8n-io/n8n-hosting/tree/main/docker-compose/withPostgres).

## Setting timezone

To define the timezone n8n should use, you can set the [`GENERIC\_TIMEZONE` environment variable](/hosting/configuration/environment-variables/timezone-localization.md). Schedule-oriented nodes, like the [Schedule Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) use this to determine the correct timezone.

You can set the system timezone, which controls what some scripts and commands like `date` return, using the `TZ` environment variable.

This example sets the same timezone for both variables:

```sh

docker volume create n8n\_data

docker run -it --rm \

--name n8n \

-p 5678:5678 \

-e GENERIC\_TIMEZONE="Europe/Berlin" \

-e TZ="Europe/Berlin" \

-v n8n\_data:/home/node/.n8n \

docker.n8n.io/n8nio/n8n

```

## Updating

To update n8n, in Docker Desktop, navigate to the \*\*Images\*\* tab and select \*\*Pull\*\* from the context menu to download the latest n8n image:

![Docker Desktop](/\_images/hosting/installation/docker/docker\_desktop.png)

You can also use the command line to pull the latest, or a specific version:

```sh

# Pull latest (stable) version

docker pull docker.n8n.io/n8nio/n8n

# Pull specific version

docker pull docker.n8n.io/n8nio/n8n:1.81.0

# Pull next (unstable) version

docker pull docker.n8n.io/n8nio/n8n:next

```

After pulling the updated image, stop your n8n container and start it again. You can also use the command line. Replace `<container\_id>` in the commands below with the container ID you find in the first command:

```sh

# Find your container ID

docker ps -a

# Stop the container with the `<container\_id>`

docker stop <container\_id>

# Remove the container with the `<container\_id>`

docker rm <container\_id>

# Start the container

docker run --name=<container\_name> [options] -d docker.n8n.io/n8nio/n8n

```

### Updating Docker Compose

--8<-- "\_snippets/self-hosting/installation/docker-compose-updating.md"

## Further reading

You can find more information about Docker setup in the README file for the [Docker image](https://github.com/n8n-io/n8n/tree/master/docker/images/n8n).

--8<-- "\_snippets/self-hosting/installation/tunnel.md"

Start n8n with `--tunnel` by running:

```sh

docker volume create n8n\_data

docker run -it --rm \

--name n8n \

-p 5678:5678 \

-v n8n\_data:/home/node/.n8n \

docker.n8n.io/n8nio/n8n \

start --tunnel

```

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## npm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# npm

npm is a quick way to get started with n8n on your local machine. You must have [Node.js](https://nodejs.org/en/) installed. n8n requires a Node.js version between 20.19 and 24.x, inclusive.

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Try n8n with npx

You can try n8n without installing it using npx.

From the terminal, run:

```bash

npx n8n

```

This command will download everything that's needed to start n8n. You can then access n8n and start building workflows by opening [http://localhost:5678](http://localhost:5678){:target=\_blank .external-link}.

## Install globally with npm

To install n8n globally, use npm:

```bash

npm install n8n -g

```

To install or update to a specific version of n8n use the `@` syntax to specify the version. For example:

```bash

npm install -g n8n@0.126.1

```

To install `next`:

```bash

npm install -g n8n@next

```

After the installation, start n8n by running:

```bash

n8n

# or

n8n start

```

### Next steps

Try out n8n using the [Quickstarts](/try-it-out/index.md).

## Updating

To update your n8n instance to the `latest` version, run:

```bash

npm update -g n8n

```

To install the `next` version:

```bash

npm install -g n8n@next

```

--8<-- "\_snippets/self-hosting/installation/tunnel.md"

Start n8n with `--tunnel` by running:

```bash

n8n start --tunnel

```

## Reverting an upgrade

Install the older version that you want to go back to.

If the upgrade involved a database migration:

1. Check the feature documentation and release notes to see if there are any manual changes you need to make.

1. Run `n8n db:revert` on your current version to roll back the database. If you want to revert more than one database migration, you need to repeat this process.

## Windows troubleshooting

If you are experiencing issues running n8n on Windows, make sure your Node.js environment is correctly set up. Follow Microsoft's guide to [Install NodeJS on Windows](https://learn.microsoft.com/en-us/windows/dev-environment/javascript/nodejs-on-windows){:target=\_blank .external-link}.

## updating.md

---

# https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Best practices for updating your self-hosted n8n

title: Update self-hosted n8n

contentType: explanation

tags:

- update npm

- update docker

hide:

- tags

---

# Update self-hosted n8n

It's important to keep your n8n version up to date. This ensures you get the latest features and fixes.

Some tips when updating:

--8<-- "\_snippets/manage-cloud/updating-best-practices.md"

For instructions on how to update, refer to the documentation for your installation method:

\* [Installed with npm](/hosting/installation/npm.md)

\* [Installed with Docker](/hosting/installation/docker.md)

## aws.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Hosting n8n on Amazon Web Services

This hosting guide shows you how to self-host n8n with Amazon Web Services (AWS). It uses n8n with Postgres as a database backend using Kubernetes to manage the necessary resources and reverse proxy.

## Hosting options

AWS offers several ways suitable for hosting n8n, including EC2 (virtual machines), and EKS (containers running with Kubernetes).

This guide uses [EKS](https://aws.amazon.com/eks/){:target=\_blank .external-link} as the hosting option. Using Kubernetes requires some additional complexity and configuration, but is the best method for scaling n8n as demand changes.

## Prerequisites

The steps in this guide use a mix of the AWS UI and [the eksctl CLI tool for EKS](https://eksctl.io){:target=\_blank .external-link}.

While not mentioned in the documentation for eksctl, you also need to [install the AWS CLI tool](https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html){:target=\_blank .external-link}, and [configure authentication of the tool](https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-quickstart.html){:target=\_blank .external-link}.

--8<-- "\_snippets/self-hosting/warning.md"

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Create a cluster

Use the eksctl tool to create a cluster specifying a name and a region with the following command:

```shell

eksctl create cluster --name n8n --region <your-aws-region>

```

This can take a while to create the cluster.

Once the cluster is created, eksctl automatically sets the kubectl context to the cluster.

## Clone configuration repository

Kubernetes and n8n require a series of configuration files. You can clone these from [this repository](https://github.com/n8n-io/n8n-kubernetes-hosting/tree/aws){:target=\_blank .external-link}. The following steps tell you what each file does, and what settings you need to change.

Clone the repository with the following command:

```shell

git clone https://github.com/n8n-io/n8n-kubernetes-hosting.git -b aws

```

And change directory to the root of the repository you cloned:

```shell

cd n8n-kubernetes-hosting

```

## Configure Postgres

For larger scale n8n deployments, Postgres provides a more robust database backend than SQLite.

### Configure volume for persistent storage

To maintain data between pod restarts, the Postgres deployment needs a persistent volume. The default AWS storage class, [gp2](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/general-purpose.html#EBSVolumeTypes\_gp2){:target=\_blank .external-link}, is suitable for this purpose. This is defined in the `postgres-claaim0-persistentvolumeclaim.yaml` manifest.

```yaml

…

spec:

storageClassName: gp2

accessModes:

- ReadWriteOnce

…

```

### Postgres environment variables

Postgres needs some environment variables set to pass to the application running in the containers.

The example `postgres-secret.yaml` file contains placeholders you need to replace with values of your own for user details and the database to use.

The `postgres-deployment.yaml` manifest then uses the values from this manifest file to send to the application pods.

## Configure n8n

### Create a volume for file storage

While not essential for running n8n, using persistent volumes helps maintain files uploaded while using n8n and if you want to persist [manual n8n encryption keys](/hosting/configuration/environment-variables/deployment.md) between restarts, which saves a file containing the key into file storage during startup.

The `n8n-claim0-persistentvolumeclaim.yaml` manifest creates this, and the n8n Deployment mounts that claim in the `volumes` section of the `n8n-deployment.yaml` manifest.

```yaml

…

volumes:

- name: n8n-claim0

persistentVolumeClaim:

claimName: n8n-claim0

…

```

### Pod resources

[Kubernetes](https://kubernetes.io/docs/concepts/configuration/manage-resources-containers/){:target=\_blank .external-link} lets you specify the minimum resources application containers need and the limits they can run to. The example YAML files cloned above contain the following in the `resources` section of the `n8n-deployment.yaml` file:

```yaml

…

resources:

requests:

memory: "250Mi"

limits:

memory: "500Mi"

…

```

This defines a minimum of 250mb per container, a maximum of 500mb, and lets Kubernetes handle CPU. You can change these values to match your own needs. As a guide, here are the resources values for the n8n cloud offerings:

--8<-- "\_snippets/self-hosting/installation/suggested-pod-resources.md"

### Optional: Environment variables

You can configure n8n settings and behaviors using environment variables.

Create an `n8n-secret.yaml` file. Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for n8n environment variables details.

## Deployments

The two deployment manifests (`n8n-deployment.yaml` and `postgres-deployment.yaml`) define the n8n and Postgres applications to Kubernetes.

The manifests define the following:

- Send the environment variables defined to each application pod

- Define the container image to use

- Set resource consumption limits

- The `volumes` defined earlier and `volumeMounts` to define the path in the container to mount volumes.

- Scaling and restart policies. The example manifests define one instance of each pod. You should change this to meet your needs.

## Services

The two service manifests (`postgres-service.yaml` and `n8n-service.yaml`) expose the services to the outside world using the Kubernetes load balancer using ports 5432 and 5678 respectively by default.

## Send to Kubernetes cluster

Send all the manifests to the cluster by running the following command in the `n8n-kubernetes-hosting` directory:

```shell

kubectl apply -f .

```

/// note | Namespace error

You may see an error message about not finding an "n8n" namespace as that resources isn't ready yet. You can run the same command again, or apply the namespace manifest first with the following command:

```shell

kubectl apply -f namespace.yaml

```

///

## Set up DNS

n8n typically operates on a subdomain. Create a DNS record with your provider for the subdomain and point it to a static address of the instance.

To find the address of the n8n service running on the instance:

1. Open the \*\*Clusters\*\* section of the \*\*Amazon Elastic Kubernetes Service\*\* page in the AWS console.

2. Select the name of the cluster to open its configuration page.

3. Select the \*\*Resources\*\* tab, then \*\*Service and networking\*\* > \*\*Services\*\*.

4. Select the \*\*n8n\*\* service and copy the \*\*Load balancer URLs\*\* value. Use this value suffixed with the n8n service port (5678) for DNS.

/// note | Use HTTP

This guide uses HTTP connections for the services it defines, for example in `n8n-deployment.yaml`. However, if you click the \*\*Load balancer URLs\*\* value, EKS takes you to an "HTTPS" URL which results in an error. To solve this, when you open the n8n subdomain, make sure to use HTTP.

///

## Delete resources

If you need to delete the setup, you can remove the resources created by the manifests with the following command:

```shell

kubectl delete -f .

```

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## azure.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Hosting n8n on Azure

This hosting guide shows you how to self-host n8n on Azure. It uses n8n with Postgres as a database backend using Kubernetes to manage the necessary resources and reverse proxy.

## Prerequisites

You need [The Azure command line tool](https://learn.microsoft.com/en-us/cli/azure/install-azure-cli){:target="\_blank" .external-link}

--8<-- "\_snippets/self-hosting/warning.md"

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Hosting options

Azure offers several ways suitable for hosting n8n, including Azure Container Instances (optimized for running containers), Linux Virtual Machines, and Azure Kubernetes Service (containers running with Kubernetes).

This guide uses the Azure Kubernetes Service (AKS) as the hosting option. Using Kubernetes requires some additional complexity and configuration, but is the best method for scaling n8n as demand changes.

The steps in this guide use a mix of the Azure UI and command line tool, but you can use either to accomplish most tasks.

## Open the Azure Kubernetes Service

From [the Azure portal](https://portal.azure.com/){:target="\_blank" .external-link} select \*\*Kubernetes services\*\*.

## Create a cluster

From the Kubernetes services page, select \*\*Create\*\* > \*\*Create a Kubernetes cluster\*\*.

You can select any of the configuration options that suit your needs, then select \*\*Create\*\* when done.

## Set Kubectl context

The remainder of the steps in this guide require you to set the Azure instance as the Kubectl context. You can find the connection details for a cluster instance by opening its details page and then the \*\*Connect\*\* button. The resulting code snippets shows the steps to paste and run into a terminal to change your local Kubernetes settings to use the new cluster.

## Clone configuration repository

Kubernetes and n8n require a series of configuration files. You can clone these from [this repository](https://github.com/n8n-io/n8n-kubernetes-hosting/tree/azure){:target=\_blank .external-link}. The following steps tell you which file configures what and what you need to change.

Clone the repository with the following command:

```shell

git clone https://github.com/n8n-io/n8n-kubernetes-hosting.git -b azure

```

And change directory to the root of the repository you cloned:

```shell

cd azure

```

## Configure Postgres

For larger scale n8n deployments, Postgres provides a more robust database backend than SQLite.

### Configure volume for persistent storage

To maintain data between pod restarts, the Postgres deployment needs a persistent volume. The default storage class is suitable for this purpose and is defined in the `postgres-claim0-persistentvolumeclaim.yaml` manifest.

/// note | Specialized storage classes

If you have specialised or higher requirements for storage classes, [read more on the options Azure offers in the documentation](https://learn.microsoft.com/en-us/azure/aks/concepts-storage#storage-classes){:target="\_blank" .external-link}.

///

### Postgres environment variables

Postgres needs some environment variables set to pass to the application running in the containers.

The example `postgres-secret.yaml` file contains placeholders you need to replace with your own values. Postgres will use these details when creating the database..

The `postgres-deployment.yaml` manifest then uses the values from this manifest file to send to the application pods.

## Configure n8n

### Create a volume for file storage

While not essential for running n8n, using persistent volumes is required for:

\* Using nodes that interact with files, such as the binary data node.

\* If you want to persist [manual n8n encryption keys](/hosting/configuration/environment-variables/deployment.md) between restarts. This saves a file containing the key into file storage during startup.

The `n8n-claim0-persistentvolumeclaim.yaml` manifest creates this, and the n8n Deployment mounts that claim in the `volumes` section of the `n8n-deployment.yaml` manifest.

```yaml

…

volumes:

- name: n8n-claim0

persistentVolumeClaim:

claimName: n8n-claim0

…

```

### Pod resources

[Kubernetes lets you](https://kubernetes.io/docs/concepts/configuration/manage-resources-containers/){:target="\_blank" .external-link} optionally specify the minimum resources application containers need and the limits they can run to. The example YAML files cloned above contain the following in the `resources` section of the `n8n-deployment.yaml` file:

```yaml

…

resources:

requests:

memory: "250Mi"

limits:

memory: "500Mi"

…

```

This defines a minimum of 250mb per container, a maximum of 500mb, and lets Kubernetes handle CPU. You can change these values to match your own needs. As a guide, here are the resources values for the n8n cloud offerings:

--8<-- "\_snippets/self-hosting/installation/suggested-pod-resources.md"

### Optional: Environment variables

You can configure n8n settings and behaviors using environment variables.

Create an `n8n-secret.yaml` file. Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for n8n environment variables details.

## Deployments

The two deployment manifests (`n8n-deployment.yaml` and `postgres-deployment.yaml`) define the n8n and Postgres applications to Kubernetes.

The manifests define the following:

- Send the environment variables defined to each application pod

- Define the container image to use

- Set resource consumption limits with the `resources` object

- The `volumes` defined earlier and `volumeMounts` to define the path in the container to mount volumes.

- Scaling and restart policies. The example manifests define one instance of each pod. You should change this to meet your needs.

## Services

The two service manifests (`postgres-service.yaml` and `n8n-service.yaml`) expose the services to the outside world using the Kubernetes load balancer using ports 5432 and 5678 respectively.

## Send to Kubernetes cluster

Send all the manifests to the cluster with the following command:

```shell

kubectl apply -f .

```

/// note | Namespace error

You may see an error message about not finding an "n8n" namespace as that resources isn't ready yet. You can run the same command again, or apply the namespace manifest first with the following command:

```shell

kubectl apply -f namespace.yaml

```

///

## Set up DNS

n8n typically operates on a subdomain. Create a DNS record with your provider for the subdomain and point it to the IP address of the n8n service. Find the IP address of the n8n service from the \*\*Services & ingresses\*\* menu item of the cluster you want to use under the \*\*External IP\*\* column. You need to add the n8n port, "5678" to the URL.

/// note | Static IP addresses with AKS

[Read this tutorial](https://learn.microsoft.com/en-us/azure/aks/static-ip){:target="\_blank" .external-link} for more details on how to use a static IP address with AKS.

///

## Delete resources

Remove the resources created by the manifests with the following command:

```shell

kubectl delete -f .

```

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## digital-ocean.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Hosting n8n on DigitalOcean

This hosting guide shows you how to self-host n8n on a DigitalOcean droplet. It uses:

\* [Caddy](https://caddyserver.com){:target="\_blank" .external-link} (a reverse proxy) to allow access to the Droplet from the internet. Caddy will also automatically create and manage SSL / TLS certificates for your n8n instance.

\* [Docker Compose](https://docs.docker.com/compose/){:target="\_blank" .external-link} to create and define the application components and how they work together.

--8<-- "\_snippets/self-hosting/warning.md"

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Create a Droplet

1. [Log in](https://cloud.digitalocean.com/login){:target=\_blank .external-link} to DigitalOcean.

2. Select the project to host the Droplet, or [create a new project](https://docs.digitalocean.com/products/projects/how-to/create/){:target=\_blank .external-link}.

3. In your project, select \*\*Droplets\*\* from the \*\*Manage\*\* menu.

4. [Create a new Droplet](https://docs.digitalocean.com/products/droplets/how-to/create/){:target=\_blank .external-link} using the [Docker image](https://marketplace.digitalocean.com/apps/docker){:target="\_blank" .external-link} available on the \*\*Marketplace\*\* tab.

/// note | Droplet resources

When creating the Droplet, DigitalOcean asks you to choose a plan. For most usage levels, a basic shared CPU plan is enough.

///

/// note | SSH key or Password

DigitalOcean lets you choose between SSH key and password-based authentication. SSH keys are considered more secure.

///

## Log in to your Droplet and create new user

The rest of this guide requires you to log in to the Droplet using a terminal with SSH. Refer to [How to Connect to Droplets with SSH](https://docs.digitalocean.com/products/droplets/how-to/connect-with-ssh/){:target="\_blank" .external-link} for more information.

You should create a new user, to avoid working as the root user:

1. Log in as root.

2. Create a new user:

```shell

adduser <username>

```

3. Follow the prompts in the CLI to finish creating the user.

4. Grant the new user administrative privileges:

```shell

usermod -aG sudo <username>

```

You can now run commands with superuser privileges by using `sudo` before the command.

5. Follow the steps to set up SSH for the new user: [Add Public Key Authentication](https://www.digitalocean.com/community/tutorials/initial-server-setup-with-ubuntu-14-04#step-four-add-public-key-authentication-recommended){:target=\_blank .external-link}.

5. Log out of the droplet.

6. Log in using SSH as the new user.

## Clone configuration repository

Docker Compose, n8n, and Caddy require a series of folders and configuration files. You can clone these from [this repository](https://github.com/n8n-io/n8n-docker-caddy){:target=\_blank .external-link} into the home folder of the logged-in user on your Droplet. The following steps will tell you which file to change and what changes to make.

Clone the repository with the following command:

```shell

git clone https://github.com/n8n-io/n8n-docker-caddy.git

```

And change directory to the root of the repository you cloned:

```shell

cd n8n-docker-caddy

```

## Default folders and files

The host operating system (the DigitalOcean Droplet) copies the two folders you created to Docker containers to make them available to Docker. The two folders are:

- `caddy\_config`: Holds the Caddy configuration files.

- `local\_files`: A folder for files you upload or add using n8n.

### Create Docker volumes

To persist the Caddy cache between restarts and speed up start times, create [a Docker volume](https://docs.docker.com/storage/volumes/){:target="\_blank" .external-link} that Docker reuses between restarts:

```shell

sudo docker volume create caddy\_data

```

Create a Docker volume for the n8n data:

```shell

sudo docker volume create n8n\_data

```

## Set up DNS

n8n typically operates on a subdomain. Create a DNS record with your provider for the subdomain and point it to the IP address of the Droplet. The exact steps for this depend on your DNS provider, but typically you need to create a new "A" record for the n8n subdomain. DigitalOcean provide [An Introduction to DNS Terminology, Components, and Concepts](https://www.digitalocean.com/community/tutorials/an-introduction-to-dns-terminology-components-and-concepts){:target="\_blank" .external-link}.

## Open ports

n8n runs as a web application, so the Droplet needs to allow incoming access to traffic on port 80 for non-secure traffic, and port 443 for secure traffic.

Open the following ports in the Droplet's firewall by running the following two commands:

```shell

sudo ufw allow 80

sudo ufw allow 443

```

## Configure n8n

n8n needs some environment variables set to pass to the application running in the Docker container. The example `.env` file contains placeholders you need to replace with values of your own.

Open the file with the following command:

```shell

nano .env

```

The file contains inline comments to help you know what to change.

Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for n8n environment variables details.

## The Docker Compose file

The Docker Compose file (`docker-compose.yml`) defines the services the application needs, in this case Caddy and n8n.

- The Caddy service definition defines the ports it uses and the local volumes to copy to the containers.

- The n8n service definition defines the ports it uses, the environment variables n8n needs to run (some defined in the `.env` file), and the volumes it needs to copy to the containers.

The Docker Compose file uses the environment variables set in the `.env` file, so you shouldn't need to change it's content, but to take a look, run the following command:

```shell

nano docker-compose.yml

```

## Configure Caddy

Caddy needs to know which domains it should serve, and which port to expose to the outside world. Edit the `Caddyfile` file in the `caddy\_config` folder.

```shell

nano caddy\_config/Caddyfile

```

Change the placeholder domain to yours. If you followed the steps to name the subdomain n8n, your full domain is similar to `n8n.example.com`. The `n8n` in the `reverse\_proxy` setting tells Caddy to use the service definition defined in the `docker-compose.yml` file:

```text

n8n.<domain>.<suffix> {

reverse\_proxy n8n:5678 {

flush\_interval -1

}

}

```

If you were to use `automate.example.com`, your `Caddyfile` may look something like:

```text

automate.example.com {

reverse\_proxy n8n:5678 {

flush\_interval -1

}

}

```

## Start Docker Compose

Start n8n and Caddy with the following command:

```shell

sudo docker compose up -d

```

This may take a few minutes.

## Test your setup

In your browser, open the URL formed of the subdomain and domain name defined earlier. Enter the user name and password defined earlier, and you should be able to access n8n.

## Stop n8n and Caddy

You can stop n8n and Caddy with the following command:

```shell

sudo docker compose stop

```

## Updating

--8<-- "\_snippets/self-hosting/installation/docker-compose-updating.md"

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## docker-compose.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

description: Install and run n8n using Docker Compose

---

# Docker-Compose

If you have already installed Docker and Docker-Compose, then you can start with [step 3](#3-dns-setup).

You can find Docker Compose configurations for various architectures in the [n8n-hosting repository](https://github.com/n8n-io/n8n-hosting).

--8<-- "\_snippets/self-hosting/warning.md"

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## 1. Install Docker and Docker Compose

How you install Docker and Docker Compose can vary depending on the Linux distribution you use. You can find detailed instructions in both the [Docker](https://docs.docker.com/engine/install/) and [Docker Compose](https://docs.docker.com/compose/install/) installation documentation. The following example is for Ubuntu:

```bash

# Remove incompatible or out of date Docker implementations if they exist

for pkg in docker.io docker-doc docker-compose docker-compose-v2 podman-docker containerd runc; do sudo apt-get remove $pkg; done

# Install prereq packages

sudo apt-get update

sudo apt-get install ca-certificates curl

# Download the repo signing key

sudo install -m 0755 -d /etc/apt/keyrings

sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc

sudo chmod a+r /etc/apt/keyrings/docker.asc

# Configure the repository

echo "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu $(. /etc/os-release && echo "${UBUNTU\_CODENAME:-$VERSION\_CODENAME}") stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

# Update and install Docker and Docker Compose

sudo apt-get update

sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin

```

Verify that Docker and Docker Compose are available by typing:

```bash

docker --version

docker compose version

```

## 2. Optional: Non-root user access

You can optionally grant access to run Docker without the `sudo` command.

To grant access to the user that you're currently logged in with (assuming they have `sudo` access), run:

```bash

sudo usermod -aG docker ${USER}

# Register the `docker` group memebership with current session without changing your primary group

exec sg docker newgrp

```

To grant access to a different user, type the following, substituting `<USER\_TO\_RUN\_DOCKER>` with the appropriate username:

```bash

sudo usermod -aG docker <USER\_TO\_RUN\_DOCKER>

```

You will need to run `exec sg docker newgrp` from any of that user's existing sessions for it to access the new group permissions.

You can verify that your current session recognizes the `docker` group by typing:

```bash

groups

```

## 3. DNS setup

To host n8n online or on a network, create a dedicated subdomain pointed at your server.

Add an A record to route the subdomain accordingly:

\* \*\*Type\*\*: A

\* \*\*Name\*\*: `n8n` (or the desired subdomain)

\* \*\*IP address\*\*: (your server's IP address)

## 4. Create an `.env` file

Create a project directory to store your n8n environment configuration and Docker Compose files and navigate inside:

```bash

mkdir n8n-compose

cd n8n-compose

```

Inside the `n8n-compose` directory, create an `.env` file to customize your n8n instance's details. Change it to match your own information:

```bash title=".env file"

# DOMAIN\_NAME and SUBDOMAIN together determine where n8n will be reachable from

# The top level domain to serve from

DOMAIN\_NAME=example.com

# The subdomain to serve from

SUBDOMAIN=n8n

# The above example serve n8n at: https://n8n.example.com

# Optional timezone to set which gets used by Cron and other scheduling nodes

# New York is the default value if not set

GENERIC\_TIMEZONE=Europe/Berlin

# The email address to use for the TLS/SSL certificate creation

SSL\_EMAIL=user@example.com

```

## 5. Create local files directory

Inside your project directory, create a directory called `local-files` for sharing files between the n8n instance and the host system (for example, using the [Read/Write Files from Disk node](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md)):

```bash

mkdir local-files

```

The Docker Compose file below can automatically create this directory, but doing it manually ensures that it's created with the right ownership and permissions.

## 6. Create Docker Compose file

Create a `compose.yaml` file. Paste the following in the file:

```yaml title="compose.yaml file"

services:

traefik:

image: "traefik"

restart: always

command:

- "--api.insecure=true"

- "--providers.docker=true"

- "--providers.docker.exposedbydefault=false"

- "--entrypoints.web.address=:80"

- "--entrypoints.web.http.redirections.entryPoint.to=websecure"

- "--entrypoints.web.http.redirections.entrypoint.scheme=https"

- "--entrypoints.websecure.address=:443"

- "--certificatesresolvers.mytlschallenge.acme.tlschallenge=true"

- "--certificatesresolvers.mytlschallenge.acme.email=${SSL\_EMAIL}"

- "--certificatesresolvers.mytlschallenge.acme.storage=/letsencrypt/acme.json"

ports:

- "80:80"

- "443:443"

volumes:

- traefik\_data:/letsencrypt

- /var/run/docker.sock:/var/run/docker.sock:ro

n8n:

image: docker.n8n.io/n8nio/n8n

restart: always

ports:

- "127.0.0.1:5678:5678"

labels:

- traefik.enable=true

- traefik.http.routers.n8n.rule=Host(`${SUBDOMAIN}.${DOMAIN\_NAME}`)

- traefik.http.routers.n8n.tls=true

- traefik.http.routers.n8n.entrypoints=web,websecure

- traefik.http.routers.n8n.tls.certresolver=mytlschallenge

- traefik.http.middlewares.n8n.headers.SSLRedirect=true

- traefik.http.middlewares.n8n.headers.STSSeconds=315360000

- traefik.http.middlewares.n8n.headers.browserXSSFilter=true

- traefik.http.middlewares.n8n.headers.contentTypeNosniff=true

- traefik.http.middlewares.n8n.headers.forceSTSHeader=true

- traefik.http.middlewares.n8n.headers.SSLHost=${DOMAIN\_NAME}

- traefik.http.middlewares.n8n.headers.STSIncludeSubdomains=true

- traefik.http.middlewares.n8n.headers.STSPreload=true

- traefik.http.routers.n8n.middlewares=n8n@docker

environment:

- N8N\_HOST=${SUBDOMAIN}.${DOMAIN\_NAME}

- N8N\_PORT=5678

- N8N\_PROTOCOL=https

- NODE\_ENV=production

- WEBHOOK\_URL=https://${SUBDOMAIN}.${DOMAIN\_NAME}/

- GENERIC\_TIMEZONE=${GENERIC\_TIMEZONE}

volumes:

- n8n\_data:/home/node/.n8n

- ./local-files:/files

volumes:

n8n\_data:

traefik\_data:

```

The above Docker Compose file configures two containers: one for n8n, and one to run [traefik](https://github.com/traefik/traefik), an application proxy to manage TLS/SSL certificates and handle routing.

It also creates and mounts two [Docker Volumes](https://docs.docker.com/engine/storage/volumes/) and mounts the `local-files` directory you created earlier:

| Name | Type | Container mount | Description |

|-----------------|-------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|

| `n8n\_data` | [Volume](https://docs.docker.com/engine/storage/volumes/) | `/home/node/.n8n` | Where n8n saves its SQLite database file and encryption key. |

| `traefik\_data` | [Volume](https://docs.docker.com/engine/storage/volumes/) | `/letsencrypt` | Where traefik saves the TLS/SSL certificate data. |

| `./local-files` | [Bind](https://docs.docker.com/engine/storage/bind-mounts/) | `/files` | A local directory shared between the n8n instance and host. In n8n, use the `/files` path to read from and write to this directory. |

## 7. Start Docker Compose

You can now start n8n by typing:

```bash

sudo docker compose up -d

```

To stop the container, type:

```bash

sudo docker compose stop

```

## 8. Done

You can now reach n8n using the subdomain + domain combination you defined in your `.env` file configuration. The above example would result in `https://n8n.example.com`.

n8n is only accessible using secure HTTPS, not over plain HTTP.

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## google-cloud.md

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# Hosting n8n on Google Cloud

This hosting guide shows you how to self-host n8n on Google Cloud (GCP). It uses n8n with Postgres as a database backend using Kubernetes to manage the necessary resources and reverse proxy.

## Prerequisites

- The [gcloud command line tool](https://cloud.google.com/sdk/gcloud/){:target="\_blank" .external-link}

- The [gke-gcloud-auth-plugin](https://cloud.google.com/blog/products/containers-kubernetes/kubectl-auth-changes-in-gke){:target="\_blank" .external-link} (install the gcloud CLI first)

--8<-- "\_snippets/self-hosting/warning.md"

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Hosting options

Google Cloud offers several options suitable for hosting n8n, including Cloud Run (optimized for running containers), Compute Engine (VMs), and Kubernetes Engine (containers running with Kubernetes).

This guide uses the Google Kubernetes Engine (GKE) as the hosting option. Using Kubernetes requires some additional complexity and configuration, but is the best method for scaling n8n as demand changes.

Most of the steps in this guide use the Google Cloud UI, but you can also use the [gcloud command line tool](https://cloud.google.com/sdk/gcloud/){:target="\_blank" .external-link} instead to undertake all the steps.

## Create project

GCP encourages you to create projects to logically organize resources and configuration. Create a new project for your n8n deployment from your Google Cloud Console: select the project dropdown menu and then the \*\*NEW PROJECT\*\* button. Then select the newly created project. As you follow the other steps in this guide, make sure you have the correct project selected.

## Enable the Kubernetes Engine API

GKE isn't enabled by default. Search for "Kubernetes" in the top search bar and select "Kubernetes Engine" from the results.

Select \*\*ENABLE\*\* to enable the Kubernetes Engine API for this project.

## Create a cluster

From the [GKE service page](https://console.cloud.google.com/kubernetes/list/overview){:target=\_blank .external-link}, select \*\*Clusters\*\* > \*\*CREATE\*\*. Make sure you select the "Standard" cluster option, n8n doesn't work with an "Autopilot" cluster. You can leave the cluster configuration on defaults unless there's anything specifically you need to change, such as location.

## Set Kubectl context

The rest of the steps in this guide require you to set the GCP instance as the Kubectl context. You can find the connection details for a cluster instance by opening its details page and selecting \*\*CONNECT\*\*. The displayed code snippet shows a connection string for the gcloud CLI tool. Paste and run the code snippet in the gcloud CLI to change your local Kubernetes settings to use the new gcloud cluster.

## Clone configuration repository

Kubernetes and n8n require a series of configuration files. You can clone these from [this repository](https://github.com/n8n-io/n8n-kubernetes-hosting/tree/gcp){:target=\_blank .external-link} locally. The following steps explain the file configuration and how to add your information.

Clone the repository with the following command:

```shell

git clone https://github.com/n8n-io/n8n-kubernetes-hosting.git -b gcp

```

And change directory to the root of the repository you cloned:

```shell

cd n8n-kubernetes-hosting

```

## Configure Postgres

For larger scale n8n deployments, Postgres provides a more robust database backend than SQLite.

### Create a volume for persistent storage

To maintain data between pod restarts, the Postgres deployment needs a persistent volume. Running Postgres on GCP requires a specific Kubernetes Storage Class. You can read [this guide](https://cloud.google.com/architecture/deploying-highly-available-postgresql-with-gke){:target="\_blank" .external-link} for specifics, but the `storage.yaml` manifest creates it for you. You may want to change the regions to create the storage in under the `allowedTopologies` > `matchedLabelExpressions` > `values` key. By default, they're set to `us-central`.

```yaml

…

allowedTopologies:

- matchLabelExpressions:

- key: failure-domain.beta.kubernetes.io/zone

values:

- us-central1-b

- us-central1-c

```

### Postgres environment variables

Postgres needs some environment variables set to pass to the application running in the containers.

The example `postgres-secret.yaml` file contains placeholders you need to replace with your own values. Postgres will use these details when creating the database..

The `postgres-deployment.yaml` manifest then uses the values from this manifest file to send to the application pods.

## Configure n8n

### Create a volume for file storage

While not essential for running n8n, using persistent volumes is required for:

\* Using nodes that interact with files, such as the binary data node.

\* If you want to persist [manual n8n encryption keys](/hosting/configuration/environment-variables/deployment.md) between restarts. This saves a file containing the key into file storage during startup.

The `n8n-claim0-persistentvolumeclaim.yaml` manifest creates this, and the n8n Deployment mounts that claim in the `volumes` section of the `n8n-deployment.yaml` manifest.

```yaml

…

volumes:

- name: n8n-claim0

persistentVolumeClaim:

claimName: n8n-claim0

…

```

### Pod resources

[Kubernetes lets you](https://kubernetes.io/docs/concepts/configuration/manage-resources-containers/) optionally specify the minimum resources application containers need and the limits they can run to. The example YAML files cloned above contain the following in the `resources` section of the `n8n-deployment.yaml` and `postgres-deployment.yaml` files:

```yaml

…

resources:

requests:

memory: "250Mi"

limits:

memory: "500Mi"

…

```

This defines a minimum of 250mb per container, a maximum of 500mb, and lets Kubernetes handle CPU. You can change these values to match your own needs. As a guide, here are the resources values for the n8n cloud offerings:

--8<-- "\_snippets/self-hosting/installation/suggested-pod-resources.md"

### Optional: Environment variables

You can configure n8n settings and behaviors using environment variables.

Create an `n8n-secret.yaml` file. Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for n8n environment variables details.

## Deployments

The two deployment manifests (`n8n-deployment.yaml` and `postgres-deployment.yaml`) define the n8n and Postgres applications to Kubernetes.

The manifests define the following:

- Send the environment variables defined to each application pod

- Define the container image to use

- Set resource consumption limits with the `resources` object

- The `volumes` defined earlier and `volumeMounts` to define the path in the container to mount volumes.

- Scaling and restart policies. The example manifests define one instance of each pod. You should change this to meet your needs.

## Services

The two service manifests (`postgres-service.yaml` and `n8n-service.yaml`) expose the services to the outside world using the Kubernetes load balancer using ports 5432 and 5678 respectively.

## Send to Kubernetes cluster

Send all the manifests to the cluster with the following command:

```shell

kubectl apply -f .

```

/// note | Namespace error

You may see an error message about not finding an "n8n" namespace as that resources isn't ready yet. You can run the same command again, or apply the namespace manifest first with the following command:

```shell

kubectl apply -f namespace.yaml

```

///

## Set up DNS

n8n typically operates on a subdomain. Create a DNS record with your provider for the subdomain and point it to the IP address of the n8n service. Find the IP address of the n8n service from the \*\*Services & Ingress\*\* menu item of the cluster you want to use under the \*\*Endpoints\*\* column.

/// note | GKE and IP addresses

[Read this GKE tutorial](https://cloud.google.com/kubernetes-engine/docs/tutorials/configuring-domain-name-static-ip#configuring\_your\_domain\_name\_records){:target="\_blank" .external-link} for more details on how reserved IP addresses work with GKE and Kubernetes resources.

///

## Delete resources

Remove the resources created by the manifests with the following command:

```shell

kubectl delete -f .

```

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## heroku.md

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# Hosting n8n on Heroku

This hosting guide shows you how to self-host n8n on Heroku. It uses:

- [Docker Compose](https://docs.docker.com/compose/){:target="\_blank" .external-link} to create and define the application components and how they work together.

- [Heroku's PostgreSQL service](https://devcenter.heroku.com/categories/heroku-postgres){:target="\_blank" .external-link} to host n8n's data storage.

- A \*\*Deploy to Heroku\*\* button offering a one click, with minor configuration, deployment.

--8<-- "\_snippets/self-hosting/warning.md"

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Use the deployment template to create a Heroku project

The quickest way to get started with deploying n8n to Heroku is using the \*\*Deploy to Heroku\*\* button:

[![Deploy](https://www.herokucdn.com/deploy/button.svg)](https://dashboard.heroku.com/new?template=https://github.com/n8n-io/n8n-heroku/tree/main)

This opens the \*\*Create New App\*\* page on Heroku. Set a name for the project, and choose the region to deploy the project to.

### Configure environment variables

Heroku pre-fills the configuration options defined in the `env` section of the `app.json` file, which also sets default values for the environment variables n8n uses.

You can change any of these values to suit your needs. You must change the following values:

- \*\*N8N\_ENCRYPTION\_KEY\*\*, which n8n uses to [encrypt user account details](/hosting/configuration/environment-variables/deployment.md) before saving to the database.

- \*\*WEBHOOK\_URL\*\* should match the application name you create to ensure that webhooks have the correct URL.

### Deploy n8n

Select \*\*Deploy app\*\*.

After Heroku builds and deploys the app it provides links to \*\*Manage App\*\* or \*\*View\*\* the application.

/// note | Heroku and DNS

Refer to the [Heroku documentation](https://devcenter.heroku.com/categories/networking-dns){:target="\_blank" .external-link} to find out how to connect your domain to a Heroku application.

///

## Changing the deployment template

You can make changes to the deployment template by forking the [repository](https://github.com/n8n-io/n8n-heroku){:target=\_blank .external-link} and deploying from you fork.

### The Dockerfile

By default the Dockerfile pulls the latest n8n image, if you want to use a different or fixed version, then update the image tag on the top line of the `Dockerfile`.

### Heroku and exposing ports

Heroku doesn't allow Docker-based applications to define an exposed port with the `EXPOSE` command. Instead, Heroku provides a `PORT` environment variable that it dynamically populates at application runtime. The `entrypoint.sh` file overrides the default Docker image command to instead set the port variable that Heroku provides. You can then access n8n on port 80 in a web browser.

/// note | Docker limitations with Heroku

[Read this guide](https://devcenter.heroku.com/articles/container-registry-and-runtime#unsupported-dockerfile-commands){:target="\_blank" .external-link} for more details on the limitations of using Docker with Heroku.

///

### Configuring Heroku

The `heroku.yml` file defines the application you want to create on Heroku. It consists of two sections:

\* `setup` > `addons` defines the Heroku addons to use. In this case, the PostgreSQL database addon.

\* The `build` section defines how Heroku builds the application. In this case it uses the Docker buildpack to build a `web` service based on the supplied `Dockerfile`.

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## hetzner.md

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# Hosting n8n on Hetzner cloud

This hosting guide shows you how to self-host n8n on a Hetzner cloud server. It uses:

\* [Caddy](https://caddyserver.com){:target="\_blank" .external-link} (a reverse proxy) to allow access to the Server from the internet.

\* [Docker Compose](https://docs.docker.com/compose/){:target="\_blank" .external-link} to create and define the application components and how they work together.

--8<-- "\_snippets/self-hosting/warning.md"

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

## Create a server

1. [Log in](https://console.hetzner.cloud/){:target=\_blank .external-link} to the Hetzner Cloud Console.

2. Select the project to host the server, or create a new project by selecting \*\*+ NEW PROJECT\*\*.

3. Select \*\*+ CREATE SERVER\*\* on the project tile you want to add it to.

You can change most of the settings to suit your needs, but as this guide uses Docker to run the application, under the \*\*Image\*\* section, select "Docker CE" from the \*\*APPS\*\* tab.

/// note | Type

When creating the server, Hetzner asks you to choose a plan. For most usage levels, the CPX11 type is enough.

///

/// note | SSH keys

Hetzner lets you choose between SSH and password-based authentication. SSH is more secure. The rest of this guide assumes you are using SSH.

///

## Log in to your server

The rest of this guide requires you to log in to the server using a terminal with SSH. Refer to [Access with SSH/rsync/BorgBackup](https://docs.hetzner.com/robot/storage-box/access/access-ssh-rsync-borg){:target="\_blank" .external-link} for more information. You can find the public IP in the listing of the servers in your project.

## Install Docker Compose

The Hetzner Docker app image doesn't have Docker compose installed. Install it with the following commands:

```shell

apt update && apt -y upgrade

apt install docker-compose-plugin

```

## Clone configuration repository

Docker Compose, n8n, and Caddy require a series of folders and configuration files. You can clone these from [this repository](https://github.com/n8n-io/n8n-docker-caddy){:target=\_blank .external-link} into the root user folder of the server. The following steps will tell you which file to change and what changes to make.

Clone the repository with the following command:

```shell

git clone https://github.com/n8n-io/n8n-docker-caddy.git

```

And change directory to the root of the repository you cloned:

```shell

cd n8n-docker-caddy

```

## Default folders and files

The host operating system (the server) copies the two folders you created to Docker containers to make them available to Docker. The two folders are:

- `caddy\_config`: Holds the Caddy configuration files.

- `local\_files`: A folder for files you upload or add using n8n.

### Create Docker volume

To persist the Caddy cache between restarts and speed up start times, create [a Docker volume](https://docs.docker.com/storage/volumes/){:target="\_blank" .external-link} that Docker reuses between restarts:

```shell

docker volume create caddy\_data

```

Create a Docker volume for the n8n data:

```shell

sudo docker volume create n8n\_data

```

## Set up DNS

n8n typically operates on a subdomain. Create a DNS record with your provider for the subdomain and point it to the IP address of the server. The exact steps for this depend on your DNS provider, but typically you need to create a new "A" record for the n8n subdomain. DigitalOcean provide [An Introduction to DNS Terminology, Components, and Concepts](https://www.digitalocean.com/community/tutorials/an-introduction-to-dns-terminology-components-and-concepts){:target="\_blank" .external-link}.

## Open ports

n8n runs as a web application, so the server needs to allow incoming access to traffic on port 80 for non-secure traffic, and port 443 for secure traffic.

Open the following ports in the server's firewall by running the following two commands:

```shell

sudo ufw allow 80

sudo ufw allow 443

```

## Configure n8n

n8n needs some environment variables set to pass to the application running in the Docker container. The example `.env` file contains placeholders you need to replace with values of your own.

Open the file with the following command:

```shell

nano .env

```

The file contains inline comments to help you know what to change.

Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for n8n environment variables details.

## The Docker Compose file

The Docker Compose file (`docker-compose.yml`) defines the services the application needs, in this case Caddy and n8n.

- The Caddy service definition defines the ports it uses and the local volumes to copy to the containers.

- The n8n service definition defines the ports it uses, the environment variables n8n needs to run (some defined in the `.env` file), and the volumes it needs to copy to the containers.

The Docker Compose file uses the environment variables set in the `.env` file, so you shouldn't need to change it's content, but to take a look, run the following command:

```shell

nano docker-compose.yml

```

## Configure Caddy

Caddy needs to know which domains it should serve, and which port to expose to the outside world. Edit the `Caddyfile` file in the `caddy\_config` folder.

```shell

nano caddy\_config/Caddyfile

```

Change the placeholder subdomain to yours. If you followed the steps to name the subdomain n8n, your full domain is similar to `n8n.example.com`. The `n8n` in the `reverse\_proxy` setting tells Caddy to use the service definition defined in the `docker-compose.yml` file:

```text

n8n.<domain>.<suffix> {

reverse\_proxy n8n:5678 {

flush\_interval -1

}

}

```

## Start Docker Compose

Start n8n and Caddy with the following command:

```shell

docker compose up -d

```

This may take a few minutes.

## Test your setup

In your browser, open the URL formed of the subdomain and domain name defined earlier. Enter the user name and password defined earlier, and you should be able to access n8n.

## Stop n8n and Caddy

You can stop n8n and Caddy with the following command:

```shell

sudo docker compose stop

```

## Updating

--8<-- "\_snippets/self-hosting/installation/docker-compose-updating.md"

## Next steps

--8<-- "\_snippets/self-hosting/installation/server-setups-next-steps.md"

## index.md

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# Server setups

Self-host with Docker Compose:

\* [Digital Ocean](/hosting/installation/server-setups/digital-ocean.md)

\* [Heroku](/hosting/installation/server-setups/heroku.md)

\* [Hetzner Cloud](/hosting/installation/server-setups/hetzner.md)

Starting points for a Kubernetes setup:

\* [AWS](/hosting/installation/server-setups/aws.md)

\* [Azure](/hosting/installation/server-setups/azure.md)

\* [Google Cloud Platform](/hosting/installation/server-setups/google-cloud.md)

Configuration guides to help you get started on other platforms:

\* [Docker Compose](/hosting/installation/server-setups/docker-compose.md)

## logging.md

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contentType: howto

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# Logging in n8n

Logging is an important feature for debugging. n8n uses the [winston](https://www.npmjs.com/package/winston){:target=\_blank .external-link} logging library.

/// note | Log streaming

n8n Self-hosted Enterprise tier includes [Log streaming](/log-streaming.md), in addition to the logging options described in this document.

///

## Setup

To set up logging in n8n, you need to set the following environment variables (you can also set the values in the [configuration file](/hosting/configuration/environment-variables/index.md))

| Setting in the configuration file | Using environment variables | Description |

|-----------------------------------|-----------------------------|-------------|

| n8n.log.level | N8N\_LOG\_LEVEL | The log output level. The available options are (from lowest to highest level) are error, warn, info, and debug. The default value is `info`. You can learn more about these options [here](#log-levels). |

| n8n.log.output | N8N\_LOG\_OUTPUT | Where to output logs. The available options are `console` and `file`. Multiple values can be used separated by a comma (`,`). `console` is used by default. |

| n8n.log.file.location | N8N\_LOG\_FILE\_LOCATION | The log file location, used only if log output is set to file. By default, `<n8nFolderPath>/logs/n8n.log` is used. |

| n8n.log.file.maxsize | N8N\_LOG\_FILE\_SIZE\_MAX | The maximum size (in MB) for each log file. By default, n8n uses 16 MB. |

| n8n.log.file.maxcount | N8N\_LOG\_FILE\_COUNT\_MAX | The maximum number of log files to keep. The default value is 100. This value should be set when using workers. |

```bash

# Set the logging level to 'debug'

export N8N\_LOG\_LEVEL=debug

# Set log output to both console and a log file

export N8N\_LOG\_OUTPUT=console,file

# Set a save location for the log file

export N8N\_LOG\_FILE\_LOCATION=/home/jim/n8n/logs/n8n.log

# Set a 50 MB maximum size for each log file

export N8N\_LOG\_FILE\_MAXSIZE=50

# Set 60 as the maximum number of log files to be kept

export N8N\_LOG\_FILE\_MAXCOUNT=60

```

### Log levels

n8n uses standard log levels to report:

- `silent`: outputs nothing at all

- `error`: outputs only errors and nothing else

- `warn`: outputs errors and warning messages

- `info`: contains useful information about progress

- `debug`: the most verbose output. n8n outputs a lot of information to help you debug issues.

## Development

During development, adding log messages is a good practice. It assists in debugging errors. To configure logging for development, follow the guide below.

### Implementation details

n8n uses the `LoggerProxy` class, located in the `workflow` package. Calling the `LoggerProxy.init()` by passing in an instance of `Logger`, initializes the class before the usage.

The initialization process happens only once. The [`start.ts`](https://github.com/n8n-io/n8n/blob/master/packages/cli/src/commands/start.ts) file already does this process for you. If you are creating a new command from scratch, you need to initialize the `LoggerProxy` class.

Once the `Logger` implementation gets created in the `cli` package, it can be obtained by calling the `getInstance` convenience method from the exported module.

Check the [start.ts](https://github.com/n8n-io/n8n/blob/master/packages/cli/src/commands/start.ts) file to learn more about how this process works.

### Adding logs

Once the `LoggerProxy` class gets initialized in the project, you can import it to any other file and add logs.

Convenience methods are provided for all logging levels, so new logs can be added whenever needed using the format `Logger.<logLevel>('<message>', ...meta)`, where `meta` represents any additional properties desired beyond `message`.

In the example above, we use the standard log levels described [above](#log-levels). The `message` argument is a string, and `meta` is a data object.

```js

// You have to import the LoggerProxy. We rename it to Logger to make it easier

import {

LoggerProxy as Logger

} from 'n8n-workflow';

// Info-level logging of a trigger function, with workflow name and workflow ID as additional metadata properties

Logger.info(`Polling trigger initiated for workflow "${workflow.name}"`, {workflowName: workflow.name, workflowId: workflow.id});

```

When creating new loggers, some useful standards to keep in mind are:

- Craft log messages to be as human-readable as possible. For example, always wrap names in quotes.

- Duplicating information in the log message and metadata, like workflow name in the above example, can be useful as messages are easier to search and metadata enables easier filtering.

- Include multiple IDs (for example, `executionId`, `workflowId`, and `sessionId`) throughout all logs.

- Use node types instead of node names (or both) as this is more consistent, and so easier to search.

## Front-end logs

As of now, front-end logs aren't available. Using `Logger` or `LoggerProxy` would yield errors in the `editor-ui` package. This functionality will get implemented in the future versions.

## monitoring.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Get metrics for a health check

contentType: howto

---

# Monitoring

There are three API endpoints you can call to check the status of your instance: `/healthz`, `healthz/readiness`, and `/metrics`.

<!-- vale off -->

## healthz and healthz/readiness

<!-- vale on -->

The `/healthz` endpoint returns a standard HTTP status code. 200 indicates the instance is reachable. It doesn't indicate DB status. It's available for both self-hosted and Cloud users.

Access the endpoint:

```

<your-instance-url>/healthz

```

The `/healthz/readiness` endpoint is similar to the `/healthz` endpoint, but it returns a HTTP status code of 200 if the DB is connected and migrated and therefore the instance is ready to accept traffic.

Access the endpoint:

```

<your-instance-url>/healthz/readiness

```

## metrics

The `/metrics` endpoint provides more detailed information about the current status of the instance.

Access the endpoint:

```

<your-instance-url>/metrics

```

/// info | Feature availability

The `/metrics` endpoint isn't available on n8n Cloud.

///

<!-- vale off -->

## Enable metrics and healthz for self-hosted n8n

<!-- vale on -->

The `/metrics` and `/healthz` endpoints are disabled by default. To enable them, configure your n8n instance:

```shell

# metrics

N8N\_METRICS=true

# healthz

QUEUE\_HEALTH\_CHECK\_ACTIVE=true

```

Refer to [Configuration methods](/hosting/configuration/configuration-methods.md) for more information on how to configure your instance using environment variables.

## binary-data.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Scaling binary data in n8n

description: How to handle large files without degrading n8n's performance.

contentType: howto

---

# Binary data

Binary data is any file-type data, such as image files or documents generated or processed during the execution of a workflow.

## Enable filesystem mode

When handling binary data, n8n keeps the data in memory by default. This can cause crashes when working with large files.

To avoid this, change the `N8N\_DEFAULT\_BINARY\_DATA\_MODE` [environment variable](/hosting/configuration/environment-variables/binary-data.md) to `filesystem`. This causes n8n to save data to disk, instead of using memory.

If you're using queue mode, keep this to `default`. n8n doesn't support filesystem mode with queue mode.

## Binary data pruning

n8n executes binary data pruning as part of execution data pruning. Refer to [Execution data | Enable data pruning](/hosting/scaling/execution-data.md#enable-data-pruning) for details.

If you configure multiple binary data modes, binary data pruning operates on the active binary data mode. For example, if your instance stored data in S3, and you later switched to filesystem mode, n8n only prunes binary data in the filesystem. Refer to [External storage](/hosting/scaling/external-storage.md#usage) for details.

## concurrency-control.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Self-hosted concurrency control

/// info | Only for self-hosted n8n

This document is for self-hosted concurrency control. Read [Cloud concurrency](/manage-cloud/concurrency.md) to learn how concurrency works with n8n Cloud accounts.

///

In regular mode, n8n doesn't limit how many production executions may run at the same time. This can lead to a scenario where too many concurrent executions thrash the event loop, causing performance degradation and unresponsiveness.

To prevent this, you can set a concurrency limit for production executions in regular mode. Use this to control how many production executions run concurrently, and queue up any concurrent production executions over the limit. These executions remain in the queue until concurrency capacity frees up, and are then processed in FIFO order.

Concurrency control is disabled by default. To enable it:

```sh

export N8N\_CONCURRENCY\_PRODUCTION\_LIMIT=20

```

Keep in mind:

- Concurrency control applies only to production executions: those started from a webhook or [trigger](/glossary.md#trigger-node-n8n) node. It doesn't apply to any other kinds, such as manual executions, sub-workflow executions, error executions, or started from CLI.

- You can't retry queued executions. Cancelling or deleting a queued execution also removes it from the queue.

- On instance startup, n8n resumes queued executions up to the concurrency limit and re-enqueues the rest.

<!-- vale off -->

- To monitor concurrency control, watch logs for executions being added to the queue and released. In a future version, n8n will show concurrency control in the UI.

<!-- vale on -->

When you enable concurrency control, you can view the number of active executions and the configured limit at the top of a project's or workflow's executions tab.

## Comparison to queue mode

In queue mode, you can control how many jobs a worker may run concurrently using the [`--concurrency` flag](/hosting/scaling/queue-mode.md#configure-worker-concurrency).

Concurrency control in queue mode is a separate mechanism from concurrency control in regular mode, but the environment variable `N8N\_CONCURRENCY\_PRODUCTION\_LIMIT` controls both of them. In queue mode, n8n takes the limit from this variable if set to a value other than `-1`, falling back to the `--concurrency` flag or its default.

## execution-data.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Execution data

Depending on your executions settings and volume, your n8n database can grow in size and run out of storage.

To avoid this, n8n recommends that you don't save unnecessary data, and enable pruning of old executions data.

To do this, configure the corresponding [environment variables](/hosting/configuration/environment-variables/executions.md).

## Reduce saved data

/// note | Configuration at workflow level

You can also configure these settings on an individual workflow basis using the [workflow settings](/workflows/settings.md).

///

You can select which executions data n8n saves. For example, you can save only executions that result in an `Error`.

```sh

# npm

# Save executions ending in errors

export EXECUTIONS\_DATA\_SAVE\_ON\_ERROR=all

# Save successful executions

export EXECUTIONS\_DATA\_SAVE\_ON\_SUCCESS=all

# Don't save node progress for each execution

export EXECUTIONS\_DATA\_SAVE\_ON\_PROGRESS=false

# Don't save manually launched executions

export EXECUTIONS\_DATA\_SAVE\_MANUAL\_EXECUTIONS=false

```

```sh

# Docker

docker run -it --rm \

--name n8n \

-p 5678:5678 \

-e EXECUTIONS\_DATA\_SAVE\_ON\_ERROR=all \

-e EXECUTIONS\_DATA\_SAVE\_ON\_SUCCESS=none \

-e EXECUTIONS\_DATA\_SAVE\_ON\_PROGRESS=true \

-e EXECUTIONS\_DATA\_SAVE\_MANUAL\_EXECUTIONS=false \

docker.n8n.io/n8nio/n8n

```

```yaml

# Docker Compose

n8n:

environment:

- EXECUTIONS\_DATA\_SAVE\_ON\_ERROR=all

- EXECUTIONS\_DATA\_SAVE\_ON\_SUCCESS=none

- EXECUTIONS\_DATA\_SAVE\_ON\_PROGRESS=true

- EXECUTIONS\_DATA\_SAVE\_MANUAL\_EXECUTIONS=false

```

## Enable data pruning

You can enable data pruning to automatically delete finished executions after a given time. If you don't set `EXECUTIONS\_DATA\_MAX\_AGE`, 336 hours (14 days) is the default.

You can choose to prune finished executions data before the time set in `EXECUTIONS\_DATA\_MAX\_AGE`, using `EXECUTIONS\_DATA\_PRUNE\_MAX\_COUNT`. This sets a maximum number of executions to store in the database. Once you reach the limit, n8n starts to delete the oldest execution records. This can help with database performance issues, especially if you use SQLite. The database size can still exceed the limit you set: old executions that haven't finished running don't get deleted, even if they would otherwise be subject to deletion.

```sh

# npm

# Activate automatic data pruning

export EXECUTIONS\_DATA\_PRUNE=true

# Number of hours after execution that n8n deletes data

export EXECUTIONS\_DATA\_MAX\_AGE=168

# Number of executions to store

export EXECUTIONS\_DATA\_PRUNE\_MAX\_COUNT=50000

```

```sh

# Docker

docker run -it --rm \

--name n8n \

-p 5678:5678 \

-e EXECUTIONS\_DATA\_PRUNE=true \

-e EXECUTIONS\_DATA\_MAX\_AGE=168 \

docker.n8n.io/n8nio/n8n

```

```yaml

# Docker Compose

n8n:

environment:

- EXECUTIONS\_DATA\_PRUNE=true

- EXECUTIONS\_DATA\_MAX\_AGE=168

- EXECUTIONS\_DATA\_PRUNE\_MAX\_COUNT=50000

```

/// note | SQLite

If you run n8n using the default SQLite database, the disk space of any pruned data isn't automatically freed up but rather reused for future executions data. To free up this space configure the `DB\_SQLITE\_VACUUM\_ON\_STARTUP` [environment variable](/hosting/configuration/environment-variables/database.md#sqlite) or manually run the [VACUUM](https://www.sqlite.org/lang\_vacuum.html){:target=\_blank .external-link} operation.

///

--8<-- "\_snippets/self-hosting/scaling/binary-data-pruning.md"

## external-storage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: External storage of binary data for your n8n instance.

contentType: howto

tags:

- external storage

- storage

hide:

- tags

search:

boost: 1.5

---

# External storage

/// info | Feature availability

\* Available on Self-hosted Enterprise plans

\* If you want access to this feature on Cloud Enterprise, [contact n8n](https://n8n-community.typeform.com/to/y9X2YuGa){:target=\_blank .external-link}.

///

n8n can store binary data produced by workflow executions externally. This feature is useful to avoid relying on the filesystem for storing large amounts of binary data.

n8n will introduce external storage for other data types in the future.

## Storing n8n's binary data in S3

n8n supports [AWS S3](https://docs.aws.amazon.com/AmazonS3/latest/userguide/Welcome.html){:target=\_blank .external-link} as an external store for binary data produced by workflow executions. You can use other S3-compatible services like Cloudflare R2 and Backblaze B2, but n8n doesn't officially support these.

/// info | Enterprise-tier feature

You will need an [Enterprise license key](/license-key.md) for external storage. If your license key expires and you remain on S3 mode, the instance will be able to read from, but not write to, the S3 bucket.

///

### Setup

Create and configure a bucket following the [AWS documentation](https://docs.aws.amazon.com/AmazonS3/latest/userguide/creating-bucket.html){:target=\_blank .external-link}. You can use the following policy, replacing `<bucket-name>` with the name of the bucket you created:

```json

{

"Version": "2012-10-17",

"Statement": [

{

"Sid": "VisualEditor0",

"Effect": "Allow",

"Action": ["s3:\*"],

"Resource": ["arn:aws:s3:::<bucket-name>", "arn:aws:s3:::<bucket-name>/\*"]

}

]

}

```

Set a bucket-level lifecycle configuration so that S3 automatically deletes old binary data. n8n delegates pruning of binary data to S3, so setting a lifecycle configuration is required unless you want to preserve binary data indefinitely.

Once you finish creating the bucket, you will have a host, bucket name and region, and an access key ID and secret access key. You need to set them in n8n's environment:

```sh

export N8N\_EXTERNAL\_STORAGE\_S3\_HOST=... # example: s3.us-east-1.amazonaws.com

export N8N\_EXTERNAL\_STORAGE\_S3\_BUCKET\_NAME=...

export N8N\_EXTERNAL\_STORAGE\_S3\_BUCKET\_REGION=...

export N8N\_EXTERNAL\_STORAGE\_S3\_ACCESS\_KEY=...

export N8N\_EXTERNAL\_STORAGE\_S3\_ACCESS\_SECRET=...

```

/// note | No region

If your provider doesn't require a region, you can set `N8N\_EXTERNAL\_STORAGE\_S3\_BUCKET\_REGION` to `'auto'`.

///

Tell n8n to store binary data in S3:

```sh

export N8N\_AVAILABLE\_BINARY\_DATA\_MODES=filesystem,s3

export N8N\_DEFAULT\_BINARY\_DATA\_MODE=s3

```

/// note | Auth autodetection

To automatically detect credentials to authenticate your S3 calls, set `N8N\_EXTERNAL\_STORAGE\_S3\_AUTH\_AUTO\_DETECT` to `true`. This will use the default [credential provider chain](https://docs.aws.amazon.com/sdk-for-javascript/v3/developer-guide/setting-credentials-node.html#credchain).

///

Restart the server to load the new configuration.

### Usage

After you enable S3, n8n writes and reads any new binary data to and from the S3 bucket. n8n writes binary data to your S3 bucket in this format:

```

workflows/{workflowId}/executions/{executionId}/binary\_data/{binaryFileId}

```

n8n continues to read older binary data stored in the filesystem from the filesystem, if `filesystem` remains listed as an option in `N8N\_AVAILABLE\_BINARY\_DATA\_MODES`.

If you store binary data in S3 and later switch to filesystem mode, the instance continues to read any data stored in S3, as long as `s3` remains listed in `N8N\_AVAILABLE\_BINARY\_DATA\_MODES` and your S3 credentials remain valid.

--8<-- "\_snippets/self-hosting/scaling/binary-data-pruning.md"

## memory-errors.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Memory-related errors

n8n doesn't restrict the amount of data each node can fetch and process. While this gives you freedom, it can lead to errors when workflow executions require more memory than available. This page explains how to identify and avoid these errors.

/// note | Only for self-hosted n8n

This page describes memory-related errors when [self-hosting n8n](/hosting/index.md). Visit [Cloud data management](/manage-cloud/cloud-data-management.md) to learn about memory limits for [n8n Cloud](/manage-cloud/overview.md).

///

## Identifying out of memory situations

n8n provides error messages that warn you in some out of memory situations. For example, messages such as \*\*Execution stopped at this node (n8n may have run out of memory while executing it)\*\*.

Error messages including \*\*Problem running workflow\*\*, \*\*Connection Lost\*\*, or \*\*503 Service Temporarily Unavailable\*\* suggest that an n8n instance has become unavailable.

When self-hosting n8n, you may also see error messages such as \*\*Allocation failed - JavaScript heap out of memory\*\* in your server logs.

On n8n Cloud, or when using n8n's Docker image, n8n restarts automatically when encountering such an issue. However, when running n8n with npm you might need to restart it manually.

## Typical causes

Such problems occur when a workflow execution requires more memory than available to an n8n instance. Factors increasing the memory usage for a workflow execution include:

- Amount of [JSON data](/data/data-structure.md).

- Size of binary data.

- Number of nodes in a workflow.

- Some nodes are memory-heavy: the [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) node and the older Function node can increase memory consumption significantly.

- Manual or automatic workflow executions: manual executions increase memory consumption as n8n makes a copy of the data for the frontend.

- Additional workflows running at the same time.

## Avoiding out of memory situations

When encountering an out of memory situation, there are two options: either increase the amount of memory available to n8n or reduce the memory consumption.

### Increase available memory

When self-hosting n8n, increasing the amount of memory available to n8n means provisioning your n8n instance with more memory. This may incur additional costs with your hosting provider.

On n8n cloud you need to upgrade to a larger plan.

### Reduce memory consumption

This approach is more complex and means re-building the workflows causing the issue. This section provides some guidelines on how to reduce memory consumption. Not all suggestions are applicable to all workflows.

--8<-- "\_snippets/self-hosting/scaling/reduce-memory-consumption.md"

### Increase old memory

This applies to self-hosting n8n. When encountering \*\*JavaScript heap out of memory\*\* errors, it's often useful to allocate additional memory to the old memory section of the V8 JavaScript engine. To do this, set the appropriate [V8 option](https://nodejs.org/api/cli.html#--max-old-space-sizesize-in-megabytes){:target=\_blank .external-link} `--max-old-space-size=SIZE` either through the CLI or through the `NODE\_OPTIONS` [environment variable](https://nodejs.org/api/cli.html#node\_optionsoptions){:target=\_blank .external-link}.

## overview.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Scaling n8n

When running n8n at scale, with a large number of users, workflows, or executions, you need to change your n8n configuration to ensure good performance.

n8n can run in different [modes](/hosting/scaling/queue-mode.md) depending on your needs. The `queue` mode provides the best scalability. Refer to [Queue mode](/hosting/scaling/queue-mode.md) for configuration details.

You can configure data saving and pruning to improve database performance. Refer to [Execution data](/hosting/scaling/execution-data.md) for details.

## performance-benchmarking.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: n8n performance and resource consumption benchmarking.

contentType: explanation

---

# Performance and benchmarking

n8n can handle up to 220 workflow executions per second on a single instance, with the ability to scale up further by adding more instances.

This document outlines n8n's performance benchmarking. It describes the factors that affect performance, and includes two example benchmarks.

## Performance factors

The performance of n8n depends on factors including:

\* The workflow type

\* The resources available to n8n

\* How you configure n8n's scaling options

## Run your own benchmarking

To get an accurate estimate for your use case, run n8n's [benchmarking framework](https://github.com/n8n-io/n8n/tree/master/packages/%40n8n/benchmark){:target=\_blank .external-link}. The repository contains more information about the benchmarking.

## Example: Single instance performance

This test measures how response time increases as requests per second increase. It looks at the response time when calling the Webhook Trigger node.

Setup:

- Hardware: ECS c5a.large instance (4GB RAM)

- n8n setup: Single n8n instance (running in main mode, with Postgres database)

- Workflow: Webhook Trigger node, Edit Fields node

<figure markdown>

![Graph showing n8n response times by requests per second](/\_images/hosting/scaling/benchmarking-single-instance-100-250.png)

<figcaption>This graph shows the percentage of requests to the Webhook Trigger node getting a response within 100 seconds, and how that varies with load. Under higher loads n8n usually still processes the data, but takes over 100s to respond.</figcaption>

</figure>

## Example: Multi-instance performance

This test measures how response time increases as requests per second increase. It looks at the response time when calling the Webhook Trigger node.

Setup:

- Hardware: seven ECS c5a.4xlarge instances (8GB RAM each)

- n8n setup: two webhook instances, four worker instances, one database instance (MySQL), one main instance running n8n and Redis

- Workflow: Webhook Trigger node, Edit Fields node

- Multi-instance setups use [Queue mode](/hosting/scaling/queue-mode.md)

<figure markdown>

![Graph showing n8n response times by requests per second](/\_images/hosting/scaling/benchmarking-multi-instance-500-2500.png)

<figcaption>This graph shows the percentage of requests to the Webhook Trigger node getting a response within 100 seconds, and how that varies with load. Under higher loads n8n usually still processes the data, but takes over 100s to respond.</figcaption>

</figure>

## queue-mode.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Queue mode

You can run n8n in different modes depending on your needs. The queue mode provides the best scalability.

/// note | Binary data storage

n8n doesn't support queue mode with binary data storage in filesystem. If your workflows need to persist binary data in queue mode, you can use [S3 external storage](./external-storage.md).

///

## How it works

When running in queue mode, you have multiple n8n instances set up, with one main instance receiving workflow information (such as triggers) and the worker instances performing the executions.

Each worker is its own Node.js instance, running in `main` mode, but able to handle multiple simultaneous workflow executions due to their high IOPS (input-output operations per second).

By using worker instances and running in queue mode, you can scale n8n up (by adding workers) and down (by removing workers) as needed to handle the workload.

This is the process flow:

1. The main n8n instance handles timers and webhook calls, generating (but not running) a workflow execution.

1. It passes the execution ID to a message broker, [Redis](#start-redis), which maintains the queue of pending executions and allows the next available worker to pick them up.

1. A worker in the pool picks up message from Redis.

1. The worker uses the execution ID to get workflow information from the database.

1. After completing the workflow execution, the worker:

- Writes the results to the database.

- Posts to Redis, saying that the execution has finished.

1. Redis notifies the main instance.

!["Diagram showing the flow of data between the main n8n instance, Redis, the n8n workers, and the n8n database"](/\_images/hosting/scaling/queue-mode-flow.png)

## Configuring workers

Workers are n8n instances that do the actual work. They receive information from the main n8n process about the workflows that have to get executed, execute the workflows, and update the status after each execution is complete.

### Set encryption key

n8n automatically generates an encryption key upon first startup. You can also provide your own custom key using [environment variable](/hosting/configuration/environment-variables/index.md) if desired.

The encryption key of the main n8n instance must be shared with all worker and webhooks processor nodes to ensure these worker nodes are able to access credentials stored in the database.

Set the encryption key for each worker node in a [configuration file](/hosting/configuration/configuration-methods.md) or by setting the corresponding environment variable:

```bash

export N8N\_ENCRYPTION\_KEY=<main\_instance\_encryption\_key>

```

### Set executions mode

/// note | Database considerations

n8n recommends using Postgres 13+. Running n8n with execution mode set to `queue` with an SQLite database isn't recommended.

///

Set the environment variable `EXECUTIONS\_MODE` to `queue` on the main instance and any workers using the following command.

```bash

export EXECUTIONS\_MODE=queue

```

Alternatively, you can set `executions.mode` to `queue` in the [configuration file](/hosting/configuration/environment-variables/index.md).

### Start Redis

/// note | Running Redis on a separate machine

You can run Redis on a separate machine, just make sure that it's accessible by the n8n instance.

///

To run Redis in a Docker container, follow the instructions below:

Run the following command to start a Redis instance:

```

docker run --name some-redis -p 6379:6379 -d redis

```

By default, Redis runs on `localhost` on port `6379` with no password. Based on your Redis configuration, set the following configurations for the main n8n process. These will allow n8n to interact with Redis.

| Using configuration file | Using environment variables | Description |

| ------ | ------ | ----- |

| `queue.bull.redis.host:localhost` | `QUEUE\_BULL\_REDIS\_HOST=localhost` | By default, Redis runs on `localhost`. |

| `queue.bull.redis.port:6379` | `QUEUE\_BULL\_REDIS\_PORT=6379` | The default port is `6379`. If Redis is running on a different port, configure the value. |

You can also set the following optional configurations:

| Using configuration file | Using environment variables | Description |

| ------ | ------ | ----- |

| `queue.bull.redis.username:USERNAME` | `QUEUE\_BULL\_REDIS\_USERNAME` | By default, Redis doesn't require a username. If you're using a specific user, configure it variable. |

| `queue.bull.redis.password:PASSWORD` | `QUEUE\_BULL\_REDIS\_PASSWORD` | By default, Redis doesn't require a password. If you're using a password, configure it variable. |

| `queue.bull.redis.db:0` | `QUEUE\_BULL\_REDIS\_DB` | The default value is `0`. If you change this value, update the configuration. |

| `queue.bull.redis.timeoutThreshold:10000ms` | `QUEUE\_BULL\_REDIS\_TIMEOUT\_THRESHOLD` | Tells n8n how long it should wait if Redis is unavailable before exiting. The default value is `10000` (ms). |

| `queue.bull.gracefulShutdownTimeout:30` | `N8N\_GRACEFUL\_SHUTDOWN\_TIMEOUT` | A graceful shutdown timeout for workers to finish executing jobs before terminating the process. The default value is `30` seconds. |

Now you can start your n8n instance and it will connect to your Redis instance.

### Start workers

You will need to start worker processes to allow n8n to execute workflows. If you want to host workers on a separate machine, install n8n on the machine and make sure that it's connected to your Redis instance and the n8n database.

Start worker processes by running the following command from the root directory:

```

./packages/cli/bin/n8n worker

```

If you're using Docker, use the following command:

```

docker run --name n8n-queue -p 5679:5678 docker.n8n.io/n8nio/n8n worker

```

You can set up multiple worker processes. Make sure that all the worker processes have access to Redis and the n8n database.

#### Worker server

Each worker process runs a server that exposes optional endpoints:

- `/healthz`: returns whether the worker is up, if you enable the `QUEUE\_HEALTH\_CHECK\_ACTIVE` environment variable

- `/healthz/readiness`: returns whether worker's DB and Redis connections are ready, if you enable the `QUEUE\_HEALTH\_CHECK\_ACTIVE` environment variable

- [credentials overwrite endpoint](https://docs.n8n.io/embed/configuration/#credential-overwrites)

- [`/metrics`](https://docs.n8n.io/hosting/configuration/configuration-examples/prometheus/)

#### View running workers

/// info | Feature availability

\* Available on Self-hosted Enterprise plans.

\* If you want access to this feature on Cloud Enterprise, [contact n8n](https://n8n-community.typeform.com/to/y9X2YuGa){:target=\_blank .external-link}.

///

You can view running workers and their performance metrics in n8n by selecting \*\*Settings\*\* > \*\*Workers\*\*.

## Running n8n with queues

When running n8n with queues, all the production workflow executions get processed by worker processes. This means that even the webhook calls get delegated to the worker processes, which might add some overhead and extra latency.

Redis acts as the message broker, and the database persists data, so access to both is required. Running a distributed system with this setup over SQLite isn't supported.

/// note | Migrate data

If you want to migrate data from one database to another, you can use the Export and Import commands. Refer to the [CLI commands for n8n](/hosting/cli-commands.md#export-workflows-and-credentials) documentation to learn how to use these commands.

///

## Webhook processors

/// note | Keep in mind

Webhook processes rely on Redis and need the `EXECUTIONS\_MODE` environment variable set too. Follow the [configure the workers](#configuring-workers) section above to setup webhook processor nodes.

///

Webhook processors are another layer of scaling in n8n. Configuring the webhook processor is optional, and allows you to scale the incoming webhook requests.

This method allows n8n to process a huge number of parallel requests. All you have to do is add more webhook processes and workers accordingly. The webhook process will listen to requests on the same port (default: `5678`). Run these processes in containers or separate machines, and have a load balancing system to route requests accordingly.

n8n doesn't recommend adding the main process to the load balancer pool. If you add the main process to the pool, it will receive requests and possibly a heavy load. This will result in degraded performance for editing, viewing, and interacting with the n8n UI.

You can start the webhook processor by executing the following command from the root directory:

```

./packages/cli/bin/n8n webhook

```

If you're using Docker, use the following command:

```

docker run --name n8n-queue -p 5679:5678 -e "EXECUTIONS\_MODE=queue" docker.n8n.io/n8nio/n8n webhook

```

### Configure webhook URL

To configure your webhook URL, execute the following command on the machine running the main n8n instance:

```bash

export WEBHOOK\_URL=https://your-webhook-url.com

```

You can also set this value in the configuration file.

### Configure load balancer

When using multiple webhook processes you will need a load balancer to route requests. If you are using the same domain name for your n8n instance and the webhooks, you can set up your load balancer to route requests as follows:

- Redirect any request that matches `/webhook/\*` to the webhook servers pool

- All other paths (the n8n internal API, the static files for the editor, etc.) should get routed to the main process

\*\*Note:\*\* The default URL for manual workflow executions is `/webhook-test/\*`. Make sure that these URLs route to your main process.

You can change this path in the configuration file `endpoints.webhook` or using the `N8N\_ENDPOINT\_WEBHOOK` environment variable. If you change these, update your load balancer accordingly.

### Disable webhook processing in the main process (optional)

You have webhook processors to execute the workflows. You can disable the webhook processing in the main process. This will make sure to execute all webhook executions in the webhook processors. In the configuration file set `endpoints.disableProductionWebhooksOnMainProcess` to `true` so that n8n doesn't process webhook requests on the main process.

Alternatively, you can use the following command:

```bash

export N8N\_DISABLE\_PRODUCTION\_MAIN\_PROCESS=true

```

When disabling the webhook process in the main process, run the main process and don't add it to the load balancer's webhook pool.

## Configure worker concurrency

You can define the number of jobs a worker can run in parallel by using the `concurrency` flag. It defaults to `10`. To change it:

```bash

n8n worker --concurrency=5

```

## Concurrency and scaling recommendations

n8n recommends setting concurrency to 5 or higher for your worker instances. Setting low concurrency values with a large numbers of workers can exhaust your database's connection pool, leading to processing delays and failures.

## Multi-main setup

/// info | Feature availability

\* Available on Self-hosted Enterprise plans.

///

In queue mode you can run more than one `main` process for high availability.

In a single-mode setup, the `main` process does two sets of tasks:

- \*\*regular tasks\*\*, such as running the API, serving the UI, and listening for webhooks, and

- \*\*at-most-once tasks\*\*, such as running non-HTTP triggers (timers, pollers, and persistent connections like RabbitMQ and IMAP), and pruning executions and binary data.

In a multi-main setup, there are two kinds of `main` processes:

- \*\*followers\*\*, which run \*\*regular tasks\*\*, and

- the \*\*leader\*\*, which runs \*\*both regular and at-most-once tasks\*\*.

### Leader designation

In a multi-main setup, all main instances handle the leadership process transparently to users. In case the current leader becomes unavailable, for example because it crashed or its event loop became too busy, other followers can take over. If the previous leader becomes responsive again, it becomes a follower.

### Configuring multi-main setup

To deploy n8n in multi-main setup, ensure:

- All `main` processes are running in queue mode and are connected to Postgres and Redis.

- All `main` and `worker` processes are running the same version of n8n.

- All `main` processes have set the environment variable `N8N\_MULTI\_MAIN\_SETUP\_ENABLED` to `true`.

- All `main` processes are running behind a load balancer with session persistence (sticky sessions) enabled.

If needed, you can adjust the leader key options:

| Using configuration file | Using environment variables | Description |

| ------ | ------ | ----- |

| `multiMainSetup.ttl:10` | `N8N\_MULTI\_MAIN\_SETUP\_KEY\_TTL=10` | Time to live (in seconds) for leader key in multi-main setup. |

| `multiMainSetup.interval:3` | `N8N\_MULTI\_MAIN\_SETUP\_CHECK\_INTERVAL=3` | Interval (in seconds) for leader check in multi-main setup. |

## blocking-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Block access to nodes

description: "Prevent your n8n users from accessing specific nodes."

contentType: howto

---

# Block access to nodes

For security reasons, you may want to block your users from accessing or working with specific n8n nodes. This is helpful if your users might be untrustworthy.

Use the `NODES\_EXCLUDE` environment variable to prevent your users from accessing specific nodes.

## Exclude nodes

Update your `NODES\_EXCLUDE` environment variable to include an array of strings containing any nodes you want to block your users from using.

For example, setting the variable this way:

```

NODES\_EXCLUDE: "[\"n8n-nodes-base.executeCommand\", \"n8n-nodes-base.readWriteFile\"]"

```

Blocks the [Execute Command](/integrations/builtin/core-nodes/n8n-nodes-base.executecommand/index.md) and [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) nodes.

Your n8n users won't be able to search for or use these nodes.

## Suggested nodes to block

The nodes that can pose security risks vary based on your use case and user profile. Here are some nodes you might want to start with:

\* [Execute Command](/integrations/builtin/core-nodes/n8n-nodes-base.executecommand/index.md)

\* [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md)

## Related resources

Refer to [Nodes environment variables](/hosting/configuration/environment-variables/nodes.md) for more information on this environment variable.

Refer to [Configuration](/hosting/configuration/configuration-methods.md) for more information on setting environment variables.

## disable-public-api.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Disable the public REST API

description: "Disable the n8n public REST API to prevent others from using it."

contentType: howto

---

# Disable the public REST API

The [n8n public REST API](/api/index.md) allows you to programmatically perform many of the same tasks as you can in the n8n GUI.

If you don't plan on using this API, n8n recommends disabling it to improve the security of your n8n installation.

To disable the [public REST API](/api/index.md), set the `N8N\_PUBLIC\_API\_DISABLED` environment variable to `true`, for example:

```bash

export N8N\_PUBLIC\_API\_DISABLED=true

```

## Disable the API playground

To disable the [API playground](/api/using-api-playground.md), set the `N8N\_PUBLIC\_API\_SWAGGERUI\_DISABLED` environment variable to `true`, for example:

```bash

export N8N\_PUBLIC\_API\_SWAGGERUI\_DISABLED=true

```

## Related resources

Refer to [Deployment environment variables](/hosting/configuration/environment-variables/deployment.md) for more information on these environment variables.

Refer to [Configuration](/hosting/configuration/configuration-methods.md) for more information on setting environment variables.

## hardening-task-runners.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Hardening task runners

description: "Harden task runners for better isolation for your self-hosted n8n instance."

contentType: howto

---

# Hardening task runners

[Task runners](/hosting/configuration/task-runners.md) are responsible for executing code from the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md). While Code node executions are secure, you can follow these recommendations to further harden your task runners.

## Run task runners as sidecars in external mode

To increase the isolation between the core n8n process and code in the Code node, run task runners in [external mode](/hosting/configuration/task-runners.md#setting-up-external-mode). External task runners launch as separate containers, providing a fully isolated environment to execute the JavaScript defined in the Code node.

## overview.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Securing n8n

contentType: overview

---

# Securing n8n

Securing your n8n instance can take several forms.

At a high level, you can:

\* Conduct a [security audit](/hosting/securing/security-audit.md) to identify security risks.

\* [Set up SSL](/hosting/securing/set-up-ssl.md) to enforce secure connections.

\* [Set up Single Sign-On](/hosting/securing/set-up-sso.md) for user account management.

\* Use [two-factor authentication (2FA)](/user-management/two-factor-auth.md) for your users.

More granularly, consider blocking or opting out of features or data collection you don't want:

\* [Disable the public API](/hosting/securing/disable-public-api.md) if you aren't using it.

\* [Opt out of data collection](/hosting/securing/telemetry-opt-out.md) of the anonymous data n8n collects automatically.

\* [Block certain nodes](/hosting/securing/blocking-nodes.md) from being available to your users.

## security-audit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Security audit

description: "Run a security audit on your n8n instance."

contentType: howto

---

# Security audit

You can run a security audit on your n8n instance, to detect common security issues.

## Run an audit

You can run an audit using the CLI, the public API, or the n8n node.

### CLI

Run `n8n audit`.

### API

Make a `POST` call to the `/audit` endpoint. You must authenticate as the instance owner.

### n8n node

Add the [n8n node](/integrations/builtin/core-nodes/n8n-nodes-base.n8n.md) to your workflow. Select \*\*Resource\*\* > \*\*Audit\*\* and \*\*Operation\*\* > \*\*Generate\*\*.

## Report contents

The audit generates five risk reports:

### Credentials

This report shows:

\* Credentials not used in a workflow.

\* Credentials not used in an active workflow.

\* Credentials not use in a recently active workflow.

### Database

This report shows:

\* Expressions used in \*\*Execute Query\*\* fields in SQL nodes.

\* Expressions used in \*\*Query Parameters\*\* fields in SQL nodes.

\* Unused \*\*Query Parameters\*\* fields in SQL nodes.

### File system

This report lists nodes that interact with the file system.

### Nodes

This report shows:

\* Official risky nodes. These are n8n built in nodes. You can use them to fetch and run any code on the host system, which exposes the instance to exploits. You can view the list in [n8n code | Audit constants](https://github.com/n8n-io/n8n/blob/master/packages/cli/src/security-audit/constants.ts#L51){:target=\_blank .external-link}, under `OFFICIAL\_RISKY\_NODE\_TYPES`.

\* Community nodes.

\* Custom nodes.

### Instance

This report shows:

\* Unprotected webhooks in the instance.

\* Missing security settings

\* If your instance is outdated.

## set-up-ssl.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Set up SSL

description: "Set up SSL for your self-hosted n8n instance."

contentType: howto

---

# Set up SSL

There are two methods to support TLS/SSL in n8n.

## Use a reverse proxy (recommended)

Use a reverse proxy like [Traefik](https://doc.traefik.io/traefik/){:target=\_blank .external-link} or a Network Load Balancer (NLB) in front of the n8n instance. This should also take care of certificate renewals.

Refer to [Security | Data encryption](https://n8n.io/legal/#security){:target=\_blank .external-link} for more information.

## Pass certificates into n8n directly

You can also choose to pass certificates into n8n directly. To do so, set the `N8N\_SSL\_CERT` and `N8N\_SSL\_KEY` environment variables to point to your generated certificate and key file.

You'll need to make sure the certificate stays renewed and up to date.

Refer to [Deployment environment variables](/hosting/configuration/environment-variables/deployment.md) for more information on these variables and [Configuration](/hosting/configuration/configuration-methods.md) for more information on setting environment variables.

## set-up-sso.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Set up SAML SSO

description: "Set up SAML Single Sign-On for your self-hosted n8n instance."

contentType: howto

---

# Set up SAML Single Sign-On (SSO)

--8<-- "\_snippets/user-management/saml-overview.md"

## telemetry-opt-out.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Opt out of data collection

description: "Opt out of data telemetry collection on your n8n instance."

contentType: howto

---

# Data collection

n8n collects some anonymous data from self-hosted n8n installations. Use the instructions below to opt out of data telemetry collection.

## Collected data

Refer to [Privacy | Data collection in self-hosted n8n](/privacy-security/privacy.md#data-collection-in-self-hosted-n8n) for details on the data n8n collects.

## How collection works

Your n8n instance sends most data to n8n as the events that generate it occur. Workflow execution counts and an instance pulse are sent periodically (every 6 hours). These data types mostly fall into n8n telemetry collection.

## Opting out of data collection

n8n enables telemetry collection by default. To disable it, configure the following environment variables.

### Opt out of telemetry events

To opt out of telemetry events, set the `N8N\_DIAGNOSTICS\_ENABLED` environment variable to false, for example:

```bash

export N8N\_DIAGNOSTICS\_ENABLED=false

```

### Opt out of checking for new versions of n8n

To opt out of checking for new versions of n8n, set the `N8N\_VERSION\_NOTIFICATIONS\_ENABLED` environment variable to false, for example:

```bash

export N8N\_VERSION\_NOTIFICATIONS\_ENABLED=false

```

## Disable all connection to n8n servers

If you want to fully prevent all communication with n8n's servers, refer to [Isolate n8n](/hosting/configuration/configuration-examples/isolation.md).

## Related resources

Refer to [Deployment environment variables](/hosting/configuration/environment-variables/deployment.md) for more information on these environment variables.

Refer to [Configuration](/hosting/configuration/configuration-methods.md) for more information on setting environment variables.

## ai-starter-kit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Self-hosted AI Starter Kit

description: Use n8n's curated self-hosted AI Starter Kit to get a list of AI elements to quickly start building AI workflows.

contentType: howto

---

# Self-hosted AI Starter Kit

The Self-hosted AI Starter Kit is an open, docker compose template that bootstraps a fully featured Local AI and Low Code development environment.

Curated by [n8n](https://github.com/n8n-io), it combines the self-hosted n8n platform with a list of compatible AI products and components to get you started building self-hosted AI workflows.

## What’s included

✅ [\*\*Self-hosted n8n\*\*](/hosting/index.md): Low-code platform with over 400 integrations and advanced AI components.

✅ [\*\*Ollama\*\*](https://ollama.com/){:target=\_blank .external-link}: Cross-platform LLM platform to install and run the latest local LLMs.

✅ [\*\*Qdrant\*\*](https://qdrant.tech/){:target=\_blank .external-link}: Open-source, high performance vector store with a comprehensive API.

✅ [\*\*PostgreSQL\*\*](https://www.postgresql.org/){:target=\_blank .external-link}: The workhorse of the Data Engineering world, handles large amounts of data safely.

## What you can build

⭐️ [AI Agents](/glossary.md#ai-agent){ data-preview} that can schedule appointments

⭐️ Summaries of company PDFs without leaking data

⭐️ Smarter Slackbots for company communications and IT-ops

⭐️ Private, low-cost analyses of financial documents

## Get the kit

<!-- vale off -->

Head to [the GitHub repository](https://github.com/n8n-io/self-hosted-ai-starter-kit){:target=\_blank .external-link} to clone the repo and get started!

<!-- vale on -->

/// note | For testing only

n8n designed this kit to help you get started with self-hosted AI workflows. While it’s not fully optimized for production environments, it combines robust components that work well together for proof-of-concept projects. Customize it to meet your needs. Secure and harden it before using in production.

///

## custom-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Custom API operations

--8<-- "\_snippets/integrations/credential-only-intro.md"

## Predefined credential types

A predefined credential type is a credential that already exists in n8n. You can use predefined credential types instead of generic credentials in the HTTP Request node.

For example: you create an Asana credential, for use with the Asana node. Later, you want to perform an operation that isn't supported by the Asana node, using Asana's API. You can use your existing Asana credential in the HTTP Request node to perform the operation, without additional authentication setup.

### Using predefined credential types

--8<-- "\_snippets/integrations/predefined-credential-type-how-to.md"

### Credential scopes

Some existing credential types have specific scopes: endpoints that they work with. n8n warns you about this when you select the credential type.

For example, follow the steps in [Using predefined credential types](#using-predefined-credential-types), and select \*\*Google Calendar OAuth2 API\*\* as your \*\*Credential Type\*\*. n8n displays a box listing the two endpoints you can use this credential type with:

![The scopes box](/\_images/integrations/custom-operations/scopes.png)

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Integrations Documentation and Guides

description: Access n8n integrations documentation and guides. Find comprehensive resources to help you master app integrations using different types of nodes to improve your automation workflows.

contentType: overview

---

# Integrations

n8n calls integrations nodes.

Nodes are the building blocks of workflows in n8n. They're an entry point for retrieving data, a function to process data, or an exit for sending data. The data process includes filtering, recomposing, and changing data. There can be one or several nodes for your API, service or app. You can connect multiple nodes, which allows you to create complex workflows.

## Built-in nodes

n8n includes a collection of built-in integrations. Refer to [Built-in nodes](/integrations/builtin/node-types.md) for documentation on all n8n's built-in nodes.

## Community nodes

As well as using the built-in nodes, you can also install community-built nodes. Refer to [Community nodes](/integrations/community-nodes/installation/index.md) for more information.

## Credential-only nodes and custom operations

--8<-- "\_snippets/integrations/credential-only-intro.md"

Refer to [Custom operations](/integrations/custom-operations.md) for more information.

## Generic integrations

If you need to connect to a service where n8n doesn't have a node, or a credential-only node, you can still use the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node. Refer to the node page for details on how to set up authentication and create your API call.

## Where to go next

\* If you want to create your own node, head over to the [Creating Nodes](/integrations/creating-nodes/overview.md) section.

\* Check out [Community nodes](/integrations/community-nodes/usage.md) to learn about installing and managing community-built nodes.

\* If you'd like to learn more about the different nodes in n8n, their functionalities and example usage, check out n8n's node libraries: [Core nodes](/integrations/builtin/core-nodes/index.md), [Actions](/integrations/builtin/app-nodes/index.md), and [Triggers](/integrations/builtin/trigger-nodes/index.md).

\* If you'd like to learn how to add the credentials for the different nodes, head over to the [Credentials](/integrations/builtin/credentials/index.md) section.

## node-types.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Built-in integrations

This section contains the [node](/glossary.md#node-n8n) library: reference documentation for every built-in node in n8n, and their credentials.

--8<-- "\_snippets/integrations/builtin/node-operations.md"

## Core nodes

Core nodes can be actions or [triggers](/glossary.md#trigger-node-n8n). Whereas most nodes connect to a specific external service, core nodes provide functionality such as logic, scheduling, or generic API calls.

## Cluster nodes

--8<-- "\_snippets/integrations/builtin/cluster-nodes/cluster-nodes-summary.md"

## Credentials

External services need a way to identify and authenticate users. This data can range from an API key over an email/password combination to a long multi-line private key. You can save these in n8n as [credentials](/glossary.md#credential-n8n).

Nodes in n8n can then request that credential information. As another layer of security, only node types with specific access rights can access the credentials.

To make sure that the data is secure, it gets saved to the database encrypted. n8n uses a random personal encryption key, which it automatically generates on the first run of n8n and then saved under `~/.n8n/config`.

To learn more about creating, managing, and sharing credentials, refer to [Manage credentials](/credentials/index.md).

## Community nodes

n8n supports custom nodes built by the community. Refer to [Community nodes](/integrations/community-nodes/installation/index.md) for guidance on installing and using these nodes.

For help building your own custom nodes, and publish them to [npm](https://www.npmjs.com/){:target=\_blank .external-link}, refer to [Creating nodes](/integrations/creating-nodes/overview.md) for more information.

## rate-limits.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Handling API rate limits

contentType: howto

description: How to handle API rate limits when using n8n integrations.

---

# Handling API rate limits

[API](/glossary.md#api) rate limits are restrictions on request frequency. For example, an API may limit the number of requests you can make per minute, or per day.

APIs can also limits how much data you can send in one request, or how much data the API sends in a single response.

## Identify rate limit issues

When an n8n node hits a rate limit, it errors. n8n displays the error message in the node output panel. This includes the error message from the service.

If n8n received error 429 (too many requests) from the service, the error message is \*\*The service is receiving too many requests from you\*\*.

To check the rate limits for the service you're using, refer to the API documentation for the service.

## Handle rate limits for integrations

There are two ways to handle rate limits in n8n's integrations: using the Retry On Fail setting, or using a combination of the [Loop Over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) and [Wait](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) nodes:

\* Retry On Fail adds a pause between API request attempts.

\* With Loop Over Items and Wait you can break you request data into smaller chunks, as well as pausing between requests.

### Enable Retry On Fail

When you enable Retry On Fail, the node automatically tries the request again if it fails the first time.

1. Open the node.

1. Select \*\*Settings\*\*.

1. Enable the \*\*Retry On Fail\*\* toggle.

1. Configure the retry settings: if using this to work around rate limits, set \*\*Wait Between Tries (ms)\*\* to more than the rate limit. For example, if the API you're using allows one request per second, set \*\*Wait Between Tries (ms)\*\* to `1000` to allow a 1 second wait.

### Use Loop Over Items and Wait

Use the Loop Over Items node to batch the input items, and the Wait node to introduce a pause between each request.

1. Add the Loop Over Items node before the node that calls the API. Refer to [Loop Over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) for information on how to configure the node.

1. Add the Wait node after the node that calls the API, and connect it back to the Loop Over Items node. Refer to [Wait](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) for information on how to configure the node.

For example, to handle rate limits when using OpenAI:

!["Screenshot of a workflow using the Loop Over Items node and Wait node to handle API rate limits for the OpenAI APIs"](/\_images/integrations/builtin/rate-limits/loop-wait.png)

## Handle rate limits in the HTTP Request node

The HTTP Request node has built-in settings for handling rate limits and large amounts of data.

### Batch requests

Use the Batching option to send more than one request, reducing the request size, and introducing a pause between requests. This is the equivalent of using Loop Over Items and Wait.

1. In the HTTP Request node, select \*\*Add Option\*\* > \*\*Batching\*\*.

1. Set \*\*Items per Batch\*\*: this is the number of input items to include in each request.

1. Set \*\*Batch Interval (ms)\*\* to introduce a delay between requests. For example, if the API you're using allows one request per second, set \*\*Wait Between Tries (ms)\*\* to `1000` to allow a 1 second wait.

### Paginate results

APIs paginate their results when they need to send more data than they can handle in a single response. For more information on pagination in the HTTP Request node, refer to [HTTP Request node | Pagination](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md#pagination).

## index.md

---

title: Actions library

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Actions library

This section provides information about n8n's Actions.

## n8n-nodes-base.actionnetwork.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Action Network node documentation

description: Learn how to use the Action Network node in n8n. Follow technical documentation to integrate Action Network node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Action Network node

Use the Action Network node to automate work in Action Network, and integrate Action Network with other applications. n8n has built-in support for a wide range of Action Network features, including creating, updating, and deleting events, people, tags, and signatures.

On this page, you'll find a list of operations the Action Network node supports, and links to more resources.

/// note | Credentials

Refer to [Action Network credentials](/integrations/builtin/credentials/actionnetwork.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Attendance

\* Create

\* Get

\* Get All

\* Event

\* Create

\* Get

\* Get All

\* Person

\* Create

\* Get

\* Get All

\* Update

\* Person Tag

\* Add

\* Remove

\* Petition

\* Create

\* Get

\* Get All

\* Update

\* Signature

\* Create

\* Get

\* Get All

\* Update

\* Tag

\* Create

\* Get

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'action-network') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.activecampaign.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ActiveCampaign node documentation

description: Learn how to use the ActiveCampaign node in n8n. Follow technical documentation to integrate ActiveCampaign node into your workflows.

contentType: [integration, reference]

priority: medium

---

# ActiveCampaign node

Use the ActiveCampaign node to automate work in ActiveCampaign, and integrate ActiveCampaign with other applications. n8n has built-in support for a wide range of ActiveCampaign features, including creating, getting, updating, and deleting accounts, contact, orders, e-commerce customers, connections, lists, tags, and deals.

On this page, you'll find a list of operations the ActiveCampaign node supports and links to more resources.

/// note | Credentials

Refer to [ActiveCampaign credentials](/integrations/builtin/credentials/activecampaign.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Account

\* Create an account

\* Delete an account

\* Get data of an account

\* Get data of all accounts

\* Update an account

\* Account Contact

\* Create an association

\* Delete an association

\* Update an association

\* Contact

\* Create a contact

\* Delete a contact

\* Get data of a contact

\* Get data of all contact

\* Update a contact

\* Contact List

\* Add contact to a list

\* Remove contact from a list

\* Contact Tag

\* Add a tag to a contact

\* Remove a tag from a contact

\* Connection

\* Create a connection

\* Delete a connection

\* Get data of a connection

\* Get data of all connections

\* Update a connection

\* Deal

\* Create a deal

\* Delete a deal

\* Get data of a deal

\* Get data of all deals

\* Update a deal

\* Create a deal note

\* Update a deal note

\* E-commerce Order

\* Create a order

\* Delete a order

\* Get data of a order

\* Get data of all orders

\* Update a order

\* E-Commerce Customer

\* Create a E-commerce Customer

\* Delete a E-commerce Customer

\* Get data of a E-commerce Customer

\* Get data of all E-commerce Customer

\* Update a E-commerce Customer

\* E-commerce Order Products

\* Get data of all order products

\* Get data of a ordered product

\* Get data of an order's products

\* List

\* Get all lists

\* Tag

\* Create a tag

\* Delete a tag

\* Get data of a tag

\* Get data of all tags

\* Update a tag

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'activecampaign') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.adalo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Adalo node documentation

description: Learn how to use the Adalo node in n8n. Follow technical documentation to integrate Adalo node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Adalo node

Use the Adalo node to automate work in Adalo, and integrate Adalo with other applications. n8n has built-in support for a wide range of Adalo features, including like creating, getting, updating and deleting databases, records, and collections.

On this page, you'll find a list of operations the Adalo node supports and links to more resources.

/// note | Credentials

Refer to [Adalo credentials](/integrations/builtin/credentials/adalo.md) for guidance on setting up authentication.

///

## Operations

\* Collection

\* Create

\* Delete

\* Get

\* Get Many

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'adalo') ]]

## Related resources

Refer to [Adalo's documentation](https://help.adalo.com/){:target=\_blank .external-link} for more information on using Adalo. Their [External Collections with APIs](https://help.adalo.com/integrations/external-collections-with-apis){:target=\_blank .external-link} page gives more detail about what you can do with Adalo collections.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.affinity.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Affinity node documentation

description: Learn how to use the Affinity node in n8n. Follow technical documentation to integrate Affinity node into your workflows.

contentType: [integration, reference]

---

# Affinity node

Use the Affinity node to automate work in Affinity, and integrate Affinity with other applications. n8n has built-in support for a wide range of Affinity features, including creating, getting, updating and deleting lists, entries, organization, and persons.

On this page, you'll find a list of operations the Affinity node supports and links to more resources.

/// note | Credentials

Refer to [Affinity credentials](/integrations/builtin/credentials/affinity.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* List

\* Get a list

\* Get all lists

\* List Entry

\* Create a list entry

\* Delete a list entry

\* Get a list entry

\* Get all list entries

\* Organization

\* Create an organization

\* Delete an organization

\* Get an organization

\* Get all organizations

\* Update an organization

\* Person

\* Create a person

\* Delete a person

\* Get a person

\* Get all persons

\* Update a person

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'affinity') ]]

## n8n-nodes-base.agilecrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Agile CRM node documentation

description: Learn how to use the Agile CRM node in n8n. Follow technical documentation to integrate Agile CRM node into your workflows.

contentType: [integration, reference]

---

# Agile CRM node

Use the Agile CRM node to automate work in Agile CRM, and integrate Agile CRM with other applications. n8n has built-in support for a wide range of Agile CRM features, including creating, getting, updating and deleting companies, contracts, and deals.

On this page, you'll find a list of operations the Agile CRM node supports and links to more resources.

/// note | Credentials

Refer to [Agile CRM credentials](/integrations/builtin/credentials/agilecrm.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Company

\* Create a new company

\* Delete a company

\* Get a company

\* Get all companies

\* Update company properties

\* Contact

\* Create a new contact

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Update contact properties

\* Deal

\* Create a new deal

\* Delete a deal

\* Get a deal

\* Get all deals

\* Update deal properties

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'agile-crm') ]]

## n8n-nodes-base.airtop.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Airtop node documentation

description: Learn how to use the Airtop node in n8n. Follow technical documentation to integrate Airtop node into your workflows.

contentType: [integration, reference]

---

# Airtop node

Use the Airtop node to automate work in Airtop, and integrate Airtop with other applications. n8n has built-in support for a wide range of Airtop features, enabling you to control a cloud-based web browser for tasks like querying, scraping, and interacting with web pages.

On this page, you'll find a list of operations the Airtop node supports, and links to more resources.

/// note | Credentials

Refer to [Airtop credentials](/integrations/builtin/credentials/airtop.md) for guidance on setting up authentication.

///

## Operations

\* Session

\* Create session

\* Save profile on termination

\* Terminate session

\* Window

\* Create a new browser window

\* Load URL

\* Take screenshot

\* Close window

\* Extraction

\* Query page

\* Query page with pagination

\* Smart scrape page

\* Interaction

\* Click an element

\* Hover on an element

\* Type

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'airtop') ]]

## Related resources

Refer to [Airtop's documentation](https://docs.airtop.ai/api-reference/airtop-api) for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

Contact [Airtop's Support](https://docs.airtop.ai/guides/misc/support) for assistance or to create a feature request.

## Node reference

### Create a session and window

Create an Airtop browser session to get a \*\*Session ID\*\*, then use it to create a new browser window. After this, you can use any extraction or interaction operation.

### Extract content

Extract content from a web browser using these operations:

- \*\*Query page\*\*: Extract information from the current window.

- \*\*Query page with pagination\*\*: Extract information from pages with pagination or infinite scrolling.

- \*\*Smart scrape page\*\*: Get the window content as markdown.

Get JSON responses by using the \*\*JSON Output Schema\*\* parameter in query operations.

### Interacting with pages

Click, hover, or type on elements by describing the element you want to interact with.

### Terminate a session

End your session to save resources. Sessions are automatically terminated based on the \*\*Idle Timeout\*\* set in the \*\*Create Session\*\* operation or can be manually terminated using the \*\*Terminate Session\*\* operation.

## n8n-nodes-base.amqp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AMQP Sender node documentation

description: Learn how to use the AMQP Sender node in n8n. Follow technical documentation to integrate AMQP Sender node into your workflows.

contentType: [integration, reference]

---

# AMQP Sender node

Use the AMQP Sender node to automate work in AMQP Sender, and integrate AMQP Sender with other applications. n8n has built-in support for a wide range of AMQP Sender features, including sending messages.

On this page, you'll find a list of operations the AMQP Sender node supports and links to more resources.

/// note | Credentials

Refer to [AMQP Sender credentials](/integrations/builtin/credentials/amqp.md) for guidance on setting up authentication.

///

## Operations

- Send message

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'amqp-sender') ]]

## n8n-nodes-base.apitemplateio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: APITemplate.io node documentation

description: Learn how to use the APITemplate.io node in n8n. Follow technical documentation to integrate APITemplate.io node into your workflows.

contentType: [integration, reference]

---

# APITemplate.io node

Use the APITemplate.io node to automate work in APITemplate.io, and integrate APITemplate.io with other applications. n8n has built-in support for a wide range of APITemplate.io features, including getting and creating accounts and PDF.

On this page, you'll find a list of operations the APITemplate.io node supports and links to more resources.

/// note | Credentials

Refer to [APITemplate.io credentials](/integrations/builtin/credentials/apitemplateio.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Account

\* Get

\* Image

\* Create

\* PDF

\* Create

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'apitemplateio') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.asana.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Asana node documentation

description: Learn how to use the Asana node in n8n. Follow technical documentation to integrate Asana node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Asana node

Use the Asana node to automate work in Asana, and integrate Asana with other applications. n8n has built-in support for a wide range of Asana features, including creating, updating, deleting, and getting users, tasks, projects, and subtasks.

On this page, you'll find a list of operations the Asana node supports and links to more resources.

/// note | Credentials

Refer to [Asana credentials](/integrations/builtin/credentials/asana.md) for guidance on setting up authentication.

///

/// note | Update to 1.22.2 or above

Due to changes in Asana's API, some operations in this node stopped working on 17th January 2023. Upgrade to n8n 1.22.2 or above.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Project

\* Create a new project

\* Delete a project

\* Get a project

\* Get all projects

\* Update a project

\* Subtask

\* Create a subtask

\* Get all subtasks

\* Task

\* Create a task

\* Delete a task

\* Get a task

\* Get all tasks

\* Move a task

\* Search for tasks

\* Update a task

\* Task Comment

\* Add a comment to a task

\* Remove a comment from a task

\* Task Tag

\* Add a tag to a task

\* Remove a tag from a task

\* Task Project

\* Add a task to a project

\* Remove a task from a project

\* User

\* Get a user

\* Get all users

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'asana') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.automizy.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Automizy node documentation

description: Learn how to use the Automizy node in n8n. Follow technical documentation to integrate Automizy node into your workflows.

contentType: [integration, reference]

---

# Automizy node

Use the Automizy node to automate work in Automizy, and integrate Automizy with other applications. n8n has built-in support for a wide range of Automizy features, including creating, reading, listing, updating, deleting contacts, and lists.

On this page, you'll find a list of operations the Automizy node supports and links to more resources.

/// note | Credentials

Refer to [Automizy credentials](/integrations/builtin/credentials/automizy.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create a contact

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Update a contact

\* List

\* Create a list

\* Delete a list

\* Get a list

\* Get all lists

\* Update a list

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'automizy') ]]

## n8n-nodes-base.autopilot.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Autopilot node documentation

description: Learn how to use the Autopilot node in n8n. Follow technical documentation to integrate Autopilot node into your workflows.

contentType: [integration, reference]

---

# Autopilot node

Use the Autopilot node to automate work in Autopilot, and integrate Autopilot with other applications. n8n has built-in support for a wide range of Autopilot features, including creating, deleting, and updating contacts, as well as adding contacts to a list.

On this page, you'll find a list of operations the Autopilot node supports and links to more resources.

/// warning | Autopilot branding change

Autopilot has become Ortto. The Autopilot credentials and nodes are only compatible with Autopilot, not the new Ortto API.

///

/// note | Credentials

Refer to [Autopilot credentials](/integrations/builtin/credentials/autopilot.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create/Update a contact

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Contact Journey

\* Add contact to list

\* Contact List

\* Add contact to list

\* Check if contact is on list

\* Get all contacts on list

\* Remove a contact from a list

\* List

\* Create a list

\* Get all lists

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'autopilot') ]]

## n8n-nodes-base.awscertificatemanager.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Certificate Manager node documentation

description: Learn how to use the AWS Certificate Manager node in n8n. Follow technical documentation to integrate AAWS Certificage Manager node into your workflows.

contentType: [integration, reference]

---

# AWS Certificate Manager node

Use the AWS Certificate Manager node to automate work in AWS Certificate Manager, and integrate AWS Certificate Manager with other applications. n8n has built-in support for a wide range of AWS Certificate Manager features, including creating, deleting, getting, and renewing SSL certificates.

On this page, you'll find a list of operations the AWS Certificate Manager node supports and links to more resources.

/// note | Credentials

Refer to [AWS Certificate Manager credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

## Operations

\* Certificate

\* Delete

\* Get

\* Get Many

\* Get Metadata

\* Renew

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-certificate-manager') ]]

## Related resources

Refer to [AWS Certificate Manager's documentation](https://docs.aws.amazon.com/acm/latest/userguide/acm-overview.html){:target=\_blank .external-link} for more information on this service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awscognito.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Cognito node documentation

description: Learn how to use the AWS Cognito node in n8n. Follow technical documentation to integrate AWS Cognito node into your workflows.

contentType: [integration, reference]

---

# AWS Cognito node

Use the AWS Cognito node to automate work in AWS Cognito and integrate AWS Cognito with other applications. n8n has built-in support for a wide range of AWS Cognito features, which includes creating, retrieving, updating, and deleting groups, users, and user pools.

On this page, you'll find a list of operations the AWS Cognito node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/aws.md).

///

## Operations

\* Group:

\* Create: Create a new group.

\* Delete: Delete an existing group.

\* Get: Retrieve details about an existing group.

\* Get Many: Retrieve a list of groups.

\* Update: Update an existing group.

\* User:

\* Add to Group: Add an existing user to a group.

\* Create: Create a new user.

\* Delete: Delete a user.

\* Get: Retrieve information about an existing user.

\* Get Many: Retrieve a list of users.

\* Remove From Group: Remove a user from a group.

\* Update: Update an existing user.

\* User Pool:

\* Get: Retrieve information about an existing user pool.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-cognito') ]]

## Related resources

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [AWS Cognito's documentation](https://docs.aws.amazon.com/cognito/) for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awscomprehend.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Comprehend node documentation

description: Learn how to use the AWS Comprehend node in n8n. Follow technical documentation to integrate AWS Comprehend node into your workflows.

contentType: [integration, reference]

---

# AWS Comprehend node

Use the AWS Comprehend node to automate work in AWS Comprehend, and integrate AWS Comprehend with other applications. n8n has built-in support for a wide range of AWS Comprehend features, including identifying and analyzing texts.

On this page, you'll find a list of operations the AWS Comprehend node supports and links to more resources.

/// note | Credentials

Refer to [AWS Comprehend credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

## Operations

\*\*Text\*\*

- Identify the dominant language

- Analyse the sentiment of the text

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-comprehend') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awsdynamodb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS DynamoDB node documentation

description: Learn how to use the AWS DynamoDB node in n8n. Follow technical documentation to integrate AWS DynamoDB node into your workflows.

contentType: [integration, reference]

---

# AWS DynamoDB node

Use the AWS DynamoDB node to automate work in AWS DynamoDB, and integrate AWS DynamoDB with other applications. n8n has built-in support for a wide range of AWS DynamoDB features, including creating, reading, updating, deleting items, and records on a database.

On this page, you'll find a list of operations the AWS DynamoDB node supports and links to more resources.

/// note | Credentials

Refer to [AWS credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

## Operations

\* Item

\* Create a new record, or update the current one if it already exists (upsert/put)

\* Delete an item

\* Get an item

\* Get all items

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-dynamodb') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awselb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Elastic Load Balancing node documentation

description: Learn how to use the AWS Elastic Load Balancing node in n8n. Follow technical documentation to integrate AWS Elastic Load Balancing node into your workflows.

contentType: [integration, reference]

---

# AWS Elastic Load Balancing node

Use the AWS Elastic Load Balancing node to automate work in AWS ELB, and integrate AWS ELB with other applications. n8n has built-in support for a wide range of AWS ELB features, including adding, getting, removing, deleting certificates and load balancers.

On this page, you'll find a list of operations the AWS ELB node supports and links to more resources.

/// note | Credentials

Refer to [AWS ELB credentials](/integrations/builtin/credentials/aws.md){:target=\_blank .external-link} for guidance on setting up authentication.

///

## Operations

\* Listener Certificate

\* Add

\* Get Many

\* Remove

\* Load Balancer

\* Create

\* Delete

\* Get

\* Get Many

This node supports creating and managing application and network load balancers. It doesn't currently support gateway load balancers.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-elb') ]]

## Related resources

Refer to [AWS ELB's documentation](https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/what-is-load-balancing.html){:target=\_blank .external-link} for more information on this service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awslambda.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Lambda node documentation

description: Learn how to use the AWS Lambda node in n8n. Follow technical documentation to integrate AWS Lambda node into your workflows.

contentType: [integration, reference]

---

# AWS Lambda node

Use the AWS Lambda node to automate work in AWS Lambda, and integrate AWS Lambda with other applications. n8n has built-in support for a wide range of AWS Lambda features, including invoking functions.

On this page, you'll find a list of operations the AWS Lambda node supports and links to more resources.

/// note | Credentials

Refer to [AWS Lambda credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Invoke a function

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-lambda') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awsrekognition.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Rekognition node documentation

description: Learn how to use the AWS Rekognition node in n8n. Follow technical documentation to integrate AWS Rekognition node into your workflows.

contentType: [integration, reference]

---

# AWS Rekognition node

Use the AWS Rekognition node to automate work in AWS Rekognition, and integrate AWS Rekognition with other applications. n8n has built-in support for a wide range of AWS Rekognition features, including analyzing images.

On this page, you'll find a list of operations the AWS Rekognition node supports and links to more resources.

/// note | Credentials

Refer to [AWS Rekognition credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

## Operations

\*\*Image\*\*

- Analyze

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-rekognition') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awss3.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS S3 node documentation

description: Learn how to use the AWS S3 node in n8n. Follow technical documentation to integrate AWS S3 node into your workflows.

contentType: [integration, reference]

priority: medium

---

# AWS S3 node

Use the AWS S3 node to automate work in AWS S3, and integrate AWS S3 with other applications. n8n has built-in support for a wide range of AWS S3 features, including creating and deleting buckets, copying and downloading files, as well as getting folders.

On this page, you'll find a list of operations the AWS S3 node supports and links to more resources.

/// note | Credentials

Refer to [AWS credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Bucket

\* Create a bucket

\* Delete a bucket

\* Get all buckets

\* Search within a bucket

\* File

\* Copy a file

\* Delete a file

\* Download a file

\* Get all files

\* Upload a file

\* Folder

\* Create a folder

\* Delete a folder

\* Get all folders

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-s3') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awsses.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS SES node documentation

description: Learn how to use the AWS SES node in n8n. Follow technical documentation to integrate AWS SES node into your workflows.

contentType: [integration, reference]

---

# AWS SES node

Use the AWS SES node to automate work in AWS SES, and integrate AWS SES with other applications. n8n has built-in support for a wide range of AWS SES features, including creating, getting, deleting, sending, updating, and adding templates and emails.

On this page, you'll find a list of operations the AWS SES node supports and links to more resources.

/// note | Credentials

Refer to [AWS SES credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Custom Verification Email

\* Create a new custom verification email template

\* Delete an existing custom verification email template

\* Get the custom email verification template

\* Get all the existing custom verification email templates for your account

\* Add an email address to the list of identities

\* Update an existing custom verification email template.

\* Email

\* Send

\* Send Template

\* Template

\* Create a template

\* Delete a template

\* Get a template

\* Get all templates

\* Update a template

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-ses') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awssns.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS SNS node documentation

description: Learn how to use the AWS SNS node in n8n. Follow technical documentation to integrate AWS SNS node into your workflows.

contentType: [integration, reference]

---

# AWS SNS node

Use the AWS SNS node to automate work in AWS SNS, and integrate AWS SNS with other applications. n8n has built-in support for a wide range of AWS SNS features, including publishing messages.

On this page, you'll find a list of operations the AWS SNS node supports and links to more resources.

/// note | Credentials

Refer to [AWS SNS credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

## Operations

\* Publish a message to a topic

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-sns') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awssqs.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS SQS node documentation

description: Learn how to use the AWS SQS node in n8n. Follow technical documentation to integrate AWS SQS node into your workflows.

contentType: [integration, reference]

---

# AWS SQS node

Use the AWS SQS node to automate work in AWS SNS, and integrate AWS SQS with other applications. n8n has built-in support for a wide range of AWS SQS features, including sending messages.

On this page, you'll find a list of operations the AWS SQS node supports and links to more resources.

/// note | Credentials

Refer to [AWS SQS credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

## Operations

\* Send a message to a queue.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-sqs') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awstextract.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Textract node documentation

description: Learn how to use the AWS Textract node in n8n. Follow technical documentation to integrate AWS Textract node into your workflows.

contentType: [integration, reference]

---

# AWS Textract node

Use the AWS Textract node to automate work in AWS Textract, and integrate AWS Textract with other applications. n8n has built-in support for a wide range of AWS Textract features, including analyzing invoices.

On this page, you'll find a list of operations the AWS Textract node supports and links to more resources.

/// note | Credentials

Refer to [AWS Textract credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

- Analyze Receipt or Invoice

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-textract') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.awstranscribe.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Transcribe node documentation

description: Learn how to use the AWS Transcribe node in n8n. Follow technical documentation to integrate AWS Transcribe node into your workflows.

contentType: [integration, reference]

---

# AWS Transcribe node

Use the AWS Transcribe node to automate work in AWS Transcribe, and integrate AWS Transcribe with other applications. n8n has built-in support for a wide range of AWS Transcribe features, including creating, deleting, and getting transcription jobs.

On this page, you'll find a list of operations the AWS Transcribe node supports and links to more resources.

/// note | Credentials

Refer to [AWS Transcribe credentials](/integrations/builtin/credentials/aws.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\*\*Transcription Job\*\*

- Create a transcription job

- Delete a transcription job

- Get a transcription job

- Get all transcriptions job

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-transcribe') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.azurecosmosdb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Azure Cosmos DB node documentation

description: Learn how to use the Azure Cosmos DB node in n8n. Follow technical documentation to integrate Azure Cosmos DB node into your workflows.

contentType: [integration, reference]

---

# Azure Cosmos DB node

Use the Azure Cosmos DB node to automate work in Azure Cosmos DB and integrate Azure Cosmos DB with other applications. n8n has built-in support for a wide range of Azure Cosmos DB features, which includes creating, getting, updating, and deleting containers and items.

On this page, you'll find a list of operations the Azure Cosmos DB node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/azurecosmosdb.md).

///

## Operations

\* \*\*Container\*\*:

\* \*\*Create\*\*

\* \*\*Delete\*\*

\* \*\*Get\*\*

\* \*\*Get Many\*\*

\* \*\*Item\*\*:

\* \*\*Create\*\*

\* \*\*Delete\*\*

\* \*\*Get\*\*

\* \*\*Get Many\*\*

\* \*\*Execute Query\*\*

\* \*\*Update\*\*

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'azure-cosmos-db') ]]

## Related resources

<!-- vale Vale.Spelling = NO -->

Refer to [Azure Cosmos DB's documentation](https://learn.microsoft.com/en-us/rest/api/cosmos-db/) for more information about the service.

<!-- vale Vale.Spelling = YES -->

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.azurestorage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Azure Storage node documentation

description: Learn how to use the Azure Storage node in n8n. Follow technical documentation to integrate Azure Storage node into your workflows.

contentType: [integration, reference]

---

# Azure Storage node

The Azure Storage node has built-in support for a wide range of features, which includes creating, getting, and deleting blobs and containers. Use this node to automate work within the Azure Storage service or integrate it with other services in your workflow.

On this page, you'll find a list of operations the Azure Storage node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/azurestorage.md).

///

## Operations

\* \*\*Blob\*\*

\* \*\*Create blob\*\*: Create a new blob or replace an existing one.

\* \*\*Delete blob\*\*: Delete an existing blob.

\* \*\*Get blob\*\*: Retrieve data for a specific blob.

\* \*\*Get many blobs\*\*: Retrieve a list of blobs.

\* \*\*Container\*\*

\* \*\*Create container\*\*: Create a new container.

\* \*\*Delete container\*\*: Delete an existing container.

\* \*\*Get container\*\*: Retrieve data for a specific container.

\* \*\*Get many containers\*\*: Retrieve a list of containers.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'azure-storage') ]]

## Related resources

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [Microsoft's Azure Storage documentation](https://learn.microsoft.com/en-us/rest/api/storageservices/) for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.bamboohr.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: BambooHR node documentation

description: Learn how to use the BambooHR node in n8n. Follow technical documentation to integrate BambooHR node into your workflows.

contentType: [integration, reference]

---

# BambooHR node

Use the BambooHR node to automate work in BambooHR, and integrate BambooHR with other applications. n8n has built-in support for a wide range of BambooHR features, including creating, deleting, downloading, and getting company reports, employee documents, and files.

On this page, you'll find a list of operations the BambooHR node supports and links to more resources.

/// note | Credentials

Refer to [BambooHR credentials](/integrations/builtin/credentials/bamboohr.md) for guidance on setting up authentication.

///

## Operations

\* Company Report

\* Get a company report

\* Employee

\* Create an employee

\* Get an employee

\* Get all employees

\* Update an employee

\* Employee Document

\* Delete an employee document

\* Download an employee document

\* Get all employee document

\* Update an employee document

\* Upload an employee document

\* File

\* Delete a company file

\* Download a company file

\* Get all company files

\* Update a company file

\* Upload a company file

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'bamboohr') ]]

## n8n-nodes-base.bannerbear.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bannerbear node documentation

description: Learn how to use the Bannerbear node in n8n. Follow technical documentation to integrate Bannerbear node into your workflows.

contentType: [integration, reference]

---

# Bannerbear node

Use the Bannerbear node to automate work in Bannerbear, and integrate Bannerbear with other applications. n8n has built-in support for a wide range of Bannerbear features, including creating and getting images and templates.

On this page, you'll find a list of operations the Bannerbear node supports and links to more resources.

/// note | Credentials

Refer to [Bannerbear credentials](/integrations/builtin/credentials/bannerbear.md) for guidance on setting up authentication.

///

## Operations

\* Image

\* Create an image

\* Get an image

\* Template

\* Get a template

\* Get all templates

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'bannerbear') ]]

## n8n-nodes-base.baserow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Baserow node documentation

description: Learn how to use the Baserow node in n8n. Follow technical documentation to integrate Baserow node into your workflows.

contentType: [integration, reference]

priority: high

---

# Baserow node

Use the Baserow node to automate work in Baserow, and integrate Baserow with other applications. n8n has built-in support for a wide range of Baserow features, including creating, getting, retrieving, and updating rows.

On this page, you'll find a list of operations the Baserow node supports and links to more resources.

/// note | Credentials

Refer to [Baserow credentials](/integrations/builtin/credentials/baserow.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Row

\* Create a row

\* Delete a row

\* Retrieve a row

\* Retrieve all rows

\* Update a row

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'baserow') ]]

## n8n-nodes-base.beeminder.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Beeminder node documentation

description: Learn how to use the Beeminder node in n8n. Follow technical documentation to integrate Beeminder node into your workflows.

contentType: [integration, reference]

---

# Beeminder node

Use the Beeminder node to automate work in Beeminder, and integrate Beeminder with other applications. n8n has built-in support for a wide range of Beeminder features, including creating, deleting, and updating data points.

On this page, you'll find a list of operations the Beeminder node supports and links to more resources.

/// note | Credentials

Refer to [Beeminder credentials](/integrations/builtin/credentials/beeminder.md) for guidance on setting up authentication.

///

## Operations

\*\*data point\*\*

- Create data point for a goal

- Delete a data point

- Get all data points for a goal

- Update a data point

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'beeminder') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.bitly.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bitly node documentation

description: Learn how to use the Bitly node in n8n. Follow technical documentation to integrate Bitly node into your workflows.

contentType: [integration, reference]

---

# Bitly node

Use the Bitly node to automate work in Bitly, and integrate Bitly with other applications. n8n has built-in support for a wide range of Bitly features, including creating, getting, and updating links.

On this page, you'll find a list of operations the Bitly node supports and links to more resources.

/// note | Credentials

Refer to [Bitly credentials](/integrations/builtin/credentials/bitly.md) for guidance on setting up authentication.

///

## Operations

\* Link

\* Create a link

\* Get a link

\* Update a link

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'bitly') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.bitwarden.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bitwarden node documentation

description: Learn how to use the Bitwarden node in n8n. Follow technical documentation to integrate Bitwarden node into your workflows.

contentType: [integration, reference]

---

# Bitwarden node

Use the Bitwarden node to automate work in Bitwarden, and integrate Bitwarden with other applications. n8n has built-in support for a wide range of Bitwarden features, including creating, getting, deleting, and updating collections, events, groups, and members.

On this page, you'll find a list of operations the Bitwarden node supports and links to more resources.

/// note | Credentials

Refer to [Bitwarden credentials](/integrations/builtin/credentials/bitwarden.md) for guidance on setting up authentication.

///

## Operations

\* Collection

\* Delete

\* Get

\* Get All

\* Update

\* Event

\* Get All

\* Group

\* Create

\* Delete

\* Get

\* Get All

\* Get Members

\* Update

\* Update Members

\* Member

\* Create

\* Delete

\* Get

\* Get All

\* Get Groups

\* Update

\* Update Groups

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'bitwarden') ]]

## n8n-nodes-base.box.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Box node documentation

description: Learn how to use the Box node in n8n. Follow technical documentation to integrate Box node into your workflows.

contentType: [integration, reference]

---

# Box node

Use the Box node to automate work in Box, and integrate Box with other applications. n8n has built-in support for a wide range of Box features, including creating, copying, deleting, searching, uploading, and downloading files and folders.

On this page, you'll find a list of operations the Box node supports and links to more resources.

/// note | Credentials

Refer to [Box credentials](/integrations/builtin/credentials/box.md) for guidance on setting up authentication.

///

## Operations

\* File

\* Copy a file

\* Delete a file

\* Download a file

\* Get a file

\* Search files

\* Share a file

\* Upload a file

\* Folder

\* Create a folder

\* Get a folder

\* Delete a folder

\* Search files

\* Share a folder

\* Update folder

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'box') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.brandfetch.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Brandfetch node documentation

description: Learn how to use the Brandfetch node in n8n. Follow technical documentation to integrate Brandfetch node into your workflows.

contentType: [integration, reference]

---

# Brandfetch node

Use the Brandfetch node to automate work in Brandfetch, and integrate Brandfetch with other applications. n8n has built-in support for a wide range of Brandfetch features, including returning a company’s information.

On this page, you'll find a list of operations the Brandfetch node supports and links to more resources.

/// note | Credentials

Refer to [Brandfetch credentials](/integrations/builtin/credentials/brandfetch.md) for guidance on setting up authentication.

///

## Operations

\* Return a company's colors

\* Return a company's data

\* Return a company's fonts

\* Return a company's industry

\* Return a company's logo & icon

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'brandfetch') ]]

## n8n-nodes-base.brevo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Brevo node documentation

description: Learn how to use the Brevo node in n8n. Follow technical documentation to integrate Brevo node into your workflows.

contentType: [integration, reference]

---

# Brevo node

Use the Brevo node to automate work in Brevo, and integrate Brevo with other applications. n8n has built-in support for a wide range of Brevo features, including creating, updating, deleting, and getting contacts, attributes, as well as sending emails.

On this page, you'll find a list of operations the Brevo node supports and links to more resources.

/// note | Credentials

Refer to [Brevo credentials](/integrations/builtin/credentials/brevo.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create

\* Create or Update

\* Delete

\* Get

\* Get All

\* Update

\* Contact Attribute

\* Create

\* Delete

\* Get All

\* Update

\* Email

\* Send

\* Send Template

\* Sender

\* Create

\* Delete

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'brevo') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.bubble.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bubble node documentation

description: Learn how to use the Bubble node in n8n. Follow technical documentation to integrate Bubble node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Bubble node

Use the Bubble node to automate work in Bubble, and integrate Bubble with other applications. n8n has built-in support for a wide range of Bubble features, including creating, deleting, getting, and updating objects.

On this page, you'll find a list of operations the Bubble node supports and links to more resources.

/// note | Credentials

Refer to [Bubble credentials](/integrations/builtin/credentials/bubble.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Object

\* Create

\* Delete

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'bubble') ]]

## n8n-nodes-base.chargebee.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Chargebee node documentation

description: Learn how to use the Chargebee node in n8n. Follow technical documentation to integrate Chargebee node into your workflows.

contentType: [integration, reference]

---

# Chargebee node

Use the Chargebee node to automate work in Chargebee, and integrate Chargebee with other applications. n8n has built-in support for a wide range of Chargebee features, including creating customers, returning invoices, and canceling subscriptions.

On this page, you'll find a list of operations the Chargebee node supports and links to more resources.

/// note | Credentials

Refer to [Chargebee credentials](/integrations/builtin/credentials/chargebee.md) for guidance on setting up authentication.

///

## Operations

\* Customer

\* Create a customer

\* Invoice

\* Return the invoices

\* Get URL for the invoice PDF

\* Subscription

\* Cancel a subscription

\* Delete a subscription

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'chargebee') ]]

## n8n-nodes-base.circleci.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: CircleCI node documentation

description: Learn how to use the CircleCI node in n8n. Follow technical documentation to integrate CircleCI node into your workflows.

contentType: [integration, reference]

---

# CircleCI node

Use the CircleCI node to automate work in CircleCI, and integrate CircleCI with other applications. n8n has built-in support for a wide range of CircleCI features, including getting and triggering pipelines.

On this page, you'll find a list of operations the CircleCI node supports and links to more resources.

/// note | Credentials

Refer to [CircleCI credentials](/integrations/builtin/credentials/circleci.md) for guidance on setting up authentication.

///

## Operations

\* Pipeline

\* Get a pipeline

\* Get all pipelines

\* Trigger a pipeline

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'circleci') ]]

## n8n-nodes-base.ciscowebex.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webex by Cisco node documentation

description: Learn how to use the Webex by Cisco node in n8n. Follow technical documentation to integrate Webex by Cisco node into your workflows.

contentType: [integration, reference]

---

# Webex by Cisco node

Use the Webex by Cisco node to automate work in Webex, and integrate Webex with other applications. n8n has built-in support for a wide range of Webex features, including creating, getting, updating, and deleting meetings and messages.

On this page, you'll find a list of operations the Webex node supports and links to more resources.

/// note | Credentials

Refer to [Webex credentials](/integrations/builtin/credentials/ciscowebex.md) for guidance on setting up authentication.

///

/// note | Examples and Templates

For usage examples and templates to help you get started, take a look at n8n's [Webex integrations](https://n8n.io/integrations/webex-by-cisco/){:target=\_blank .external-link} list.

///

## Operations

\* Meeting

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Message

\* Create

\* Delete

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'webex-by-cisco') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.clearbit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Clearbit node documentation

description: Learn how to use the Clearbit node in n8n. Follow technical documentation to integrate Clearbit node into your workflows.

contentType: [integration, reference]

---

# Clearbit node

Use the Clearbit node to automate work in Clearbit, and integrate Clearbit with other applications. n8n has built-in support for a wide range of Clearbit features, including autocompleting and looking up companies and persons.

On this page, you'll find a list of operations the Clearbit node supports and links to more resources.

/// note | Credentials

Refer to [Clearbit credentials](/integrations/builtin/credentials/clearbit.md) for guidance on setting up authentication.

///

## Operations

\* Company

\* Auto-complete company names and retrieve logo and domain

\* Look up person and company data based on an email or domain

\* Person

\* Look up a person and company data based on an email or domain

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'clearbit') ]]

## n8n-nodes-base.clickup.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ClickUp node documentation

description: Learn how to use the ClickUp node in n8n. Follow technical documentation to integrate ClickUp node into your workflows.

contentType: [integration, reference]

priority: medium

---

# ClickUp node

Use the ClickUp node to automate work in ClickUp, and integrate ClickUp with other applications. n8n has built-in support for a wide range of ClickUp features, including creating, getting, deleting, and updating folders, checklists, tags, comments, and goals.

On this page, you'll find a list of operations the ClickUp node supports and links to more resources.

/// note | Credentials

Refer to [ClickUp credentials](/integrations/builtin/credentials/clickup.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Checklist

\* Create a checklist

\* Delete a checklist

\* Update a checklist

\* Checklist Item

\* Create a checklist item

\* Delete a checklist item

\* Update a checklist item

\* Comment

\* Create a comment

\* Delete a comment

\* Get all comments

\* Update a comment

\* Folder

\* Create a folder

\* Delete a folder

\* Get a folder

\* Get all folders

\* Update a folder

\* Goal

\* Create a goal

\* Delete a goal

\* Get a goal

\* Get all goals

\* Update a goal

\* Goal Key Result

\* Create a key result

\* Delete a key result

\* Update a key result

\* List

\* Create a list

\* Retrieve list's custom fields

\* Delete a list

\* Get a list

\* Get all lists

\* Get list members

\* Update a list

\* Space Tag

\* Create a space tag

\* Delete a space tag

\* Get all space tags

\* Update a space tag

\* Task

\* Create a task

\* Delete a task

\* Get a task

\* Get all tasks

\* Get task members

\* Set a custom field

\* Update a task

\* Task List

\* Add a task to a list

\* Remove a task from a list

\* Task Tag

\* Add a tag to a task

\* Remove a tag from a task

\* Task Dependency

\* Create a task dependency

\* Delete a task dependency

\* Time Entry

\* Create a time entry

\* Delete a time entry

\* Get a time entry

\* Get all time entries

\* Start a time entry

\* Stop the current running timer

\* Update a time Entry

\* Time Entry Tag

\* Add tag to time entry

\* Get all time entry tags

\* Remove tag from time entry

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'clickup') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.clockify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Clockify node documentation

description: Learn how to use the Clockify node in n8n. Follow technical documentation to integrate Clockify node into your workflows.

contentType: [integration, reference]

---

# Clockify node

Use the Clockify node to automate work in Clockify, and integrate Clockify with other applications. n8n has built-in support for a wide range of Clockify features, including creating, updating, getting, and deleting tasks, time entries, projects, and tags.

On this page, you'll find a list of operations the Clockify node supports and links to more resources.

/// note | Credentials

Refer to [Clockify credentials](/integrations/builtin/credentials/clockify.md) for guidance on setting up authentication.

///

## Operations

\* Project

\* Create a project

\* Delete a project

\* Get a project

\* Get all projects

\* Update a project

\* Tag

\* Create a tag

\* Delete a tag

\* Get all tags

\* Update a tag

\* Task

\* Create a task

\* Delete a task

\* Get a task

\* Get all tasks

\* Update a task

\* Time Entry

\* Create a time entry

\* Delete a time entry

\* Get time entry

\* Update a time entry

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'clockify') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.cloudflare.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cloudflare node documentation

description: Learn how to use the Cloudflare node in n8n. Follow technical documentation to integrate Cloudflare node into your workflows.

contentType: [integration, reference]

---

# Cloudflare node

Use the Cloudflare node to automate work in Cloudflare, and integrate Cloudflare with other applications. n8n has built-in support for a wide range of Cloudflare features, including deleting, getting, and uploading zone certificates.

On this page, you'll find a list of operations the Cloudflare node supports and links to more resources.

/// note | Credentials

Refer to [Cloudflare credentials](/integrations/builtin/credentials/cloudflare.md) for guidance on setting up authentication.

///

## Operations

\* Zone Certificate

\* Delete

\* Get

\* Get Many

\* Upload

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'cloudflare') ]]

## Related resources

Refer to [Cloudflare's API documentation on zone-level authentication](https://api.cloudflare.com/#zone-level-authenticated-origin-pulls-properties){:target=\_blank .external-link} for more information on this service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.cockpit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cockpit node documentation

description: Learn how to use the Cockpit node in n8n. Follow technical documentation to integrate Cockpit node into your workflows.

contentType: [integration, reference]

---

# Cockpit node

Use the Cockpit node to automate work in Cockpit, and integrate Cockpit with other applications. n8n has built-in support for a wide range of Cockpit features, including creating a collection entry, storing data from a form submission, and getting singletons.

On this page, you'll find a list of operations the Cockpit node supports and links to more resources.

/// note | Credentials

Refer to [Cockpit credentials](/integrations/builtin/credentials/cockpit.md) for guidance on setting up authentication.

///

## Operations

\* Collection

\* Create a collection entry

\* Get all collection entries

\* Update a collection entry

\* Form

\* Store data from a form submission

\* Singleton

\* Get a singleton

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'cockpit') ]]

## n8n-nodes-base.coda.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Coda node documentation

description: Learn how to use the Coda node in n8n. Follow technical documentation to integrate Coda node into your workflows.

contentType: [integration, reference]

---

# Coda node

Use the Coda node to automate work in Coda, and integrate Coda with other applications. n8n has built-in support for a wide range of Coda features, including creating, getting, and deleting controls, formulas, tables, and views.

On this page, you'll find a list of operations the Coda node supports and links to more resources.

/// note | Credentials

Refer to [Coda credentials](/integrations/builtin/credentials/coda.md) for guidance on setting up authentication.

///

## Operations

\* Control

\* Get a control

\* Get all controls

\* Formula

\* Get a formula

\* Get all formulas

\* Table

\* Create/Insert a row

\* Delete one or multiple rows

\* Get all columns

\* Get all the rows

\* Get a column

\* Get a row

\* Pushes a button

\* View

\* Delete view row

\* Get a view

\* Get all views

\* Get all views columns

\* Get all views rows

\* Update row

\* Push view button

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'coda') ]]

## n8n-nodes-base.coingecko.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: CoinGecko node documentation

description: Learn how to use the CoinGecko node in n8n. Follow technical documentation to integrate CoinGecko node into your workflows.

contentType: [integration, reference]

---

# CoinGecko node

Use the CoinGecko node to automate work in CoinGecko, and integrate CoinGecko with other applications. n8n has built-in support for a wide range of CoinGecko features, including getting coins and events.

On this page, you'll find a list of operations the CoinGecko node supports and links to more resources.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Coin

\* Get a candlestick open-high-low-close chart for the selected currency

\* Get current data for a coin

\* Get all coins

\* Get historical data (name, price, market, stats) at a given date for a coin

\* Get prices and market related data for all trading pairs that match the selected currency

\* Get historical market data include price, market cap, and 24h volume (granularity auto)

\* Get the current price of any cryptocurrencies in any other supported currencies that you need

\* Get coin tickers

\* Event

\* Get all events

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'coingecko') ]]

## n8n-nodes-base.contentful.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Contentful node documentation

description: Learn how to use the Contentful node in n8n. Follow technical documentation to integrate Contentful node into your workflows.

contentType: [integration, reference]

---

# Contentful node

Use the Contentful node to automate work in Contentful, and integrate Contentful with other applications. n8n has built-in support for a wide range of Contentful features, including getting assets, content types, entries, locales, and space.

On this page, you'll find a list of operations the Contentful node supports and links to more resources.

/// note | Credentials

Refer to [Contentful credentials](/integrations/builtin/credentials/contentful.md) for guidance on setting up authentication.

///

## Operations

\* Asset

\* Get

\* Get All

\* Content Type

\* Get

\* Entry

\* Get

\* Get All

\* Locale

\* Get All

\* Space

\* Get

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'contentful') ]]

## n8n-nodes-base.convertkit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ConvertKit node documentation

description: Learn how to use the ConvertKit node in n8n. Follow technical documentation to integrate ConvertKit node into your workflows.

contentType: [integration, reference]

---

# ConvertKit node

Use the ConvertKit node to automate work in ConvertKit, and integrate ConvertKit with other applications. n8n has built-in support for a wide range of ConvertKit features, including creating and deleting custom fields, getting tags, and adding subscribers.

On this page, you'll find a list of operations the ConvertKit node supports and links to more resources.

/// note | Credentials

Refer to [ConvertKit credentials](/integrations/builtin/credentials/convertkit.md) for guidance on setting up authentication.

///

## Operations

\* Custom Field

\* Create a field

\* Delete a field

\* Get all fields

\* Update a field

\* Form

\* Add a subscriber

\* Get all forms

\* List subscriptions to a form including subscriber data

\* Sequence

\* Add a subscriber

\* Get all sequences

\* Get all subscriptions to a sequence including subscriber data

\* Tag

\* Create a tag

\* Get all tags

\* Tag Subscriber

\* Add a tag to a subscriber

\* List subscriptions to a tag including subscriber data

\* Delete a tag from a subscriber

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'convertkit') ]]

## n8n-nodes-base.copper.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Copper node documentation

description: Learn how to use the Copper node in n8n. Follow technical documentation to integrate Copper node into your workflows.

contentType: [integration, reference]

---

# Copper node

Use the Copper node to automate work in Copper, and integrate Copper with other applications. n8n has built-in support for a wide range of Copper features, including getting, updating, deleting, and creating companies, customer sources, leads, projects and tasks.

On this page, you'll find a list of operations the Copper node supports and links to more resources.

/// note | Credentials

Refer to [Copper credentials](/integrations/builtin/credentials/copper.md) for guidance on setting up authentication.

///

## Operations

\* Company

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Customer Source

\* Get All

\* Lead

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Opportunity

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Person

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Project

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Task

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* User

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'copper') ]]

## n8n-nodes-base.cortex.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cortex node documentation

description: Learn how to use the Cortex node in n8n. Follow technical documentation to integrate Cortex node into your workflows.

contentType: [integration, reference]

---

# Cortex node

Use the Cortex node to automate work in Cortex, and integrate Cortex with other applications. n8n has built-in support for a wide range of Cortex features, including executing analyzers, and responders, as well as getting job details.

On this page, you'll find a list of operations the Cortex node supports and links to more resources.

/// note | Credentials

Refer to [Cortex credentials](/integrations/builtin/credentials/cortex.md) for guidance on setting up authentication.

///

## Operations

\* Analyzer

\* Execute Analyzer

\* Job

\* Get job details

\* Get job report

\* Responder

\* Execute Responder

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'cortex') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.cratedb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: CrateDB node documentation

description: Learn how to use the CrateDB node in n8n. Follow technical documentation to integrate CrateDB node into your workflows.

contentType: [integration, reference]

---

# CrateDB node

Use the CrateDB node to automate work in CrateDB, and integrate CrateDB with other applications. n8n has built-in support for a wide range of CrateDB features, including executing, inserting, and updating rows in the database.

On this page, you'll find a list of operations the CrateDB node supports and links to more resources.

/// note | Credentials

Refer to [CrateDB credentials](/integrations/builtin/credentials/cratedb.md) for guidance on setting up authentication.

///

## Operations

\* Execute an SQL query

\* Insert rows in database

\* Update rows in database

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'cratedb') ]]

## Node reference

### Specify a column's data type

To specify a column's data type, append the column name with `:type`, where `type` is the data type you want for the column. For example, if you want to specify the type `int` for the column \*\*id\*\* and type `text` for the column \*\*name\*\*, you can use the following snippet in the \*\*Columns\*\* field: `id:int,name:text`.

## n8n-nodes-base.crowddev.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: crowd.dev node documentation

description: Learn how to use the crowd.dev node in n8n. Follow technical documentation to integrate crowd.dev node into your workflows.

contentType: [integration, reference]

---

# crowd.dev node

Use the crowd.dev node to automate work in crowd.dev and integrate crowd.dev with other applications. n8n has built-in support for a wide range of crowd.dev features, which includes creating, updating, and deleting members, notes, organizations, and tasks.

On this page, you'll find a list of operations the crowd.dev node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/crowddev.md).

///

## Operations

\* Activity

\* Create or Update with a Member

\* Create

\* Automation

\* Create

\* Destroy

\* Find

\* List

\* Update

\* Member

\* Create or Update

\* Delete

\* Find

\* Update

\* Note

\* Create

\* Delete

\* Find

\* Update

\* Organization

\* Create

\* Delete

\* Find

\* Update

\* Task

\* Create

\* Delete

\* Find

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'crowddev') ]]

## Related resources

n8n provides a trigger node for crowd.dev. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.crowddevtrigger.md).

Refer to [crowd.dev's documentation](https://docs.crowd.dev/reference/getting-started-with-crowd-dev-api){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.customerio.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Customer.io node documentation

description: Learn how to use the Customer.io node in n8n. Follow technical documentation to integrate Customer.io node into your workflows.

contentType: [integration, reference]

---

# Customer.io node

Use the Customer.io node to automate work in Customer.io, and integrate Customer.io with other applications. n8n has built-in support for a wide range of Customer.io features, including creating and updating customers, tracking events, and getting campaigns.

On this page, you'll find a list of operations the Customer.io node supports and links to more resources.

/// note | Credentials

Refer to [Customer.io credentials](/integrations/builtin/credentials/customerio.md) for guidance on setting up authentication.

///

## Operations

\* Customer

\* Create/Update a customer.

\* Delete a customer.

\* Event

\* Track a customer event.

\* Track an anonymous event.

\* Campaign

\* Get

\* Get All

\* Get Metrics

\* Segment

\* Add Customer

\* Remove Customer

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'customerio') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.deepl.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: DeepL node documentation

description: Learn how to use the DeepL node in n8n. Follow technical documentation to integrate DeepL node into your workflows.

contentType: [integration, reference]

---

# DeepL node

Use the DeepL node to automate work in DeepL, and integrate DeepL with other applications. n8n has built-in support for a wide range of DeepL features, including translating languages.

On this page, you'll find a list of operations the DeepL node supports and links to more resources.

/// note | Credentials

Refer to [DeepL credentials](/integrations/builtin/credentials/deepl.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Language

\* Translate data

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'deepl') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.demio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Demio node documentation

description: Learn how to use the Demio node in n8n. Follow technical documentation to integrate Demio node into your workflows.

contentType: [integration, reference]

---

# Demio node

Use the Demio node to automate work in Demio, and integrate Demio with other applications. n8n has built-in support for a wide range of Demio features, including getting, and registering events and reports.

On this page, you'll find a list of operations the Demio node supports and links to more resources.

/// note | Credentials

Refer to [Demio credentials](/integrations/builtin/credentials/demio.md) for guidance on setting up authentication.

///

## Operations

\* Event

\* Get an event

\* Get all events

\* Register someone to an event

\* Report

\* Get an event report

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'demio') ]]

## n8n-nodes-base.dhl.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: DHL node documentation

description: Learn how to use the DHL node in n8n. Follow technical documentation to integrate DHL node into your workflows.

contentType: [integration, reference]

priority: medium

---

# DHL node

Use the DHL node to automate work in DHL, and integrate DHL with other applications. n8n has built-in support for a wide range of DHL features, including tracking shipment.

On this page, you'll find a list of operations the DHL node supports and links to more resources.

/// note | Credentials

Refer to [DHL credentials](/integrations/builtin/credentials/dhl.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Shipment

\* Get Tracking Details

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'dhl') ]]

## n8n-nodes-base.discourse.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Discourse node documentation

description: Learn how to use the Discourse node in n8n. Follow technical documentation to integrate Discourse node into your workflows.

contentType: [integration, reference]

---

# Discourse node

Use the Discourse node to automate work in Discourse, and integrate Discourse with other applications. n8n has built-in support for a wide range of Discourse features, including creating, getting, updating, and removing categories, groups, posts, and users.

On this page, you'll find a list of operations the Discourse node supports and links to more resources.

/// note | Credentials

Refer to [Discourse credentials](/integrations/builtin/credentials/discourse.md) for guidance on setting up authentication.

///

## Operations

\* Category

\* Create a category

\* Get all categories

\* Update a category

\* Group

\* Create a group

\* Get a group

\* Get all groups

\* Update a group

\* Post

\* Create a post

\* Get a post

\* Get all posts

\* Update a post

\* User

\* Create a user

\* Get a user

\* Get all users

\* User Group

\* Create a user to group

\* Remove user from group

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'discourse') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.disqus.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Disqus node documentation

description: Learn how to use the Disqus node in n8n. Follow technical documentation to integrate Disqus node into your workflows.

contentType: [integration, reference]

---

# Disqus node

Use the Disqus node to automate work in Disqus, and integrate Disqus with other applications. n8n has built-in support for a wide range of Disqus features, including returning forums.

On this page, you'll find a list of operations the Disqus node supports and links to more resources.

/// note | Credentials

Refer to [Disqus credentials](/integrations/builtin/credentials/disqus.md) for guidance on setting up authentication.

///

## Operations

\* Forum

\* Return forum details

\* Return a list of categories within a forum

\* Return a list of threads within a forum

\* Return a list of posts within a forum

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'disqus') ]]

## n8n-nodes-base.drift.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Drift node documentation

description: Learn how to use the Drift node in n8n. Follow technical documentation to integrate Drift node into your workflows.

contentType: [integration, reference]

---

# Drift node

Use the Drift node to automate work in Drift, and integrate Drift with other applications. n8n has built-in support for a wide range of Drift features, including creating, updating, deleting, and getting contacts.

On this page, you'll find a list of operations the Drift node supports and links to more resources.

/// note | Credentials

Refer to [Drift credentials](/integrations/builtin/credentials/drift.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create a contact

\* Get custom attributes

\* Delete a contact

\* Get a contact

\* Update a contact

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'drift') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.dropbox.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Dropbox node documentation

description: Learn how to use the Dropbox node in n8n. Follow technical documentation to integrate Dropbox node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Dropbox node

Use the Dropbox node to automate work in Dropbox, and integrate Dropbox with other applications. n8n has built-in support for a wide range of Dropbox features, including creating, downloading, moving, and copying files and folders.

On this page, you'll find a list of operations the Dropbox node supports and links to more resources.

/// note | Credentials

Refer to [Dropbox credentials](/integrations/builtin/credentials/dropbox.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* File

\* Copy a file

\* Delete a file

\* Download a file

\* Move a file

\* Upload a file

\* Folder

\* Copy a folder

\* Create a folder

\* Delete a folder

\* Return the files and folders in a given folder

\* Move a folder

\* Search

\* Query

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'dropbox') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.dropcontact.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Dropcontact node documentation

description: Learn how to use the Dropcontact node in n8n. Follow technical documentation to integrate Dropcontact node into your workflows.

contentType: [integration, reference]

---

# Dropcontact node

Use the Dropcontact node to automate work in Dropcontact, and integrate Dropcontact with other applications. n8n has built-in support for a wide range of Dropcontact features, including fetching contacts.

On this page, you'll find a list of operations the Dropcontact node supports and links to more resources.

/// note | Credentials

Refer to [Dropcontact credentials](/integrations/builtin/credentials/dropcontact.md) for guidance on setting up authentication.

///

## Operations

\*\*Contact\*\*

- Enrich

- Fetch Request

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'dropcontact') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.egoi.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: E-goi node documentation

description: Learn how to use the E=goi node in n8n. Follow technical documentation to integrate E=goi node into your workflows.

contentType: [integration, reference]

---

# E-goi node

Use the E-goi node to automate work in E-goi, and integrate E-goi with other applications. n8n has built-in support for a wide range of E-goi features, including creating, updating, deleting, and getting contacts.

On this page, you'll find a list of operations the E-goi node supports and links to more resources.

/// note | Credentials

Refer to [E-goi credentials](/integrations/builtin/credentials/egoi.md) for guidance on setting up authentication.

///

## Operations

\*\*Contact\*\*

- Create a member

- Get a member

- Get all members

- Update a member

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'e-goi') ]]

## n8n-nodes-base.elasticsearch.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Elasticsearch node documentation

description: Learn how to use the Elasticsearch node in n8n. Follow technical documentation to integrate Elasticsearch node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Elasticsearch node

Use the Elasticsearch node to automate work in Elasticsearch, and integrate Elasticsearch with other applications. n8n has built-in support for a wide range of Elasticsearch features, including creating, updating, deleting, and getting documents and indexes.

On this page, you'll find a list of operations the Elasticsearch node supports and links to more resources.

/// note | Credentials

Refer to [Elasticsearch credentials](/integrations/builtin/credentials/elasticsearch.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Document

\* Create a document

\* Delete a document

\* Get a document

\* Get all documents

\* Update a document

\* Index

\* Create

\* Delete

\* Get

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'elasticsearch') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.elasticsecurity.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Elastic Security node documentation

description: Learn how to use the Elastic Security node in n8n. Follow technical documentation to integrate Elastic Security node into your workflows.

contentType: [integration, reference]

---

# Elastic Security node

Use the Elastic Security node to automate work in Elastic Security, and integrate Elastic Security with other applications. n8n's has built-in support for a wide range of Elastic Security features, including creating, updating, deleting, retrieving, and getting cases.

On this page, you'll find a list of operations the Elastic Security node supports and links to more resources.

/// note | Credentials

Refer to [Elastic Security credentials](/integrations/builtin/credentials/elasticsecurity.md) for guidance on setting up authentication.

///

## Operations

\* Case

\* Create a case

\* Delete a case

\* Get a case

\* Retrieve all cases

\* Retrieve a summary of all case activity

\* Update a case

\* Case Comment

\* Add a comment to a case

\* Get a case comment

\* Retrieve all case comments

\* Remove a comment from a case

\* Update a comment in a case

\* Case Tag

\* Add a tag to a case

\* Remove a tag from a case

\* Connector

\* Create a connector

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'elastic-security') ]]

## n8n-nodes-base.emelia.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Emelia node documentation

description: Learn how to use the Emelia node in n8n. Follow technical documentation to integrate Emelia node into your workflows.

contentType: [integration, reference]

---

# Emelia node

Use the Emelia node to automate work in Emelia, and integrate Emelia with other applications. n8n has built-in support for a wide range of Emelia features, including creating campaigns, and adding contacts to a list.

On this page, you'll find a list of operations the Emelia node supports and links to more resources.

/// note | Credentials

Refer to [Emelia credentials](/integrations/builtin/credentials/emelia.md) for guidance on setting up authentication.

///

## Operations

\* Campaign

\* Add Contact

\* Create

\* Get

\* Get All

\* Pause

\* Start

\* Contact List

\* Add

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'emelia') ]]

## n8n-nodes-base.erpnext.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ERPNext node documentation

description: Learn how to use the ERPNext node in n8n. Follow technical documentation to integrate ERPNext node into your workflows.

contentType: [integration, reference]

---

# ERPNext node

Use the ERPNext node to automate work in ERPNext, and integrate ERPNext with other applications. n8n has built-in support for a wide range of ERPNext features, including creating, updating, retrieving, and deleting documents.

On this page, you'll find a list of operations the ERPNext node supports and links to more resources.

/// note | Credentials

Refer to [ERPNext credentials](/integrations/builtin/credentials/erpnext.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\*\*Document\*\*

- Create a document

- Delete a document

- Retrieve a document

- Retrieve all documents

- Update a document

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'erpnext') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.facebookgraphapi.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Graph API node documentation

description: Learn how to use the Facebook Graph API node in n8n. Follow technical documentation to integrate Facebook Graph API node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Graph API node

Use the Facebook Graph API node to automate work in Facebook Graph API, and integrate Facebook Graph API with other applications. n8n has built-in support for a wide range of Facebook Graph API features, including using queries GET POST DELETE for several parameters like host URL, request methods and much more.

On this page, you'll find a list of operations the Facebook Graph API node supports and links to more resources.

/// note | Credentials

Refer to [Facebook Graph API credentials](/integrations/builtin/credentials/facebookgraph.md) for guidance on setting up authentication.

///

## Operations

\* \*\*Default\*\*

\* GET

\* POST

\* DELETE

\* \*\*Video Uploads\*\*

\* GET

\* POST

\* DELETE

### Parameters

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

\* \*\*Host URL\*\*: The host URL for the request. The following options are available:

\* \*\*Default\*\*: Requests are passed to the `graph.facebook.com` host URL. Used for the majority of requests.

\* \*\*Video\*\*: Requests are passed to the `graph-video.facebook.com` host URL. Used for video upload requests only.

\* \*\*HTTP Request Method\*\*: The method to be used for this request, from the following options:

\* \*\*GET\*\*

\* \*\*POST\*\*

\* \*\*DELETE\*\*

\* \*\*Graph API Version\*\*: The version of the [Facebook Graph API](https://developers.facebook.com/docs/graph-api/changelog) to be used for this request.

\* \*\*Node\*\*: The node on which to operate, for example `/<page-id>/feed`. Read more about it in the [official Facebook Developer documentation](https://developers.facebook.com/docs/graph-api/using-graph-api).

\* \*\*Edge\*\*: Edge of the node on which to operate. Edges represent collections of objects which are attached to the node.

\* \*\*Ignore SSL Issues\*\*: Toggle to still download the response even if SSL certificate validation isn't possible.

\* \*\*Send Binary File\*\*: Available for `POST` operations. If enabled binary data is sent as the body. Requires setting the following:

\* \*\*Input Binary Field\*\*: Name of the binary property which contains the data for the file to be uploaded.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'facebook-graph-api') ]]

## n8n-nodes-base.filemaker.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: FileMaker node documentation

description: Learn how to use the FileMaker node in n8n. Follow technical documentation to integrate FileMaker node into your workflows.

contentType: [integration, reference]

priority: medium

---

# FileMaker node

Use the FileMaker node to automate work in FileMaker, and integrate FileMaker with other applications. n8n has built-in support for a wide range of FileMaker features, including creating, finding, getting, editing, and duplicating files.

On this page, you'll find a list of operations the FileMaker node supports and links to more resources.

/// note | Credentials

Refer to [FileMaker credentials](/integrations/builtin/credentials/filemaker.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

- Find Records

- Get Records

- Get Records by Id

- Perform Script

- Create Record

- Edit Record

- Duplicate Record

- Delete Record

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'filemaker') ]]

## n8n-nodes-base.flow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Flow node documentation

description: Learn how to use the Flow node in n8n. Follow technical documentation to integrate Flow node into your workflows.

contentType: [integration, reference]

---

# Flow node

Use the Flow node to automate work in Flow, and integrate Flow with other applications. n8n has built-in support for a wide range of Flow features, including creating, updating, and getting tasks.

On this page, you'll find a list of operations the Flow node supports and links to more resources.

/// note | Credentials

Refer to [Flow credentials](/integrations/builtin/credentials/flow.md) for guidance on setting up authentication.

///

## Operations

\* Task

\* Create a new task

\* Update a task

\* Get a task

\* Get all the tasks

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'flow') ]]

## n8n-nodes-base.freshdesk.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Freshdesk node documentation

description: Learn how to use the Freshdesk node in n8n. Follow technical documentation to integrate Freshdesk node into your workflows.

contentType: [integration, reference]

---

# Freshdesk node

Use the Freshdesk node to automate work in Freshdesk and integrate Freshdesk with other applications. n8n has built-in support for a wide range of Freshdesk features, including creating, updating, deleting, and getting contacts and tickets.

On this page, you'll find a list of operations the Freshdesk node supports and links to more resources.

/// note | Credentials

Refer to [Freshdesk credentials](/integrations/builtin/credentials/freshdesk.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create a new contact

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Update a contact

\* Ticket

\* Create a new ticket

\* Delete a ticket

\* Get a ticket

\* Get all tickets

\* Update a ticket

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'freshdesk') ]]

## n8n-nodes-base.freshservice.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Freshservice node documentation

description: Learn how to use the Freshservice node in n8n. Follow technical documentation to integrate Freshservice node into your workflows.

contentType: [integration, reference]

---

# Freshservice node

Use the Freshservice node to automate work in Freshservice and integrate Freshservice with other applications. n8n has built-in support for a wide range of Freshdesk features, including creating, updating, deleting, and getting agent information and departments.

On this page, you'll find a list of operations the Freshservice node supports and links to more resources.

/// note | Credentials

Refer to [Freshservice credentials](/integrations/builtin/credentials/freshservice.md) for guidance on setting up authentication.

///

## Operations

\* Agent

\* Create an agent

\* Delete an agent

\* Retrieve an agent

\* Retrieve all agents

\* Update an agent

\* Agent Group

\* Create an agent group

\* Delete an agent group

\* Retrieve an agent group

\* Retrieve all agent groups

\* Update an agent group

\* Agent Role

\* Retrieve an agent role

\* Retrieve all agent roles

\* Announcement

\* Create an announcement

\* Delete an announcement

\* Retrieve an announcement

\* Retrieve all announcements

\* Update an announcement

\* Asset Type

\* Create an asset type

\* Delete an asset type

\* Retrieve an asset type

\* Retrieve all asset types

\* Update an asset type

\* Change

\* Create a change

\* Delete a change

\* Retrieve a change

\* Retrieve all changes

\* Update a change

\* Department

\* Create a department

\* Delete a department

\* Retrieve a department

\* Retrieve all departments

\* Update a department

\* Location

\* Create a location

\* Delete a location

\* Retrieve a location

\* Retrieve all locations

\* Update a location

\* Problem

\* Create a problem

\* Delete a problem

\* Retrieve a problem

\* Retrieve all problems

\* Update a problem

\* Product

\* Create a product

\* Delete a product

\* Retrieve a product

\* Retrieve all products

\* Update a product

\* Release

\* Create a release

\* Delete a release

\* Retrieve a release

\* Retrieve all releases

\* Update a release

\* Requester

\* Create a requester

\* Delete a requester

\* Retrieve a requester

\* Retrieve all requesters

\* Update a requester

\* Requester Group

\* Create a requester group

\* Delete a requester group

\* Retrieve a requester group

\* Retrieve all requester groups

\* Update a requester group

\* Software

\* Create a software application

\* Delete a software application

\* Retrieve a software application

\* Retrieve all software applications

\* Update a software application

\* Ticket

\* Create a ticket

\* Delete a ticket

\* Retrieve a ticket

\* Retrieve all tickets

\* Update a ticket

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'freshservice') ]]

## n8n-nodes-base.freshworkscrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Freshworks CRM node documentation

description: Learn how to use the Freshworks CRM node in n8n. Follow technical documentation to integrate Freshworks CRM node into your workflows.

contentType: [integration, reference]

---

# Freshworks CRM node

Use the Freshworks CRM node to automate work in Freshworks CRM, and integrate Freshworks CRM with other applications. n8n has built-in support for a wide range of Freshworks CRM features, including creating, updating, deleting, and retrieve, accounts, appointments, contacts, deals, notes, sales activity and more.

On this page, you'll find a list of operations the Freshworks CRM node supports and links to more resources.

/// note | Credentials

Refer to [Freshworks CRM credentials](/integrations/builtin/credentials/freshworkscrm.md) for guidance on setting up authentication.

///

## Operations

\* Account

\* Create an account

\* Delete an account

\* Retrieve an account

\* Retrieve all accounts

\* Update an account

\* Appointment

\* Create an appointment

\* Delete an appointment

\* Retrieve an appointment

\* Retrieve all appointments

\* Update an appointment

\* Contact

\* Create a contact

\* Delete a contact

\* Retrieve a contact

\* Retrieve all contacts

\* Update a contact

\* Deal

\* Create a deal

\* Delete a deal

\* Retrieve a deal

\* Retrieve all deals

\* Update a deal

\* Note

\* Create a note

\* Delete a note

\* Update a note

\* Sales Activity

\* Retrieve a sales activity

\* Retrieve all sales activities

\* Task

\* Create a task

\* Delete a task

\* Retrieve a task

\* Retrieve all tasks

\* Update a task

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'freshworks-crm') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.getresponse.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GetResponse node documentation

description: Learn how to use the GetResponse node in n8n. Follow technical documentation to integrate GetResponse node into your workflows.

contentType: [integration, reference]

---

# GetResponse node

Use the GetResponse node to automate work in GetResponse, and integrate GetResponse with other applications. n8n has built-in support for a wide range of GetResponse features, including creating, updating, deleting, and getting contacts.

On this page, you'll find a list of operations the GetResponse node supports and links to more resources.

/// note | Credentials

Refer to [GetResponse credentials](/integrations/builtin/credentials/getresponse.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create a new contact

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Update contact properties

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'getresponse') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.ghost.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Ghost node documentation

description: Learn how to use the Ghost node in n8n. Follow technical documentation to integrate Ghost node into your workflows.

contentType: [integration, reference]

---

# Ghost node

Use the Ghost node to automate work in Ghost, and integrate Ghost with other applications. n8n has built-in support for a wide range of Ghost features, including creating, updating, deleting, and getting posts for the Admin and content API.

On this page, you'll find a list of operations the Ghost node supports and links to more resources.

/// note | Credentials

Refer to [Ghost credentials](/integrations/builtin/credentials/ghost.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

### Admin API

\* \*\*Post\*\*

\* Create a post

\* Delete a post

\* Get a post

\* Get all posts

\* Update a post

### Content API

\* \*\*Post\*\*

\* Get a post

\* Get all posts

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'ghost') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.github.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GitHub node documentation

description: Learn how to use the GitHub node in n8n. Follow technical documentation to integrate GitHub node into your workflows.

contentType: [integration, reference]

priority: medium

---

# GitHub node

Use the GitHub node to automate work in GitHub, and integrate GitHub with other applications. n8n has built-in support for a wide range of GitHub features, including creating, updating, deleting, and editing files, repositories, issues, releases, and users.

On this page, you'll find a list of operations the GitHub node supports and links to more resources.

/// note | Credentials

Refer to [GitHub credentials](/integrations/builtin/credentials/github.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* File

\* Create

\* Delete

\* Edit

\* Get

\* List

\* Issue

\* Create

\* Create Comment

\* Edit

\* Get

\* Lock

\* Organization

\* Get Repositories

\* Release

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Repository

\* Get

\* Get Issues

\* Get License

\* Get Profile

\* Get Pull Requests

\* List Popular Paths

\* List Referrers

\* Review

\* Create

\* Get

\* Get Many

\* Update

\* User

\* Get Repositories

\* Invite

\* Workflow

\* Disable

\* Dispatch

\* Enable

\* Get

\* Get Usage

\* List

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'github') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.gitlab.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GitLab node documentation

description: Learn how to use the GitLab node in n8n. Follow technical documentation to integrate GitLab node into your workflows.

contentType: [integration, reference]

priority: medium

---

# GitLab node

Use the GitLab node to automate work in GitLab, and integrate GitLab with other applications. n8n has built-in support for a wide range of GitLab features, including creating, updating, deleting, and editing issues, repositories, releases and users.

On this page, you'll find a list of operations the GitLab node supports and links to more resources.

/// note | Credentials

Refer to [GitLab credentials](/integrations/builtin/credentials/gitlab.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* File

\* Create

\* Delete

\* Edit

\* Get

\* List

\* Issue

\* Create a new issue

\* Create a new comment on an issue

\* Edit an issue

\* Get the data of a single issue

\* Lock an issue

\* Release

\* Create a new release

\* Delete a new release

\* Get a new release

\* Get all releases

\* Update a new release

\* Repository

\* Get the data of a single repository

\* Returns issues of a repository

\* User

\* Returns the repositories of a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'gitlab') ]]

## Related resources

Refer to [GitLab's documentation](https://docs.gitlab.com/ee/api/rest/){:target=\_blank .external-link} for more information about the service.

n8n provides a trigger node for GitLab. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.gitlabtrigger.md).

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.gong.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gong node documentation

description: Learn how to use the Gong node in n8n. Follow technical documentation to integrate Gong node into your workflows.

contentType: [integration, reference]

---

# Gong node

Use the Gong node to automate work in Gong and integrate Gong with other applications. n8n has built-in support for a wide range of Gong features, which includes getting one or more calls and users.

On this page, you'll find a list of operations the Gong node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/gong.md).

///

## Operations

<!-- vale off -->

\* Call

\* Get

\* Get Many

\* User

\* Get

\* Get Many

<!-- vale on -->

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'gong') ]]

## Related resources

Refer to [Gong's documentation](https://gong.app.gong.io/settings/api/documentation){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googleads.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Ads node documentation

description: Learn how to use the Google Ads node in n8n. Follow technical documentation to integrate Google Ads node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google Ads node

Use the Google Ads node to automate work in Google Ads, and integrate Google Ads with other applications. n8n has built-in support for a wide range of Google Ads features, including getting campaigns.

On this page, you'll find a list of operations the Google Ads node supports and links to more resources.

/// note | Credentials

Refer to [Google Ads credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

## Operations

\* Campaign

\* Get all campaigns

\* Get a campaign

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-ads') ]]

## Related resources

Refer to [Google Ads' documentation](https://developers.google.com/google-ads/api/docs/start){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googleanalytics.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Analytics node documentation

description: Learn how to use the Google Analytics node in n8n. Follow technical documentation to integrate Google Analytics node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google Analytics node

Use the Google Analytics node to automate work in Google Analytics, and integrate Google Analytics with other applications. n8n has built-in support for a wide range of Google Analytics features, including returning reports and user activities.

On this page, you'll find a list of operations the Google Analytics node supports and links to more resources.

/// note | Credentials

Refer to [Google Analytics credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Report

\* Get

\* User Activity

\* Search

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-analytics') ]]

## Related resources

Refer to [Google Analytics' documentation](https://developers.google.com/analytics){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googlebigquery.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google BigQuery node documentation

description: Learn how to use the Google BigQuery node in n8n. Follow technical documentation to integrate Google BigQuery node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google BigQuery node

Use the Google BigQuery node to automate work in Google BigQuery, and integrate Google BigQuery with other applications. n8n has built-in support for a wide range of Google BigQuery features, including creating, and retrieving records.

On this page, you'll find a list of operations the Google BigQuery node supports and links to more resources.

/// note | Credentials

Refer to [Google BigQuery credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

- Execute Query

- Insert

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-bigquery') ]]

## Related resources

Refer to [Google BigQuery's documentation](https://cloud.google.com/bigquery/docs/reference/rest){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googlebooks.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Books node documentation

description: Learn how to use the Google Books node in n8n. Follow technical documentation to integrate Google Books node into your workflows.

contentType: [integration, reference]

---

# Google Books node

Use the Google Books node to automate work in Google Books, and integrate Google Books with other applications. n8n has built-in support for a wide range of Google Books features, including retrieving a specific bookshelf resource for the specified user, adding volume to a bookshelf, and getting volume.

On this page, you'll find a list of operations the Google Books node supports and links to more resources.

/// note | Credentials

Refer to [Google credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

## Operations

\* Bookshelf

\* Retrieve a specific bookshelf resource for the specified user

\* Get all public bookshelf resource for the specified user

\* Bookshelf Volume

\* Add a volume to a bookshelf

\* Clears all volumes from a bookshelf

\* Get all volumes in a specific bookshelf for the specified user

\* Moves a volume within a bookshelf

\* Removes a volume from a bookshelf

\* Volume

\* Get a volume resource based on ID

\* Get all volumes filtered by query

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-books') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googlebusinessprofile.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Business Profile node documentation

description: Learn how to use the Google Business Profile node in n8n. Follow technical documentation to integrate Google Business Profile node into your workflows.

contentType: [integration, reference]

---

# Google Business Profile node

Use the Google Business Profile node to automate work in Google Business Profile and integrate Google Business Profile with other applications. n8n has built-in support for a wide range of Google Business Profile features, which includes creating, updating, and deleting posts and reviews.

On this page, you'll find a list of operations the Google Business Profile node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/index.md).

///

## Operations

\* Post

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Review

\* Delete Reply

\* Get

\* Get Many

\* Reply

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-business-profile') ]]

## Related resources

n8n provides a trigger node for Google Business Profile. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlebusinessprofiletrigger.md).

Refer to [Google Business Profile's documentation](https://developers.google.com/my-business/reference/rest){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googlechat.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Chat node documentation

description: Learn how to use the Google Chat node in n8n. Follow technical documentation to integrate Google Chat node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google Chat node

Use the Google Chat node to automate work in Google Chat, and integrate Google Chat with other applications. n8n has built-in support for a wide range of Google Chat features, including getting membership and spaces, as well as creating and deleting messages.

On this page, you'll find a list of operations the Google Chat node supports and links to more resources.

/// note | Credentials

Refer to [Google credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Member

\* Get a membership

\* Get all memberships in a space

\* Message

\* Create a message

\* Delete a message

\* Get a message

\* Send and Wait for Response

\* Update a message

\* Space

\* Get a space

\* Get all spaces the caller is a member of

--8<-- "\_snippets/integrations/builtin/send-and-wait-operation.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-chat') ]]

## n8n-nodes-base.googlecloudfirestore.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Cloud Firestore node documentation

description: Learn how to use the Google Cloud Firestore node in n8n. Follow technical documentation to integrate Google Cloud Firestore node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google Cloud Firestore node

Use the Google Cloud Firestore node to automate work in Google Cloud Firestore, and integrate Google Cloud Firestore with other applications. n8n has built-in support for a wide range of Google Cloud Firestore features, including creating, deleting, and getting documents.

On this page, you'll find a list of operations the Google Cloud Firestore node supports and links to more resources.

/// note | Credentials

Refer to [Google credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Document

\* Create a document

\* Create/Update a document

\* Delete a document

\* Get a document

\* Get all documents from a collection

\* Runs a query against your documents

\* Collection

\* Get all root collections

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-cloud-firestore') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googlecloudnaturallanguage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Cloud Natural Language node documentation

description: Learn how to use the Google Cloud Natural Language node in n8n. Follow technical documentation to integrate Google Cloud Natural Language node into your workflows.

contentType: [integration, reference]

---

# Google Cloud Natural Language node

Use the Google Cloud Natural Language node to automate work in Google Cloud Natural Language, and integrate Google Cloud Natural Language with other applications. n8n has built-in support for a wide range of Google Cloud Natural Language features, including analyzing documents.

On this page, you'll find a list of operations the Google Cloud Natural Language node supports and links to more resources.

/// note | Credentials

Refer to [Google Cloud Natural Language credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

## Operations

\* Document

\* Analyze Sentiment

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-cloud-natural-language') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googlecloudrealtimedatabase.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Cloud Realtime Database node documentation

description: Learn how to use the Google Cloud Realtime Database node in n8n. Follow technical documentation to integrate Google Cloud Realtime Database node into your workflows.

contentType: [integration, reference]

---

# Google Cloud Realtime Database node

Use the Google Cloud Realtime Database node to automate work in Google Cloud Realtime Database, and integrate Google Cloud Realtime Database with other applications. n8n has built-in support for a wide range of Google Cloud Realtime Database features, including writing, deleting, getting, and appending databases.

On this page, you'll find a list of operations the Google Cloud Realtime Database node supports and links to more resources.

/// note | Credentials

Refer to [Google Cloud Realtime Database credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Write data to a database

\* Delete data from a database

\* Get a record from a database

\* Append to a list of data

\* Update item on a database

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-cloud-realtime-database') ]]

## n8n-nodes-base.googlecloudstorage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Cloud Storage node documentation

description: Learn how to use the Google Cloud Storage node in n8n. Follow technical documentation to integrate Google Cloud Storage node into your workflows.

contentType: [integration, reference]

---

# Google Cloud Storage node

Use the Google Cloud Storage node to automate work in Google Cloud Storage, and integrate Google Cloud Storage with other applications. n8n has built-in support for a wide range of Google Cloud Storage features, including creating, updating, deleting, and getting buckets and objects.

On this page, you'll find a list of operations the Google Cloud Storage node supports and links to more resources.

/// note | Credentials

Refer to [Google Cloud Storage credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

## Operations

\* Bucket

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Object

\* Create

\* Delete

\* Get

\* Get Many

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-cloud-storage') ]]

## Related resources

Refer to Google's [Cloud Storage API documentation](https://cloud.google.com/storage/docs/apis){:target=\_blank .external-link} for detailed information about the API that this node integrates with.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googlecontacts.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Contacts node documentation

description: Learn how to use the Google Contacts node in n8n. Follow technical documentation to integrate Google Contacts node into your workflows.

contentType: [integration, reference]

---

# Google Contacts node

Use the Google Contacts node to automate work in Google Contacts, and integrate Google Contacts with other applications. n8n has built-in support for a wide range of Google Contacts features, including creating, updating, retrieving, deleting, and getting contacts.

On this page, you'll find a list of operations the Google Contacts node supports and links to more resources.

/// note | Credentials

Refer to [Google Contacts credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Contact

\* Create a contact

\* Delete a contact

\* Get a contact

\* Retrieve all contacts

\* Update a contact

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-contacts') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googledocs.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Docs node documentation

description: Learn how to use the Google Docs node in n8n. Follow technical documentation to integrate Google Docs node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google Docs node

Use the Google Docs node to automate work in Google Docs, and integrate Google Docs with other applications. n8n has built-in support for a wide range of Google Docs features, including creating, updating, and getting documents.

On this page, you'll find a list of operations the Google Docs node supports and links to more resources.

/// note | Credentials

Refer to [Google Docs credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Document

\* Create

\* Get

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-docs') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googleperspective.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Perspective node documentation

description: Learn how to use the Google Perspective node in n8n. Follow technical documentation to integrate Google Perspective node into your workflows.

contentType: [integration, reference]

---

# Google Perspective node

Use the Google Perspective node to automate work in Google Perspective, and integrate Google Perspective with other applications. n8n has built-in support for a wide range of Google Perspective features, including analyzing comments.

On this page, you'll find a list of operations the Google Perspective node supports and links to more resources.

/// note | Credentials

Refer to [Google Perspective credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

## Operations

\* Analyze Comment

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-perspective') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googleslides.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Slides node documentation

description: Learn how to use the Google Slides node in n8n. Follow technical documentation to integrate Google Slides node into your workflows.

contentType: [integration, reference]

---

# Google Slides node

Use the Google Slides node to automate work in Google Slides, and integrate Google Slides with other applications. n8n has built-in support for a wide range of Google Slides features, including creating presentations, and getting pages.

On this page, you'll find a list of operations the Google Slides node supports and links to more resources.

/// note | Credentials

Refer to [Google credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Page

\* Get a page

\* Get a thumbnail

\* Presentation

\* Create a presentation

\* Get a presentation

\* Get presentation slides

\* Replace text in a presentation

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-slides') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googletasks.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Tasks node documentation

description: Learn how to use the Google Tasks node in n8n. Follow technical documentation to integrate Google Tasks node into your workflows.

contentType: [integration, reference]

---

# Google Tasks node

Use the Google Tasks node to automate work in Google Tasks, and integrate Google Tasks with other applications. n8n has built-in support for a wide range of Google Tasks features, including adding, updating, and retrieving contacts.

On this page, you'll find a list of operations the Google Tasks node supports and links to more resources.

/// note | Credentials

Refer to [Google Tasks credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Task

\* Add a task to task list

\* Delete a task

\* Retrieve a task

\* Retrieve all tasks from a task list

\* Update a task

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-tasks') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.googletranslate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Translate node documentation

description: Learn how to use the Google Translate node in n8n. Follow technical documentation to integrate Google Translate node into your workflows.

contentType: [integration, reference]

---

# Google Translate node

Use the Google Translate node to automate work in Google Translate, and integrate Google Translate with other applications. n8n has built-in support for a wide range of Google Translate features, including translating languages.

On this page, you'll find a list of operations the Google Translate node supports and links to more resources.

/// note | Credentials

Refer to [Google Translate credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Language

\* Translate data

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-translate') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.gotify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gotify node documentation

description: Learn how to use the Gotify node in n8n. Follow technical documentation to integrate Gotify node into your workflows.

contentType: [integration, reference]

---

# Gotify node

Use the Gotify node to automate work in Gotify, and integrate Gotify with other applications. n8n has built-in support for a wide range of Gotify features, including creating, deleting, and getting messages.

On this page, you'll find a list of operations the Gotify node supports and links to more resources.

/// note | Credentials

Refer to [Gotify credentials](/integrations/builtin/credentials/gotify.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Message

\* Create

\* Delete

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'gotify') ]]

## n8n-nodes-base.gotowebinar.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GoToWebinar node documentation

description: Learn how to use the GoToWebinar node in n8n. Follow technical documentation to integrate GoToWebinar node into your workflows.

contentType: [integration, reference]

---

# GoToWebinar node

Use the GoToWebinar node to automate work in GoToWebinar, and integrate GoToWebinar with other applications. n8n has built-in support for a wide range of GoToWebinar features, including creating, getting, and deleting attendees, organizers, and registrants.

On this page, you'll find a list of operations the GoToWebinar node supports and links to more resources.

/// note | Credentials

Refer to [GoToWebinar credentials](/integrations/builtin/credentials/gotowebinar.md) for guidance on setting up authentication.

///

## Operations

\* Attendee

\* Get

\* Get All

\* Get Details

\* Co-Organizer

\* Create

\* Delete

\* Get All

\* Re-invite

\* Panelist

\* Create

\* Delete

\* Get All

\* Re-invite

\* Registrant

\* Create

\* Delete

\* Get

\* Get All

\* Session

\* Get

\* Get All

\* Get Details

\* Webinar

\* Create

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'gotowebinar') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.grafana.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Grafana node documentation

description: Learn how to use the Grafana node in n8n. Follow technical documentation to integrate Grafana node into your workflows.

contentType: [integration, reference]

---

# Grafana node

Use the Grafana node to automate work in Grafana, and integrate Grafana with other applications. n8n has built-in support for a wide range of Grafana features, including creating, updating, deleting, and getting dashboards, teams, and users.

On this page, you'll find a list of operations the Grafana node supports and links to more resources.

/// note | Credentials

Refer to [Grafana credentials](/integrations/builtin/credentials/grafana.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Dashboard

\* Create a dashboard

\* Delete a dashboard

\* Get a dashboard

\* Get all dashboards

\* Update a dashboard

\* Team

\* Create a team

\* Delete a team

\* Get a team

\* Retrieve all teams

\* Update a team

\* Team Member

\* Add a member to a team

\* Retrieve all team members

\* Remove a member from a team

\* User

\* Delete a user from the current organization

\* Retrieve all users in the current organization

\* Update a user in the current organization

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'grafana') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.grist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Grist node documentation

description: Learn how to use the Grist node in n8n. Follow technical documentation to integrate Grist node into your workflows.

contentType: [integration, reference]

---

# Grist node

Use the Grist node to automate work in Grist, and integrate Grist with other applications. n8n has built-in support for a wide range of Grist features, including creating, updating, deleting, and reading rows in a table.

On this page, you'll find a list of operations the Grist node supports and links to more resources.

/// note | Credentials

Refer to [Grist credentials](/integrations/builtin/credentials/grist.md) for guidance on setting up authentication.

///

## Operations

\* Create rows in a table

\* Delete rows from a table

\* Read rows from a table

\* Update rows in a table

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'grist') ]]

## Get the Row ID

To update or delete a particular record, you need the Row ID. There are two ways to get the Row ID:

\*\*Create a Row ID column in Grist\*\*

Create a new column in your Grist table with the formula `$id`.

\*\*Use the Get All operation\*\*

The \*\*Get All\*\* operation returns the Row ID of each record along with the fields.

You can get it with the expression `{{$node["GristNodeName"].json["id"]}}`.

## Filter records when using the Get All operation

- Select \*\*Add Option\*\* and select \*\*Filter\*\* from the dropdown list.

- You can add filters for any number of columns. The result will only include records which match all the columns.

- For each column, you can enter any number of values separated by commas. The result will include records which match any of the values for that column.

## n8n-nodes-base.gsuiteadmin.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Workspace Admin node documentation

description: Learn how to use the Google Workspace Admin node in n8n. Follow technical documentation to integrate Google Workspace Admin node into your workflows.

contentType: [integration, reference]

---

# Google Workspace Admin node

Use the Google Workspace Admin node to automate work in Google Workspace Admin, and integrate Google Workspace Admin with other applications. n8n has built-in support for a wide range of Google Workspace Admin features, including creating, updating, deleting, and getting users, groups, and ChromeOS devices.

On this page, you'll find a list of operations the Google Workspace Admin node supports and links to more resources.

/// note | Credentials

Refer to [Google credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* ChromeOS Device

\* Get a ChromeOS device

\* Get many ChromeOS devices

\* Update a ChromeOS device

\* Change the status of a ChromeOS device

\* Group

\* Create a group

\* Delete a group

\* Get a group

\* Get many groups

\* Update a group

\* User

\* Add an existing user to a group

\* Create a user

\* Delete a user

\* Get a user

\* Get many users

\* Remove a user from a group

\* Update a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-workspace-admin') ]]

## How to control which custom fields to fetch for a user

There are three different ways to control which custom fields to retrieve when getting a user's information. Use the \*\*Custom Fields\*\* parameter to select one of the following:

- \*\*Don't Include\*\*: Doesn't include any custom fields.

- \*\*Custom\*\*: Includes the custom fields from schemas in \*\*Custom Schema Names or IDs\*\*.

- \*\*Include All\*\*: Include all the fields associated with the user.

To include custom fields, follow these steps:

1. Select \*\*Custom\*\* from the \*\*Custom Fields\*\* dropdown list.

2. Select the schema names you want to include in the \*\*Custom Schema Names or IDs\*\* dropdown list.

## n8n-nodes-base.hackernews.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Hacker News node documentation

description: Learn how to use the Hacker News node in n8n. Follow technical documentation to integrate Hacker News node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Hacker News node

Use the Hacker News node to automate work in Hacker News, and integrate Hacker News with other applications. n8n has built-in support for a wide range of Hacker News features, including getting articles, and users.

On this page, you'll find a list of operations the Hacker News node supports and links to more resources.

/// note | Credentials

This node doesn't require authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* All

\* Get all items

\* Article

\* Get a Hacker News article

\* User

\* Get a Hacker News user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'hacker-news') ]]

## n8n-nodes-base.halopsa.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HaloPSA node documentation

description: Learn how to use the HaloPSA node in n8n. Follow technical documentation to integrate HaloPSA node into your workflows.

contentType: [integration, reference]

---

# HaloPSA node

Use the HaloPSA node to automate work in HaloPSA, and integrate HaloPSA with other applications. n8n has built-in support for a wide range of HaloPSA features, including creating, updating, deleting, and getting clients, sites and tickets.

On this page, you'll find a list of operations the HaloPSA node supports and links to more resources.

/// note | Credentials

Refer to [HaloPSA credentials](/integrations/builtin/credentials/halopsa.md) for guidance on setting up authentication.

///

## Operations

\* Client

\* Create a client

\* Delete a client

\* Get a client

\* Get all clients

\* Update a client

\* Site

\* Create a site

\* Delete a site

\* Get a site

\* Get all sites

\* Update a site

\* Ticket

\* Create a ticket

\* Delete a ticket

\* Get a ticket

\* Get all tickets

\* Update a ticket

\* User

\* Create a user

\* Delete a user

\* Get a user

\* Get all users

\* Update a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'halopsa') ]]

## n8n-nodes-base.harvest.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Harvest node documentation

description: Learn how to use the Harvest node in n8n. Follow technical documentation to integrate Harvest node into your workflows.

contentType: [integration, reference]

---

# Harvest node

Use the Harvest node to automate work in Harvest, and integrate Harvest with other applications. n8n has built-in support for a wide range of Harvest features, including creating, updating, deleting, and getting clients, contacts, invoices, tasks, expenses, users, and projects.

On this page, you'll find a list of operations the Harvest node supports and links to more resources.

/// note | Credentials

Refer to [Harvest credentials](/integrations/builtin/credentials/harvest.md) for guidance on setting up authentication.

///

## Operations

\* Client

\* Create a client

\* Delete a client

\* Get data of a client

\* Get data of all clients

\* Update a client

\* Company

\* Retrieves the company for the currently authenticated user

\* Contact

\* Create a contact

\* Delete a contact

\* Get data of a contact

\* Get data of all contacts

\* Update a contact

\* Estimate

\* Create an estimate

\* Delete an estimate

\* Get data of an estimate

\* Get data of all estimates

\* Update an estimate

\* Expense

\* Get data of an expense

\* Get data of all expenses

\* Create an expense

\* Update an expense

\* Delete an expense

\* Invoice

\* Get data of an invoice

\* Get data of all invoices

\* Create an invoice

\* Update an invoice

\* Delete an invoice

\* Project

\* Create a project

\* Delete a project

\* Get data of a project

\* Get data of all projects

\* Update a project

\* Task

\* Create a task

\* Delete a task

\* Get data of a task

\* Get data of all tasks

\* Update a task

\* Time Entries

\* Create a time entry using duration

\* Create a time entry using start and end time

\* Delete a time entry

\* Delete a time entry's external reference.

\* Get data of a time entry

\* Get data of all time entries

\* Restart a time entry

\* Stop a time entry

\* Update a time entry

\* User

\* Create a user

\* Delete a user

\* Get data of a user

\* Get data of all users

\* Get data of authenticated user

\* Update a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'harvest') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.helpscout.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Help Scout node documentation

description: Learn how to use the Help Scout node in n8n. Follow technical documentation to integrate Help Scout node into your workflows.

contentType: [integration, reference]

---

# Help Scout node

Use the Help Scout node to automate work in Help Scout, and integrate Help Scout with other applications. n8n has built-in support for a wide range of Help Scout features, including creating, updating, deleting, and getting conversations, and customers.

On this page, you'll find a list of operations the Help Scout node supports and links to more resources.

/// note | Credentials

Refer to [Help Scout credentials](/integrations/builtin/credentials/helpscout.md) for guidance on setting up authentication.

///

## Operations

\* Conversation

\* Create a new conversation

\* Delete a conversation

\* Get a conversation

\* Get all conversations

\* Customer

\* Create a new customer

\* Get a customer

\* Get all customers

\* Get customer property definitions

\* Update a customer

\* Mailbox

\* Get data of a mailbox

\* Get all mailboxes

\* Thread

\* Create a new chat thread

\* Get all chat threads

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'helpscout') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.highlevel.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HighLevel node documentation

description: Learn how to use the HighLevel node in n8n. Follow technical documentation to integrate HighLevel node into your workflows.

contentType: [integration, reference]

---

# HighLevel node

Use the HighLevel node to automate work in HighLevel, and integrate HighLevel with other applications. n8n has built-in support for a wide range of HighLevel features, including creating, updating, deleting, and getting contacts, opportunities, and tasks, as well as booking appointments and getting free time slots in calendars.

On this page, you'll find a list of operations the HighLevel node supports and links to more resources.

/// note | Credentials

Refer to [HighLevel credentials](/integrations/builtin/credentials/highlevel.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create or update

\* Delete

\* Get

\* Get many

\* Update

\* Opportunity

\* Create

\* Delete

\* Get

\* Get many

\* Update

\* Task

\* Create

\* Delete

\* Get

\* Get many

\* Update

\* Calendar

\* Book an appointment

\* Get free slots

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'highlevel') ]]

## Related resources

Refer to [HighLevel's API documentation and support forums](https://help.gohighlevel.com/support/solutions/articles/48001060529-highlevel-api){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.homeassistant.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Home Assistant node documentation

description: Learn how to use the Home Assistant node in n8n. Follow technical documentation to integrate Home Assistant node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Home Assistant node

Use the Home Assistant node to automate work in Home Assistant, and integrate Home Assistant with other applications. n8n has built-in support for a wide range of Home Assistant features, including getting, creating, and checking camera proxies, configurations, logs, services, and templates.

On this page, you'll find a list of operations the Home Assistant node supports and links to more resources.

/// note | Credentials

Refer to [Home Assistant credentials](/integrations/builtin/credentials/homeassistant.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Camera Proxy

\* Get the camera screenshot

\* Config

\* Get the configuration

\* Check the configuration

\* Event

\* Create an event

\* Get all events

\* Log

\* Get a log for a specific entity

\* Get all logs

\* Service

\* Call a service within a specific domain

\* Get all services

\* State

\* Create a new record, or update the current one if it already exists (upsert)

\* Get a state for a specific entity

\* Get all states

\* Template

\* Create a template

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'home-assistant') ]]

## Related resources

Refer to [Home Assistant's documentation](https://developers.home-assistant.io/docs/api/rest/){:target=\_blank .external-link} for more information about the service.

## n8n-nodes-base.hubspot.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HubSpot node documentation

description: Learn how to use the HubSpot node in n8n. Follow technical documentation to integrate HubSpot node into your workflows.

contentType: [integration, reference]

priority: medium

---

# HubSpot node

Use the HubSpot node to automate work in HubSpot, and integrate HubSpot with other applications. n8n has built-in support for a wide range of HubSpot features, including creating, updating, deleting, and getting contacts, deals, lists, engagements and companies.

On this page, you'll find a list of operations the HubSpot node supports and links to more resources.

/// note | Credentials

Refer to [HubSpot credentials](/integrations/builtin/credentials/hubspot.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Contact

\* Create/Update a contact

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Get recently created/updated contacts

\* Search contacts

\* Contact List

\* Add contact to a list

\* Remove a contact from a list

\* Company

\* Create a company

\* Delete a company

\* Get a company

\* Get all companies

\* Get recently created companies

\* Get recently modified companies

\* Search companies by domain

\* Update a company

\* Deal

\* Create a deal

\* Delete a deal

\* Get a deal

\* Get all deals

\* Get recently created deals

\* Get recently modified deals

\* Search deals

\* Update a deal

\* Engagement

\* Create an engagement

\* Delete an engagement

\* Get an engagement

\* Get all engagements

\* Form

\* Get all fields from a form

\* Submit data to a form

\* Ticket

\* Create a ticket

\* Delete a ticket

\* Get a ticket

\* Get all tickets

\* Update a ticket

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'hubspot') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.humanticai.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Humantic AI node documentation

description: Learn how to use the Humantic AI node in n8n. Follow technical documentation to integrate Humantic AI node into your workflows.

contentType: [integration, reference]

---

# Humantic AI node

Use the Humantic AI node to automate work in Humantic AI, and integrate Humantic AI with other applications. n8n has built-in support for a wide range of Humantic AI features, including creating, retrieving, and updating profiles.

On this page, you'll find a list of operations the Humantic AI node supports and links to more resources.

/// note | Credentials

Refer to [Humantic AI credentials](/integrations/builtin/credentials/humanticai.md) for guidance on setting up authentication.

///

## Operations

\* Profile

\* Create a profile

\* Retrieve a profile

\* Update a profile

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'humantic-ai') ]]

## n8n-nodes-base.hunter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Hunter node documentation

description: Learn how to use the Hunter node in n8n. Follow technical documentation to integrate Hunter node into your workflows.

contentType: [integration, reference]

---

# Hunter node

Use the Hunter node to automate work in Hunter, and integrate Hunter with other applications. n8n has built-in support for a wide range of Hunter features, including getting, generating, and verifying email addresses.

On this page, you'll find a list of operations the Hunter node supports and links to more resources.

/// note | Credentials

Refer to [Hunter credentials](/integrations/builtin/credentials/hunter.md) for guidance on setting up authentication.

///

## Operations

\* Get every email address found on the internet using a given domain name, with sources

\* Generate or retrieve the most likely email address from a domain name, a first name and a last name

\* Verify the deliverability of an email address

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'hunter') ]]

## n8n-nodes-base.intercom.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Intercom node documentation

description: Learn how to use the Intercom node in n8n. Follow technical documentation to integrate Intercom node into your workflows.

contentType: [integration, reference]

---

# Intercom node

Use the Intercom node to automate work in Intercom, and integrate Intercom with other applications. n8n has built-in support for a wide range of Intercom features, including creating, updating, deleting, and getting companies, leads, and users.

On this page, you'll find a list of operations the Intercom node supports and links to more resources.

/// note | Credentials

Refer to [Intercom credentials](/integrations/builtin/credentials/intercom.md) for guidance on setting up authentication.

///

## Operations

\* Company

\* Create a new company

\* Get data of a company

\* Get data of all companies

\* Update a company

\* List company's users

\* Lead

\* Create a new lead

\* Delete a lead

\* Get data of a lead

\* Get data of all leads

\* Update new lead

\* User

\* Create a new user

\* Delete a user

\* Get data of a user

\* Get data of all users

\* Update a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'intercom') ]]

## n8n-nodes-base.invoiceninja.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Invoice Ninja node documentation

description: Learn how to use the Invoice Ninja node in n8n. Follow technical documentation to integrate Invoice Ninja node into your workflows.

contentType: [integration, reference]

---

# Invoice Ninja node

Use the Invoice Ninja node to automate work in Invoice Ninja, and integrate Invoice Ninja with other applications. n8n has built-in support for a wide range of Invoice Ninja features, including creating, updating, deleting, and getting clients, expense, invoice, payments and quotes.

On this page, you'll find a list of operations the Invoice Ninja node supports and links to more resources.

/// note | Credentials

Refer to [Invoice Ninja credentials](/integrations/builtin/credentials/invoiceninja.md) for guidance on setting up authentication.

///

## Operations

\* Client

\* Create a new client

\* Delete a client

\* Get data of a client

\* Get data of all clients

\* Expense

\* Create a new expense

\* Delete an expense

\* Get data of an expense

\* Get data of all expenses

\* Invoice

\* Create a new invoice

\* Delete a invoice

\* Email an invoice

\* Get data of a invoice

\* Get data of all invoices

\* Payment

\* Create a new payment

\* Delete a payment

\* Get data of a payment

\* Get data of all payments

\* Quote

\* Create a new quote

\* Delete a quote

\* Email an quote

\* Get data of a quote

\* Get data of all quotes

\* Task

\* Create a new task

\* Delete a task

\* Get data of a task

\* Get data of all tasks

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'invoice-ninja') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.iterable.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Iterable node documentation

description: Learn how to use the Iterable node in n8n. Follow technical documentation to integrate Iterable node into your workflows.

contentType: [integration, reference]

---

# Iterable node

Use the Iterable node to automate work in Iterable, and integrate Iterable with other applications. n8n has built-in support for a wide range of Iterable features, including creating users, recording the actions performed by the users, and adding and removing users from the list.

On this page, you'll find a list of operations the Iterable node supports and links to more resources.

/// note | Credentials

Refer to [Iterable credentials](/integrations/builtin/credentials/iterable.md) for guidance on setting up authentication.

///

## Operations

\* Event

\* Record the actions a user perform

\* User

\* Create/Update a user

\* Delete a user

\* Get a user

\* User List

\* Add user to list

\* Remove a user from a list

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'iterable') ]]

## n8n-nodes-base.jenkins.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Jenkins node documentation

description: Learn how to use the Jenkins node in n8n. Follow technical documentation to integrate Jenkins node into your workflows.

contentType: [integration, reference]

---

# Jenkins node

Use the Jenkins node to automate work in Jenkins, and integrate Jenkins with other applications. n8n has built-in support for a wide range of Jenkins features, including listing builds, managing instances, and creating and copying jobs.

On this page, you'll find a list of operations the Jenkins node supports and links to more resources.

/// note | Credentials

Refer to [Jenkins credentials](/integrations/builtin/credentials/jenkins.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Build

\* List Builds

\* Instance

\* Cancel quiet down state

\* Put Jenkins in quiet mode, no builds can be started, Jenkins is ready for shutdown

\* Restart Jenkins immediately on environments where it's possible

\* Restart Jenkins once no jobs are running on environments where it's possible

\* Shutdown once no jobs are running

\* Shutdown Jenkins immediately

\* Job

\* Copy a specific job

\* Create a new job

\* Trigger a specific job

\* Trigger a specific job

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'jenkins') ]]

## n8n-nodes-base.jinaai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Jina AI node documentation

description: Learn how to use the Jina AI node in n8n. Follow technical documentation to integrate Jina AI node into your workflows.

contentType: [integration, reference]

---

# Jina AI node

Use the Jina AI node to automate work in Jina AI and integrate Jina AI with other applications. n8n has built-in support for a wide range of Jina AI features.

On this page, you'll find a list of operations the Jina AI node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/jinaai.md).

///

## Operations

\* \*\*Reader\*\*:

\* \*\*Read\*\*: Fetches content from a URL and converts it to clean, LLM-friendly formats.

\* \*\*Search\*\*: Performs a web search using Jina AI and returns the top results as clean, LLM-friendly formats.

\* \*\*Research\*\*:

\* \*\*Deep Research\*\*: Research a topic and generate a structured research report.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'jina-ai') ]]

## Related resources

Refer to [Jina AI's reader API documentation](https://r.jina.ai/docs) and [Jina AI's search API documentation](https://s.jina.ai/docs) for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.jira.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Jira Software node documentation

description: Learn how to use the Jira Software node in n8n. Follow technical documentation to integrate Jira Software node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Jira Software node

Use the Jira Software node to automate work in Jira, and integrate Jira with other applications. n8n has built-in support for a wide range of Jira features, including creating, updating, deleting, and getting issues, and users.

On this page, you'll find a list of operations the Jira Software node supports and links to more resources.

/// note | Credentials

Refer to [Jira credentials](/integrations/builtin/credentials/jira.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Issue

\* Get issue changelog

\* Create a new issue

\* Delete an issue

\* Get an issue

\* Get all issues

\* Create an email notification for an issue and add it to the mail queue

\* Return either all transitions or a transition that can be performed by the user on an issue, based on the issue's status

\* Update an issue

\* Issue Attachment

\* Add attachment to issue

\* Get an attachment

\* Get all attachments

\* Remove an attachment

\* Issue Comment

\* Add comment to issue

\* Get a comment

\* Get all comments

\* Remove a comment

\* Update a comment

\* User

\* Create a new user.

\* Delete a user.

\* Retrieve a user.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'jira-software') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Related resources

Refer to the [official JQL documentation](https://www.atlassian.com/software/jira/guides/expand-jira/jql) about Jira Query Language (JQL) to learn more about it.

## Fetch issues for a specific project

The \*\*Get All\*\* operation returns all the issues from Jira. To fetch issues for a particular project, you need to use Jira Query Language (JQL).

For example, if you want to receive all the issues of a project named `n8n`, you'd do something like this:

- Select \*\*Get All\*\* from the \*\*Operation\*\* dropdown list.

- Toggle \*\*Return All\*\* to true.

- Select \*\*Add Option\*\* and select \*\*JQL\*\*.

- Enter `project=n8n` in the \*\*JQL\*\* field.

This query will fetch all the issues in the project named `n8n`. Enter the name of your project instead of `n8n` to fetch all the issues for your project.

## n8n-nodes-base.kafka.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Kafka node documentation

description: Learn how to use the Kafka node in n8n. Follow technical documentation to integrate Kafka node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Kafka node

Use the Kafka node to automate work in Kafka, and integrate Kafka with other applications. n8n has built-in support for a wide range of Kafka features, including sending messages.

On this page, you'll find a list of operations the Kafka node supports and links to more resources.

/// note | Credentials

Refer to [Kafka credentials](/integrations/builtin/credentials/kafka.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

- Send message

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'kafka') ]]

## n8n-nodes-base.keap.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Keap node documentation

description: Learn how to use the Keap node in n8n. Follow technical documentation to integrate Keap node into your workflows.

contentType: [integration, reference]

---

# Keap node

Use the Keap node to automate work in Keap, and integrate Keap with other applications. n8n has built-in support for a wide range of Keap features, including creating, updating, deleting, and getting companies, products, ecommerce orders, emails, and files.

On this page, you'll find a list of operations the Keap node supports and links to more resources.

/// note | Credentials

Refer to [Keap credentials](/integrations/builtin/credentials/keap.md) for guidance on setting up authentication.

///

## Operations

\* Company

\* Create a company

\* Retrieve all companies

\* Contact

\* Create/update a contact

\* Delete an contact

\* Retrieve an contact

\* Retrieve all contacts

\* Contact Note

\* Create a note

\* Delete a note

\* Get a notes

\* Retrieve all notes

\* Update a note

\* Contact Tag

\* Add a list of tags to a contact

\* Delete a contact's tag

\* Retrieve all contact's tags

\* Ecommerce Order

\* Create an ecommerce order

\* Get an ecommerce order

\* Delete an ecommerce order

\* Retrieve all ecommerce orders

\* Ecommerce Product

\* Create an ecommerce product

\* Delete an ecommerce product

\* Get an ecommerce product

\* Retrieve all ecommerce product

\* Email

\* Create a record of an email sent to a contact

\* Retrieve all sent emails

\* Send Email

\* File

\* Delete a file

\* Retrieve all files

\* Upload a file

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'keap') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.kitemaker.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Kitemaker node documentation

description: Learn how to use the Kitemaker node in n8n. Follow technical documentation to integrate Kitemaker node into your workflows.

contentType: [integration, reference]

---

# Kitemaker node

Use the Kitemaker node to automate work in Kitemaker, and integrate Kitemaker with other applications. n8n has built-in support for a wide range of Kitemaker features, including retrieving data on organizations, spaces and users, as well as creating, getting, and updating work items.

On this page, you'll find a list of operations the Kitemaker node supports and links to more resources.

/// note | Credentials

Refer to [Kitemaker credentials](/integrations/builtin/credentials/kitemaker.md) for guidance on setting up authentication.

///

## Operations

\* Organization

\* Retrieve data on the logged-in user's organization.

\* Space

\* Retrieve data on all the spaces in the logged-in user's organization.

\* User

\* Retrieve data on all the users in the logged-in user's organization.

\* Work Item

\* Create

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'kitemaker') ]]

## n8n-nodes-base.kobotoolbox.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: KoboToolbox node documentation

description: Learn how to use the KoboToolbox node in n8n. Follow technical documentation to integrate KoboToolbox node into your workflows.

contentType: [integration, reference]

---

# KoboToolbox node

Use the KoboToolbox node to automate work in KoboToolbox, and integrate KoboToolbox with other applications. n8n has built-in support for a wide range of KoboToolbox features, including creating, updating, deleting, and getting files, forms, hooks, and submissions.

On this page, you'll find a list of operations the KoboToolbox node supports and links to more resources.

/// note | Credentials

Refer to [KoboToolbox credentials](/integrations/builtin/credentials/kobotoolbox.md) for guidance on setting up authentication.

///

## Operations

\* File

\* Create

\* Delete

\* Get

\* Get Many

\* Form

\* Get

\* Get Many

\* Redeploy

\* Hook

\* Get

\* Get Many

\* Logs

\* Retry All

\* Retry One

\* Submission

\* Delete

\* Get

\* Get Many

\* Get Validation Status

\* Update Validation Status

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'kobotoolbox') ]]

## Options

### Query Options

The Query Submission operation supports query options:

\* In the main section of the \*\*Parameters\*\* panel:

\* \*\*Start\*\* controls the index offset to start the query from (to use the API pagination logic).

\* \*\*Limit\*\* sets the maximum number of records to return. Note that the API always has a limit of 30,000 returned records, whatever value you provide.

\* In the \*\*Query Options\*\* section, you can activate the following parameters:

\* \*\*Query\*\* lets you specify filter predicates in MongoDB's JSON query format. For example: `{"status": "success", "\_submission\_time": {"$lt": "2021-11-01T01:02:03"}}` queries for all submissions with the value `success` for the field `status`, and submitted before November 1st, 2021, 01:02:03.

\* \*\*Fields\*\* lets you specify the list of fields you want to fetch, to make the response lighter.

\* \*\*Sort\*\* lets you provide a list of sorting criteria in MongoDB JSON format. For example, `{"status": 1, "\_submission\_time": -1}` specifies a sort order by ascending status, and then descending submission time.

More details about these options can be found in the [Formhub API docs](https://github.com/SEL-Columbia/formhub/wiki/Formhub-Access-Points-(API)#api-parameters)

### Submission options

All operations that return form submission data offer options to tweak the response. These include:

- Download options lets you download any attachment linked to each particular form submissions, such as pictures and videos. It also lets you select the naming pattern, and the file size to download (if available - typically for images).

- Formatting options perform some reformatting as described in [About reformatting](#about-reformatting).

#### About reformatting

The default JSON format for KoboToolbox submission data is sometimes hard to deal with, because it's not schema-aware, and all fields are therefore returned as strings.

This node provides a lightweight opinionated reformatting logic, enabled with the \*\*Reformat?\*\* parameter, available on all operations that return form submissions: the submission query, get, and the attachment download operations.

When enabled, the reformatting:

- Reorganizes the JSON into a multi-level hierarchy following the form's groups. By default, question grouping hierarchy is materialized by a `/` character in the field names, for example `Group1/Question1`. With reformatting enabled, n8n reorganizes these into `Group1.Question1`, as nested JSON objects.

- Renames fields to trim `\_` (not supported by many downstream systems).

- Parses all geospatial fields (Point, Line, and Area question types) into their standard GeoJSON equivalent.

- Splits all fields matching any of the \*\*Multiselect Mask\*\* wildcard masks into an array. Since the multi-select fields appear as space-separated strings, they can't be guessed algorithmically, so you must provide a field naming mask. Format the masks as a comma-separated list. Lists support the `\*` wildcard.

- Converts all fields matching any of the \*\*Number Mask\*\* wildcard masks into a JSON float.

Here's a detailed example in JSON:

```json

{

"\_id": 471987,

"formhub/uuid": "189436bb09a54957bfcc798e338b54d6",

"start": "2021-12-05T16:13:38.527+02:00",

"end": "2021-12-05T16:15:33.407+02:00",

"Field\_Details/Field\_Name": "Test Fields",

"Field\_Details/Field\_Location": "-1.932914 30.078211 1421 165",

"Field\_Details/Field\_Shape": "-1.932914 30.078211 1421 165;-1.933011 30.078085 0 0;-1.933257 30.078004 0 0;-1.933338 30.078197 0 0;-1.933107 30.078299 0 0;-1.932914 30.078211 1421 165",

"Field\_Details/Crops\_Grown": "maize beans avocado",

"Field\_Details/Field\_Size\_sqm": "2300",

"\_\_version\_\_": "veGcULpqP6JNFKRJbbMvMs",

"meta/instanceID": "uuid:2356cbbe-c1fd-414d-85c8-84f33e92618a",

"\_xform\_id\_string": "ajXVJpBkTD5tB4Nu9QXpgm",

"\_uuid": "2356cbbe-c1fd-414d-85c8-84f33e92618a",

"\_attachments": [],

"\_status": "submitted\_via\_web",

"\_geolocation": [

-1.932914,

30.078211

],

"\_submission\_time": "2021-12-05T14:15:44",

"\_tags": [],

"\_notes": [],

"\_validation\_status": {},

"\_submitted\_by": null

}

```

With reformatting enabled, and the appropriate masks for multi-select and number formatting (for example, `Crops\_\*` and `\*\_sqm` respectively), n8n parses it into:

```json

{

"id": 471987,

"formhub": {

"uuid": "189436bb09a54957bfcc798e338b54d6"

},

"start": "2021-12-05T16:13:38.527+02:00",

"end": "2021-12-05T16:15:33.407+02:00",

"Field\_Details": {

"Field\_Name": "Test Fields",

"Field\_Location": {

"lat": -1.932914,

"lon": 30.078211

},

"Field\_Shape": {

"type": "polygon",

"coordinates": [

{

"lat": -1.932914,

"lon": 30.078211

},

{

"lat": -1.933011,

"lon": 30.078085

},

{

"lat": -1.933257,

"lon": 30.078004

},

{

"lat": -1.933338,

"lon": 30.078197

},

{

"lat": -1.933107,

"lon": 30.078299

},

{

"lat": -1.932914,

"lon": 30.078211

}

]

},

"Crops\_Grown": [

"maize",

"beans",

"avocado"

],

"Field\_Size\_sqm": 2300

},

"version": "veGcULpqP6JNFKRJbbMvMs",

"meta": {

"instanceID": "uuid:2356cbbe-c1fd-414d-85c8-84f33e92618a"

},

"xform\_id\_string": "ajXVJpBkTD5tB4Nu9QXpgm",

"uuid": "2356cbbe-c1fd-414d-85c8-84f33e92618a",

"attachments": [],

"status": "submitted\_via\_web",

"geolocation": {

"lat": -1.932914,

"lon": 30.078211

},

"submission\_time": "2021-12-05T14:15:44",

"tags": [],

"notes": [],

"validation\_status": {},

"submitted\_by": null

}

```

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.lemlist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Lemlist node documentation

description: Learn how to use the Lemlist node in n8n. Follow technical documentation to integrate Lemlist node into your workflows.

contentType: [integration, reference]

---

# Lemlist node

Use the Lemlist node to automate work in Lemlist, and integrate Lemlist with other applications. n8n has built-in support for a wide range of Lemlist features, including getting activities, teams and campaigns, as well as creating, updating, and deleting leads.

On this page, you'll find a list of operations the Lemlist node supports and links to more resources.

/// note | Credentials

Refer to [Lemlist credentials](/integrations/builtin/credentials/lemlist.md) for guidance on setting up authentication.

///

## Operations

<!-- vale from-write-good.Weasel = NO -->

<!-- vale from-write-good.TooWordy = NO -->

\* Activity

\* Get Many: Get many activities

\* Campaign

\* Get Many: Get many campaigns

\* Get Stats: Get campaign stats

\* Enrichment

\* Get: Fetches a previously completed enrichment

\* Enrich Lead: Enrich a lead using an email or LinkedIn URL

\* Enrich Person: Enrich a person using an email or LinkedIn URL

\* Lead

\* Create: Create a new lead

\* Delete: Delete an existing lead

\* Get: Get an existing lead

\* Unsubscribe: Unsubscribe an existing lead

\* Team

\* Get: Get an existing team

\* Get Credits: Get an existing team's credits

\* Unsubscribe

\* Add: Add an email to an unsubscribe list

\* Delete: Delete an email from an unsubscribe list

\* Get Many: Get many unsubscribed emails

<!-- vale from-write-good.TooWordy = YES -->

<!-- vale from-write-good.Weasel = YES -->

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'lemlist') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.line.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Line node documentation

description: Learn how to use the Line node in n8n. Follow technical documentation to integrate Line node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Line node

<!-- vale off -->

/// warning | Deprecated: End of service

LINE Notify is discontinuing service as of April 1st 2025 and this node will no longer work after that date. View LINE Notify's [end of service announement](https://notify-bot.line.me/closing-announce){:target=\_blank .external-link} for more information.

///

<!-- vale on -->

Use the Line node to automate work in Line, and integrate Line with other applications. n8n has built-in support for a wide range of Line features, including sending notifications.

On this page, you'll find a list of operations the Line node supports and links to more resources.

/// note | Credentials

Refer to [Line credentials](/integrations/builtin/credentials/line.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Notification

\* Sends notifications to users or groups

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'line') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.linear.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Linear node documentation

description: Learn how to use the Linear node in n8n. Follow technical documentation to integrate Linear node into your workflows.

contentType: [integration, reference]

---

# Linear node

Use the Linear node to automate work in Linear, and integrate Linear with other applications. n8n has built-in support for a wide range of Linear features, including creating, updating, deleting, and getting issues.

On this page, you'll find a list of operations the Linear node supports and links to more resources.

/// note | Credentials

Refer to [Linear credentials](/integrations/builtin/credentials/linear.md) for guidance on setting up authentication.

///

## Operations

\* Issue

\* Create

\* Delete

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'linear') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.lingvanex.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LingvaNex node documentation

description: Learn how to use the LingvaNex node in n8n. Follow technical documentation to integrate LingvaNex node into your workflows.

contentType: [integration, reference]

---

# LingvaNex node

Use the LingvaNex node to automate work in LingvaNex, and integrate LingvaNex with other applications. n8n has built-in support for translating data with LingvaNex.

On this page, you'll find a list of operations the LingvaNex node supports and links to more resources.

/// note | Credentials

Refer to [LingvaNex credentials](/integrations/builtin/credentials/lingvanex.md) for guidance on setting up authentication.

///

## Operations

- Translate data

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'lingvanex') ]]

## n8n-nodes-base.linkedin.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LinkedIn node documentation

description: Learn how to use the LinkedIn node in n8n. Follow technical documentation to integrate LinkedIn node into your workflows.

contentType: [integration, reference]

priority: medium

---

# LinkedIn node

Use the LinkedIn node to automate work in LinkedIn, and integrate LinkedIn with other applications. n8n supports creating posts.

On this page, you'll find a list of operations the LinkedIn node supports and links to more resources.

/// note | Credentials

Refer to [LinkedIn credentials](/integrations/builtin/credentials/linkedin.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Post

\* Create

## Parameters

\* \*\*Post As\*\*: choose whether to post as a \*\*Person\*\* or \*\*Organization\*\*.

\* \*\*Person Name or ID\*\* and \*\*Organization URN\*\*: enter an identifier for the person or organization.

/// note | Posting as organization

If posting as an Organization enter the organization number in the URN field. For example, `03262013` not `urn:li:company:03262013`.

///

\* \*\*Text\*\*: the post contents.

\* \*\*Media Category\*\*: use this when including images or article URLs in your post.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'linkedin') ]]

## Related resources

Refer to [LinkedIn's API documentation](https://learn.microsoft.com/en-us/linkedin/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.lonescale.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LoneScale node documentation

description: Learn how to use the LoneScale node in n8n. Follow technical documentation to integrate LoneScale node into your workflows.

contentType: [integration, reference]

---

# LoneScale node

Use the LoneScale node to automate work in LoneScale and integrate LoneScale with other applications. n8n has built-in support for managing Lists and Items in LoneScale.

On this page, you'll find a list of operations the LoneScale node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/lonescale.md).

///

## Operations

\* List

\* Create

\* Item

\* Create

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'lonescale') ]]

## Related resources

Refer to [LoneScales documentation](https://help-center.lonescale.com/en/articles/6454360-lonescale-public-api){:target=\_blank .external-link} for more information about the service.

n8n provides a trigger node for LoneScale. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.lonescaletrigger.md).

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.magento2.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Magento 2 node documentation

description: Learn how to use the Magento 2 node in n8n. Follow technical documentation to integrate Magento 2 node into your workflows.

contentType: [integration, reference]

---

# Magento 2 node

Use the Magento 2 node to automate work in Magento 2, and integrate Magento 2 with other applications. n8n has built-in support for a wide range of Magento 2 features, including creating, updating, deleting, and getting customers, invoices, orders, and projects.

On this page, you'll find a list of operations the Magento 2 node supports and links to more resources.

/// note | Credentials

Refer to [Magento 2 credentials](/integrations/builtin/credentials/magento2.md) for guidance on setting up authentication.

///

## Operations

\* Customer

\* Create a new customer

\* Delete a customer

\* Get a customer

\* Get all customers

\* Update a customer

\* Invoice

\* Create an invoice

\* Order

\* Cancel an order

\* Get an order

\* Get all orders

\* Ship an order

\* Product

\* Create a product

\* Delete a product

\* Get a product

\* Get all products

\* Update a product

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'magento-2') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mailcheck.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailcheck node documentation

description: Learn how to use the Mailcheck node in n8n. Follow technical documentation to integrate Mailcheck node into your workflows.

contentType: [integration, reference]

---

# Mailcheck node

Use the Mailcheck node to automate work in Mailcheck, and integrate Mailcheck with other applications. n8n has built-in support for a wide range of Mailcheck features, including checking emails.

On this page, you'll find a list of operations the Mailcheck node supports and links to more resources.

/// note | Credentials

Refer to [Mailcheck credentials](/integrations/builtin/credentials/mailcheck.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Email

\* Check

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mailcheck') ]]

## n8n-nodes-base.mailchimp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailchimp node documentation

description: Learn how to use the Mailchimp node in n8n. Follow technical documentation to integrate Mailchimp node into your workflows.

contentType: [integration, reference]

---

# Mailchimp node

Use the Mailchimp node to automate work in Mailchimp, and integrate Mailchimp with other applications. n8n has built-in support for a wide range of Mailchimp features, including creating, updating, and deleting campaigns, as well as getting list groups.

On this page, you'll find a list of operations the Mailchimp node supports and links to more resources.

/// note | Credentials

Refer to [Mailchimp credentials](/integrations/builtin/credentials/mailchimp.md) for guidance on setting up authentication.

///

## Operations

\* Campaign

\* Delete a campaign

\* Get a campaign

\* Get all the campaigns

\* Replicate a campaign

\* Creates a Resend to Non-Openers version of this campaign

\* Send a campaign

\* List Group

\* Get all groups

\* Member

\* Create a new member on list

\* Delete a member on list

\* Get a member on list

\* Get all members on list

\* Update a new member on list

\* Member Tag

\* Add tags from a list member

\* Remove tags from a list member

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mailchimp') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mailerlite.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MailerLite node documentation

description: Learn how to use the MailerLite node in n8n. Follow technical documentation to integrate MailerLite node into your workflows.

contentType: [integration, reference]

---

# MailerLite node

Use the MailerLite node to automate work in MailerLite, and integrate MailerLite with other applications. n8n has built-in support for a wide range of MailerLite features, including creating, updating, deleting, and getting subscribers.

On this page, you'll find a list of operations the MailerLite node supports and links to more resources.

/// note | Credentials

Refer to [MailerLite credentials](/integrations/builtin/credentials/mailerlite.md) for guidance on setting up authentication.

///

## Operations

\* Subscriber

\* Create a new subscriber

\* Get an subscriber

\* Get all subscribers

\* Update an subscriber

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mailerlite') ]]

## n8n-nodes-base.mailgun.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailgun node documentation

description: Learn how to use the Mailgun node in n8n. Follow technical documentation to integrate Mailgun node into your workflows.

contentType: [integration, reference]

---

# Mailgun node

Use the Mailgun node to automate work in Mailgun, and integrate Mailgun with other applications. n8n has built-in support for sending emails with Mailgun.

On this page, you'll find a list of operations the Mailgun node supports and links to more resources.

/// note | Credentials

Refer to [Mailgun credentials](/integrations/builtin/credentials/mailgun.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

- Send an email

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mailgun') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mailjet.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailjet node documentation

description: Learn how to use the Mailjet node in n8n. Follow technical documentation to integrate Mailjet node into your workflows.

contentType: [integration, reference]

---

# Mailjet node

Use the Mailjet node to automate work in Mailjet, and integrate Mailjet with other applications. n8n has built-in support for a wide range of Mailjet features, including sending emails, and SMS.

On this page, you'll find a list of operations the Mailjet node supports and links to more resources.

/// note | Credentials

Refer to [Mailjet credentials](/integrations/builtin/credentials/mailjet.md) for guidance on setting up authentication.

///

## Operations

\* Email

\* Send an email

\* Send an email template

\* SMS

\* Send an SMS

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mailjet') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mandrill.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mandrill node documentation

description: Learn how to use the Mandrill node in n8n. Follow technical documentation to integrate Mandrill node into your workflows.

contentType: [integration, reference]

---

# Mandrill node

Use the Mandrill node to automate work in Mandrill, and integrate Mandrill with other applications. n8n supports sending messages based on templates or HTML with Mandrill.

On this page, you'll find a list of operations the Mandrill node supports and links to more resources.

/// note | Credentials

Refer to [Mandrill credentials](/integrations/builtin/credentials/mandrill.md) for guidance on setting up authentication.

///

## Operations

\* Message

\* Send message based on template.

\* Send message based on HTML.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mandrill') ]]

## n8n-nodes-base.marketstack.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: marketstack node documentation

description: Learn how to use the marketstack node in n8n. Follow technical documentation to integrate marketstack node into your workflows.

contentType: [integration, reference]

---

<!-- marketstack is not a typo. The brand name is all lowercase, so we match it -->

# marketstack node

Use the marketstack node to automate work in marketstack, and integrate marketstack with other applications. n8n has built-in support for a wide range of marketstack features, including getting exchanges, end-of-day data, and tickers.

On this page, you'll find a list of operations the marketstack node supports and links to more resources.

/// note | Credentials

Refer to [marketstack credentials](/integrations/builtin/credentials/marketstack.md) for guidance on setting up authentication.

///

## Operations

\* End-of-Day Data

\* Get All

\* Exchange

\* Get

\* Ticker

\* Get

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'marketstack') ]]

## n8n-nodes-base.matrix.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Matrix node documentation

description: Learn how to use the Matrix node in n8n. Follow technical documentation to integrate Matrix node into your workflows.

contentType: [integration, reference]

---

# Matrix node

Use the Matrix node to automate work in Matrix, and integrate Matrix with other applications. n8n has built-in support for a wide range of Matrix features, including getting current user's account information, sending media and messages to a room, and getting room members and messages.

On this page, you'll find a list of operations the Matrix node supports and links to more resources.

/// note | Credentials

Refer to [Matrix credentials](/integrations/builtin/credentials/matrix.md) for guidance on setting up authentication.

///

## Operations

\* Account

\* Get current user's account information

\* Event

\* Get single event by ID

\* Media

\* Send media to a chat room

\* Message

\* Send a message to a room

\* Gets all messages from a room

\* Room

\* New chat room with defined settings

\* Invite a user to a room

\* Join a new room

\* Kick a user from a room

\* Leave a room

\* Room Member

\* Get all members

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'matrix') ]]

## n8n-nodes-base.mattermost.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mattermost node documentation

description: Learn how to use the Mattermost node in n8n. Follow technical documentation to integrate Mattermost node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Mattermost node

Use the Mattermost node to automate work in Mattermost, and integrate Mattermost with other applications. n8n has built-in support for a wide range of Mattermost features, including creating, deleting, and getting channels, and users, as well as posting messages, and adding reactions.

On this page, you'll find a list of operations the Mattermost node supports and links to more resources.

/// note | Credentials

Refer to [Mattermost credentials](/integrations/builtin/credentials/mattermost.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Channel

\* Add a user to a channel

\* Create a new channel

\* Soft delete a channel

\* Get a page of members for a channel

\* Restores a soft deleted channel

\* Search for a channel

\* Get statistics for a channel

\* Message

\* Soft delete a post, by marking the post as deleted in the database

\* Post a message into a channel

\* Post an ephemeral message into a channel

\* Reaction

\* Add a reaction to a post.

\* Remove a reaction from a post

\* Get all the reactions to one or more posts

\* User

\* Create a new user

\* Deactivates the user and revokes all its sessions by archiving its user object.

\* Retrieve all users

\* Get a user by email

\* Get a user by ID

\* Invite user to team

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mattermost') ]]

## Related resources

Refer to [Mattermost's documentation](https://api.mattermost.com/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Channel ID field error

If you're not the System Administrator, you might get an error: \*\*there was a problem loading the parameter options from server: "Mattermost error response: You do not have the appropriate permissions.\*\* next to the \*\*Channel ID\*\* field.

Ask your system administrator to grant you the `post:channel` permission.

## Find the channel ID

To find the channel ID in Mattermost:

1. Select the channel from the left sidebar.

2. Select the channel name at the top.

3. Select \*\*View Info\*\*.

## n8n-nodes-base.mautic.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mautic node documentation

description: Learn how to use the Mautic node in n8n. Follow technical documentation to integrate Mautic node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Mautic node

Use the Mautic node to automate work in Mautic, and integrate Mautic with other applications. n8n has built-in support for a wide range of Mautic features, including creating, updating, deleting, and getting companies, and contacts, as well as adding and removing campaign contacts.

On this page, you'll find a list of operations the Mautic node supports and links to more resources.

/// note | Credentials

Refer to [Mautic credentials](/integrations/builtin/credentials/mautic.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Campaign Contact

\* Add contact to a campaign

\* Remove contact from a campaign

\* Company

\* Create a new company

\* Delete a company

\* Get data of a company

\* Get data of all companies

\* Update a company

\* Company Contact

\* Add contact to a company

\* Remove a contact from a company

\* Contact

\* Create a new contact

\* Delete a contact

\* Edit contact's points

\* Add/remove contacts from/to the don't contact list

\* Get data of a contact

\* Get data of all contacts

\* Send email to contact

\* Update a contact

\* Contact Segment

\* Add contact to a segment

\* Remove contact from a segment

\* Segment Email

\* Send

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mautic') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.medium.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Medium node documentation

description: Learn how to use the Medium node in n8n. Follow technical documentation to integrate Medium node into your workflows.

contentType: [integration, reference]

---

# Medium node

Use the Medium node to automate work in Medium, and integrate Medium with other applications. n8n has built-in support for a wide range of Medium features, including creating posts, and getting publications.

On this page, you'll find a list of operations the Medium node supports and links to more resources.

/// warning | Medium API no longer supported

Medium has stopped supporting the Medium API. The Medium node still appears within n8n, but you won't be able to configure new API keys to authenticate with.

Refer to [Medium credentials](/integrations/builtin/credentials/medium.md) for guidance on setting up existing API keys.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Post

\* Create a post

\* Publication

\* Get all publications

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'medium') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.messagebird.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MessageBird node documentation

description: Learn how to use the MessageBird node in n8n. Follow technical documentation to integrate MessageBird node into your workflows.

contentType: [integration, reference]

---

# MessageBird node

Use the MessageBird node to automate work in MessageBird, and integrate MessageBird with other applications. n8n has built-in support for a wide range of MessageBird features, including sending messages, and getting balances.

On this page, you'll find a list of operations the MessageBird node supports and links to more resources.

/// note | Credentials

Refer to [MessageBird credentials](/integrations/builtin/credentials/messagebird.md) for guidance on setting up authentication.

///

## Operations

\* SMS

\* Send text messages (SMS)

\* Balance

\* Get the balance

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'messagebird') ]]

## n8n-nodes-base.metabase.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Metabase node documentation

description: Learn how to use the Metabase node in n8n. Follow technical documentation to integrate Metabase node into your workflows.

contentType: [integration, reference]

---

# Metabase node

Use the Metabase node to automate work in Metabase, and integrate Metabase with other applications. n8n has built-in support for a wide range of Metabase features, including adding, and getting alerts, databases, metrics, and questions.

On this page, you'll find a list of operations the Metabase node supports and links to more resources.

/// note | Credentials

Refer to [Metabase credentials](/integrations/builtin/credentials/metabase.md) for guidance on setting up authentication.

///

## Operations

\* Alert

\* Get

\* Get All

\* Database

\* Add

\* Get All

\* Get Fields

\* Metric

\* Get

\* Get All

\* Question

\* Get

\* Get All

\* Result Data

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'metabase') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.microsoftdynamicscrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Dynamics CRM node documentation

description: Learn how to use the Microsoft Dynamics CRM node in n8n. Follow technical documentation to integrate Microsoft Dynamics CRM node into your workflows.

contentType: [integration, reference]

---

# Microsoft Dynamics CRM node

Use the Microsoft Dynamics CRM node to automate work in Microsoft Dynamics CRM, and integrate Microsoft Dynamics CRM with other applications. n8n has built-in support for creating, updating, deleting, and getting Microsoft Dynamics CRM accounts.

On this page, you'll find a list of operations the Microsoft Dynamics CRM node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft credentials](/integrations/builtin/credentials/microsoft.md) for guidance on setting up authentication.

///

## Operations

\* Account

\* Create

\* Delete

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-dynamics-crm') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.microsoftentra.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Entra ID node documentation

description: Learn how to use the Microsoft Entra ID node in n8n. Follow technical documentation to integrate Microsoft Entra ID node into your workflows.

contentType: [integration, reference]

---

# Microsoft Entra ID node

Use the Microsoft Entra ID node to automate work in Microsoft Entra ID and integrate Microsoft Entra ID with other applications. n8n has built-in support for a wide range of Microsoft Entra ID features, which includes creating, getting, updating, and deleting users and groups, as well as adding users to and removing them from groups.

On this page, you'll find a list of operations the Microsoft Entra ID node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/microsoftentra.md).

///

## Operations

\* \*\*Group\*\*

\* \*\*Create\*\*: Create a new group

\* \*\*Delete\*\*: Delete an existing group

\* \*\*Get\*\*: Retrieve data for a specific group

\* \*\*Get Many\*\*: Retrieve a list of groups

\* \*\*Update\*\*: Update a group

\* \*\*User\*\*

\* \*\*Create\*\*: Create a new user

\* \*\*Delete\*\*: Delete an existing user

\* \*\*Get\*\*: Retrieve data for a specific user

\* \*\*Get Many\*\*: Retrieve a list of users

\* \*\*Update\*\*: Update a user

\* \*\*Add to Group\*\*: Add user to a group

\* \*\*Remove from Group\*\*: Remove user from a group

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-entra-id-azure-active-directory') ]]

## Related resources

<!-- vale from-microsoft.We = NO -->

Refer to [Microsoft Entra ID's documentation](https://learn.microsoft.com/en-us/graph/api/resources/identity-network-access-overview?view=graph-rest-1.0){:target=\_blank .external-link} for more information about the service.

<!-- vale from-microsoft.We = YES -->

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Common issues

Here are some common errors and issues with the Microsoft Entra ID node and steps to resolve or troubleshoot them.

### Updating the Allow External Senders and Auto Subscribe New Members options fails

You can't update the \*\*Allow External Senders\*\* and \*\*Auto Subscribe New Members\*\* options directly after creating a new group. You must wait after creating a group before you can change the values of these options.

When designing workflows that use multiple Microsoft Entra ID nodes to first create groups and then update these options, add a [Wait](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) node between the two operations. A Wait node configured to pause for at least two seconds allows time for the group to fully initialize. After the wait, the update operation can complete without erroring.

## n8n-nodes-base.microsoftexcel.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Excel 365 node documentation

description: Learn how to use the Microsoft Excel node in n8n. Follow technical documentation to integrate Microsoft Excel node into your workflows.

contentType: [integration, reference]

priority: high

---

# Microsoft Excel 365 node

Use the Microsoft Excel node to automate work in Microsoft Excel, and integrate Microsoft Excel with other applications. n8n has built-in support for a wide range of Microsoft Excel features, including adding and retrieving lists of table data, and workbooks, as well as getting worksheets.

On this page, you'll find a list of operations the Microsoft Excel node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft credentials](/integrations/builtin/credentials/microsoft.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Table

\* Adds rows to the end of the table

\* Retrieve a list of table columns

\* Retrieve a list of table rows

\* Looks for a specific column value and then returns the matching row

\* Workbook

\* Adds a new worksheet to the workbook.

\* Get data of all workbooks

\* Worksheet

\* Get all worksheets

\* Get worksheet content

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-excel') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.microsoftgraphsecurity.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Graph Security node documentation

description: Learn how to use the Microsoft Graph Security node in n8n. Follow technical documentation to integrate Microsoft Graph Security node into your workflows.

contentType: [integration, reference]

---

# Microsoft Graph Security node

Use the Microsoft Graph Security node to automate work in Microsoft Graph Security, and integrate Microsoft Graph Security with other applications. n8n has built-in support for a wide range of Microsoft Graph Security features, including getting, and updating scores, and profiles.

On this page, you'll find a list of operations the Microsoft Graph Security node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft credentials](/integrations/builtin/credentials/microsoft.md) for guidance on setting up authentication.

///

## Operations

\* Secure Score

\* Get

\* Get All

\* Secure Score Control Profile

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-graph-security') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.microsoftonedrive.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft OneDrive node documentation

description: Learn how to use the Microsoft OneDrive node in n8n. Follow technical documentation to integrate Microsoft OneDrive node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Microsoft OneDrive node

Use the Microsoft OneDrive node to automate work in Microsoft OneDrive, and integrate Microsoft OneDrive with other applications. n8n has built-in support for a wide range of Microsoft OneDrive features, including creating, updating, deleting, and getting files, and folders.

On this page, you'll find a list of operations the Microsoft OneDrive node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft credentials](/integrations/builtin/credentials/microsoft.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* File

\* Copy a file

\* Delete a file

\* Download a file

\* Get a file

\* Rename a file

\* Search a file

\* Share a file

\* Upload a file up to 4MB in size

\* Folder

\* Create a folder

\* Delete a folder

\* Get Children (get items inside a folder)

\* Rename a folder

\* Search a folder

\* Share a folder

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-onedrive') ]]

## Related resources

Refer to [Microsoft's OneDrive API documentation](https://learn.microsoft.com/en-us/onedrive/developer/rest-api/){:target=\_blank .external-link} for more information about the service.

## Find the folder ID

To perform operations on folders, you need to supply the ID. You can find this:

\* In the URL of the folder

\* By searching for it using the node. You need to do this if using MS 365 (where OneDrive uses SharePoint behind the scenes):

1. Select \*\*Resource\*\* > \*\*Folder\*\*.

2. Select \*\*Operation\*\* > \*\*Search\*\*.

3. In \*\*Query\*\*, enter the folder name.

4. Select \*\*Execute step\*\*. n8n runs the query and returns data about the folder, including an `id` field containing the folder ID.

## n8n-nodes-base.microsoftoutlook.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Outlook node documentation

description: Learn how to use the Microsoft Outlook node in n8n. Follow technical documentation to integrate Microsoft Outlook node into your workflows.

contentType: [integration, reference]

priority: high

---

# Microsoft Outlook node

Use the Microsoft Outlook node to automate work in Microsoft Outlook, and integrate Microsoft Outlook with other applications. n8n has built-in support for a wide range of Microsoft Outlook features, including creating, updating, deleting, and getting folders, messages, and drafts.

On this page, you'll find a list of operations the Microsoft Outlook node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft credentials](/integrations/builtin/credentials/microsoft.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Calendar

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Contact

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Draft

\* Create

\* Delete

\* Get

\* Send

\* Update

\* Event

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Folder

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Folder Message

\* Get Many

\* Message

\* Delete

\* Get

\* Get Many

\* Move

\* Reply

\* Send

\* Send and Wait for Response

\* Update

\* Message Attachment

\* Add

\* Download

\* Get

\* Get Many

--8<-- "\_snippets/integrations/builtin/send-and-wait-operation.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-outlook') ]]

## Related resources

Refer to [Outlook's API documentation](https://learn.microsoft.com/en-us/outlook/rest/get-started){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.microsoftsharepoint.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft SharePoint node documentation

description: Learn how to use the Microsoft SharePoint node in n8n. Follow technical documentation to integrate Microsoft SharePoint node into your workflows.

contentType: [integration, reference]

---

# Microsoft SharePoint node

Use the Microsoft SharePoint node to automate work in Microsoft SharePoint and integrate Microsoft SharePoint with other applications. n8n has built-in support for a wide range of Microsoft SharePoint features, which includes downloading, uploading, and updating files, managing items in a list, and getting lists and list items.

On this page, you'll find a list of operations the Microsoft SharePoint node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/microsoft.md).

///

## Operations

<!-- To avoid warning about "many" -->

<!-- vale from-write-good.Weasel = NO -->

\* \*\*File\*\*:

\* Download: Download a file.

\* Update: Update a file.

\* Upload: Upload an existing file.

\* \*\*Item\*\*:

\* Create: Create an item in an existing list.

\* Create or Update: Create a new item, or update the current one if it already exists (upsert).

\* Delete: Delete an item from a list.

\* Get: Retrieve an item from a list.

\* Get Many: Get specific items in a list or list many items.

\* Update: Update an item in an existing list.

\* \*\*List\*\*:

\* Get: Retrieve details of a single list.

\* Get Many: Retrieve a list of lists.

<!-- vale from-write-good.Weasel = YES -->

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-sharepoint') ]]

## Related resources

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [Microsoft's SharePoint documentation](https://learn.microsoft.com/en-us/sharepoint/dev/sp-add-ins/get-to-know-the-sharepoint-rest-service) for more information about the service.

## n8n-nodes-base.microsoftsql.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft SQL node documentation

description: Learn how to use the Microsoft SQL node in n8n. Follow technical documentation to integrate Microsoft SQL node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Microsoft SQL node

Use the Microsoft SQL node to automate work in Microsoft SQL, and integrate Microsoft SQL with other applications. n8n has built-in support for a wide range of Microsoft SQL features, including executing SQL queries, and inserting rows into the database.

On this page, you'll find a list of operations the Microsoft SQL node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft SQL credentials](/integrations/builtin/credentials/microsoftsql.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Execute an SQL query

\* Insert rows in database

\* Update rows in database

\* Delete rows in database

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-sql') ]]

## n8n-nodes-base.microsoftteams.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Teams node documentation

description: Learn how to use the Microsoft Teams node in n8n. Follow technical documentation to integrate Microsoft Teams node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Microsoft Teams node

Use the Microsoft Teams node to automate work in Microsoft Teams, and integrate Microsoft Teams with other applications. n8n has built-in support for a wide range of Microsoft Teams features, including creating and deleting, channels, messages, and tasks.

On this page, you'll find a list of operations the Microsoft Teams node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft credentials](/integrations/builtin/credentials/microsoft.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Channel

\* Create

\* Delete

\* Get

\* Get Many

\* Update

\* Channel Message

\* Create

\* Get Many

\* Chat Message

\* Create

\* Get

\* Get Many

\* Send and Wait for Response

\* Task

\* Create

\* Delete

\* Get

\* Get Many

\* Update

--8<-- "\_snippets/integrations/builtin/send-and-wait-operation.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-teams') ]]

## Related resources

Refer to [Microsoft Teams' API documentation](https://learn.microsoft.com/en-us/graph/api/overview?view=graph-rest-1.0){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.microsofttodo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft To Do node documentation

description: Learn how to use the Microsoft To Do node in n8n. Follow technical documentation to integrate Microsoft To Do node into your workflows.

contentType: [integration, reference]

---

# Microsoft To Do node

Use the Microsoft To Do node to automate work in Microsoft To Do, and integrate Microsoft To Do with other applications. n8n has built-in support for a wide range of Microsoft To Do features, including creating, updating, deleting, and getting linked resources, lists, and tasks.

On this page, you'll find a list of operations the Microsoft To Do node supports and links to more resources.

/// note | Credentials

Refer to [Microsoft credentials](/integrations/builtin/credentials/microsoft.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Linked Resource

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* List

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Task

\* Create

\* Delete

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'microsoft-to-do') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mindee.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mindee node documentation

description: Learn how to use the Mindee node in n8n. Follow technical documentation to integrate Mindee node into your workflows.

contentType: [integration, reference]

---

# Mindee node

Use the Mindee node to automate work in Mindee, and integrate Mindee with other applications. n8n has built-in support for a wide range of Mindee features, including predicting invoices.

On this page, you'll find a list of operations the Mindee node supports and links to more resources.

/// note | Credentials

Refer to [Mindee credentials](/integrations/builtin/credentials/mindee.md) for guidance on setting up authentication.

///

## Operations

- \*\*Invoice\*\*

- Predict

- \*\*Receipt\*\*

- Predict

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mindee') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.misp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MISP node documentation

description: Learn how to use the MISP node in n8n. Follow technical documentation to integrate MISP node into your workflows.

contentType: [integration, reference]

---

# MISP node

Use the MISP node to automate work in MISP, and integrate MISP with other applications. n8n has built-in support for a wide range of MISP features, including creating, updating, deleting and getting events, feeds, and organizations.

On this page, you'll find a list of operations the MISP node supports and links to more resources.

/// note | Credentials

Refer to [MISP credentials](/integrations/builtin/credentials/misp.md) for guidance on setting up authentication.

///

## Operations

\* Attribute

\* Create

\* Delete

\* Get

\* Get All

\* Search

\* Update

\* Event

\* Create

\* Delete

\* Get

\* Get All

\* Publish

\* Search

\* Unpublish

\* Update

\* Event Tag

\* Add

\* Remove

\* Feed

\* Create

\* Disable

\* Enable

\* Get

\* Get All

\* Update

\* Galaxy

\* Delete

\* Get

\* Get All

\* Noticelist

\* Get

\* Get All

\* Object

\* Search

\* Organisation

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Tag

\* Create

\* Delete

\* Get All

\* Update

\* User

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Warninglist

\* Get

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'misp') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mistralai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MistralAI node documentation

description: Learn how to use the Mistral AI node in n8n. Follow technical documentation to integrate Mistral AI node into your workflows.

contentType: [integration, reference]

---

# Mistral AI node

Use the Mistral AI node to automate work in Mistral AI and integrate Mistral AI with other applications. n8n has built-in support for extracting text with various models, file types, and input methods.

On this page, you'll find a list of operations the Mistral AI node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mistral.md).

///

## Node parameters

\* \*\*Resource\*\*: The resource that Mistral AI should operate on. The current implementation supports the "Document" resource.

\* \*\*Operation\*\*: The operation to perform:

\* \*\*Extract Text\*\*: Extracts text from a document or image using optical character recognition (OCR).

\* \*\*Model\*\*: The model to use for the given operation. The current version requires the `mistral-ocr-latest` model.

\* \*\*Document Type\*\*: The document format to process. Can be "Document" or "Image".

\* \*\*Input Type\*\*: How to input the document:

\* \*\*Binary Data\*\*: Pass the document to this node as a binary field.

\* \*\*URL\*\*: Fetch the document from a given URL.

\* \*\*Input Binary Field\*\*: When using the "Binary Data" input type, defines the name of the input binary field containing the file.

\* \*\*URL\*\*: When using the "URL" input type, the URL of the document or image to process.

## Node options

\* \*\*Enable Batch Processing\*\*: Whether to process multiple documents in the same API call. This may reduce your costs by bundling requests.

\* \*\*Batch Size\*\*: When using "Enable Batch Processing", sets the maximum number of documents to process per batch.

\* \*\*Delete Files After Processing\*\*: When using "Enable Batch Processing", whether to delete the files from Mistral Cloud after processing.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mistral-ai') ]]

## Related resources

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [Mistral AI's documentation](https://docs.mistral.ai/api/) for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mocean.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mocean node documentation

description: Learn how to use the Mocean node in n8n. Follow technical documentation to integrate Mocean node into your workflows.

contentType: [integration, reference]

---

# Mocean node

Use the Mocean node to automate work in Mocean, and integrate Mocean with other applications. n8n has built-in support for a wide range of Mocean features, including sending SMS, and voice messages.

On this page, you'll find a list of operations the Mocean node supports and links to more resources.

/// note | Credentials

Refer to [Mocean credentials](/integrations/builtin/credentials/mocean.md) for guidance on setting up authentication.

///

## Operations

\* SMS

\* Send SMS/Voice message

\* Voice

\* Send SMS/Voice message

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mocean') ]]

## n8n-nodes-base.mondaycom.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: monday.com node documentation

description: Learn how to use the monday.com node in n8n. Follow technical documentation to integrate monday.com node into your workflows.

contentType: [integration, reference]

priority: medium

---

# monday.com node

Use the monday.com node to automate work in monday.com, and integrate monday.com with other applications. n8n has built-in support for a wide range of monday.com features, including creating a new board, and adding, deleting, and getting items on the board.

On this page, you'll find a list of operations the monday.com node supports and links to more resources.

/// warning | Minimum required version

This node requires n8n version 1.22.6 or above.

///

/// note | Credentials

Refer to [monday.com credentials](/integrations/builtin/credentials/mondaycom.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Board

\* Archive a board

\* Create a new board

\* Get a board

\* Get all boards

\* Board Column

\* Create a new column

\* Get all columns

\* Board Group

\* Delete a group in a board

\* Create a group in a board

\* Get list of groups in a board

\* Board Item

\* Add an update to an item.

\* Change a column value for a board item

\* Change multiple column values for a board item

\* Create an item in a board's group

\* Delete an item

\* Get an item

\* Get all items

\* Get items by column value

\* Move item to group

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mondaycom') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.mongodb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MongoDB node documentation

description: Learn how to use the MongoDB node in n8n. Follow technical documentation to integrate MongoDB node into your workflows.

contentType: [integration, reference]

priority: medium

---

# MongoDB node

Use the MongoDB node to automate work in MongoDB, and integrate MongoDB with other applications. n8n has built-in support for a wide range of MongoDB features, including aggregating, updating, finding, deleting, and getting documents.

On this page, you'll find a list of operations the MongoDB node supports and links to more resources.

/// note | Credentials

Refer to [MongoDB credentials](/integrations/builtin/credentials/mongodb.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Aggregate documents

\* Delete documents

\* Find documents

\* Find and replace documents

\* Find and update documents

\* Insert documents

\* Update documents

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mongodb') ]]

## n8n-nodes-base.monicacrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Monica CRM node documentation

description: Learn how to use the Monica CRM node in n8n. Follow technical documentation to integrate Monica CRM node into your workflows.

contentType: [integration, reference]

---

# Monica CRM node

Use the Monica CRM node to automate work in Monica CRM, and integrate Monica CRM with other applications. n8n has built-in support for a wide range of Monica CRM features, including creating, updating, deleting, and getting activities, calls, contracts, messages, tasks, and notes.

On this page, you'll find a list of operations the Monica CRM node supports and links to more resources.

/// note | Credentials

Refer to [Monica CRM credentials](/integrations/builtin/credentials/monicacrm.md) for guidance on setting up authentication.

///

## Operations

\* Activity

\* Create an activity

\* Delete an activity

\* Retrieve an activity

\* Retrieve all activities

\* Update an activity

\* Call

\* Create a call

\* Delete a call

\* Retrieve a call

\* Retrieve all calls

\* Update a call

\* Contact

\* Create a contact

\* Delete a contact

\* Retrieve a contact

\* Retrieve all contacts

\* Update a contact

\* Contact Field

\* Create a contact field

\* Delete a contact field

\* Retrieve a contact field

\* Update a contact field

\* Contact Tag

\* Add

\* Remove

\* Conversation

\* Create a conversation

\* Delete a conversation

\* Retrieve a conversation

\* Update a conversation

\* Conversation Message

\* Add a message to a conversation

\* Update a message in a conversation

\* Journal Entry

\* Create a journal entry

\* Delete a journal entry

\* Retrieve a journal entry

\* Retrieve all journal entries

\* Update a journal entry

\* Note

\* Create a note

\* Delete a note

\* Retrieve a note

\* Retrieve all notes

\* Update a note

\* Reminder

\* Create a reminder

\* Delete a reminder

\* Retrieve a reminder

\* Retrieve all reminders

\* Update a reminder

\* Tag

\* Create a tag

\* Delete a tag

\* Retrieve a tag

\* Retrieve all tags

\* Update a tag

\* Task

\* Create a task

\* Delete a task

\* Retrieve a task

\* Retrieve all tasks

\* Update a task

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'monica-crm') ]]

## n8n-nodes-base.mqtt.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MQTT node documentation

description: Learn how to use the MQTT node in n8n. Follow technical documentation to integrate MQTT node into your workflows.

contentType: [integration, reference]

priority: medium

---

# MQTT node

Use the MQTT node to automate work in MQTT, and integrate MQTT with other applications. n8n supports transporting messages with MQTT.

On this page, you'll find a list of operations the MQTT node supports and links to more resources.

/// note | Credentials

Refer to [MQTT credentials](/integrations/builtin/credentials/mqtt.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

Use the MQTT node to send a message. You can set the message topic, and choose whether to send the node input data as part of the message.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mqtt') ]]

## Related resources

n8n provides a trigger node for MQTT. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.mqtttrigger.md).

Refer to [MQTT's documentation](https://mqtt.org/getting-started/){:target=\_blank .external-link} for more information about the service.

## n8n-nodes-base.msg91.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MSG91 node documentation

description: Learn how to use the MSG91 node in n8n. Follow technical documentation to integrate MSG91 node into your workflows.

contentType: [integration, reference]

---

# MSG91 node

Use the MSG91 node to automate work in MSG91, and integrate MSG91 with other applications. n8n supports sending SMS with MSG91.

On this page, you'll find a list of operations the MSG91 node supports and links to more resources.

/// note | Credentials

Refer to [MSG91 credentials](/integrations/builtin/credentials/msg91.md) for guidance on setting up authentication.

///

## Operations

\* SMS

\* Send SMS

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'msg91') ]]

## Find your Sender ID

1. Log in to your MSG91 dashboard.

2. Select \*\*Sender Id\*\* in the left panel.

3. If you don't already have one, select \*\*Add Sender Id +\*\*, fill in the details, and select \*\*Save Sender Id\*\*.

## n8n-nodes-base.n8ntrainingcustomerdatastore.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Customer Datastore (n8n Training) node documentation

description: Learn how to use the Customer Datastore (n8n Training) node in n8n. Follow technical documentation to integrate Customer Datastore (n8n Training) node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Customer Datastore (n8n Training) node

Use this node only for the n8n new user onboarding tutorial. It provides dummy data for testing purposes and has no further functionality.

## n8n-nodes-base.n8ntrainingcustomermessenger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Customer Messenger (n8n Training) node documentation

description: Learn how to use the Customer Messenger (n8n Training) node in n8n. Follow technical documentation to integrate Customer Messenger (n8n Training) node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Customer Messenger (n8n Training) node

Use this node only for the n8n new user onboarding tutorial. It provides no further functionality.

## n8n-nodes-base.nasa.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: NASA node documentation

description: Learn how to use the NASA node in n8n. Follow technical documentation to integrate NASA node into your workflows.

contentType: [integration, reference]

priority: medium

---

# NASA node

Use the NASA node to automate work in NASA, and integrate NASA with other applications. n8n has built-in support for a wide range of NASA features, including retrieving imagery and data.

On this page, you'll find a list of operations the NASA node supports and links to more resources.

/// note | Credentials

Refer to [NASA credentials](/integrations/builtin/credentials/nasa.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Astronomy Picture of the Day

\* Get the Astronomy Picture of the Day

\* Asteroid Neo-Feed

\* Retrieve a list of asteroids based on their closest approach date to Earth

\* Asteroid Neo-Lookup

\* Look up an asteroid based on its NASA SPK-ID

\* Asteroid Neo-Browse

\* Browse the overall asteroid dataset

\* DONKI Coronal Mass Ejection

\* Retrieve DONKI coronal mass ejection data

\* DONKI Interplanetary Shock

\* Retrieve DONKI interplanetary shock data

\* DONKI Solar Flare

\* Retrieve DONKI solar flare data

\* DONKI Solar Energetic Particle

\* Retrieve DONKI solar energetic particle data

\* DONKI Magnetopause Crossing

\* Retrieve data on DONKI magnetopause crossings

\* DONKI Radiation Belt Enhancement

\* Retrieve DONKI radiation belt enhancement data

\* DONKI High Speed Stream

\* Retrieve DONKI high speed stream data

\* DONKI WSA+EnlilSimulation

\* Retrieve DONKI WSA+EnlilSimulation data

\* DONKI Notifications

\* Retrieve DONKI notifications data

\* Earth Imagery

\* Retrieve Earth imagery

\* Earth Assets

\* Retrieve Earth assets

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'nasa') ]]

## n8n-nodes-base.netlify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Netlify node documentation

description: Learn how to use the Netlify node in n8n. Follow technical documentation to integrate Netlify node into your workflows.

contentType: [integration, reference]

---

# Netlify node

Use the Netlify node to automate work in Netlify, and integrate Netlify with other applications. n8n has built-in support for a wide range of Netlify features, including getting and cancelling deployments, as well as deleting, and getting sites.

On this page, you'll find a list of operations the Netlify node supports and links to more resources.

/// note | Credentials

Refer to [Netlify credentials](/integrations/builtin/credentials/netlify.md) for guidance on setting up authentication.

///

## Operations

\* Deploy

\* Cancel a deployment

\* Create a new deployment

\* Get a deployment

\* Get all deployments

\* Site

\* Delete a site

\* Get a site

\* Returns all sites

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'netlify') ]]

## n8n-nodes-base.netscaleradc.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Netscaler ADC node documentation

description: Learn how to use the Netscaler ADC node in n8n. Follow technical documentation to integrate Netscaler ADC node into your workflows.

contentType: [integration, reference]

---

# Netscaler ADC node

Use the Netscaler ADC node to automate work in Netscaler ADC, and integrate Netscaler ADC with other applications. n8n has built-in support for a wide range of Netscaler ADC features, including creating and installing certificates and files.

On this page, you'll find a list of operations the Netscaler ADC node supports and links to more resources.

/// note | Credentials

Refer to [Netscaler ADC credentials](/integrations/builtin/credentials/netscaleradc.md) for guidance on setting up authentication.

///

## Operations

\* Certificate

\* Create

\* Install

\* File

\* Delete

\* Download

\* Upload

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'netscaler-adc') ]]

## Related resources

Refer to [Netscaler ADC's documentation](https://docs.citrix.com/en-us/citrix-adc/current-release/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.nextcloud.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Nextcloud node documentation

description: Learn how to use the Nextcloud node in n8n. Follow technical documentation to integrate Nextcloud node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Nextcloud node

Use the Nextcloud node to automate work in Nextcloud, and integrate Nextcloud with other applications. n8n has built-in support for a wide range of Nextcloud features, including creating, updating, deleting, and getting files, and folders as well as retrieving, and inviting users.

On this page, you'll find a list of operations the Nextcloud node supports and links to more resources.

/// note | Credentials

Refer to [Nextcloud credentials](/integrations/builtin/credentials/nextcloud.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* File

\* Copy a file

\* Delete a file

\* Download a file

\* Move a file

\* Share a file

\* Upload a file

\* Folder

\* Copy a folder

\* Create a folder

\* Delete a folder

\* Return the contents of a given folder

\* Move a folder

\* Share a folder

\* User

\* Invite a user to a Nextcloud organization

\* Delete a user.

\* Retrieve information about a single user.

\* Retrieve a list of users.

\* Edit attributes related to a user.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'nextcloud') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.nocodb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: NocoDB node documentation

description: Learn how to use the NocoDB node in n8n. Follow technical documentation to integrate NocoDB node into your workflows.

contentType: [integration, reference]

priority: medium

---

# NocoDB node

Use the NocoDB node to automate work in NocoDB, and integrate NocoDB with other applications. n8n has built-in support for a wide range of NocoDB features, including creating, updating, deleting, and retrieving rows.

On this page, you'll find a list of operations the NocoDB node supports and links to more resources.

/// note | Credentials

Refer to [NocoDB credentials](/integrations/builtin/credentials/nocodb.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Row

\* Create

\* Delete

\* Get

\* Get Many

\* Update a row

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'nocodb') ]]

## Relates resources

Refer to [NocoDB's documentation](https://docs.nocodb.com/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.npm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: npm node documentation

description: Learn how to use the npm node in n8n. Follow technical documentation to integrate npm node into your workflows.

contentType: [integration, reference]

---

# npm node

Use the npm node to automate work in npm, and integrate npm with other applications.

On this page, you'll find a list of operations the npm node supports and links to more resources.

/// note | Credentials

Refer to [npm credentials](/integrations/builtin/credentials/npm.md) for guidance on setting up authentication.

///

## Operations

\* Package

\* Get Package Metadata

\* Get Package Versions

\* Search for Packages

\* Distribution Tag

\* Get All Tags

\* Update a Tag

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'npm') ]]

## Related resources

Refer to [npm's documentation](https://docs.npmjs.com/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.odoo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Odoo node documentation

description: Learn how to use the Odoo node in n8n. Follow technical documentation to integrate Odoo node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Odoo node

Use the Odoo node to automate work in Odoo, and integrate Odoo with other applications. n8n has built-in support for a wide range of Odoo features, including creating, updating, deleting, and getting contracts, resources, and opportunities.

On this page, you'll find a list of operations the Odoo node supports and links to more resources.

/// note | Credentials

Refer to [Odoo credentials](/integrations/builtin/credentials/odoo.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Contact

\* Create a new contact

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Update a contact

\* Custom Resource

\* Create a new item

\* Delete an item

\* Get an item

\* Get all items

\* Update an item

\* Note

\* Create a new note

\* Delete a note

\* Get a note

\* Get all notes

\* Update a note

\* Opportunity

\* Create a new opportunity

\* Delete an opportunity

\* Get an opportunity

\* Get all opportunities

\* Update an opportunity

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'odoo') ]]

## n8n-nodes-base.okta.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Okta node documentation

description: Learn how to use the Okta node in n8n. Follow technical documentation to integrate Okta node into your workflows.

contentType: [integration, reference]

---

# Okta node

Use the Okta node to automate work in Okta and integrate Okta with other applications. n8n has built-in support for a wide range of Okta features, which includes creating, updating, and deleting users.

On this page, you'll find a list of operations the Okta node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/okta.md).

///

## Operations

- User

- Create a new user

- Delete an existing user

- Get details of a user

- Get many users

- Update an existing user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, okta) ]]

## Related resources

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [Okta's documentation](https://developer.okta.com/docs/guides/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.onesimpleapi.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: One Simple API node documentation

description: Learn how to use the One Simple API node in n8n. Follow technical documentation to integrate One Simple API node into your workflows.

contentType: [integration, reference]

---

<!-- vale off -->

<!-- linting off because 'simple' isn't something I want to add to accept.txt -->

# One Simple API node

Use the One Simple API node to automate work in One Simple API, and integrate One Simple API with other applications. n8n has built-in support for a wide range of One Simple API features, including getting profiles, retrieving information, and generating utilities.

On this page, you'll find a list of operations the One Simple API node supports and links to more resources.

/// note | Credentials

Refer to [One Simple API credentials](/integrations/builtin/credentials/onesimpleapi.md) for guidance on setting up authentication.

///

## Operations

\* Information

\* Convert a value between currencies

\* Retrieve image metadata from a URL

\* Social Profile

\* Get details about an Instagram profile

\* Get details about a Spotify Artist

\* Utility

\* Expand a shortened url

\* Generate a QR Code

\* Validate an email address

\* Website

\* Generate a PDF from a webpage

\* Get SEO information from website

\* Create a screenshot from a webpage

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'one-simple-api') ]]

## Related resources

Refer to [One Simple API's documentation](https://onesimpleapi.com/docs){:target=\_blank .external-link} for more information about the service.

<!-- vale on -->

## n8n-nodes-base.onfleet.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Onfleet node documentation

description: Learn how to use the Onfleet node in n8n. Follow technical documentation to integrate Onfleet node into your workflows.

contentType: [integration, reference]

---

# Onfleet node

Use the Onfleet node to automate work in Onfleet, and integrate Onfleet with other applications. n8n has built-in support for a wide range of Onfleet features, including creating and deleting tasks in Onfleet as well as retrieving organizations' details.

On this page, you'll find a list of operations the Onfleet node supports and links to more resources.

/// note | Credentials

Refer to [Onfleet credentials](/integrations/builtin/credentials/onfleet.md) for guidance on setting up authentication.

///

## Operations

\* Admin

\* Create a new Onfleet admin

\* Delete an Onfleet admin

\* Get all Onfleet admins

\* Update an Onfleet admin

\* Container

\* Add task at index (or append)

\* Get container information

\* Fully replace a container's tasks

\* Destination

\* Create a new destination

\* Get a specific destination

\* Hub

\* Create a new Onfleet hub

\* Get all Onfleet hubs

\* Update an Onfleet hub

\* Organization

\* Retrieve your own organization's details

\* Retrieve the details of an organization with which you are connected

\* Recipient

\* Create a new Onfleet recipient

\* Get a specific Onfleet recipient

\* Update an Onfleet recipient

\* Task

\* Create a new Onfleet task

\* Clone an Onfleet task

\* Force-complete a started Onfleet task

\* Delete an Onfleet task

\* Get all Onfleet tasks

\* Get a specific Onfleet task

\* Update an Onfleet task

\* Team

\* Automatically dispatch tasks assigned to a team to on-duty drivers

\* Create a new Onfleet team

\* Delete an Onfleet team

\* Get a specific Onfleet team

\* Get all Onfleet teams

\* Get estimated times for upcoming tasks for a team, returns a selected driver

\* Update an Onfleet team

\* Worker

\* Create a new Onfleet worker

\* Delete an Onfleet worker

\* Get a specific Onfleet worker

\* Get all Onfleet workers

\* Get a specific Onfleet worker schedule

\* Update an Onfleet worker

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'onfleet') ]]

## n8n-nodes-base.openthesaurus.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenThesaurus node documentation

description: Learn how to use the OpenThesaurus node in n8n. Follow technical documentation to integrate OpenThesaurus node into your workflows.

contentType: [integration, reference]

---

# OpenThesaurus node

Use the OpenThesaurus node to automate work in OpenThesaurus, and integrate OpenThesaurus with other applications. n8n supports synonym look-up for German words.

On this page, you'll find a list of operations the OpenThesaurus node supports and links to more resources.

/// note | Credentials

OpenThesaurus node doesn't require authentication.

///

## Operations

\* Get synonyms for a German word in German

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'openthesaurus') ]]

## n8n-nodes-base.openweathermap.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenWeatherMap node documentation

description: Learn how to use the OpenWeatherMap node in n8n. Follow technical documentation to integrate OpenWeatherMap node into your workflows.

contentType: [integration, reference]

priority: medium

---

# OpenWeatherMap node

Use the OpenWeatherMap node to automate work in OpenWeatherMap, and integrate OpenWeatherMap with other applications. n8n supports retrieving current and upcoming weather data with OpenWeatherMap.

On this page, you'll find a list of operations the OpenWeatherMap node supports and links to more resources.

/// note | Credentials

Refer to [OpenWeatherMap credentials](/integrations/builtin/credentials/openweathermap.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Returns the current weather data

\* Returns the weather data for the next 5 days

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'openweathermap') ]]

## n8n-nodes-base.oura.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Oura node documentation

description: Learn how to use the Oura node in n8n. Follow technical documentation to integrate Oura node into your workflows.

contentType: [integration, reference]

---

# Oura node

Use the Oura node to automate work in Oura, and integrate Oura with other applications. n8n has built-in support for a wide range of Oura features, including getting profiles, and summaries.

On this page, you'll find a list of operations the Oura node supports and links to more resources.

/// note | Credentials

Refer to [Oura credentials](/integrations/builtin/credentials/oura.md) for guidance on setting up authentication.

///

## Operations

\* Profile

\* Get the user's personal information.

\* Summary

\* Get the user's activity summary.

\* Get the user's readiness summary.

\* Get the user's sleep summary

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'oura') ]]

## n8n-nodes-base.paddle.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Paddle node documentation

description: Learn how to use the Paddle node in n8n. Follow technical documentation to integrate Paddle node into your workflows.

contentType: [integration, reference]

---

# Paddle node

Use the Paddle node to automate work in Paddle, and integrate Paddle with other applications. n8n has built-in support for a wide range of Paddle features, including creating, updating, and getting coupons, as well as getting plans, products, and users.

On this page, you'll find a list of operations the Paddle node supports and links to more resources.

/// note | Credentials

Refer to [Paddle credentials](/integrations/builtin/credentials/paddle.md) for guidance on setting up authentication.

///

## Operations

\* Coupon

\* Create a coupon.

\* Get all coupons.

\* Update a coupon.

\* Payment

\* Get all payment.

\* Reschedule payment.

\* Plan

\* Get a plan.

\* Get all plans.

\* Product

\* Get all products.

\* User

\* Get all users

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'paddle') ]]

## n8n-nodes-base.pagerduty.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PagerDuty node documentation

description: Learn how to use the PagerDuty node in n8n. Follow technical documentation to integrate PagerDuty node into your workflows.

contentType: [integration, reference]

---

# PagerDuty node

Use the PagerDuty node to automate work in PagerDuty, and integrate PagerDuty with other applications. n8n has built-in support for a wide range of PagerDuty features, including creating incident notes, as well as updating, and getting all log entries and users.

On this page, you'll find a list of operations the PagerDuty node supports and links to more resources.

/// note | Credentials

Refer to [PagerDuty credentials](/integrations/builtin/credentials/pagerduty.md) for guidance on setting up authentication.

///

## Operations

\* Incident

\* Create an incident

\* Get an incident

\* Get all incidents

\* Update an incident

\* Incident Note

\* Create an incident note

\* Get all incident's notes

\* Log Entry

\* Get a log entry

\* Get all log entries

\* User

\* Get a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'pagerduty') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.paypal.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PayPal node documentation

description: Learn how to use the PayPal node in n8n. Follow technical documentation to integrate PayPal node into your workflows.

contentType: [integration, reference]

---

# PayPal node

Use the PayPal node to automate work in PayPal, and integrate PayPal with other applications. n8n has built-in support for a wide range of PayPal features, including creating a batch payout and canceling unclaimed payout items.

On this page, you'll find a list of operations the PayPal node supports and links to more resources.

/// note | Credentials

Refer to [PayPal credentials](/integrations/builtin/credentials/paypal.md) for guidance on setting up authentication.

///

## Operations

\* Payout

\* Create a batch payout

\* Show batch payout details

\* Payout Item

\* Cancels an unclaimed payout item

\* Show payout item details

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'paypal') ]]

## n8n-nodes-base.peekalink.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Peekalink node documentation

description: Learn how to use the Peekalink node in n8n. Follow technical documentation to integrate Peekalink node into your workflows.

contentType: [integration, reference]

---

# Peekalink node

Use the Peekalink node to automate work in Peekalink, and integrate Peekalink with other applications. n8n supports checking, and reviewing links with Peekalink.

On this page, you'll find a list of operations the Peekalink node supports and links to more resources.

/// note | Credentials

Refer to [Peekalink credentials](/integrations/builtin/credentials/peekalink.md) for guidance on setting up authentication.

///

## Operations

\* Check whether preview for a given link is available

\* Return the preview for a link

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'peekalink') ]]

## n8n-nodes-base.phantombuster.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PhantomBuster node documentation

description: Learn how to use the PhantomBuster node in n8n. Follow technical documentation to integrate PhantomBuster node into your workflows.

contentType: [integration, reference]

---

# PhantomBuster node

Use the PhantomBuster node to automate work in PhantomBuster, and integrate PhantomBuster with other applications. n8n has built-in support for a wide range of PhantomBuster features, including adding, deleting, and getting agents.

On this page, you'll find a list of operations the PhantomBuster node supports and links to more resources.

/// note | Credentials

Refer to [PhantomBuster credentials](/integrations/builtin/credentials/phantombuster.md) for guidance on setting up authentication.

///

## Operations

\* Agent

\* Delete an agent by ID.

\* Get an agent by ID.

\* Get all agents of the current user's organization.

\* Get the output of the most recent container of an agent.

\* Add an agent to the launch queue.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'phantombuster') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.philipshue.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Philips Hue node documentation

description: Learn how to use the Philips Hue node in n8n. Follow technical documentation to integrate Philips Hue node into your workflows.

contentType: [integration, reference]

---

# Philips Hue node

Use the Philips Hue node to automate work in Philips Hue, and integrate Philips Hue with other applications. n8n has built-in support for a wide range of Philips Hue features, including deleting, retrieving, and updating lights.

On this page, you'll find a list of operations the Philips Hue node supports and links to more resources.

/// note | Credentials

Refer to [Philips Hue credentials](/integrations/builtin/credentials/philipshue.md) for guidance on setting up authentication.

///

## Operations

\* Light

\* Delete a light

\* Retrieve a light

\* Retrieve all lights

\* Update a light

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'philips-hue') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.pipedrive.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pipedrive node documentation

description: Learn how to use the Pipedrive node in n8n. Follow technical documentation to integrate Pipedrive node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Pipedrive node

Use the Pipedrive node to automate work in Pipedrive, and integrate Pipedrive with other applications. n8n has built-in support for a wide range of Pipedrive features, including creating, updating, deleting, and getting activity, files, notes, organizations, and leads.

On this page, you'll find a list of operations the Pipedrive node supports and links to more resources.

/// note | Credentials

Refer to [Pipedrive credentials](/integrations/builtin/credentials/pipedrive.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Activity

\* Create an activity

\* Delete an activity

\* Get data of an activity

\* Get data of all activities

\* Update an activity

\* Deal

\* Create a deal

\* Delete a deal

\* Duplicate a deal

\* Get data of a deal

\* Get data of all deals

\* Search a deal

\* Update a deal

\* Deal Activity

\* Get all activities of a deal

\* Deal Product

\* Add a product to a deal

\* Get all products in a deal

\* Remove a product from a deal

\* Update a product in a deal

\* File

\* Create a file

\* Delete a file

\* Download a file

\* Get data of a file

\* Lead

\* Create a lead

\* Delete a lead

\* Get data of a lead

\* Get data of all leads

\* Update a lead

\* Note

\* Create a note

\* Delete a note

\* Get data of a note

\* Get data of all notes

\* Update a note

\* Organization

\* Create an organization

\* Delete an organization

\* Get data of an organization

\* Get data of all organizations

\* Update an organization

\* Search organizations

\* Person

\* Create a person

\* Delete a person

\* Get data of a person

\* Get data of all persons

\* Search all persons

\* Update a person

\* Product

\* Get data of all products

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'pipedrive') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.plivo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Plivo node documentation

description: Learn how to use the Plivo node in n8n. Follow technical documentation to integrate Plivo node into your workflows.

contentType: [integration, reference]

---

# Plivo node

Use the Plivo node to automate work in Plivo, and integrate Plivo with other applications. n8n has built-in support for a wide range of Plivo features, including making calls, and sending SMS/MMS.

On this page, you'll find a list of operations the Plivo node supports and links to more resources.

/// note | Credentials

Refer to [Plivo credentials](/integrations/builtin/credentials/plivo.md) for guidance on setting up authentication.

///

## Operations

\* Call

\* Make a voice call

\* MMS

\* Send an MMS message (US/Canada only)

\* SMS

\* Send an SMS message.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'plivo') ]]

## n8n-nodes-base.postbin.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PostBin node documentation

description: Learn how to use the PostBin node in n8n. Follow technical documentation to integrate PostBin node into your workflows.

contentType: [integration, reference]

priority: high

---

# PostBin node

PostBin is a service that helps you test API clients and webhooks. Use the PostBin node to automate work in PostBin, and integrate PostBin with other applications. n8n has built-in support for a wide range of PostBin features, including creating and deleting bins, and getting and sending requests.

On this page, you'll find a list of operations the PostBin node supports, and links to more resources.

## Operations

\* Bin

\* Create

\* Get

\* Delete

\* Request

\* Get

\* Remove First

\* Send

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'postbin') ]]

## Send requests

To send requests to a PostBin bin:

1. Go to [PostBin](https://www.toptal.com/developers/postbin/){:target=\_blank .external-link} and follow the steps to generate a new bin. PostBin gives you a unique URL, including a bin ID.

2. In the PostBin node, select the \*\*Request\*\* resource.

3. Choose the type of \*\*Operation\*\* you want to perform.

4. Enter your bin ID in \*\*Bin ID\*\*.

## Create and manage bins

You can create and manage PostBin bins using the PostBin node.

1. In \*\*Resource\*\*, select \*\*Bin\*\*.

2. Choose an \*\*Operation\*\*. You can create, delete, or get a bin.

## n8n-nodes-base.posthog.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PostHog node documentation

description: Learn how to use the PostHog node in n8n. Follow technical documentation to integrate PostHog node into your workflows.

contentType: [integration, reference]

---

# PostHog node

Use the PostHog node to automate work in PostHog, and integrate PostHog with other applications. n8n has built-in support for a wide range of PostHog features, including creating aliases, events, and identity, as well as tracking pages.

On this page, you'll find a list of operations the PostHog node supports and links to more resources.

/// note | Credentials

Refer to [PostHog credentials](/integrations/builtin/credentials/posthog.md) for guidance on setting up authentication.

///

## Operations

\* Alias

\* Create an alias

\* Event

\* Create an event

\* Identity

\* Create

\* Track

\* Track a page

\* Track a screen

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'posthog') ]]

## n8n-nodes-base.profitwell.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ProfitWell node documentation

description: Learn how to use the ProfitWell node in n8n. Follow technical documentation to integrate ProfitWell node into your workflows.

contentType: [integration, reference]

---

# ProfitWell node

Use the ProfitWell node to automate work in ProfitWell, and integrate ProfitWell with other applications. n8n supports getting your company's account settings and retrieving financial metrics from ProfitWell.

On this page, you'll find a list of operations the ProfitWell node supports and links to more resources.

/// note | Credentials

Refer to [ProfitWell credentials](/integrations/builtin/credentials/profitwell.md) for guidance on setting up authentication.

///

## Operations

\* Company

\* Get your company's ProfitWell account settings

\* Metric

\* Retrieve financial metric broken down by day for either the current month or the last

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'profitwell') ]]

## n8n-nodes-base.pushbullet.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pushbullet node documentation

description: Learn how to use the Pushbullet node in n8n. Follow technical documentation to integrate Pushbullet node into your workflows.

contentType: [integration, reference]

---

# Pushbullet node

Use the Pushbullet node to automate work in Pushbullet, and integrate Pushbullet with other applications. n8n has built-in support for a wide range of Pushbullet features, including creating, updating, deleting, and getting a push.

On this page, you'll find a list of operations the Pushbullet node supports and links to more resources.

/// note | Credentials

Refer to [Pushbullet credentials](/integrations/builtin/credentials/pushbullet.md) for guidance on setting up authentication.

///

## Operations

\* Push

\* Create a push

\* Delete a push

\* Get all pushes

\* Update a push

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'pushbullet') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.pushcut.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pushcut node documentation

description: Learn how to use the Pushcut node in n8n. Follow technical documentation to integrate Pushcut node into your workflows.

contentType: [integration, reference]

---

# Pushcut node

Use the Pushcut node to automate work in Pushcut, and integrate Pushcut with other applications. n8n supports sending notifications with Pushcut.

On this page, you'll find a list of operations the Pushcut node supports and links to more resources.

/// note | Credentials

Refer to [Pushcut credentials](/integrations/builtin/credentials/pushcut.md) for guidance on setting up authentication.

///

## Operations

\* Notification

\* Send a notification

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'pushcut') ]]

## n8n-nodes-base.pushover.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pushover node documentation

description: Learn how to use the Pushover node in n8n. Follow technical documentation to integrate Pushover node into your workflows.

contentType: [integration, reference]

---

# Pushover node

Use the Pushover node to automate work in Pushover, and integrate Pushover with other applications. n8n supports sending push notifications with Pushover.

On this page, you'll find a list of operations the Pushover node supports and links to more resources.

/// note | Credentials

Refer to [Pushover credentials](/integrations/builtin/credentials/pushover.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Message

\* Push

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'pushover') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.questdb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: QuestDB node documentation

description: Learn how to use the QuestDB node in n8n. Follow technical documentation to integrate QuestDB node into your workflows.

contentType: [integration, reference]

---

# QuestDB node

Use the QuestDB node to automate work in QuestDB, and integrate QuestDB with other applications. n8n supports executing an SQL query and inserting rows in a database with QuestDB.

On this page, you'll find a list of operations the QuestDB node supports and links to more resources.

/// note | Credentials

Refer to [QuestDB credentials](/integrations/builtin/credentials/questdb.md) for guidance on setting up authentication.

///

## Operations

\* Executes a SQL query.

\* Insert rows in database.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'questdb') ]]

## Node reference

### Specify a column's data type

To specify a column's data type, append the column name with `:type`, where `type` is the data type you want for column. For example, if you want to specify the type `int` for the column \*\*id\*\* and type `text` for the column \*\*name\*\*, you can use the following snippet in the \*\*Columns\*\* field: `id:int,name:text`.

## n8n-nodes-base.quickbase.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Quick Base node documentation

description: Learn how to use the Quick Base node in n8n. Follow technical documentation to integrate Quick Base node into your workflows.

contentType: [integration, reference]

---

# Quick Base node

Use the Quick Base node to automate work in Quick Base, and integrate Quick Base with other applications. n8n has built-in support for a wide range of Quick Base features, including creating, updating, deleting, and getting records, as well as getting fields, and downloading files.

On this page, you'll find a list of operations the Quick Base node supports and links to more resources.

/// note | Credentials

Refer to [Quick Base credentials](/integrations/builtin/credentials/quickbase.md) for guidance on setting up authentication.

///

## Operations

\* Field

\* Get all fields

\* File

\* Delete a file

\* Download a file

\* Record

\* Create a record

\* Delete a record

\* Get all records

\* Update a record

\* Upsert a record

\* Report

\* Get a report

\* Run a report

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'quick-base') ]]

## n8n-nodes-base.quickbooks.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: QuickBooks Online node documentation

description: Learn how to use the QuickBooks Online node in n8n. Follow technical documentation to integrate QuickBooks Online node into your workflows.

contentType: [integration, reference]

---

# QuickBooks Online node

Use the QuickBooks node to automate work in QuickBooks, and integrate QuickBooks with other applications. n8n has built-in support for a wide range of QuickBooks features, including creating, updating, deleting, and getting bills, customers, employees, estimates, and invoices.

On this page, you'll find a list of operations the QuickBooks node supports and links to more resources.

/// note | Credentials

Refer to [QuickBooks credentials](/integrations/builtin/credentials/quickbooks.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Bill

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Customer

\* Create

\* Get

\* Get All

\* Update

\* Employee

\* Create

\* Get

\* Get All

\* Update

\* Estimate

\* Create

\* Delete

\* Get

\* Get All

\* Send

\* Update

\* Invoice

\* Create

\* Delete

\* Get

\* Get All

\* Send

\* Update

\* Void

\* Item

\* Get

\* Get All

\* Payment

\* Create

\* Delete

\* Get

\* Get All

\* Send

\* Update

\* Void

\* Purchase

\* Get

\* Get All

\* Transaction

\* Get Report

\* Vendor

\* Create

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'quickbooks-online') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.quickchart.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: QuickChart node documentation

description: Learn how to use the QuickChart node in n8n. Follow technical documentation to integrate QuickChart node into your workflows.

contentType: [integration, reference]

priority: medium

---

# QuickChart node

Use the QuickChart node to automate work in QuickChart, and integrate QuickChart with other applications. n8n has built-in support for a wide range of QuickChart chart types, including bar, doughnut, line, pie, and polar charts.

On this page, you'll find a list of operations the QuickChart node supports and links to more resources.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

Create a chart by selecting the chart type:

\* Chart Type

\* Bar Chart

\* Doughnut Chart

\* Line Chart

\* Pie Chart

\* Polar Chart

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'quickchart') ]]

## Related resources

Refer to [QuickChart's API documentation](https://quickchart.io/documentation/){:target=\_blank .external-link} for more information about the service.

## n8n-nodes-base.rabbitmq.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RabbitMQ node documentation

description: Learn how to use the RabbitMQ node in n8n. Follow technical documentation to integrate RabbitMQ node into your workflows.

contentType: [integration, reference]

priority: medium

---

# RabbitMQ node

Use the RabbitMQ node to automate work in RabbitMQ, and integrate RabbitMQ with other applications. n8n has built-in support for a wide range of RabbitMQ features, including accepting, and forwarding messages.

On this page, you'll find a list of operations the RabbitMQ node supports and links to more resources.

/// note | Credentials

Refer to [RabbitMQ credentials](/integrations/builtin/credentials/rabbitmq.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Delete From Queue

\* Send a Message to RabbitMQ

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'rabbitmq') ]]

## n8n-nodes-base.raindrop.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Raindrop node documentation

description: Learn how to use the Raindrop node in n8n. Follow technical documentation to integrate Raindrop node into your workflows.

contentType: [integration, reference]

---

# Raindrop node

Use the Raindrop node to automate work in Raindrop, and integrate Raindrop with other applications. n8n has built-in support for a wide range of Raindrop features, including getting users, deleting tags, and creating, updating, deleting and getting collections and bookmarks.

On this page, you'll find a list of operations the Raindrop node supports and links to more resources.

/// note | Credentials

Refer to [Raindrop credentials](/integrations/builtin/credentials/raindrop.md) for guidance on setting up authentication.

///

## Operations

\* Bookmark

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Collection

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Tag

\* Delete

\* Get All

\* User

\* Get

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'raindrop') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.reddit.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Reddit node documentation

description: Learn how to use the Reddit node in n8n. Follow technical documentation to integrate Reddit node into your workflows.

contentType: [integration, reference]

---

# Reddit node

Use the Reddit node to automate work in Reddit, and integrate Reddit with other applications. n8n has built-in support for a wide range of Reddit features, including getting profiles, and users, retrieving post comments and subreddit, as well as submitting, getting, and deleting posts.

On this page, you'll find a list of operations the Reddit node supports and links to more resources.

/// note | Credentials

Refer to [Reddit credentials](/integrations/builtin/credentials/reddit.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Post

\* Submit a post to a subreddit

\* Delete a post from a subreddit

\* Get a post from a subreddit

\* Get all posts from a subreddit

\* Search posts in a subreddit or in all of Reddit.

\* Post Comment

\* Create a top-level comment in a post

\* Retrieve all comments in a post

\* Remove a comment from a post

\* Write a reply to a comment in a post

\* Profile

\* Get

\* Subreddit

\* Retrieve background information about a subreddit.

\* Retrieve information about subreddits from all of Reddit.

\* User

\* Get

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'reddit') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.redis.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Redis node documentation

description: Learn how to use the Redis node in n8n. Follow technical documentation to integrate Redis node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Redis node

Use the Redis node to automate work in Redis, and integrate Redis with other applications. n8n has built-in support for a wide range of Redis features, including deleting keys, getting key values, setting key value, and publishing messages to the Redis channel.

On this page, you'll find a list of operations the Redis node supports and links to more resources.

/// note | Credentials

Refer to [Redis credentials](/integrations/builtin/credentials/redis.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Delete a key from Redis.

\* Get the value of a key from Redis.

\* Returns generic information about the Redis instance.

\* Atomically increments a key by 1. Creates the key if it doesn't exist.

\* Returns all the keys matching a pattern.

\* Set the value of a key in Redis.

\* Publish message to Redis channel.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'redis') ]]

## n8n-nodes-base.rocketchat.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Rocket.Chat node documentation

description: Learn how to use the Rocket.Chat node in n8n. Follow technical documentation to integrate Rocket.Chat node into your workflows.

contentType: [integration, reference]

---

# Rocket.Chat node

Use the Rocket.Chat node to automate work in Rocket.Chat, and integrate Rocket.Chat with other applications. n8n supports posting messages to channels, and sending direct messages, with Rocket.Chat.

On this page, you'll find a list of operations the Rocket.Chat node supports and links to more resources.

/// note | Credentials

Refer to [Rocket.Chat credentials](/integrations/builtin/credentials/rocketchat.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Chat

\* Post a message to a channel or a direct message

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'rocketchat') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.rundeck.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Rundeck node documentation

description: Learn how to use the Rundeck node in n8n. Follow technical documentation to integrate Rundeck node into your workflows.

contentType: [integration, reference]

---

# Rundeck node

Use the Rundeck node to automate work in Rundeck, and integrate Rundeck with other applications. n8n has built-in support for executing jobs and getting metadata.

On this page, you'll find a list of operations the Rundeck node supports and links to more resources.

/// note | Credentials

Refer to [Rundeck credentials](/integrations/builtin/credentials/rundeck.md) for guidance on setting up authentication.

///

## Operations

- \*\*Job\*\*

- Execute a job

- Get metadata of a job

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'rundeck') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Find the job ID

1. Access your Rundeck dashboard.

2. Open the project that contains the job you want to use with n8n.

3. In the sidebar, select \*\*JOBS\*\*.

4. Under \*\*All Jobs\*\*, select the name of the job you want to use with n8n.

5. In the top left corner, under the name of the job, copy the string that's displayed in smaller font below the job name. This is your job ID.

6. Paste this job ID in the \*\*Job Id\*\* field in n8n.

## n8n-nodes-base.s3.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: S3 node documentation

description: Learn how to use the S3 node in n8n. Follow technical documentation to integrate S3 node into your workflows.

contentType: [integration, reference]

priority: medium

---

# S3 node

Use the S3 node to automate work in non-AWS S3 storage and integrate S3 with other applications. n8n has built-in support for a wide range of S3 features, including creating, deleting, and getting buckets, files, and folders. For AWS S3, use [AWS S3](/integrations/builtin/app-nodes/n8n-nodes-base.awss3.md).

Use the S3 node for non-AWS S3 solutions like:

\* [MinIO](https://min.io/){:target="\_blank" .external-link}

\* [Wasabi](https://wasabi.com/){:target="\_blank" .external-link}

\* [Digital Ocean spaces](https://www.digitalocean.com/products/spaces){:target="\_blank" .external-link}

On this page, you'll find a list of operations the S3 node supports and links to more resources.

/// note | Credentials

Refer to [S3 credentials](/integrations/builtin/credentials/s3.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Bucket

\* Create a bucket

\* Delete a bucket

\* Get all buckets

\* Search within a bucket

\* File

\* Copy a file

\* Delete a file

\* Download a file

\* Get all files

\* Upload a file

/// note | Attach file for upload

To attach a file for upload, use another node to pass the file as a data property. Nodes like the [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node or the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) work well.

///

\* Folder

\* Create a folder

\* Delete a folder

\* Get all folders

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 's3') ]]

## Node reference

### Setting file permissions in Wasabi

When uploading files to [Wasabi](https://wasabi.com/){:target="\_blank" .external-link}, you must set permissions for the files using the \*\*ACL\*\* dropdown and not the toggles.

![File permissions when using the S3 node with Wasabi](/\_images/integrations/builtin/app-nodes/s3/acl\_dropdown.png)

## n8n-nodes-base.salesforce.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Salesforce node documentation

description: Learn how to use the Salesforce node in n8n. Follow technical documentation to integrate Salesforce node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Salesforce node

Use the Salesforce node to automate work in Salesforce, and integrate Salesforce with other applications. n8n has built-in support for a wide range of Salesforce features, including creating, updating, deleting, and getting accounts, attachments, cases, and leads, as well as uploading documents.

On this page, you'll find a list of operations the Salesforce node supports and links to more resources.

/// note | Credentials

Refer to [Salesforce credentials](/integrations/builtin/credentials/salesforce.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Account

\* Add note to an account

\* Create an account

\* Create a new account, or update the current one if it already exists (upsert)

\* Get an account

\* Get all accounts

\* Returns an overview of account's metadata.

\* Delete an account

\* Update an account

\* Attachment

\* Create a attachment

\* Delete a attachment

\* Get a attachment

\* Get all attachments

\* Returns an overview of attachment's metadata.

\* Update a attachment

\* Case

\* Add a comment to a case

\* Create a case

\* Get a case

\* Get all cases

\* Returns an overview of case's metadata

\* Delete a case

\* Update a case

\* Contact

\* Add lead to a campaign

\* Add note to a contact

\* Create a contact

\* Create a new contact, or update the current one if it already exists (upsert)

\* Delete a contact

\* Get a contact

\* Returns an overview of contact's metadata

\* Get all contacts

\* Update a contact

\* Custom Object

\* Create a custom object record

\* Create a new record, or update the current one if it already exists (upsert)

\* Get a custom object record

\* Get all custom object records

\* Delete a custom object record

\* Update a custom object record

\* Document

\* Upload a document

\* Flow

\* Get all flows

\* Invoke a flow

\* Lead

\* Add lead to a campaign

\* Add note to a lead

\* Create a lead

\* Create a new lead, or update the current one if it already exists (upsert)

\* Delete a lead

\* Get a lead

\* Get all leads

\* Returns an overview of Lead's metadata

\* Update a lead

\* Opportunity

\* Add note to an opportunity

\* Create an opportunity

\* Create a new opportunity, or update the current one if it already exists (upsert)

\* Delete an opportunity

\* Get an opportunity

\* Get all opportunities

\* Returns an overview of opportunity's metadata

\* Update an opportunity

\* Search

\* Execute a SOQL query that returns all the results in a single response

\* Task

\* Create a task

\* Delete a task

\* Get a task

\* Get all tasks

\* Returns an overview of task's metadata

\* Update a task

\* User

\* Get a user

\* Get all users

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'salesforce') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Working with Salesforce custom fields

To add custom fields to your request:

1. Select \*\*Additional Fields\*\* > \*\*Add Field\*\*.

2. In the dropdown, select \*\*Custom Fields\*\*.

You can then find and add your custom fields.

## n8n-nodes-base.salesmate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Salesmate node documentation

description: Learn how to use the Salesmate node in n8n. Follow technical documentation to integrate Salesmate node into your workflows.

contentType: [integration, reference]

---

# Salesmate node

Use the Salesmate node to automate work in Salesmate, and integrate Salesmate with other applications. n8n has built-in support for a wide range of Salesmate features, including creating, updating, deleting, and getting activities, companies, and deals.

On this page, you'll find a list of operations the Salesmate node supports and links to more resources.

/// note | Credentials

Refer to [Salesmate credentials](/integrations/builtin/credentials/salesmate.md) for guidance on setting up authentication.

///

## Operations

\* Activity

\* Create an activity

\* Delete an activity

\* Get an activity

\* Get all companies

\* Update an activity

\* Company

\* Create a company

\* Delete a company

\* Get a company

\* Get all companies

\* Update a company

\* Deal

\* Create a deal

\* Delete a deal

\* Get a deal

\* Get all deals

\* Update a deal

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'salesmate') ]]

## n8n-nodes-base.seatable.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SeaTable node documentation

description: Learn how to use the SeaTable node in n8n. Follow technical documentation to integrate SeaTable node into your workflows.

contentType: [integration, reference]

---

# SeaTable node

Use the SeaTable node to automate work in SeaTable, and integrate SeaTable with other applications. n8n has built-in support for a wide range of SeaTable features, including creating, updating, deleting, updating, and getting rows.

On this page, you'll find a list of operations the SeaTable node supports and links to more resources.

/// note | Credentials

Refer to [SeaTable credentials](/integrations/builtin/credentials/seatable.md) for guidance on setting up authentication.

///

## Operations

\* Row

\* Create

\* Delete

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'seatable') ]]

## n8n-nodes-base.securityscorecard.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SecurityScorecard node documentation

description: Learn how to use the SecurityScorecard node in n8n. Follow technical documentation to integrate SecurityScorecard node into your workflows.

contentType: [integration, reference]

---

# SecurityScorecard node

Use the SecurityScorecard node to automate work in SecurityScorecard, and integrate SecurityScorecard with other applications. n8n has built-in support for a wide range of SecurityScorecard features, including creating, updating, deleting, and getting portfolio, as well as getting a company's data.

On this page, you'll find a list of operations the SecurityScorecard node supports and links to more resources.

/// note | Credentials

Refer to [SecurityScorecard credentials](/integrations/builtin/credentials/securityscorecard.md) for guidance on setting up authentication.

///

## Operations

\* Company

\* Get company factor scores and issue counts

\* Get company's historical factor scores

\* Get company's historical scores

\* Get company information and summary of their scorecard

\* Get company's score improvement plan

\* Industry

\* Get Factor Scores

\* Get Historical Factor Scores

\* Get Score

\* Invite

\* Create an invite for a company/user

\* Portfolio

\* Create a portfolio

\* Delete a portfolio

\* Get all portfolios

\* Update a portfolio

\* Portfolio Company

\* Add a company to portfolio

\* Get all companies in a portfolio

\* Remove a company from portfolio

\* Report

\* Download a generated report

\* Generate a report

\* Get list of recently generated report

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'securityscorecard') ]]

## n8n-nodes-base.segment.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Segment node documentation

description: Learn how to use the Segment node in n8n. Follow technical documentation to integrate Segment node into your workflows.

contentType: [integration, reference]

---

# Segment node

Use the Segment node to automate work in Segment, and integrate Segment with other applications. n8n has built-in support for a wide range of Segment features, including adding users to groups, creating identities, and tracking activities.

On this page, you'll find a list of operations the Segment node supports and links to more resources.

/// note | Credentials

Refer to [Segment credentials](/integrations/builtin/credentials/segment.md) for guidance on setting up authentication.

///

## Operations

\* Group

\* Add a user to a group

\* Identify

\* Create an identity

\* Track

\* Record the actions your users perform. Every action triggers an event, which can also have associated properties.

\* Record page views on your website, along with optional extra information about the page being viewed.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'segment') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.sendgrid.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SendGrid node documentation

description: Learn how to use the SendGrid node in n8n. Follow technical documentation to integrate SendGrid node into your workflows.

contentType: [integration, reference]

priority: medium

---

# SendGrid node

Use the SendGrid node to automate work in SendGrid, and integrate SendGrid with other applications. n8n has built-in support for a wide range of SendGrid features, including creating, updating, deleting, and getting contacts, and lists, as well as sending emails.

On this page, you'll find a list of operations the SendGrid node supports and links to more resources.

/// note | Credentials

Refer to [SendGrid credentials](/integrations/builtin/credentials/sendgrid.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Contact

\* Create/update a contact

\* Delete a contact

\* Get a contact by ID

\* Get all contacts

\* List

\* Create a list

\* Delete a list

\* Get a list

\* Get all lists

\* Update a list

\* Mail

\* Send an email.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'sendgrid') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.sendy.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sendy node documentation

description: Learn how to use the Sendy node in n8n. Follow technical documentation to integrate Sendy node into your workflows.

contentType: [integration, reference]

---

# Sendy node

Use the Sendy node to automate work in Sendy, and integrate Sendy with other applications. n8n has built-in support for a wide range of Sendy features, including creating campaigns, and adding, counting, deleting, and getting subscribers.

On this page, you'll find a list of operations the Sendy node supports and links to more resources.

/// note | Credentials

Refer to [Sendy credentials](/integrations/builtin/credentials/sendy.md) for guidance on setting up authentication.

///

## Operations

\* Campaign

\* Create a campaign

\* Subscriber

\* Add a subscriber to a list

\* Count subscribers

\* Delete a subscriber from a list

\* Unsubscribe user from a list

\* Get the status of subscriber

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'sendy') ]]

## n8n-nodes-base.sentryio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sentry.io node documentation

description: Learn how to use the Sentry.io node in n8n. Follow technical documentation to integrate Sentry.io node into your workflows.

contentType: [integration, reference]

---

# Sentry.io node

Use the Sentry.io node to automate work in Sentry.io, and integrate Sentry.io with other applications. n8n has built-in support for a wide range of Sentry.io features, including creating, updating, deleting, and getting, issues, projects, and releases, as well as getting all events.

On this page, you'll find a list of operations the Sentry.io node supports and links to more resources.

/// note | Credentials

Refer to [Sentry.io credentials](/integrations/builtin/credentials/sentryio.md) for guidance on setting up authentication.

///

## Operations

\* Event

\* Get event by ID

\* Get all events

\* Issue

\* Delete an issue

\* Get issue by ID

\* Get all issues

\* Update an issue

\* Project

\* Create a new project

\* Delete a project

\* Get project by ID

\* Get all projects

\* Update a project

\* Release

\* Create a release

\* Delete a release

\* Get release by version identifier

\* Get all releases

\* Update a release

\* Organization

\* Create an organization

\* Get organization by slug

\* Get all organizations

\* Update an organization

\* Team

\* Create a new team

\* Delete a team

\* Get team by slug

\* Get all teams

\* Update a team

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'sentryio') ]]

## Related resources

Refer to [Sentry.io's documentation](https://docs.sentry.io/api/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.servicenow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ServiceNow node documentation

description: Learn how to use the ServiceNow node in n8n. Follow technical documentation to integrate ServiceNow node into your workflows.

contentType: [integration, reference]

---

# ServiceNow node

Use the ServiceNow node to automate work in ServiceNow, and integrate ServiceNow with other applications. n8n has built-in support for a wide range of ServiceNow features, including getting business services, departments, configuration items, and dictionary as well as creating, updating, and deleting incidents, users, and table records.

On this page, you'll find a list of operations the ServiceNow node supports and links to more resources.

/// note | Credentials

Refer to [ServiceNow credentials](/integrations/builtin/credentials/servicenow.md) for guidance on setting up authentication.

///

## Operations

\* Business Service

\* Get All

\* Configuration Items

\* Get All

\* Department

\* Get All

\* Dictionary

\* Get All

\* Incident

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* Table Record

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* User

\* Create

\* Delete

\* Get

\* Get All

\* Update

\* User Group

\* Get All

\* User Role

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'servicenow') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.shopify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Shopify node documentation

description: Learn how to use the Shopify node in n8n. Follow technical documentation to integrate Shopify node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Shopify node

Use the Shopify node to automate work in Shopify, and integrate Shopify with other applications. n8n has built-in support for a wide range of Shopify features, including creating, updating, deleting, and getting orders and products.

On this page, you'll find a list of operations the Shopify node supports and links to more resources.

/// note | Credentials

Refer to [Shopify credentials](/integrations/builtin/credentials/shopify.md) for guidance on setting up authentication.

///

## Operations

\* Order

\* Create an order

\* Delete an order

\* Get an order

\* Get all orders

\* Update an order

\* Product

\* Create a product

\* Delete a product

\* Get a product

\* Get all products

\* Update a product

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'shopify') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.signl4.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SIGNL4 node documentation

description: Learn how to use the SIGNL4 node in n8n. Follow technical documentation to integrate SIGNL4 node into your workflows.

contentType: [integration, reference]

---

# SIGNL4 node

Use the SIGNL4 node to automate work in SIGNL4, and integrate SIGNL4 with other applications. n8n supports sending and resolving alerts with SIGNL4.

On this page, you'll find a list of operations the SIGNL4 node supports and links to more resources.

/// note | Credentials

Refer to [SIGNL4 credentials](/integrations/builtin/credentials/signl4.md) for guidance on setting up authentication.

///

## Operations

\* Alert

\* Send an alert

\* Resolve an alert

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'signl4') ]]

## n8n-nodes-base.slack.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Slack node documentation

description: Learn how to use the Slack node in n8n. Follow technical documentation to integrate Slack node into your workflows.

contentType: [integration, reference]

priority: high

---

# Slack node

Use the Slack node to automate work in Slack, and integrate Slack with other applications. n8n has built-in support for a wide range of Slack features, including creating, archiving, and closing channels, getting users and files, as well as deleting messages.

On this page, you'll find a list of operations the Slack node supports and links to more resources.

/// note | Credentials

Refer to [Slack credentials](/integrations/builtin/credentials/slack.md) for guidance on setting up authentication.

///

## Operations

\* \*\*Channel\*\*

\* \*\*Archive\*\* a channel.

\* \*\*Close\*\* a direct message or multi-person direct message.

\* \*\*Create\*\* a public or private channel-based conversation.

\* \*\*Get\*\* information about a channel.

\* \*\*Get Many\*\*: Get a list of channels in Slack.

\* \*\*History\*\*: Get a channel's history of messages and events.

\* \*\*Invite\*\* a user to a channel.

\* \*\*Join\*\* an existing channel.

\* \*\*Kick\*\*: Remove a user from a channel.

\* \*\*Leave\*\* a channel.

\* \*\*Member\*\*: List the members of a channel.

\* \*\*Open\*\* or resume a direct message or multi-person direct message.

\* \*\*Rename\*\* a channel.

\* \*\*Replies\*\*: Get a thread of messages posted to a channel.

\* \*\*Sets purpose\*\* of a channel.

\* \*\*Sets topic\*\* of a channel.

\* \*\*Unarchive\*\* a channel.

\* \*\*File\*\*

\* \*\*Get\*\* a file.

\* \*\*Get Many\*\*: Get and filter team files.

\* \*\*Upload\*\*: Create or upload an existing file.

\* \*\*Message\*\*

\* \*\*Delete\*\* a message

\* \*\*Get permalink\*\*: Get a message's permalink.

\* \*\*Search\*\* for messages

\* \*\*Send\*\* a message

\* \*\*Send and Wait for Approval\*\*: Send a message and wait for approval from the recipient before continuing.

\* \*\*Update\*\* a message

\* \*\*Reaction\*\*

\* \*\*Add\*\* a reaction to a message.

\* \*\*Get\*\* a message's reactions.

\* \*\*Remove\*\* a reaction from a message.

\* \*\*Star\*\*

\* \*\*Add\*\* a star to an item.

\* \*\*Delete\*\* a star from an item.

\* \*\*Get Many\*\*: Get a list of an authenticated user's stars.

\* \*\*User\*\*

\* \*\*Get\*\* information about a user.

\* \*\*Get Many\*\*: Get a list of users.

\* \*\*Get User's Profile\*\*.

\* \*\*Get User's Status\*\*.

\* \*\*Update User's Profile\*\*.

\* \*\*User Group\*\*

\* \*\*Create\*\* a user group.

\* \*\*Disable\*\* a user group.

\* \*\*Enable\*\* a user group.

\* \*\*Get Many\*\*: Get a list of user groups.

\* \*\*Update\*\* a user group.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'slack') ]]

## Related resources

Refer to [Slack's documentation](https://api.slack.com/){:target=\_blank .external-link} for more information about the service.

## Required scopes

Once you create a Slack app for your [Slack credentials](/integrations/builtin/credentials/slack.md), you must add the appropriate scopes to your Slack app for this node to work. Start with the scopes listed in the [Scopes | Slack credentials](/integrations/builtin/credentials/slack.md#scopes) page.

If those aren't enough, use the table below to look up the resource and operation you want to use, then follow the link to Slack's API documentation to find the correct scopes.

<!-- vale off -->

| \*\*Resource\*\* | \*\*Operation\*\* | \*\*Slack API method\*\* |

| --- | --- | --- |

| Channel | Archive | [conversations.archive](https://api.slack.com/methods/conversations.archive){:target=blank .external-link} |

| Channel | Close | [conversations.close](https://api.slack.com/methods/conversations.close){:target=blank .external-link} |

| Channel | Create | [conversations.create](https://api.slack.com/methods/conversations.create){:target=blank .external-link} |

| Channel | Get | [conversations.info](https://api.slack.com/methods/conversations.info){:target=blank .external-link} |

| Channel | Get Many | [conversations.list](https://api.slack.com/methods/conversations.list){:target=blank .external-link} |

| Channel | History | [conversations.history](https://api.slack.com/methods/conversations.history){:target=blank .external-link} |

| Channel | Invite | [conversations.invite](https://api.slack.com/methods/conversations.invite){:target=blank .external-link} |

| Channel | Join | [conversations.join](https://api.slack.com/methods/conversations.join){:target=blank .external-link} |

| Channel | Kick | [conversations.kick](https://api.slack.com/methods/conversations.kick){:target=blank .external-link} |

| Channel | Leave | [conversations.leave](https://api.slack.com/methods/conversations.leave){:target=blank .external-link} |

| Channel | Member | [conversations.members](https://api.slack.com/methods/conversations.members){:target=blank .external-link} |

| Channel | Open | [conversations.open](https://api.slack.com/methods/conversations.open){:target=blank .external-link} |

| Channel | Rename | [conversations.rename](https://api.slack.com/methods/conversations.rename){:target=blank .external-link} |

| Channel | Replies | [conversations.replies](https://api.slack.com/methods/conversations.replies){:target=blank .external-link} |

| Channel | Set Purpose | [conversations.setPurpose](https://api.slack.com/methods/conversations.setPurpose){:target=blank .external-link} |

| Channel | Set Topic | [conversations.setTopic](https://api.slack.com/methods/conversations.setTopic){:target=blank .external-link} |

| Channel | Unarchive | [conversations.unarchive](https://api.slack.com/methods/conversations.unarchive){:target=blank .external-link} |

| File | Get | [files.info](https://api.slack.com/methods/files.info){:target=blank .external-link} |

| File | Get Many | [files.list](https://api.slack.com/methods/files.list){:target=blank .external-link} |

| File | Upload | [files.upload](https://api.slack.com/methods/files.upload){:target=blank .external-link} |

| Message | Delete | [chat.delete](https://api.slack.com/methods/chat.delete){:target=blank .external-link} |

| Message | Get Permalink | [chat.getPermalink](https://api.slack.com/methods/chat.getPermalink){:target=blank .external-link} |

| Message | Search | [search.messages](https://api.slack.com/methods/search.messages){:target=blank .external-link} |

| Message | Send | [chat.postMessage](https://api.slack.com/methods/chat.postMessage){:target=blank .external-link} |

| Message | Send and Wait for Approval | [chat.postMessage](https://api.slack.com/methods/chat.postMessage){:target=blank .external-link} |

| Message | Update | [chat.update](https://api.slack.com/methods/chat.update){:target=blank .external-link} |

| Reaction | Add | [reactions.add](https://api.slack.com/methods/reactions.add){:target=blank .external-link} |

| Reaction | Get | [reactions.get](https://api.slack.com/methods/reactions.get){:target=blank .external-link} |

| Reaction | Remove | [reactions.remove](https://api.slack.com/methods/reactions.remove){:target=blank .external-link} |

| Star | Add | [stars.add](https://api.slack.com/methods/stars.add){:target=blank .external-link} |

| Star | Delete | [stars.remove](https://api.slack.com/methods/stars.remove){:target=blank .external-link} |

| Star | Get Many | [stars.list](https://api.slack.com/methods/stars.list){:target=blank .external-link} |

| User | Get | [users.info](https://api.slack.com/methods/users.info){:target=blank .external-link} |

| User | Get Many | [users.list](https://api.slack.com/methods/users.list){:target=blank .external-link} |

| User | Get User's Profile | [users.profile.get](https://api.slack.com/methods/users.profile.get){:target=blank .external-link} |

| User | Get User's Status | [users.getPresence](https://api.slack.com/methods/users.getPresence){:target=blank .external-link} |

| User | Update User's Profile | [users.profile.set](https://api.slack.com/methods/users.profile.set){:target=blank .external-link} |

| User Group | Create | [usergroups.create](https://api.slack.com/methods/usergroups.create){:target=blank .external-link} |

| User Group | Disable | [usergroups.disable](https://api.slack.com/methods/usergroups.disable){:target=blank .external-link} |

| User Group | Enable | [usergroups.enable](https://api.slack.com/methods/usergroups.enable){:target=blank .external-link} |

| User Group | Get Many | [usergroups.list](https://api.slack.com/methods/usergroups.list){:target=blank .external-link} |

| User Group | Update | [usergroups.update](https://api.slack.com/methods/usergroups.update){:target=blank .external-link} |

<!-- vale on -->

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.sms77.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: seven node documentation

description: Learn how to use the seven node in n8n. Follow technical documentation to integrate seven node into your workflows.

contentType: [integration, reference]

---

# seven node

Use the seven node to automate work in seven, and integrate seven with other applications. n8n has built-in support for a wide range of seven features, including sending SMS, and converting text to voice.

On this page, you'll find a list of operations the seven node supports and links to more resources.

/// note | Credentials

Refer to [seven credentials](/integrations/builtin/credentials/sms77.md) for guidance on setting up authentication.

///

## Operations

\* SMS

\* Send SMS

\* Voice Call

\* Converts text to voice and calls a given number

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'sms77') ]]

## n8n-nodes-base.snowflake.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Snowflake node documentation

description: Learn how to use the Snowflake node in n8n. Follow technical documentation to integrate Snowflake node into your workflows.

contentType: [integration, reference]

---

# Snowflake node

Use the Snowflake node to automate work in Snowflake, and integrate Snowflake with other applications. n8n has built-in support for a wide range of Snowflake features, including executing SQL queries, and inserting rows in a database.

On this page, you'll find a list of operations the Snowflake node supports and links to more resources.

/// note | Credentials

Refer to [Snowflake credentials](/integrations/builtin/credentials/snowflake.md) for guidance on setting up authentication.

///

## Operations

\* Execute an SQL query.

\* Insert rows in database.

\* Update rows in database.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'snowflake') ]]

## n8n-nodes-base.splunk.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Splunk node documentation

description: Learn how to use the Splunk node in n8n. Follow technical documentation to integrate Splunk node into your workflows.

contentType: [integration, reference]

---

# Splunk node

Use the Splunk node to automate work in Splunk, and integrate Splunk with other applications. n8n has built-in support for a wide range of Splunk features, including getting fired alerts reports, as well as deleting and getting search configuration.

On this page, you'll find a list of operations the Splunk node supports and links to more resources.

/// note | Credentials

Refer to [Splunk credentials](/integrations/builtin/credentials/splunk.md) for guidance on setting up authentication.

///

## Operations

\* Fired Alert

\* Get a fired alerts report

\* Search Configuration

\* Delete a search configuration

\* Get a search configuration

\* Get many search configurations

\* Search Job

\* Create a search job

\* Delete a search job

\* Get a search job

\* Get many search jobs

\* Search Result

\* Get many search results

\* User

\* Create a user

\* Delete a user

\* Get a user

\* Get many users

\* Update a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'splunk') ]]

## n8n-nodes-base.spontit.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Spontit node documentation

description: Learn how to use the Spontit node in n8n. Follow technical documentation to integrate Spontit node into your workflows.

contentType: [integration, reference]

---

# Spontit node

Use the Spontit node to automate work in Spontit, and integrate Spontit with other applications. n8n supports creating push notifications with Spontit.

On this page, you'll find a list of operations the Spontit node supports and links to more resources.

/// note | Credentials

Refer to [Spontit credentials](/integrations/builtin/credentials/spontit.md) for guidance on setting up authentication.

///

## Operations

\* Push

\* Create a push notification

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'spontit') ]]

## n8n-nodes-base.spotify.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Spotify node documentation

description: Learn how to use the Spotify node in n8n. Follow technical documentation to integrate Spotify node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Spotify node

Use the Spotify node to automate work in Spotify, and integrate Spotify with other applications. n8n has built-in support for a wide range of Spotify features, including getting album and artist information.

On this page, you'll find a list of operations the Spotify node supports and links to more resources.

/// note | Credentials

Refer to [Spotify credentials](/integrations/builtin/credentials/spotify.md) for guidance on setting up authentication.

///

## Operations

\* Album

\* Get an album by URI or ID.

\* Get a list of new album releases.

\* Get an album's tracks by URI or ID.

\* Search albums by keyword.

\* Artist

\* Get an artist by URI or ID.

\* Get an artist's albums by URI or ID.

\* Get an artist's related artists by URI or ID.

\* Get an artist's top tracks by URI or ID.

\* Search artists by keyword.

\* Library

\* Get the user's liked tracks.

\* My Data

\* Get your followed artists.

\* Player

\* Add a song to your queue.

\* Get your currently playing track.

\* Skip to your next track.

\* Pause your music.

\* Skip to your previous song.

\* Get your recently played tracks.

\* Resume playback on the current active device.

\* Set volume on the current active device.

\* Start playing a playlist, artist, or album.

\* Playlist

\* Add tracks from a playlist by track and playlist URI or ID.

\* Create a new playlist.

\* Get a playlist by URI or ID.

\* Get a playlist's tracks by URI or ID.

\* Get a user's playlists.

\* Remove tracks from a playlist by track and playlist URI or ID.

\* Search playlists by keyword.

\* Track

\* Get a track by its URI or ID.

\* Get audio features for a track by URI or ID.

\* Search tracks by keyword

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'spotify') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.stackby.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Stackby node documentation

description: Learn how to use the Stackby node in n8n. Follow technical documentation to integrate Stackby node into your workflows.

contentType: [integration, reference]

---

# Stackby node

Use the Stackby node to automate work in Stackby, and integrate Stackby with other applications. n8n has built-in support for a wide range of Stackby features, including appending, deleting, listing and reading.

On this page, you'll find a list of operations the Stackby node supports and links to more resources.

/// note | Credentials

Refer to [Stackby credentials](/integrations/builtin/credentials/stackby.md) for guidance on setting up authentication.

///

## Operations

- Append

- Delete

- List

- Read

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'stackby') ]]

## n8n-nodes-base.storyblok.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Storyblok node documentation

description: Learn how to use the Storyblok node in n8n. Follow technical documentation to integrate Storyblok node into your workflows.

contentType: [integration, reference]

---

# Storyblok node

Use the Storyblok node to automate work in Storyblok, and integrate Storyblok with other applications. n8n has built-in support for a wide range of Storyblok features, including getting, deleting, and publishing stories.

On this page, you'll find a list of operations the Storyblok node supports and links to more resources.

/// note | Credentials

Refer to [Storyblok credentials](/integrations/builtin/credentials/storyblok.md) for guidance on setting up authentication.

///

## Operations

### Content API

- \*\*Story\*\*

- Get a story

- Get all stories

### Management API

- \*\*Story\*\*

- Delete a story

- Get a story

- Get all stories

- Publish a story

- Unpublish a story

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'storyblok') ]]

## n8n-nodes-base.strapi.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Strapi node documentation

description: Learn how to use the Strapi node in n8n. Follow technical documentation to integrate Strapi node into your workflows.

contentType: [integration, reference]

---

# Strapi node

Use the Strapi node to automate work in Strapi, and integrate Strapi with other applications. n8n has built-in support for a wide range of Strapi features, including creating and deleting entries.

On this page, you'll find a list of operations the Strapi node supports and links to more resources.

/// note | Credentials

Refer to [Strapi credentials](/integrations/builtin/credentials/strapi.md) for guidance on setting up authentication.

///

## Operations

\* Entry

\* Create

\* Delete

\* Get

\* Get Many

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'strapi') ]]

## Related resources

Refer to [Strapi's documentation](https://docs.strapi.io/dev-docs/api/rest){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.strava.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Strava node documentation

description: Learn how to use the Strava node in n8n. Follow technical documentation to integrate Strava node into your workflows.

contentType: [integration, reference]

---

# Strava node

Use the Strava node to automate work in Strava, and integrate Strava with other applications. n8n has built-in support for a wide range of Strava features, including creating new activities, and getting activity information.

On this page, you'll find a list of operations the Strava node supports and links to more resources.

/// note | Credentials

Refer to [Strava credentials](/integrations/builtin/credentials/strava.md) for guidance on setting up authentication.

///

## Operations

\* Activity

\* Create a new activity

\* Get an activity

\* Get all activities

\* Get all activity comments

\* Get all activity kudos

\* Get all activity laps

\* Get all activity zones

\* Update an activity

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'strava') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.stripe.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Stripe node documentation

description: Learn how to use the Stripe node in n8n. Follow technical documentation to integrate Stripe node into your workflows.

contentType: [integration, reference]

---

# Stripe node

Use the Stripe node to automate work in Stripe, and integrate Stripe with other applications. n8n has built-in support for a wide range of Stripe features, including getting balance, creating charge, and deleting customers.

On this page, you'll find a list of operations the Stripe node supports and links to more resources.

/// note | Credentials

Refer to [Stripe credentials](/integrations/builtin/credentials/stripe.md) for guidance on setting up authentication.

///

## Operations

\* Balance

\* Get a balance

\* Charge

\* Create a charge

\* Get a charge

\* Get all charges

\* Update a charge

\* Coupon

\* Create a coupon

\* Get all coupons

\* Customer

\* Create a customer

\* Delete a customer

\* Get a customer

\* Get all customers

\* Update a customer

\* Customer Card

\* Add a customer card

\* Get a customer card

\* Remove a customer card

\* Source

\* Create a source

\* Delete a source

\* Get a source

\* Token

\* Create a token

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'stripe') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.syncromsp.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SyncroMSP node documentation

description: Learn how to use the SyncroMSP node in n8n. Follow technical documentation to integrate SyncroMSP node into your workflows.

contentType: [integration, reference]

---

# SyncroMSP node

Use the SyncroMSP node to automate work in SyncroMSP, and integrate SyncroMSP with other applications. n8n has built-in support for a wide range of SyncroMSP features, including creating and deleting new customers, tickets, and contacts.

On this page, you'll find a list of operations the SyncroMSP node supports and links to more resources.

/// note | Credentials

Refer to [SyncroMSP credentials](/integrations/builtin/credentials/syncromsp.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create new contact

\* Delete contact

\* Retrieve contact

\* Retrieve all contacts

\* Update contact

\* Customer

\* Create new customer

\* Delete customer

\* Retrieve customer

\* Retrieve all customers

\* Update customer

\* RMM

\* Create new RMM Alert

\* Delete RMM Alert

\* Retrieve RMM Alert

\* Retrieve all RMM Alerts

\* Mute RMM Alert

\* Ticket

\* Create new ticket

\* Delete ticket

\* Retrieve ticket

\* Retrieve all tickets

\* Update ticket

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'syncromsp') ]]

## n8n-nodes-base.taiga.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Taiga node documentation

description: Learn how to use the Taiga node in n8n. Follow technical documentation to integrate Taiga node into your workflows.

contentType: [integration, reference]

---

# Taiga node

Use the Taiga node to automate work in Taiga, and integrate Taiga with other applications. n8n has built-in support for a wide range of Taiga features, including creating, updating, deleting, and getting issues.

On this page, you'll find a list of operations the Taiga node supports and links to more resources.

/// note | Credentials

Refer to [Taiga credentials](/integrations/builtin/credentials/taiga.md) for guidance on setting up authentication.

///

## Operations

- \*\*Issue\*\*

- Create an issue

- Delete an issue

- Get an issue

- Get all issues

- Update an issue

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'taiga') ]]

## n8n-nodes-base.tapfiliate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Tapfiliate node documentation

description: Learn how to use the Tapfiliate node in n8n. Follow technical documentation to integrate Tapfiliate node into your workflows.

contentType: [integration, reference]

---

# Tapfiliate node

Use the Tapfiliate node to automate work in Tapfiliate, and integrate Tapfiliate with other applications. n8n has built-in support for a wide range of Tapfiliate features, including creating and deleting affiliates, and adding affiliate metadata.

On this page, you'll find a list of operations the Tapfiliate node supports and links to more resources.

/// note | Credentials

Refer to [Tapfiliate credentials](/integrations/builtin/credentials/tapfiliate.md) for guidance on setting up authentication.

///

## Operations

\* Affiliate

\* Create an affiliate

\* Delete an affiliate

\* Get an affiliate by ID

\* Get all affiliates

\* Affiliate Metadata

\* Add metadata to affiliate

\* Remove metadata from affiliate

\* Update affiliate's metadata

\* Program Affiliate

\* Add affiliate to program

\* Approve an affiliate for a program

\* Disapprove an affiliate

\* Get an affiliate in a program

\* Get all affiliates in program

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'tapfiliate') ]]

## n8n-nodes-base.thehive.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TheHive node documentation

description: Learn how to use the TheHive node in n8n. Follow technical documentation to integrate TheHive node into your workflows.

contentType: [integration, reference]

---

# TheHive node

Use the TheHive node to automate work in TheHive, and integrate TheHive with other applications. n8n has built-in support for a wide range of TheHive features, including creating alerts, counting tasks logs, cases, and observables.

On this page, you'll find a list of operations the TheHive node supports and links to more resources.

/// note | TheHive and TheHive 5

n8n provides two nodes for TheHive. Use this node (TheHive) if you want to use TheHive's version 3 or 4 API. If you want to use version 5, use [TheHive 5](/integrations/builtin/app-nodes/n8n-nodes-base.thehive5.md).

///

/// note | Credentials

Refer to [TheHive credentials](/integrations/builtin/credentials/thehive.md) for guidance on setting up authentication.

///

## Operations

The available operations depend on your API version. To see the operations list, create your credentials, including selecting your API version. Then return to the node, select the resource you want to use, and n8n displays the available operations for your API version.

\* Alert

\* Case

\* Log

\* Observable

\* Task

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'thehive') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Related resources

n8n provides a trigger node for TheHive. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.thehivetrigger.md).

Refer to TheHive's documentation for more information about the service:

\* [Version 3](https://docs.thehive-project.org/thehive/legacy/thehive3/api/){:target=\_blank .external-link}

\* [Version 4](https://docs.thehive-project.org/cortex/api/api-guide/){:target=\_blank .external-link}

## n8n-nodes-base.thehive5.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TheHive 5 node documentation

description: Learn how to use the TheHive 5 node in n8n. Follow technical documentation to integrate TheHive 5 node into your workflows.

contentType: [integration, reference]

---

# TheHive 5 node

Use the TheHive 5 node to automate work in TheHive, and integrate TheHive with other applications. n8n has built-in support for a wide range of TheHive features, including creating alerts, counting tasks logs, cases, and observables.

On this page, you'll find a list of operations the TheHive node supports and links to more resources.

/// note | TheHive and TheHive 5

n8n provides two nodes for TheHive. Use this node (TheHive 5) if you want to use TheHive's version 5 API. If you want to use version 3 or 4, use [TheHive](/integrations/builtin/app-nodes/n8n-nodes-base.thehive.md).

///

/// note | Credentials

Refer to [TheHive credentials](/integrations/builtin/credentials/thehive5.md) for guidance on setting up authentication.

///

## Operations

\* Alert

\* Create

\* Delete

\* Execute Responder

\* Get

\* Merge Into Case

\* Promote to Case

\* Search

\* Update

\* Update Status

\* Case

\* Add Attachment

\* Create

\* Delete Attachment

\* Delete Case

\* Execute Responder

\* Get

\* Get Attachment

\* Get Timeline

\* Search

\* Update

\* Comment

\* Create

\* Delete

\* Search

\* Update

\* Observable

\* Create

\* Delete

\* Execute Analyzer

\* Execute Responder

\* Get

\* Search

\* Update

\* Page

\* Create

\* Delete

\* Search

\* Update

\* Query

\* Execute Query

\* Task

\* Create

\* Delete

\* Execute Responder

\* Get

\* Search

\* Update

\* Task Log

\* Add Attachment

\* Create

\* Delete

\* Delete Attachment

\* Execute Responder

\* Get

\* Search

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'thehive-5') ]]

## Related resources

n8n provides a trigger node for TheHive. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.thehive5trigger.md).

Refer to TheHive's [documentation](https://docs.strangebee.com/){:target=\_blank .external-link} for more information about the service.

## n8n-nodes-base.timescaledb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TimescaleDB node documentation

description: Learn how to use the TimescaleDB node in n8n. Follow technical documentation to integrate TimescaleDB node into your workflows.

contentType: [integration, reference]

---

# TimescaleDB node

Use the TimescaleDB node to automate work in TimescaleDB, and integrate TimescaleDB with other applications. n8n has built-in support for a wide range of TimescaleDB features, including executing an SQL query, as well as inserting and updating rows in a database.

On this page, you'll find a list of operations the TimescaleDB node supports and links to more resources.

/// note | Credentials

Refer to [TimescaleDB credentials](/integrations/builtin/credentials/timescaledb.md) for guidance on setting up authentication.

///

## Operations

\* Execute an SQL query

\* Insert rows in database

\* Update rows in database

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'timescaledb') ]]

## Specify a column's data type

To specify a column's data type, append the column name with `:type`, where `type` is the data type you want for the column. For example, if you want to specify the type `int` for the column \*\*id\*\* and type `text` for the column \*\*name\*\*, you can use the following snippet in the \*\*Columns\*\* field: `id:int,name:text`.

## n8n-nodes-base.todoist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Todoist node documentation

description: Learn how to use the Todoist node in n8n. Follow technical documentation to integrate Todoist node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Todoist node

Use the Todoist node to automate work in Todoist, and integrate Todoist with other applications. n8n has built-in support for a wide range of Todoist features, including creating, updating, deleting, and getting tasks.

On this page, you'll find a list of operations the Todoist node supports and links to more resources.

/// note | Credentials

Refer to [Todoist credentials](/integrations/builtin/credentials/todoist.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Task

\* Create a new task

\* Close a task

\* Delete a task

\* Get a task

\* Get all tasks

\* Reopen a task

\* Update a task

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'todoist') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.travisci.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Travis CI node documentation

description: Learn how to use the Travis CI node in n8n. Follow technical documentation to integrate Travis CI node into your workflows.

contentType: [integration, reference]

---

# Travis CI node

Use the Travis CI node to automate work in Travis CI, and integrate Travis CI with other applications. n8n has built-in support for a wide range of Travis CI features, including cancelling and getting builds.

On this page, you'll find a list of operations the Travis CI node supports and links to more resources.

/// note | Credentials

Refer to [Travis CI credentials](/integrations/builtin/credentials/travisci.md) for guidance on setting up authentication.

///

## Operations

\* Build

\* Cancel a build

\* Get a build

\* Get all builds

\* Restart a build

\* Trigger a build

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'travisci') ]]

## n8n-nodes-base.trello.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Trello node documentation

description: Learn how to use the Trello node in n8n. Follow technical documentation to integrate Trello node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Trello node

Use the Trello node to automate work in Trello, and integrate Trello with other applications. n8n has built-in support for a wide range of Trello features, including creating and updating cards, and adding and removing members.

On this page, you'll find a list of operations the Trello node supports and links to more resources.

/// note | Credentials

Refer to [Trello credentials](/integrations/builtin/credentials/trello.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Attachment

\* Create a new attachment for a card

\* Delete an attachment

\* Get the data of an attachment

\* Returns all attachments for the card

\* Board

\* Create a new board

\* Delete a board

\* Get the data of a board

\* Update a board

\* Board Member

\* Add

\* Get All

\* Invite

\* Remove

\* Card

\* Create a new card

\* Delete a card

\* Get the data of a card

\* Update a card

\* Card Comment

\* Create a comment on a card

\* Delete a comment from a card

\* Update a comment on a card

\* Checklist

\* Create a checklist item

\* Create a new checklist

\* Delete a checklist

\* Delete a checklist item

\* Get the data of a checklist

\* Returns all checklists for the card

\* Get a specific checklist on a card

\* Get the completed checklist items on a card

\* Update an item in a checklist on a card

\* Label

\* Add a label to a card.

\* Create a new label

\* Delete a label

\* Get the data of a label

\* Returns all labels for the board

\* Remove a label from a card.

\* Update a label.

\* List

\* Archive/Unarchive a list

\* Create a new list

\* Get the data of a list

\* Get all the lists

\* Get all the cards in a list

\* Update a list

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'trello') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Find the List ID

1. Open the Trello board that contains the list.

2. If the list doesn't have any cards, add a card to the list.

3. Open the card, add `.json` at the end of the URL, and press enter.

4. In the JSON file, you will see a field called `idList`.

5. Copy the contents of the `idList`field and paste it in the \*\*\*List ID\*\* field in n8n.

## n8n-nodes-base.twake.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Twake node documentation

description: Learn how to use the Twake node in n8n. Follow technical documentation to integrate Twake node into your workflows.

contentType: [integration, reference]

---

# Twake node

Use the Twake node to automate work in Twake, and integrate Twake with other applications. n8n supports sending messages with Twake.

On this page, you'll find a list of operations the Twake node supports and links to more resources.

/// note | Credentials

Refer to [Twake credentials](/integrations/builtin/credentials/twake.md) for guidance on setting up authentication.

///

## Operations

\* Message

\* Send a message

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'twake') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.twilio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Twilio node documentation

description: Learn how to use the Twilio node in n8n. Follow technical documentation to integrate Twilio node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Twilio node

Use the Twilio node to automate work in Twilio, and integrate Twilio with other applications. n8n supports sending MMS/SMS and WhatsApp messages with Twilio.

On this page, you'll find a list of operations the Twilio node supports and links to more resources.

/// note | Credentials

Refer to [Twilio credentials](/integrations/builtin/credentials/twilio.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* SMS

\* Send SMS/MMS/WhatsApp message

\* Call

\* Make a phone call using text-to-speech to say a message

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'twilio') ]]

## Related resources

Refer to [Twilio's documentation](https://www.twilio.com/docs/usage/api){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.twist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Twist node documentation

description: Learn how to use the Twist node in n8n. Follow technical documentation to integrate Twist node into your workflows.

contentType: [integration, reference]

---

# Twist node

Use the Twist node to automate work in Twist, and integrate Twist with other applications. n8n has built-in support for a wide range of Twist features, including creating conversations in a channel, as well as creating and deleting comments on a thread.

On this page, you'll find a list of operations the Twist node supports and links to more resources.

/// note | Credentials

Refer to [Twist credentials](/integrations/builtin/credentials/twist.md) for guidance on setting up authentication.

///

## Operations

\* Channel

\* Archive a channel

\* Initiates a public or private channel-based conversation

\* Delete a channel

\* Get information about a channel

\* Get all channels

\* Unarchive a channel

\* Update a channel

\* Comment

\* Create a new comment to a thread

\* Delete a comment

\* Get information about a comment

\* Get all comments

\* Update a comment

\* Message Conversation

\* Create a message in a conversation

\* Delete a message in a conversation

\* Get a message in a conversation

\* Get all messages in a conversation

\* Update a message in a conversation

\* Thread

\* Create a new thread in a channel

\* Delete a thread

\* Get information about a thread

\* Get all threads

\* Update a thread

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'twist') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Get the User ID

To get the User ID for a user:

1. Open the \*\*Team\*\* tab.

2. Select a user's avatar.

3. Copy the string of characters located after `/u/` in your Twist URL. This string is the User ID. For example, if the URL is `https://twist.com/a/4qw45/people/u/475370` the User ID is `475370`.

## n8n-nodes-base.twitter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: X (Formerly Twitter) node documentation

description: Learn how to use the X (Formerly Twitter) node in n8n. Follow technical documentation to integrate X (Formerly Twitter) node into your workflows.

contentType: [integration, reference]

priority: medium

---

# X (Formerly Twitter) node

Use the X node to automate work in X and integrate X with other applications. n8n has built-in support for a wide range of X features, including creating direct messages and deleting, searching, liking, and retweeting a tweet.

On this page, you'll find a list of operations the X node supports and links to more resources.

/// note | Credentials

Refer to [X credentials](/integrations/builtin/credentials/twitter.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Direct Message

\* Create a direct message

\* Tweet

\* Create or reply a tweet

\* Delete a tweet

\* Search tweets

\* Like a tweet

\* Retweet a tweet

\* User

\* Get a user

\* List

\* Add a member to a list

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'twitter') ]]

## n8n-nodes-base.unleashedsoftware.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Unleashed Software node documentation

description: Learn how to use the Unleashed Software node in n8n. Follow technical documentation to integrate Unleashed Software node into your workflows.

contentType: [integration, reference]

---

# Unleashed Software node

Use the Unleashed Software node to automate work in Unleashed Software, and integrate Unleashed Software with other applications. n8n has built-in support for a wide range of Unleashed Software features, including getting sales orders and stock on hand.

On this page, you'll find a list of operations the Unleashed Software node supports and links to more resources.

/// note | Credentials

Refer to [Unleashed Software credentials](/integrations/builtin/credentials/unleashedsoftware.md) for guidance on setting up authentication.

///

## Operations

\* Sales Order

\* Get all sales orders

\* Stock On Hand

\* Get a stock on hand

\* Get all stocks on hand

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'unleashed-software') ]]

## n8n-nodes-base.uplead.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: UpLead node documentation

description: Learn how to use the UpLead node in n8n. Follow technical documentation to integrate UpLead node into your workflows.

contentType: [integration, reference]

---

# UpLead node

Use the UpLead node to automate work in UpLead, and integrate UpLead with other applications. n8n supports several UpLead operations, including getting company information.

On this page, you'll find a list of operations the UpLead node supports and links to more resources.

/// note | Credentials

Refer to [UpLead credentials](/integrations/builtin/credentials/uplead.md) for guidance on setting up authentication.

///

## Operations

\* Company

\* Enrich

\* Person

\* Enrich

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'uplead') ]]

## n8n-nodes-base.uproc.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: uProc node documentation

description: Learn how to use the uProc node in n8n. Follow technical documentation to integrate uProc node into your workflows.

contentType: [integration, reference]

---

# uProc node

Use the uProc node to automate work in uProc, and integrate uProc with other applications. n8n has built-in support for a wide range of uProc features, including getting advanced human audio file, communication data, company, finance and product information.

On this page, you'll find a list of operations the uProc node supports and links to more resources.

/// note | Credentials

Refer to [uProc credentials](/integrations/builtin/credentials/uproc.md) for guidance on setting up authentication.

///

## Operations

### Audio

- Get advanced human audio file by provided text and language

- Get an audio file by provided text and language

### Communication

- Discover if a domain has a social network presence

- Discover if an email is valid, hard bounce, soft bounce, spam-trap, free, temporary, and recipient exists

- Discover if the email recipient exists, returning email status

- Check if an email domain has an SMTP server to receive emails

- Discover if the email has a social network presence

- Check if an email has a valid format

- Check if an email domain belongs to a disposable email service

- Check if email belongs to free service provider like Gmail

- Check if email is catchall

- Discover if an email exists in the Robinson list (only Spain)

- Check if email belongs to a system or role-based account

- Check if an email is a spam trap

- Discover if an IMEI number has a valid format

- Check if a LinkedIn profile is a first-degree contact

- Discover if mobile phone number exists in network operator, with worldwide coverage

- Discover if a mobile phone number has a valid format with worldwide coverage

- Discover if a mobile phone number has a valid format (only Spain)

- Discover if a mobile phone number has a valid prefix, with worldwide coverage

- Discover if a Spanish mobile phone number has a valid prefix

- Discover if a mobile number is switched on to call it later, with worldwide coverage

- Discover if a mobile number can receive SMS with worldwide coverage

- Discover if a phone (landline or mobile) exists in a Robinson list (only Spain)

- Discover if a landline or mobile number has a valid prefix

- Discover if a landline phone number is valid, with Spain coverage

- Allows discovering if landline number has a good international format, depending on the country

- Discover if a landline phone number prefix exists, with worldwide coverage

- Clean a phone removing non allowed characters

- Allows getting country code of a mobile phone number with international format

- Allows getting a domain from an email

- Discover an email by company website or domain and prospect's first-name and last-name

- Check if an email is personal or generic

- Get emails list found on the internet by domain or URI

- Get an emails list found on the internet by non-free email

- Get emails list found inside the website by domain or URI

- Get three first web references of an email published on the internet

- Allows you to fix the email domain of those misspelled emails

- Fix the international prefix of a phone based on the ISO code of a country

- Get GDPR compliant emails list by domain for your Email Marketing campaigns in Europe

- Discover if mobile exist using real-time HLR query

- Get personal email by social network profile

- Get portability data about a landline or mobile number, only for Spain

- Extract results from a LinkedIn search (employees in a company)

- Get members in a LinkedIn group

- Get 'Search LinkedIn Contacts' URL

- Extract the last 80 connections from your LinkedIn profile

- Extract the last 80 invitations sent from your LinkedIn

- Get users who comment on a post on LinkedIn

- Get users who like a post on LinkedIn

- Extract a LinkedIn profile

- Extract results from a LinkedIn search (profiles)

- Extract last profiles that have published content on LinkedIn by specific keywords

- Discover if mobile exist using real-time HLR query, as well as portability and roaming data

- Get existence, portability, and roaming of a mobile phone using MNP query

- Discover if mobile or landline prefix exists in Spain

- Allows normalizing email address, removing non allowed characters

- Allows normalizing a mobile phone, removing non-allowed characters

- Parse phone number in multiple fields and verify format and prefix validity

- Allows getting country prefix number by country code

- Discover an email by company website or domain and prospect's first-name and last-name

- This tool parses a social URI address and extracts any available indicators

- Search all social networks by domain, parses all found URLs, and returns social networks data

- Discover if a domain or a website has social activity and returns all social network profiles found

- Discover if an email has social activity, and get all social network profiles found

- Discover if a mobile phone has social activity, and get all social network profiles found

- Get web references for an email published on the internet

- Send a custom message invitation to a non connected LinkedIn profile

- Send a custom email to a recipient

- Send a custom SMS to a recipient with worldwide coverage

- Send a custom invitation message if a profile is connected or a custom message otherwise

- Visits a profile to show interest and get profile views in return from contact, increasing your LinkedIn network

- Send a custom private message to a connected LinkedIn profile

- Get an email by contact's LinkedIn profile URI

- Discover an email by company's name and prospect's full name

- Discover an email by company's website or domain and prospect's full name

- Get email by first name, last name, and company

- Get parsed and validated phone

### Company

- Discover if a CIF card number is valid

- Check if a company is a debtor by TaxID

- Check if the ISIN number is valid

- Check if the SS number is valid, only for Spain

- Identify and classify a prospecting role in detecting the right area and seniority to filter later

- Get a company's contact, social, and technology data by domain

- Get a company's contact, social, and technology data by email

- Get a company's data by CIF

- Get a company's data by DUNS

- Get a company's data by domain

- Get a company's data by email

- Get a company's data by IP address

- Get a company's data by name

- Get a company's data by phone number

- Get a company's data by social networks URI (LinkedIn, Twitter)

- Get a company's name by company domain

- Get professional data of a decision-maker by company name/domain and area

- Discover more suitable decision-maker using search engines (Bing) by company name and area

- Get professional emails of decision-makers by company domain and area

- Discover up to ten decision-makers using search engines (Bing) by company name and area

- Get a company's domain by company name

- Get employees by company name or domain, area, seniority, and country

- Get a company's Facebook profile by name without manually searching on Google or Facebook

- Get geocoded company data by IP address

- Get a company's LinkedIn profile by name without manually searching on Google or LinkedIn

- Allows normalizing a CIF number, removing non-allowed characters

- Get a company's phone by company domain

- Get a company's sales data by a company's DUNS number

- Get a company's sales data by a company's domain name

- Get a company's sales data by a company's name

- Get a company's sales data by a company's tax ID (CIF)

- Get a company's Twitter profile by name without manually searching on Google or Twitter

- Get decision maker by search engine

- Get decision makers by search engine

- Get Facebook URI by company's domain

- Get GitHub URI by company's domain

- Get Instagram URI by company's domain

- Get LinkedIn URI by company's domain

- Get Pinterest URI by company's domain

- Get Twitter URI by company's domain

- Get YouTube URI by company's domain

### Finance

- Check if crypto wallet is valid

- Discover if a BIC number has a valid format

- Discover if an account number has a valid format

- Check if credit card number checksum is valid

- Discover if an IBAN account number has a valid format

- Discover if an ISO currency code is valid

- Check if a TIN exists in Europe

- Convert amount between supported currencies and an exchange date

- Get credit card type

- Get multiple ISO currency codes by a country name

- Get all ISO currency by an IP address

- Get multiple ISO currency codes by a country ISO code

- Get ISO currency code by IP address

- Get ISO currency code by a currency ISO code

- Get ISO currency code by an ISO country code

- Get ISO currency code by a country name

- Get related European TIN in Europe

- Get IBAN by account number of the country

- Get to search data bank information by IBAN account number

- Get country VAT by address

- Get country VAT by coordinates

- Get Swift code lookup

- Get VAT by IP address

- Get VAT value by country ISO code

- Get VAT by phone number, with worldwide coverage

- Get VAT by zip code

### Geographical

- Check if a country's ISO code exists

- Discover if the distance between two coordinates is equal to another

- Discover if the distance (kilometers) between two coordinates is greater than the given input

- Discover if the distance (kilometers) between two coordinates is greater or equal to the given input

- Discover if the distance(kilometers) between two coordinates is lower than the given input

- Check if an address exists by a partial address search

- Check if a house number exists by a partial address search

- Check if coordinates have a valid format

- Discover if a zip code number prefix exists (only for Spain)

- Discover if a zip code number has a valid format (only for Spain)

- Get cartesian coordinates(X, Y, Z/WGS84) by Latitude and Longitude

- Get location by parameters

- Get multiple cities by phone prefix (only for Spain)

- Get multiple cities by partial initial text (only for Spain)

- Get multiple cities by zip code prefix (only for Spain)

- Get a city from IP

- City search by partial name (only for Spain)

- Discover the city name by a local phone number (only for Spain)

- Discover the city name by the zip code (only for Spain)

- Discover the community name from a zip code (only for Spain)

- Discover latitude and longitude coordinates of an IP address

- Discover latitude and longitude coordinates of a postal address

- Get multiple country names by currency ISO code

- Get multiple countries by ISO code

- Get multiple country names by initial name

- Get country name by currency ISO code

- Get country name by IP address

- Get country name by its ISO code

- Get country by a prefix

- Get country name by phone number, with worldwide coverage

- Get Aplha2 code by a country prefix or a name

- Get decimal coordinates (degrees, minutes, and seconds) by latitude and longitude

- Returns straight-line distance (kilometers) between two addresses

- Returns straight-line distance (kilometers) between two GPS coordinates (latitude and longitude)

- Returns straight-line distance (kilometers) between two IP addresses

- Returns straight-line distance (kilometers) between two landline phones, using city and province of every phone

- Returns straight-line distance (kilometers) between two zip codes, using city and province of every zip code

- Get an exact address by a partial address search

- Discover geographical, company, timezone, and reputation data by IPv4 address

- Discover the city name, zip code, province, country, latitude, and longitude from an IPv4 or IPv6 address and geocodes it

- Parse postal address into separated fields, getting an improved resolution

- Discover locale data (currency, language) by IPv4 or IPv6 address

- Discover the city name, zip code, province, or country by latitude and longitude

- Discover the city name, zip code, province, country, latitude, and longitude from an IPv4 or IPv6 address

- Discover the city and the province from a landline phone number (only Spain)

- Discover location data by name

- Discover the city and the province from a zip code number (only Spain)

- Get the most relevant locations by name

- Get the most relevant locations by name, category, location, and radius

- Get multiple personal names by a prefix

- Discover network data by IPv4 or IPv6 address

- Allow normalizing an address by removing non allowed characters

- Allow normalizing a city by removing non allowed characters

- Allow normalizing a country by removing non allowed characters

- Allow normalizing a province by removing non allowed characters

- Allow normalizing a zip code by removing non allowed characters

- Get normalized country

- Parse postal address into separated fields, getting a basic resolution

- Discover the province name from an IP address

- Get the first province by a name prefix (only for Spain)

- Discover the province name from a landline phone number (only for Spain)

- Discover the province name from a zip code number (only for Spain)

- Get a province list by a name prefix (only for Spain)

- Get a province list by a phone prefix (only for Spain)

- Get a province list by a zip code prefix (only for Spain)

- Discover reputation by IPv4 or IPv6 address

- Returns driving routing time, distance, fuel consumption, and cost between two addresses

- Returns driving routing time, distance, fuel consumption, and cost between two GPS coordinates

- Returns driving routing time, distance, fuel consumption, and cost between two IP addresses

- Returns driving routing time, distance, fuel consumption, and cost between two landline phones, using city and province of every phone (only for Spain)

- Returns driving routing time, distance, fuel consumption, and cost between two zip codes, using city and province of every zip code

- Discover date-time data by IPv4 or IPv6 address

- Get USNG coordinates by latitude and longitude

- Get UTM coordinates by latitude and longitude

- Discover the zip code if you have an IP address

- Get the first zip code by prefix, only for Spain

- Get multiple zip codes by prefix, with worldwide coverage

- Get time data by coordinates

- Get time data by postal address

### Image

- Get QR code decoded content by an image URL

- It allows discovering all geographical and technical EXIF metadata present in a photographic JPEG image

- Get an encoded barcode by number and a required standard

- Get QR code encoded by a text

- Generate a new image by URL and text

- Discover logo (favicon) used in a domain

- Generate a screenshot by URL provided using Chrome browser

- Get OCR text from image

### Internet

- Check if a domain exists

- Check if a domain has a DNS record

- Check if a domain has the given IP address assigned

- Check if a domain has an MX record

- Check if a domain has a valid SSL certificate

- Check if a domain has a valid format

- Check if a domain accepts all emails, existing or not

- Check if a domain is a free service domain provider

- Check if a domain is temporary or not

- Discover if a computer is switched on

- Discover if service in a port is available

- Check if an URL contains a string or regular expression

- Check if an URL exists

- Check that an URL has a valid format

- Get full SSL certificate data by a domain (or website) and monitor your certificate status

- Get feed entries by domain

- Get last feed entry by domain

- Get text data from web, PDF or image allowing to filter some elements by regular expressions or field names

- Decode URL to recover original

- Get valid, existing, and default URL when accessing a domain using a web browser

- Get long version of shortened URL

- Discover device features by a user agent

- Get the network name of and IP address

- Get the domain record by its type

- Encode URL to avoid problems

- Copy file from one URL to another URL

- Fix an IP address to the right format

- Get the IPv4 address linked with a domain

- Convert a number to an IP address

- Get ISP known name of email domain name

- Convert an IP address to numeric notation

- Scan a host and returns the most commonly open ports

- Obtains a list with multiple results from a website

- Obtains the content of a website

- Decode URL into multiple fields

- Generate a PDF file by URL (provided using Chrome browser)

- Get the root domain of any web address, removing non needed characters

- Generates shareable URIs to use on social networks and email using a content URI and a text

- Get data from the existing table in an HTML page or a PDF file

- Discover client and server technologies used in a domain

- Discover client and server technologies used in web pages

- Analyze URL's health status about SSL, broken links, conflictive HTTP links with SSL, and more

- Get website visits and rank of any domain

- Get a domain's WHOIS data by fields

- Get WHOIS data fields by IP address provided

### Personal

- Check if age is between two numbers

- Check if date returns an age between 20 and 29

- Check if date returns an age between 40 and 49

- Check if age is greater than another

- Check if birth date returns an age greater than 64

- Check if birth date belongs to an adult (18 years for Spain)

- Check if age is lower than another

- Check if age is lower or equal than another

- Check if ages are equal

- Discover if a date is between two dates

- Discover if a date is greater

- Discover if a date is greater or equal

- Discover if a date belongs to a leap year

- Discover if a date is lower

- Discover if a date is lower or equal

- Discover if a date has a valid format

- Discover if a gender value is valid

- Discover if an NIE card number is valid

- Discover if a NIF card number is valid

- Check if a personal name exists in the INE data source (only for Spain)

- Check if a name contains accepted characters

- Discover if a NIF exists in the Robinson list (only for Spain)

- Check if surname contains accepted characters

- Check if a personal surname appears in INE data source (only for Spain)

- Discover if a DNI card number is valid

- Discover the age of a birth date

- Discover the age range of a person by birth date

- Get the difference between two dates

- Discover the gender of a person by the email

- Discover the gender of a person or company by the name

- Get LinkedIn employee profile URI by business email

- Get LinkedIn employee profile URI by first name, last name, and company

- Discover the letter of a DNI card number

- Get first personal name matching by prefix and gender from INE data source (only for Spain)

- Get LinkedIn URI by email

- Get LinkedIn URI by phone

- Allow normalizing a DNI number by removing non allowed characters

- Allow normalizing an NIE number by removing non allowed characters

- Normalize name by removing non allowed characters

- Normalize surname

- Get parsed date-time

- Normalize full name, fixing abbreviations, sorting if necessary, and returning first name, last name, and gender

- Get prospect's contact data and the company's location and social data by email

- Get contact, location, and social data by email and company name and location

- Get personal and social data by social profile

- Get personal data by email

- Get personal data by first name, last name, company, and location

- Get personal data by mobile

- Get personal data by social network profile

- Generate random fake data

- Get first personal surname matching by prefix from INE data source (only for Spain)

- Get personal surname matching by prefix from INE data source (only for Spain)

- Get Twitter profile by first name, last name, and company

- Get XING profile by first name, last name, and company

- Add a contact email to a person list

### Product

- Check if an ASIN code exists on the Amazon Marketplace

- Check if an ASIN code has a valid format

- Check if an EAN code exists on Amazon Marketplace

- Check if an EAN barcode has a valid format

- Check if an EAN barcode of 13 digits has a valid format

- Check if an EAN barcode of 14 digits has a valid format

- Check if an EAN barcode of 18 digits has a valid format

- Check if an EAN barcode of 8 digits has a valid format

- Check if a GTIN barcode has a valid format

- Check if a GTIN barcode of 13 digits has a valid format

- Check if a GTIN barcode of 14 digits has a valid format

- Check if a GTIN barcode of 8 digits has a valid format

- Check if VIN Number is valid

- Allows checking if an ISBN book exists

- Allows checking if an ISBN10/13 code has a valid format

- Allows checking if an ISBN10 code has a valid format

- Allows checking if an ISBN13 code has a valid format

- Check if a UPC exists

- Check if a UPC has a valid format

- Get ASIN by EAN

- Get a book by author's surname

- Get all publications by category

- Get book data by an editor's name

- Get book or publication data by 10 or 13 digits ISBN code

- Get book data by title

- Get books by author's surname

- Get all books by category

- Get all books by editor

- Get all books by title

- Get EAN code by ASIN code

- Get product data on a UPC on Amazon Marketplace

- Get ISBN10 code by ISBN13 code

- Get ISBN13 code by ISBN10 code

- Get data By VIN number

### Security

- Check if a Luhn number is valid

- Check if a password is strong

- Check if a UUID number is valid

- Get blacklists for a domain

- Get blacklists for an IP address

### Text

- Check if a string only contains alphabets

- Check if a string is alphanumeric

- Check if a string is boolean

- Check if the largest item in a list matches the provided item

- Check if IPv4 or IPv6 address has a valid format

- Check if IPv4 address has a valid format

- Check if IPv6 address has a valid format

- Check if the length of a list is between two quantities

- Checks if the length of a list equals a specified quantity

- Checks if the length of a list is greater than or equal to a certain amount

- Check if the length of a list is lower than a certain amount

- Check if the list contains a specific item

- Check if the list ends with a specific element

- Check if a list is sorted in ascending order

- Check if the list starts with a specific element

- Checks if the smallest element in a list matches the provided element

- Check if a string contains only numbers

- Check if a string contains a character

- Check if a string ends with a character

- Check if a string has no content

- Check if a string contains random characters

- Check if a string contains a value that matches with a regular expression

- Check if the length of a string is between two numbers

- Check if the length of a string is equal to a number

- Check if the length of a string is greater than a number

- Check if the length of a string is greater or equal to a number

- Check if the length of a string is lower than a number

- Check if the length of a string is lower or equal to a number

- Check if a string starts with a character

- Check if a string contains only lowercase characters

- Check if a string contains only uppercase characters

- Check if a list consists of unique elements

- Check if the supplied values form a valid list of elements

- Check if the number of words in a sentence is between two determined quantities

- Check if the number of words in a sentence equals a certain amount

- Check if the number of words in a sentence is greater than a certain amount

- Check if the number of words in a sentence is greater than

- Check if the word count is lower

- Check if the number of words present in a sentence is less than or equal to a quantity

- Convert a string to Base64 encoded value

- Discover banned English words in an email body or subject

- Get field names by analyzing the field value provided

- Get HTML code from Markdown

- Get Markdown text from HTML

- Get text without HTML

- Get spin string

- Format a string using a format pattern

- Generate random string using a regular expression as a pattern

- Return the largest item in a list

- Return the smallest item in a list

- Convert to lowercase

- Convert a string to MD5 encoded value

- Merge two strings

- Normalize a string depending on the field name

- Analyze string and return all emails, phones, zip codes, and links

- Convert a string to an SHA encoded value

- Analyze an English text with emojis and detect sentiment

- Returns an ascending sorted list

- Split a value into two parts and join them using a separator from the original string

- Split a value into two parts using a separator from the original string

- Get the length of a string

- Lookup string between multiple values by fuzzy logic and regex patterns

- Clean abuse words from a string

- Replace the first value found in a string with another

- Replace all values found in a string with another

- Translate a text into any language

- Return a single list with no repeating elements

- Convert all letters to uppercase

- Count total words in a text

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'uproc') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.uptimerobot.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: UptimeRobot node documentation

description: Learn how to use the UptimeRobot node in n8n. Follow technical documentation to integrate UptimeRobot node into your workflows.

contentType: [integration, reference]

---

# UptimeRobot node

Use the UptimeRobot node to automate work in UptimeRobot, and integrate UptimeRobot with other applications. n8n has built-in support for a wide range of UptimeRobot features, including creating and deleting alerts, as well as getting account details.

On this page, you'll find a list of operations the UptimeRobot node supports and links to more resources.

/// note | Credentials

Refer to [UptimeRobot credentials](/integrations/builtin/credentials/uptimerobot.md) for guidance on setting up authentication.

///

## Operations

\* Account

\* Get account details

\* Alert Contact

\* Create an alert contact

\* Delete an alert contact

\* Get an alert contact

\* Get all alert contacts

\* Update an alert contact

\* Maintenance Window

\* Create a maintenance window

\* Delete a maintenance window

\* Get a maintenance window

\* Get all a maintenance windows

\* Update a maintenance window

\* Monitor

\* Create a monitor

\* Delete a monitor

\* Get a monitor

\* Get all monitors

\* Reset a monitor

\* Update a monitor

\* Public Status Page

\* Create a public status page

\* Delete a public status page

\* Get a public status page

\* Get all a public status pages

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'uptimerobot') ]]

## n8n-nodes-base.urlscanio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: urlscan.io node documentation

description: Learn how to use the urlscan.io node in n8n. Follow technical documentation to integrate urlscan.io node into your workflows.

contentType: [integration, reference]

---

# urlscan.io node

Use the urlscan.io node to automate work in urlscan.io, and integrate urlscan.io with other applications. n8n has built-in support for a wide range of urlscan.io features, including getting and performing scans.

On this page, you'll find a list of operations the urlscan.io node supports and links to more resources.

/// note | Credentials

Refer to [urlscan.io credentials](/integrations/builtin/credentials/urlscanio.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Scan

\* Get

\* Get All

\* Perform

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'urlscanio') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.venafitlsprotectcloud.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Venafi TLS Protect Cloud node documentation

description: Learn how to use the Venafi TLS Protect Cloud node in n8n. Follow technical documentation to integrate Venafi TLS Protect Cloud node into your workflows.

contentType: [integration, reference]

---

# Venafi TLS Protect Cloud node

Use the Venafi TLS Protect Cloud node to automate work in Venafi TLS Protect Cloud, and integrate Venafi TLS Protect Cloud with other applications. n8n has built-in support for a wide range of Venafi TLS Protect Cloud features, including deleting and downloading certificates, as well as creating certificates requests.

On this page, you'll find a list of operations the Venafi TLS Protect Cloud node supports and links to more resources.

/// note | Credentials

Refer to [Venafi TLS Protect Cloud credentials](/integrations/builtin/credentials/venafitlsprotectcloud.md) for guidance on setting up authentication.

///

## Operations

\* Certificate

\* Delete

\* Download

\* Get

\* Get Many

\* Renew

\* Certificate Request

\* Create

\* Get

\* Get Many

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'venafi-tls-protect-cloud') ]]

## Related resources

Refer to [Venafi's REST API documentation](https://docs.venafi.cloud/api/vaas-rest-api/){:target=\_blank .external-link} for more information on this service.

n8n also provides:

<!-- vale off -->

\* A [trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.venafitlsprotectcloudtrigger.md) for Venafi TLS Protect Cloud.

\* A [node](/integrations/builtin/app-nodes/n8n-nodes-base.venafitlsprotectdatacenter.md) for Venafi TLS Protect Datacenter.

<!-- vale on -->

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.venafitlsprotectdatacenter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Venafi TLS Protect Datacenter node documentation

description: Learn how to use the Venafi TLS Protect Datacenter node in n8n. Follow technical documentation to integrate Venafi TLS Protect Datacenter node into your workflows.

contentType: [integration, reference]

---

<!-- vale off -->

<!-- disabled vale because of "Datacenter" Don't want to general approve it, but it's the brand name -->

# Venafi TLS Protect Datacenter node

Use the Venafi TLS Protect Datacenter node to automate work in Venafi TLS Protect Datacenter, and integrate Venafi TLS Protect Datacenter with other applications. n8n has built-in support for a wide range of Venafi TLS Protect Datacenter features, including creating, deleting, and getting certificates.

On this page, you'll find a list of operations the Venafi TLS Protect Datacenter node supports and links to more resources.

/// note | Credentials

Refer to [Venafi TLS Protect Datacenter credentials](/integrations/builtin/credentials/venafitlsprotectdatacenter.md) for guidance on setting up authentication.

///

## Operations

\* Certificate

\* Create

\* Delete

\* Download

\* Get

\* Get Many

\* Renew

\* Policy

\* Get

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'venafi-tls-protect-datacenter') ]]

## Related resources

n8n also provides:

\* A [node](/integrations/builtin/app-nodes/n8n-nodes-base.venafitlsprotectcloud.md) and [trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.venafitlsprotectcloudtrigger.md) node for Venafi TLS Protect Cloud.

<!-- vale on -->

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.vero.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Vero node documentation

description: Learn how to use the Vero node in n8n. Follow technical documentation to integrate Vero node into your workflows.

contentType: [integration, reference]

---

# Vero node

Use the Vero node to automate work in Vero and integrate Vero with other applications. n8n has built-in support for a wide range of Vero features, including creating and deleting users.

On this page, you'll find a list of operations the Vero node supports and links to more resources.

/// note | Credentials

Refer to [Vero credentials](/integrations/builtin/credentials/vero.md) for guidance on setting up authentication.

///

## Operations

\* User

\* Create or update a user profile

\* Change a users identifier

\* Unsubscribe a user.

\* Resubscribe a user.

\* Delete a user.

\* Adds a tag to a users profile.

\* Removes a tag from a users profile.

\* Event

\* Track an event for a specific customer

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'vero') ]]

## n8n-nodes-base.vonage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Vonage node documentation

description: Learn how to use the Vonage node in n8n. Follow technical documentation to integrate Vonage node into your workflows.

contentType: [integration, reference]

---

# Vonage node

Use the Vonage node to automate work in Vonage, and integrate Vonage with other applications. n8n supports sending SMS with Vonage.

On this page, you'll find a list of operations the Vonage node supports and links to more resources.

/// note | Credentials

Refer to [Vonage credentials](/integrations/builtin/credentials/vonage.md) for guidance on setting up authentication.

///

## Operations

\* SMS

\* Send

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'vonage') ]]

## n8n-nodes-base.webflow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webflow node documentation

description: Learn how to use the Webflow node in n8n. Follow technical documentation to integrate Webflow node into your workflows.

contentType: [integration, reference]

---

# Webflow node

Use the Webflow node to automate work in Webflow, and integrate Webflow with other applications. n8n has built-in support for a wide range of Webflow features, including creating, updating, deleting, and getting items.

On this page, you'll find a list of operations the Webflow node supports and links to more resources.

/// note | Credentials

Refer to [Webflow credentials](/integrations/builtin/credentials/webflow.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Item

\* Create

\* Delete

\* Get

\* Get All

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'webflow') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.wekan.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wekan node documentation

description: Learn how to use the Wekan node in n8n. Follow technical documentation to integrate Wekan node into your workflows.

contentType: [integration, reference]

---

# Wekan node

Use the Wekan node to automate work in Wekan, and integrate Wekan with other applications. n8n has built-in support for a wide range of Wekan features, including creating, updating, deleting, and getting boards and cards.

On this page, you'll find a list of operations the Wekan node supports and links to more resources.

/// note | Credentials

Refer to [Wekan credentials](/integrations/builtin/credentials/wekan.md) for guidance on setting up authentication.

///

## Operations

\* Board

\* Create a new board

\* Delete a board

\* Get the data of a board

\* Get all user boards

\* Card

\* Create a new card

\* Delete a card

\* Get a card

\* Get all cards

\* Update a card

\* Card Comment

\* Create a comment on a card

\* Delete a comment from a card

\* Get a card comment

\* Get all card comments

\* Checklist

\* Create a new checklist

\* Delete a checklist

\* Get the data of a checklist

\* Returns all checklists for the card

\* Checklist Item

\* Delete a checklist item

\* Get a checklist item

\* Update a checklist item

\* List

\* Create a new list

\* Delete a list

\* Get the data of a list

\* Get all board lists

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'wekan') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Load all the parameters for the node

To load all the parameters, for example, Author ID, you need to give admin permissions to the user. Refer to the [Wekan documentation](https://github.com/wekan/wekan/wiki/Features#members-click-member-initials-or-avatar--permissions-adminnormalcomment-only){:target=\_blank .external-link} to learn how to change permissions.

## n8n-nodes-base.wise.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wise node documentation

description: Learn how to use the Wise node in n8n. Follow technical documentation to integrate Wise node into your workflows.

contentType: [integration, reference]

---

# Wise node

Use the Wise node to automate work in Wise, and integrate Wise with other applications. n8n has built-in support for a wide range of Wise features, including getting profiles, exchange rates, and recipients.

On this page, you'll find a list of operations the Wise node supports and links to more resources.

/// note | Credentials

Refer to [Wise credentials](/integrations/builtin/credentials/wise.md) for guidance on setting up authentication.

///

## Operations

\* Account

\* Retrieve balances for all account currencies of this user.

\* Retrieve currencies in the borderless account of this user.

\* Retrieve the statement for the borderless account of this user.

\* Exchange Rate

\* Get

\* Profile

\* Get

\* Get All

\* Recipient

\* Get All

\* Quote

\* Create

\* Get

\* Transfer

\* Create

\* Delete

\* Execute

\* Get

\* Get All

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'wise') ]]

## n8n-nodes-base.woocommerce.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WooCommerce node documentation

description: Learn how to use the WooCommerce node in n8n. Follow technical documentation to integrate WooCommerce node into your workflows.

contentType: [integration, reference]

priority: medium

---

# WooCommerce node

Use the WooCommerce node to automate work in WooCommerce, and integrate WooCommerce with other applications. n8n has built-in support for a wide range of WooCommerce features, including creating and deleting customers, orders, and products.

On this page, you'll find a list of operations the WooCommerce node supports and links to more resources.

/// note | Credentials

Refer to [WooCommerce credentials](/integrations/builtin/credentials/woocommerce.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Customer

\* Create a customer

\* Delete a customer

\* Retrieve a customer

\* Retrieve all customers

\* Update a customer

\* Order

\* Create a order

\* Delete a order

\* Get a order

\* Get all orders

\* Update an order

\* Product

\* Create a product

\* Delete a product

\* Get a product

\* Get all products

\* Update a product

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'woocommerce') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.wordpress.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WordPress node documentation

description: Learn how to use the WordPress node in n8n. Follow technical documentation to integrate WordPress node into your workflows.

contentType: [integration, reference]

priority: medium

---

# WordPress node

Use the WordPress node to automate work in WordPress, and integrate WordPress with other applications. n8n has built-in support for a wide range of WordPress features, including creating, updating, and getting posts and users.

On this page, you'll find a list of operations the WordPress node supports and links to more resources.

/// note | Credentials

Refer to [WordPress credentials](/integrations/builtin/credentials/wordpress.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Post

\* Create a post

\* Get a post

\* Get all posts

\* Update a post

\* Pages

\* Create a page

\* Get a page

\* Get all pages

\* Update a page

\* User

\* Create a user

\* Get a user

\* Get all users

\* Update a user

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'wordpress') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.xero.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Xero node documentation

description: Learn how to use the Xero node in n8n. Follow technical documentation to integrate Xero node into your workflows.

contentType: [integration, reference]

---

# Xero node

Use the Xero node to automate work in Xero, and integrate Xero with other applications. n8n has built-in support for a wide range of Xero features, including creating, updating, and getting contacts and invoices.

On this page, you'll find a list of operations the Xero node supports and links to more resources.

/// note | Credentials

Refer to [Xero credentials](/integrations/builtin/credentials/xero.md) for guidance on setting up authentication.

///

## Operations

\* Contact

\* Create a contact

\* Get a contact

\* Get all contacts

\* Update a contact

\* Invoice

\* Create a invoice

\* Get a invoice

\* Get all invoices

\* Update a invoice

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'xero') ]]

## Related resources

Refer to [Xero's API documentation](https://developer.xero.com/documentation/api/accounting/overview){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.yourls.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Yourls node documentation

description: Learn how to use the Yourls node in n8n. Follow technical documentation to integrate Yourls node into your workflows.

contentType: [integration, reference]

---

# Yourls node

Use the Yourls node to automate work in Yourls, and integrate Yourls with other applications. n8n has built-in support for a wide range of Yourls features, including expanding and shortening URLs.

On this page, you'll find a list of operations the Yourls node supports and links to more resources.

/// note | Credentials

Refer to [Yourls credentials](/integrations/builtin/credentials/yourls.md) for guidance on setting up authentication.

///

## Operations

\* URL

\* Expand a URL

\* Shorten a URL

\* Get stats about one short URL

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'yourls') ]]

## n8n-nodes-base.youtube.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: YouTube node documentation

description: Learn how to use the YouTube node in n8n. Follow technical documentation to integrate YouTube node into your workflows.

contentType: [integration, reference]

priority: medium

---

# YouTube node

Use the YouTube node to automate work in YouTube, and integrate YouTube with other applications. n8n has built-in support for a wide range of YouTube features, including retrieving and updating channels, as well as creating and deleting playlists.

On this page, you'll find a list of operations the YouTube node supports and links to more resources.

/// note | Credentials

Refer to [YouTube credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Channel

\* Retrieve a channel

\* Retrieve all channels

\* Update a channel

\* Upload a channel banner

\* Playlist

\* Create a playlist

\* Delete a playlist

\* Get a playlist

\* Retrieve all playlists

\* Update a playlist

\* Playlist Item

\* Add an item to a playlist

\* Delete a item from a playlist

\* Get a playlist's item

\* Retrieve all playlist items

\* Video

\* Delete a video

\* Get a video

\* Retrieve all videos

\* Rate a video

\* Update a video

\* Upload a video

\* Video Category

\* Retrieve all video categories

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'youtube') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.zammad.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zammad node documentation

description: Learn how to use the Zammad node in n8n. Follow technical documentation to integrate Zammad node into your workflows.

contentType: [integration, reference]

---

# Zammad node

Use the Zammad node to automate work in Zammad, and integrate Zammad with other applications. n8n has built-in support for a wide range of Zammad features, including creating, retrieving, and deleting groups and organizations.

On this page, you'll find a list of operations the Zammad node supports and links to more resources.

/// note | Credentials

Refer to [Zammad credentials](/integrations/builtin/credentials/zammad.md) for guidance on setting up authentication.

///

## Operations

\* Group

\* Create

\* Delete

\* Get

\* Get many

\* Update

\* Organization

\* Create

\* Delete

\* Get

\* Get many

\* Update

\* Ticket

\* Create

\* Delete

\* Get

\* Get many

\* User

\* Create

\* Delete

\* Get

\* Get many

\* Get self

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'zammad') ]]

## n8n-nodes-base.zendesk.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zendesk node documentation

description: Learn how to use the Zendesk node in n8n. Follow technical documentation to integrate Zendesk node into your workflows.

contentType: [integration, reference]

---

# Zendesk node

Use the Zendesk node to automate work in Zendesk, and integrate Zendesk with other applications. n8n has built-in support for a wide range of Zendesk features, including creating, and deleting tickets, users, and organizations.

On this page, you'll find a list of operations the Zendesk node supports and links to more resources.

/// note | Credentials

Refer to [Zendesk credentials](/integrations/builtin/credentials/zendesk.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Ticket

\* Create a ticket

\* Delete a ticket

\* Get a ticket

\* Get all tickets

\* Recover a suspended ticket

\* Update a ticket

\* Ticket Field

\* Get a ticket field

\* Get all system and custom ticket fields

\* User

\* Create a user

\* Delete a user

\* Get a user

\* Get all users

\* Get a user's organizations

\* Get data related to the user

\* Search users

\* Update a user

\* Organization

\* Create an organization

\* Delete an organization

\* Count organizations

\* Get an organization

\* Get all organizations

\* Get data related to the organization

\* Update a organization

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'zendesk') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.zohocrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zoho CRM node documentation

description: Learn how to use the Zoho CRM node in n8n. Follow technical documentation to integrate Zoho CRM node into your workflows.

contentType: [integration, reference]

---

# Zoho CRM node

Use the Zoho CRM node to automate work in Zoho CRM, and integrate Zoho CRM with other applications. n8n has built-in support for a wide range of Zoho CRM features, including creating and deleting accounts, contacts, and deals.

On this page, you'll find a list of operations the Zoho CRM node supports and links to more resources.

/// note | Credentials

Refer to [Zoho CRM credentials](/integrations/builtin/credentials/zoho.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Account

\* Create an account

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete an account

\* Get an account

\* Get all accounts

\* Update an account

\* Contact

\* Create a contact

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Update a contact

\* Deal

\* Create a deal

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a contact

\* Get a contact

\* Get all contacts

\* Update a contact

\* Invoice

\* Create an invoice

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete an invoice

\* Get an invoice

\* Get all invoices

\* Update an invoice

\* Lead

\* Create a lead

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a lead

\* Get a lead

\* Get all leads

\* Get lead fields

\* Update a lead

\* Product

\* Create a product

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a product

\* Get a product

\* Get all products

\* Update a product

\* Purchase Order

\* Create a purchase order

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a purchase order

\* Get a purchase order

\* Get all purchase orders

\* Update a purchase order

\* Quote

\* Create a quote

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a quote

\* Get a quote

\* Get all quotes

\* Update a quote

\* Sales Order

\* Create a sales order

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a sales order

\* Get a sales order

\* Get all sales orders

\* Update a sales order

\* Vendor

\* Create a vendor

\* Create a new record, or update the current one if it already exists (upsert)

\* Delete a vendor

\* Get a vendor

\* Get all vendors

\* Update a vendor

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'zoho-crm') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.zoom.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zoom node documentation

description: Learn how to use the Zoom node in n8n. Follow technical documentation to integrate Zoom node into your workflows.

contentType: [integration, reference]

---

# Zoom node

Use the Zoom node to automate work in Zoom, and integrate Zoom with other applications. n8n has built-in support for a wide range of Zoom features, including creating, retrieving, deleting, and updating meetings.

On this page, you'll find a list of operations the Zoom node supports and links to more resources.

/// note | Credentials

Refer to [Zoom credentials](/integrations/builtin/credentials/zoom.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Meeting

\* Create a meeting

\* Delete a meeting

\* Retrieve a meeting

\* Retrieve all meetings

\* Update a meeting

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'zoom') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-base.zulip.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zulip node documentation

description: Learn how to use the Zulip node in n8n. Follow technical documentation to integrate Zulip node into your workflows.

contentType: [integration, reference]

---

# Zulip node

Use the Zulip node to automate work in Zulip, and integrate Zulip with other applications. n8n has built-in support for a wide range of Zulip features, including creating, deleting, and getting users and streams, as well as sending messages.

On this page, you'll find a list of operations the Zulip node supports and links to more resources.

/// note | Credentials

Refer to [Zulip credentials](/integrations/builtin/credentials/zulip.md) for guidance on setting up authentication.

///

## Operations

\* Message

\* Delete a message

\* Get a message

\* Send a private message

\* Send a message to stream

\* Update a message

\* Upload a file

\* Stream

\* Create a stream.

\* Delete a stream.

\* Get all streams.

\* Get subscribed streams.

\* Update a stream.

\* User

\* Create a user.

\* Deactivate a user.

\* Get a user.

\* Get all users.

\* Update a user.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'zulip') ]]

## n8n-nodes-langchain.googlegemini.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Gemini node documentation

description: Learn how to use the Google Gemini node in n8n. Follow technical documentation to integrate Google Gemini node into your workflows.

contentType: [integration, reference]

---

# Google Gemini node

Use the Google Gemini node to automate work in Google Gemini and integrate Google Gemini with other applications. n8n has built-in support for a wide range of Google Gemini features, including working with audio, videos, images, documents, and files to analyze, generate, and transcribe.

On this page, you'll find a list of operations the Google Gemini node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/googleai.md).

///

## Operations

\* Audio:

\* Analyze Audio: Take in audio and answer questions about it.

\* Transcribe a Recording: Transcribes audio into text.

\* Document:

\* Analyze Document: Take in documents and answer questions about them.

\* File:

\* Upload File: Upload a file to the Google Gemini API for later user.

\* Image:

\* Analyze Image: Take in images and answer questions about them.

\* Generate an Image: Creates an image from a text prompt.

\* Text:

\* Message a Model: Create a completion with a Google Gemini model.

\* Video:

\* Analyze Video: Take in videos and answer questions about them.

\* Generate a Video: Creates a video from a text prompt.

\* Download Video: Download a generated video from the Google Gemini API using a URL.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-gemini') ]]

## Related resources

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [Google Gemini's documentation](https://ai.google.dev/gemini-api/docs) for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## n8n-nodes-langchain.perplexity.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Perplexity node documentation

description: Learn how to use the Perplexity node in n8n. Follow technical documentation to integrate Perplexity node into your workflows.

contentType: [integration, reference]

---

# Perplexity node

Use the Perplexity node to automate work in Perplexity and integrate Perplexity with other applications. n8n has built-in support for messaging a model.

On this page, you'll find a list of operations the Perplexity node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/perplexity.md).

///

## Operations

\* \*\*Message a Model\*\*: Create one or more completions for a given text.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'perplexity') ]]

## Related resources

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [Perplexity's documentation](https://docs.perplexity.ai/home) for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Airtable node common issues

description: Documentation for common issues and questions in the Airtable node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Airtable node common issues

Here are some common errors and issues with the [Airtable node](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md) and steps to resolve or troubleshoot them.

## Forbidden - perhaps check your credentials

This error displays when trying to perform actions not permitted by your current level of access. The full text looks something like this:

```

There was a problem loading the parameter options from server: "Forbidden - perhaps check your credentials?"

```

The error most often displays when the credential you're using doesn't have the scopes it requires on the resources you're attempting to manage.

Refer to the [Airtable credentials](/integrations/builtin/credentials/airtable.md) and [Airtables scopes documentation](https://airtable.com/developers/web/api/scopes) for more information.

## Service is receiving too many requests from you

Airtable has a hard API limit on the number of requests generated using personal access tokens.

If you send more than five requests per second per base, you will receive a 429 error, indicating that you have sent too many requests. You will have to wait 30 seconds before resuming requests. This same limit applies for sending more than 50 requests across all bases per access token.

You can find out more in the [Airtable's rate limits documentation](https://airtable.com/developers/web/api/rate-limits). If you find yourself running into rate limits with the Airtable node, consider implementing one of the suggestions on the [handling rate limits](/integrations/builtin/rate-limits.md) page.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Airtable node documentation

description: Learn how to use the Airtable node in n8n. Follow technical documentation to integrate Airtable node into your workflows.

contentType: [integration, reference]

priority: high

---

# Airtable node

Use the Airtable node to automate work in Airtable, and integrate Airtable with other applications. n8n has built-in support for a wide range of Airtable features, including creating, reading, listing, updating and deleting tables.

On this page, you'll find a list of operations the Airtable node supports and links to more resources.

/// note | Credentials

Refer to [Airtable credentials](/integrations/builtin/credentials/airtable.md) for guidance on setting up authentication.

///

## Operations

\* Append the data to a table

\* Delete data from a table

\* List data from a table

\* Read data from a table

\* Update data in a table

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'airtable') ]]

## Related resources

n8n provides a trigger node for Airtable. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.airtabletrigger.md).

Refer to [Airtable's documentation](https://airtable.com/developers/web/api/introduction){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Node reference

### Get the Record ID

To fetch data for a particular record, you need the Record ID. There are two ways to get the Record ID.

### Create a Record ID column in Airtable

To create a `Record ID` column in your table, refer to this [article](https://support.airtable.com/docs/finding-airtable-ids){:target=\_blank .external-link}. You can then use this Record ID in your Airtable node.

### Use the List operation

To get the Record ID of your record, you can use the \*\*List\*\* operation of the Airtable node. This operation will return the Record ID along with the fields. You can then use this Record ID in your Airtable node.

### Filter records when using the List operation

To filter records from your Airtable base, use the \*\*Filter By Formula\*\* option. For example, if you want to return all the users that belong to the organization `n8n`, follow the steps mentioned below:

1. Select 'List' from the \*\*Operation\*\* dropdown list.

2. Enter the base ID and the table name in the \*\*Base ID\*\* and \*\*Table\*\* field, respectively.

3. Click on \*\*Add Option\*\* and select 'Filter By Formula' from the dropdown list.

4. Enter the following formula in the \*\*Filter By Formula\*\* field: `{Organization}='n8n'`.

Similarly, if you want to return all the users that don't belong to the organization `n8n`, use the following formula: `NOT({Organization}='n8n')`.

Refer to the Airtable [documentation](https://support.airtable.com/hc/en-us/articles/203255215-Formula-Field-Reference){:target=\_balnk .external-link} to learn more about the formulas.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Discord node common issues

description: Documentation for common issues and questions in the Discord node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Discord node common issues

Here are some common errors and issues with the [Discord node](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md) and steps to resolve or troubleshoot them.

## Add extra fields to embeds

Discord messages can optionally include embeds, a rich preview component that can include a title, description, image, link, and more.

The Discord node supports embeds when using the \*\*Send\*\* operation on the \*\*Message\*\* resource. Select \*\*Add Embeds\*\* to set extra fields including Description, Author, Title, URL, and URL Image.

To add fields that aren't included by default, set \*\*Input Method\*\* to \*\*Raw JSON\*\*. From here, add a JSON object to the \*\*Value\*\* parameter defining the [field names](https://discord.com/developers/docs/resources/message#embed-object) and values you want to include.

For example, to include `footer` and `fields`, neither of which are available using the \*\*Enter Fields\*\* Input Method, you could use a JSON object like this:

```json

{

"author": "My Name",

"url": "https://discord.js.org",

"fields": [

{

"name": "Regular field title",

"value": "Some value here"

}

],

"footer": {

"text": "Some footer text here",

"icon\_url": "https://i.imgur.com/AfFp7pu.png"

}

}

```

You can learn more about embeds in [Using Webhooks and Embeds | Discord](https://discord.com/safety/using-webhooks-and-embeds).

If you experience issues when working with embeds with the Discord node, you can use the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) with your existing Discord credentials to `POST` to the following URL:

```

https://discord.com/api/v10/channels/<CHANNEL\_ID>/messages

```

In the body, include your embed information in the message content like this:

```json

{

"content": "Test",

"embeds": [

{

"author": "My Name",

"url": "https://discord.js.org",

"fields": [

{

"name": "Regular field title",

"value": "Some value here"

}

],

"footer": {

"text": "Some footer text here",

"icon\_url": "https://i.imgur.com/AfFp7pu.png"

}

}

]

}

```

## Mention users and channels

To mention users and channels in Discord messages, you need to format your message according to [Discord's message formatting guidelines](https://discord.com/developers/docs/reference#message-formatting).

To mention a user, you need to know the Discord user's user ID. Keep in mind that the user ID is different from the user's display name. Similarly, you need a channel ID to link to a specific channel.

You can learn how to enable developer mode and copy the user or channel IDs in [Discord's documentation on finding User/Server/Message IDs](https://support.discord.com/hc/en-us/articles/206346498-Where-can-I-find-my-User-Server-Message-ID).

Once you have the user or channel ID, you can format your message with the following syntax:

\* \*\*User\*\*: `<@USER\_ID>`

\* \*\*Channel\*\*: `<#CHANNEL\_ID>`

\* \*\*Role\*\*: `<@&ROLE\_ID>`

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Discord node documentation

description: Learn how to use the Discord node in n8n. Follow technical documentation to integrate Discord node into your workflows.

contentType: [integration, reference]

priority: high

---

# Discord node

Use the Discord node to automate work in Discord, and integrate Discord with other applications. n8n has built-in support for a wide range of Discord features, including sending messages in a Discord channel and managing channels.

On this page, you'll find a list of operations the Discord node supports and links to more resources.

/// note | Credentials

Refer to [Discord credentials](/integrations/builtin/credentials/discord.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

<!-- vale off -->

<!-- "Many" triggers warnings -->

- Channel

- Create

- Delete

- Get

- Get Many

- Update

- Message

- Delete

- Get

- Get Many

- React with Emoji

- Send

\* Send and Wait for Response

- Member

- Get Many

- Role Add

- Role Remove

--8<-- "\_snippets/integrations/builtin/send-and-wait-operation.md"

<!-- vale on -->

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'discord') ]]

## Related resources

Refer to [Discord's documentation](https://discord.com/developers/docs/intro){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.discord/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail node common issues

description: Documentation for common issues and questions in the Gmail node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# Gmail node common issues

Here are some common errors and issues with the [Gmail node](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) and steps to resolve or troubleshoot them.

## Remove the n8n attribution from sent messages

If you're using the node to [send a message](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#send-a-message) or [reply to a message](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#reply-to-a-message), the node appends this statement to the end of the email:

> This email was sent automatically with n8n

To remove this attribution:

1. In the node's \*\*Options\*\* section, select \*\*Add option\*\*.

2. Select \*\*Append n8n attribution\*\*.

3. Turn the toggle off.

Refer to [Send options](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#send-options) and [Reply options](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#reply-options) for more information.

## Forbidden - perhaps check your credentials

This error displays next to certain dropdowns in the node, like the \*\*Label Names or IDs\*\* dropdown. The full text looks something like this:

```

There was a problem loading the parameter options from server: "Forbidden - perhaps check your credentials?"

```

The error most often displays when you're using a Google Service Account as the credential and the credential doesn't have \*\*Impersonate a User\*\* turned on.

Refer to [Google Service Account: Finish your n8n credential](/integrations/builtin/credentials/google/service-account.md#finish-your-n8n-credential) for more information.

## 401 unauthorized error

The full text of the error looks like this:

<!--vale off-->

```

401 - {"error":"unauthorized\_client","error\_description":"Client is unauthorized to retrieve access tokens using this method, or client not authorized for any of the scopes requested."}

```

<!--vale on-->

This error occurs when there's an issue with the credential you're using and its scopes or permissions.

To resolve:

1. For [OAuth2](/integrations/builtin/credentials/google/oauth-single-service.md) credentials, make sure you've enabled the Gmail API in \*\*APIs & Services > Library\*\*. Refer to [Google OAuth2 Single Service - Enable APIs](/integrations/builtin/credentials/google/oauth-single-service.md#enable-apis) for more information.

2. For [Service Account](/integrations/builtin/credentials/google/service-account.md) credentials:

1. [Enable domain-wide delegation](/integrations/builtin/credentials/google/service-account.md#enable-domain-wide-delegation).

2. Make sure you add the Gmail API as part of the domain-wide delegation configuration.

## Bad request - please check your parameters

This error most often occurs if you enter a Message ID, Thread ID, or Label ID that doesn't exist.

Try a \*\*Get\*\* operation with the ID to confirm it exists.

## draft-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail node Draft Operations documentation

description: Learn how to use the Draft Operations of the Gmail node in n8n. Follow technical documentation to integrate Draft Operations into your workflows.

contentType: [integration, reference]

priority: high

---

# Gmail node Draft Operations

Use the Draft operations to create, delete, or get a draft or list drafts in Gmail. Refer to the [Gmail node](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) for more information on the Gmail node itself.

## Create a draft

Use this operation to create a new draft.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Draft\*\*.

\* \*\*Operation\*\*: Select \*\*Create\*\*.

\* \*\*Subject\*\*: Enter the subject line.

\* Select the \*\*Email Type\*\*. Choose from \*\*Text\*\* or \*\*HTML\*\*.

\* \*\*Message\*\*: Enter the email message body.

### Create draft options

Use these options to further refine the node's behavior:

\* \*\*Attachments\*\*: Select \*\*Add Attachment\*\* to add an attachment. Enter the \*\*Attachment Field Name (in Input)\*\* to identify which field from the input node contains the attachment.

\* For multiple properties, enter a comma-separated list.

\* \*\*BCC\*\*: Enter one or more email addresses for blind copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*CC\*\*: Enter one or more email addresses for carbon copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*From Alias Name or ID\*\*: Select an alias to send the draft from. This field populates based on the credential you selected in the parameters.

\* \*\*Send Replies To\*\*: Enter an email address to set as the reply to address.

\* \*\*Thread ID\*\*: If you want this draft attached to a thread, enter the ID for that thread.

\* \*\*To Email\*\*: Enter one or more email addresses for recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

Refer to the [Gmail API Method: users.drafts.create](https://developers.google.com/gmail/api/reference/rest/v1/users.drafts/create){:target=\_blank .external-link} documentation for more information.

## Delete a draft

Use this operation to delete a draft.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Draft\*\*.

\* \*\*Operation\*\*: Select \*\*Delete\*\*.

\* \*\*Draft ID\*\*: Enter the ID of the draft you wish to delete.

Refer to the [Gmail API Method: users.drafts.delete](https://developers.google.com/gmail/api/reference/rest/v1/users.drafts/delete){:target=\_blank .external-link} documentation for more information.

## Get a draft

Use this operation to get a single draft.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Draft\*\*.

\* \*\*Operation\*\*: Select \*\*Get\*\*.

\* \*\*Draft ID\*\*: Enter the ID of the draft you wish to get information about.

### Get draft options

Use these options to further refine the node's behavior:

\* \*\*Attachment Prefix\*\*: Enter a prefix for the name of the binary property the node should write any attachments to. n8n adds an index starting with `0` to the prefix. For example, if you enter `attachment\_' as the prefix, the first attachment saves to 'attachment\_0'.

\* \*\*Download Attachments\*\*: Select whether the node should download the draft's attachments (turned on) or not (turned off).

Refer to the [Gmail API Method: users.drafts.get](https://developers.google.com/gmail/api/reference/rest/v1/users.drafts/get){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

## Get Many drafts

<!-- vale on -->

Use this operation to get two or more drafts.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Draft\*\*.

\* \*\*Operation\*\*: Select \*\*Get Many\*\*.

\* \*\*Return All\*\*: Choose whether the node returns all drafts (turned on) or only up to a set limit (turned off).

\* \*\*Limit\*\*: Enter the maximum number of drafts to return. Only used if you've turned off \*\*Return All\*\*.

<!-- vale off -->

### Get Many drafts options

<!-- vale on -->

Use these options to further refine the node's behavior:

\* \*\*Attachment Prefix\*\*: Enter a prefix for the name of the binary property the node should write any attachments to. n8n adds an index starting with `0` to the prefix. For example, if you enter `attachment\_' as the prefix, the first attachment saves to 'attachment\_0'.

\* \*\*Download Attachments\*\*: Select whether the node should download the draft's attachments (turned on) or not (turned off).

\* \*\*Include Spam and Trash\*\*: Select whether the node should get drafts in the Spam and Trash folders (turned on) or not (turned off).

Refer to the [Gmail API Method: users.drafts.list](https://developers.google.com/gmail/api/reference/rest/v1/users.drafts/list){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/common-issues.md).

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail node documentation

description: Learn how to use the Gmail node in n8n. Follow technical documentation to integrate Gmail node into your workflows.

contentType: [integration, reference]

priority: high

---

# Gmail node

Use the Gmail node to automate work in Gmail, and integrate Gmail with other applications. n8n has built-in support for a wide range of Gmail features, including creating, updating, deleting, and getting drafts, messages, labels, thread.

On this page, you'll find a list of operations the Gmail node supports and links to more resources.

/// note | Credentials

Refer to [Google credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* \*\*Draft\*\*

\* [\*\*Create\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/draft-operations.md#create-a-draft) a draft

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/draft-operations.md#delete-a-draft) a draft

\* [\*\*Get\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/draft-operations.md#get-a-draft) a draft

\* [\*\*Get Many\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/draft-operations.md#get-many-drafts) drafts

\* \*\*Label\*\*

\* [\*\*Create\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/label-operations.md#create-a-label) a label

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/label-operations.md#delete-a-label) a label

\* [\*\*Get\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/label-operations.md#get-a-label) a label

\* [\*\*Get Many\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/label-operations.md#get-many-labels) labels

\* \*\*Message\*\*

\* [\*\*Add Label\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#add-label-to-a-message) to a message

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#delete-a-message) a message

\* [\*\*Get\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#get-a-message) a message

\* [\*\*Get Many\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#get-many-messages) messages

\* [\*\*Mark as Read\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#mark-as-read)

\* [\*\*Mark as Unread\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#mark-as-unread)

\* [\*\*Remove Label\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#remove-label-from-a-message) from a message

\* [\*\*Reply\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#reply-to-a-message) to a message

\* [\*\*Send\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/message-operations.md#send-a-message) a message

\* \*\*Thread\*\*

\* [\*\*Add Label\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#add-label-to-a-thread) to a thread

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#delete-a-thread) a thread

\* [\*\*Get\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#get-a-thread) a thread

\* [\*\*Get Many\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#get-many-threads) threads

\* [\*\*Remove Label\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#remove-label-from-a-thread) from thread

\* [\*\*Reply\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#reply-to-a-message) to a message

\* [\*\*Trash\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#trash-a-thread) a thread

\* [\*\*Untrash\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#untrash-a-thread) a thread

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'gmail') ]]

## Related resources

Refer to Google's [Gmail API documentation](https://developers.google.com/gmail/api) for detailed information about the API that this node integrates with.

n8n provides a trigger node for Gmail. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.gmailtrigger/index.md).

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/common-issues.md).

## label-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail node Label Operations documentation

description: Learn how to use the Label Operations of the Gmail node in n8n. Follow technical documentation to integrate Label Operations into your workflows.

contentType: [integration, reference]

priority: high

---

# Gmail node Label Operations

Use the Label operations to create, delete, or get a label or list labels in Gmail. Refer to the [Gmail node](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) for more information on the Gmail node itself.

## Create a label

Use this operation to create a new label.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Label\*\*.

\* \*\*Operation\*\*: Select \*\*Create\*\*.

\* \*\*Name\*\*: Enter a display name for the label.

### Create label options

Use these options to further refine the node's behavior:

\* \*\*Label List Visibility\*\*: Sets the visibility of the label in the label list in the Gmail web interface. Choose from:

\* \*\*Hide\*\*: Don't show the label in the label list.

\* \*\*Show\*\* (default): Show the label in the label list.

\* \*\*Show if Unread\*\*: Show the label if there are any unread messages with that label.

\* \*\*Message List Visibility\*\*: Sets the visibility of messages with this label in the message list in the Gmail web interface. Choose whether to \*\*Show\*\* or \*\*Hide\*\* messages with this label.

Refer to the [Gmail API Method: users.labels.create](https://developers.google.com/gmail/api/reference/rest/v1/users.labels/create){:target=\_blank .external-link} documentation for more information.

## Delete a label

Use this operation to delete an existing label.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Label\*\*.

\* \*\*Operation\*\*: Select \*\*Delete\*\*.

\* \*\*Label ID\*\*: Enter the ID of the label you want to delete.

Refer to the [Gmail API Method: users.labels.delete](https://developers.google.com/gmail/api/reference/rest/v1/users.labels/delete){:target=\_blank .external-link} documentation for more information.

## Get a label

Use this operation to get an existing label.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Label\*\*.

\* \*\*Operation\*\*: Select \*\*Get\*\*.

\* \*\*Label ID\*\*: Enter the ID of the label you want to get.

Refer to the [Gmail API Method: users.labels.get](https://developers.google.com/gmail/api/reference/rest/v1/users.labels/get){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

## Get Many labels

<!-- vale on -->

Use this operation to get two or more labels.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Label\*\*.

\* \*\*Operation\*\*: Select \*\*Get Many\*\*.

\* \*\*Return All\*\*: Choose whether the node returns all labels (turned on) or only up to a set limit (turned off).

\* \*\*Limit\*\*: Enter the maximum number of labels to return. Only used if you've turned off \*\*Return All\*\*.

Refer to the [Gmail API Method: users.labels.list](https://developers.google.com/gmail/api/reference/rest/v1/users.labels/list){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/common-issues.md).

## message-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail node Message Operations documentation

description: Learn how to use the Message Operations of the Gmail node in n8n. Follow technical documentation to integrate Message Operations into your workflows.

contentType: [integration, reference]

priority: high

---

# Gmail node Message Operations

Use the Message operations to send, reply to, delete, mark read or unread, add a label to, remove a label from, or get a message or get a list of messages in Gmail. Refer to the [Gmail node](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) for more information on the Gmail node itself.

## Add Label to a message

Use this operation to add one or more labels to a message.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Add Label\*\*.

\* \*\*Message ID\*\*: Enter the ID of the message you want to add the label to.

\* \*\*Label Names or IDs\*\*: Select the Label names you want to add or enter an expression to specify IDs. The dropdown populates based on the \*\*Credential\*\* you selected.

<!-- vale off -->

Refer to the [Gmail API Method: users.messages.modify](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/modify){:target=\_blank .external-link} documentation for more information.

<!-- vale on -->

## Delete a message

Use this operation to immediately and permanently delete a message.

/// note | Permanent deletion

This operation can't be undone. For recoverable deletions, use the [Thread Trash operation](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/thread-operations.md#trash-a-thread) instead.

///

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Delete\*\*.

\* \*\*Message ID\*\*: Enter the ID of the message you want to delete.

Refer to the [Gmail API Method: users.messages.delete](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/delete){:target=\_blank .external-link} documentation for more information.

## Get a message

Use this operation to get a single message.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Get\*\*.

\* \*\*Message ID\*\*: Enter the ID of the message you wish to retrieve.

\* \*\*Simplify\*\*: Choose whether to return a simplified version of the response (turned on) or the raw data (turned off). Default is on.

\* This is the same as setting the `format` for the API call to `metadata`, which returns email message IDs, labels, and email headers, including: From, To, CC, BCC, and Subject.

Refer to the [Gmail API Method: users.messages.get](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/get){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

## Get Many messages

<!-- vale on -->

Use this operation to get two or more messages.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Get Many\*\*.

\* \*\*Return All\*\*: Choose whether the node returns all messages (turned on) or only up to a set limit (turned off).

\* \*\*Limit\*\*: Enter the maximum number of messages to return. Only used if you've turned off \*\*Return All\*\*.

\* \*\*Simplify\*\*: Choose whether to return a simplified version of the response (turned on) or the raw data (turned off). Default is on.

\* This is the same as setting the `format` for the API call to `metadata`, which returns email message IDs, labels, and email headers, including: From, To, CC, BCC, and Subject.

<!-- vale off -->

### Get Many messages filters

<!-- vale on -->

Use these filters to further refine the node's behavior:

\* \*\*Include Spam and Trash\*\*: Select whether the node should get messages in the Spam and Trash folders (turned on) or not (turned off).

\* \*\*Label Names or IDs\*\*: Only return messages with the selected labels added to them. Select the Label names you want to apply or enter an expression to specify IDs. The dropdown populates based on the \*\*Credential\*\* you selected.

\* \*\*Search\*\*: Enter Gmail search refine filters, like `from:`, to filter the messages returned. Refer to [Refine searches in Gmail](https://support.google.com/mail/answer/7190?hl=en){:target=\_blank .external-link} for more information.

\* \*\*Read Status\*\*: Choose whether to receive \*\*Unread and read emails\*\*, \*\*Unread emails only\*\* (default), or \*\*Read emails only\*\*.

\* \*\*Received After\*\*: Return only those emails received after the specified date and time. Use the date picker to select the day and time or enter an expression to set a date as a string in ISO format or a timestamp in milliseconds. Refer to [ISO 8601](https://en.wikipedia.org/wiki/ISO\_8601){:target=\_blank .external-link} for more information on formatting the string.

\* \*\*Received Before\*\*: Return only those emails received before the specified date and time. Use the date picker to select the day and time or enter an expression to set a date as a string in ISO format or a timestamp in milliseconds. Refer to [ISO 8601](https://en.wikipedia.org/wiki/ISO\_8601){:target=\_blank .external-link} for more information on formatting the string.

\* \*\*Sender\*\*: Enter an email or a part of a sender name to return messages from only that sender.

Refer to the [Gmail API Method: users.messages.list](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/list){:target=\_blank .external-link} documentation for more information.

## Mark as Read

Use this operation to mark a message as read.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Mark as Read\*\*.

\* \*\*Message ID\*\*: Enter the ID of the message you wish to mark as read.

<!-- vale off -->

Refer to the [Gmail API Method: users.messages.modify](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/modify){:target=\_blank .external-link} documentation for more information.

<!-- vale on -->

## Mark as Unread

Use this operation to mark a message as unread.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Mark as Unread\*\*.

\* \*\*Message ID\*\*: Enter the ID of the message you wish to mark as unread.

<!-- vale off -->

Refer to the [Gmail API Method: users.messages.modify](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/modify){:target=\_blank .external-link} documentation for more information.

<!-- vale on -->

## Remove Label from a message

Use this operation to remove one or more labels from a message.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Remove Label\*\*.

\* \*\*Message ID\*\*: Enter the ID of the message you want to remove the label from.

\* \*\*Label Names or IDs\*\*: Select the Label names you want to remove or enter an expression to specify IDs. The dropdown populates based on the \*\*Credential\*\* you selected.

<!-- vale off -->

Refer to the [Gmail API Method: users.messages.modify](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/modify){:target=\_blank .external-link} documentation for more information.

<!-- vale on -->

## Reply to a message

Use this operation to send a message as a reply to an existing message.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Reply\*\*.

\* \*\*Message ID\*\*: Enter the ID of the message you want to reply to.

\* Select the \*\*Email Type\*\*. Choose from \*\*Text\*\* or \*\*HTML\*\*.

\* \*\*Message\*\*: Enter the email message body.

### Reply options

Use these options to further refine the node's behavior:

\* \*\*Append n8n attribution\*\*: By default, the node appends the statement `This email was sent automatically with n8n` to the end of the email. To remove this statement, turn this option off.

\* \*\*Attachments\*\*: Select \*\*Add Attachment\*\* to add an attachment. Enter the \*\*Attachment Field Name (in Input)\*\* to identify which field from the input node contains the attachment.

\* For multiple properties, enter a comma-separated list.

\* \*\*BCC\*\*: Enter one or more email addresses for blind copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*CC\*\*: Enter one or more email addresses for carbon copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*Sender Name\*\*: Enter the name you want displayed in your recipients' email as the sender.

\* \*\*Reply to Sender Only\*\*: Choose whether to reply all (turned off) or reply to the sender only (turned on).

Refer to the [Gmail API Method: users.messages.send](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/send){:target=\_blank .external-link} documentation for more information.

## Send a message

Use this operation to send a message.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send\*\*.

\* \*\*To\*\*: Enter the email address you want the email sent to.

\* \*\*Subject\*\*: Enter the subject line.

\* Select the \*\*Email Type\*\*. Choose from \*\*Text\*\* or \*\*HTML\*\*.

\* \*\*Message\*\*: Enter the email message body.

### Send options

Use these options to further refine the node's behavior:

\* \*\*Append n8n attribution\*\*: By default, the node appends the statement `This email was sent automatically with n8n` to the end of the email. To remove this statement, turn this option off.

\* \*\*Attachments\*\*: Select \*\*Add Attachment\*\* to add an attachment. Enter the \*\*Attachment Field Name (in Input)\*\* to identify which field from the input node contains the attachment.

\* For multiple properties, enter a comma-separated list.

\* \*\*BCC\*\*: Enter one or more email addresses for blind copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*CC\*\*: Enter one or more email addresses for carbon copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*Sender Name\*\*: Enter the name you want displayed in your recipients' email as the sender.

\* \*\*Send Replies To\*\*: Enter an email address to set as the reply to address.

\* \*\*Reply to Sender Only\*\*: Choose whether to reply all (turned off) or reply to the sender only (turned on).

Refer to the [Gmail API Method: users.messages.send](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/send){:target=\_blank .external-link} documentation for more information.

## Send a message and wait for approval

Use this operation to send a message and wait for approval from the recipient before continuing the workflow execution.

/// info | Use Wait for complex approvals

The \*\*Send and Wait for Approval\*\* operation is well-suited for simple approval processes. For more complex approvals, consider using the [Wait node](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md).

///

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send and Wait for Approval\*\*.

\* \*\*To\*\*: Enter the email address you want the email sent to.

\* \*\*Subject\*\*: Enter the subject line.

\* \*\*Message\*\*: Enter the email message body.

### Send and wait for approval options

Use these options to further refine the node's behavior:

\* \*\*Type of Approval\*\*: Choose \*\*Approve Only\*\* (default) to include only an approval button or \*\*Approve and Disapprove\*\* to also include a disapproval option.

\* \*\*Approve Button Label\*\*: The label to use for the approval button (\*\*Approve\*\* by default).

\* \*\*Approve Button Style\*\*: Whether to style the approval button as a \*\*Primary\*\* (default) or \*\*Secondary\*\* button.

\* \*\*Disapprove Button Label\*\*: The label to use for the disapproval button (\*\*Decline\*\* by default). Only visible when you set \*\*Type of Approval\*\* to \*\*Approve and Disapprove\*\*.

\* \*\*Disapprove Button Style\*\*: Whether to style the disapproval button as a \*\*Primary\*\* or \*\*Secondary\*\* (default) button. Only visible when you set \*\*Type of Approval\*\* to \*\*Approve and Disapprove\*\*.

Refer to the [Gmail API Method: users.messages.send](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/send){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/common-issues.md).

## thread-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail node Thread Operations documentation

description: Learn how to use the Thread Operations of the Gmail node in n8n. Follow technical documentation to integrate Thread Operations into your workflows.

contentType: [integration, reference]

priority: high

---

# Gmail node Thread Operations

Use the Thread operations to delete, reply to, trash, untrash, add/remove labels, get one, or list threads. Refer to the [Gmail node](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) for more information on the Gmail node itself.

## Add Label to a thread

Use this operation to create a new draft.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Add Label\*\*.

\* \*\*Thread ID\*\*: Enter the ID of the thread you want to add the label to.

\* \*\*Label Names or IDs\*\*: Select the Label names you want to apply or enter an expression to specify IDs. The dropdown populates based on the \*\*Credential\*\* you selected.

<!-- vale off -->

Refer to the [Gmail API Method: users.threads.modify](https://developers.google.com/gmail/api/reference/rest/v1/users.threads/modify){:target=\_blank .external-link} documentation for more information.

<!-- vale on -->

## Delete a thread

Use this operation to immediately and permanently delete a thread and all its messages.

/// note | Permanent deletion

This operation can't be undone. For recoverable deletions, use the [Trash operation](#trash-a-thread) instead.

///

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Delete\*\*.

\* \*\*Thread ID\*\*: Enter the ID of the thread you want to delete.

Refer to the [Gmail API Method: users.threads.delete](https://developers.google.com/gmail/api/reference/rest/v1/users.threads/delete){:target=\_blank .external-link} documentation for more information.

## Get a thread

Use this operation to get a single thread.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Get\*\*.

\* \*\*Thread ID\*\*: Enter the ID of the thread you wish to retrieve.

\* \*\*Simplify\*\*: Choose whether to return a simplified version of the response (turned on) or the raw data (turned off). Default is on.

\* This is the same as setting the `format` for the API call to `metadata`, which returns email message IDs, labels, and email headers, including: From, To, CC, BCC, and Subject.

### Get thread options

Use these options to further refine the node's behavior:

\* \*\*Return Only Messages\*\*: Choose whether to return only thread messages (turned on).

Refer to the [Gmail API Method: users.threads.get](https://developers.google.com/gmail/api/reference/rest/v1/users.threads/get){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

## Get Many threads

<!-- vale on -->

Use this operation to get two or more threads.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Get Many\*\*.

\* \*\*Return All\*\*: Choose whether the node returns all threads (turned on) or only up to a set limit (turned off).

\* \*\*Limit\*\*: Enter the maximum number of threads to return. Only used if you've turned off \*\*Return All\*\*.

<!-- vale off -->

### Get Many threads filters

<!-- vale on -->

Use these filters to further refine the node's behavior:

\* \*\*Include Spam and Trash\*\*: Select whether the node should get threads in the Spam and Trash folders (turned on) or not (turned off).

\* \*\*Label Names or IDs\*\*: Only return threads with the selected labels added to them. Select the Label names you want to apply or enter an expression to specify IDs. The dropdown populates based on the \*\*Credential\*\* you selected.

\* \*\*Search\*\*: Enter Gmail search refine filters, like `from:`, to filter the threads returned. Refer to [Refine searches in Gmail](https://support.google.com/mail/answer/7190?hl=en){:target=\_blank .external-link} for more information.

\* \*\*Read Status\*\*: Choose whether to receive \*\*Unread and read emails\*\*, \*\*Unread emails only\*\* (default), or \*\*Read emails only\*\*.

\* \*\*Received After\*\*: Return only those emails received after the specified date and time. Use the date picker to select the day and time or enter an expression to set a date as a string in ISO format or a timestamp in milliseconds. Refer to [ISO 8601](https://en.wikipedia.org/wiki/ISO\_8601){:target=\_blank .external-link} for more information on formatting the string.

\* \*\*Received Before\*\*: Return only those emails received before the specified date and time. Use the date picker to select the day and time or enter an expression to set a date as a string in ISO format or a timestamp in milliseconds. Refer to [ISO 8601](https://en.wikipedia.org/wiki/ISO\_8601){:target=\_blank .external-link} for more information on formatting the string.

Refer to the [Gmail API Method: users.threads.list](https://developers.google.com/gmail/api/reference/rest/v1/users.threads/list){:target=\_blank .external-link} documentation for more information.

## Remove label from a thread

Use this operation to remove a label from a thread.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Remove Label\*\*.

\* \*\*Thread ID\*\*: Enter the ID of the thread you want to remove the label from.

\* \*\*Label Names or IDs\*\*: Select the Label names you want to remove or enter an expression to specify their IDs. The dropdown populates based on the \*\*Credential\*\* you selected.

<!-- vale off -->

Refer to the [Gmail API Method: users.threads.modify](https://developers.google.com/gmail/api/reference/rest/v1/users.threads/modify){:target=\_blank .external-link} documentation for more information.

<!-- vale on -->

## Reply to a message

Use this operation to reply to a message.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Reply\*\*.

\* \*\*Thread ID\*\*: Enter the ID of the thread you want to reply to.

\* \*\*Message Snippet or ID\*\*: Select the Message you want to reply to or enter an expression to specify its ID. The dropdown populates based on the \*\*Credential\*\* you selected.

\* Select the \*\*Email Type\*\*. Choose from \*\*Text\*\* or \*\*HTML\*\*.

\* \*\*Message\*\*: Enter the email message body.

### Reply options

Use these options to further refine the node's behavior:

\* \*\*Attachments\*\*: Select \*\*Add Attachment\*\* to add an attachment. Enter the \*\*Attachment Field Name (in Input)\*\* to identify which field from the input node contains the attachment.

\* For multiple properties, enter a comma-separated list.

\* \*\*BCC\*\*: Enter one or more email addresses for blind copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*CC\*\*: Enter one or more email addresses for carbon copy recipients. Separate multiple email addresses with a comma, for example `jay@gatsby.com, jon@smith.com`.

\* \*\*Sender Name\*\*: Enter the name you want displayed in your recipients' email as the sender.

\* \*\*Reply to Sender Only\*\*: Choose whether to reply all (turned off) or reply to the sender only (turned on).

Refer to the [Gmail API Method: users.messages.send](https://developers.google.com/gmail/api/reference/rest/v1/users.messages/send){:target=\_blank .external-link} documentation for more information.

## Trash a thread

Use this operation to move a thread and all its messages to the trash.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Trash\*\*.

\* \*\*Thread ID\*\*: Enter the ID of the thread you want to move to the trash.

Refer to the [Gmail API Method: users.threads.trash](https://developers.google.com/gmail/api/reference/rest/v1/users.threads/trash){:target=\_blank .external-link} documentation for more information.

## Untrash a thread

Use this operation to recover a thread and all its messages from the trash.

Enter these parameters:

\* Select the \*\*Credential to connect with\*\* or create a new one.

\* \*\*Resource\*\*: Select \*\*Thread\*\*.

\* \*\*Operation\*\*: Select \*\*Untrash\*\*.

\* \*\*Thread ID\*\*: Enter the ID of the thread you want to move to the trash.

Refer to the [Gmail API Method: users.threads.untrash](https://developers.google.com/gmail/api/reference/rest/v1/users.threads/untrash){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/common-issues.md).

## calendar-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Calendar Calendar operations

description: Documentation for the Calendar operations in Google Calendar node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: high

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<!-- vale Vale.Repetition = NO -->

<!-- vale from-write-good.Illusions = NO -->

# Google Calendar Calendar operations

<!-- vale from-write-good.Illusions = YES -->

<!-- vale Vale.Repetition = YES -->

Use this operation to check availability in a calendar in Google Calendar. Refer to [Google Calendar](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md) for more information on the Google Calendar node itself.

## Availability

Use this operation to check if a time-slot is available in a calendar.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Calendar credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Calendar\*\*.

- \*\*Operation\*\*: Select \*\*Availability\*\*.

- \*\*Calendar\*\*: Choose a calendar you want to check against. Select \*\*From list\*\* to choose the title from the dropdown list or \*\*By ID\*\* to enter a calendar ID.

- \*\*Start Time\*\*: The start time for the time-slot you want to check. By default, uses an expression evaluating to the current time (`{{ $now }}`).

- \*\*End Time\*\*: The end time for the time-slot you want to check. By default, uses an expression evaluating to an hour from now (`{{ $now.plus(1, 'hour') }}`).

### Options

- \*\*Output Format\*\*: Select the format for the availability information:

- \*\*Availability\*\*: Returns if there are already events overlapping with the given time slot or not.

- \*\*Booked Slots\*\*: Returns the booked slots.

- \*\*RAW\*\*: Returns the RAW data from the API.

- \*\*Timezone\*\*: The timezone used in the response. By default, uses the n8n timezone.

Refer to the [Freebusy: query | Google Calendar](https://developers.google.com/calendar/api/v3/reference/freebusy/query){:target=\_blank .external-link} API documentation for more information.

## event-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Calendar Event operations

description: Documentation for the Event operations in Google Calendar node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: high

---

# Google Calendar Event operations

Use these operations to create, delete, get, and update events in Google Calendar. Refer to [Google Calendar](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md) for more information on the Google Calendar node itself.

## Create

Use this operation to add an event to a Google Calendar.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Calendar credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Event\*\*.

- \*\*Operation\*\*: Select \*\*Create\*\*.

- \*\*Calendar\*\*: Choose a calendar you want to add an event to. Select \*\*From list\*\* to choose the title from the dropdown list or \*\*By ID\*\* to enter a calendar ID.

- \*\*Start Time\*\*: The start time for the event. By default, uses an expression evaluating to the current time (`{{ $now }}`).

- \*\*End Time\*\*: The end time for the event. By default, this uses an expression evaluating to an hour from now (`{{ $now.plus(1, 'hour') }}`).

- \*\*Use Default Reminders\*\*: Whether to enable default reminders for the event according to the calendar configuration.

### Options

- \*\*All Day\*\*: Whether the event is all day or not.

- \*\*Attendees\*\*: Attendees to invite to the event.

- \*\*Color Name or ID\*\*: The color of the event. Choose from the list or specify the ID using an expression.

- \*\*Conference Data\*\*: Creates a conference link (Hangouts, Meet, etc.) and attaches it to the event.

- \*\*Description\*\*: A description for the event.

- \*\*Guests Can Invite Others\*\*: Whether attendees other than the organizer can invite others to the event.

<!-- vale from-write-good.TooWordy = NO -->

- \*\*Guests Can Modify\*\*: Whether attendees other than the organizer can modify the event.

<!-- vale from-write-good.TooWordy = YES -->

- \*\*Guests Can See Other Guests\*\*: Whether attendees other than the organizer can see who the event's attendees are.

- \*\*ID\*\*: Opaque identifier of the event.

- \*\*Location\*\*: Geographic location of the event as free-form text.

- \*\*Max Attendees\*\*: The maximum number of attendees to include in the response. If there are more than the specified number of attendees, only returns the participant.

- \*\*Repeat Frequency\*\*: The repetition interval for recurring events.

- \*\*Repeat How Many Times?\*\*: The number of instances to create for recurring events.

- \*\*Repeat Until\*\*: The date at which recurring events should stop.

<!-- vale from-write-good.Weasel = NO -->

- \*\*RRULE\*\*: Recurrence rule. When set, ignores the Repeat Frequency, Repeat How Many Times, and Repeat Until parameters.

<!-- vale from-write-good.Weasel = YES -->

- \*\*Send Updates\*\*: Whether to send notifications about the creation of the new event.

- \*\*Show Me As\*\*: Whether the event blocks time on the calendar.

- \*\*Summary\*\*: The title of the event.

Refer to the [Events: insert | Google Calendar](https://developers.google.com/calendar/api/v3/reference/events/insert){:target=\_blank .external-link} API documentation for more information.

## Delete

Use this operation to delete an event from a Google Calendar.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Calendar credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Event\*\*.

- \*\*Operation\*\*: Select \*\*Delete\*\*.

- \*\*Calendar\*\*: Choose a calendar you want to delete an event from. Select \*\*From list\*\* to choose the title from the dropdown list or \*\*By ID\*\* to enter a calendar ID.

- \*\*Event ID\*\*: The ID of the event to delete.

### Options

- \*\*Send Updates\*\*: Whether to send notifications about the deletion of the event.

Refer to the [Events: delete | Google Calendar](https://developers.google.com/calendar/api/v3/reference/events/delete){:target=\_blank .external-link} API documentation for more information.

## Get

Use this operation to retrieve an event from a Google Calendar.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Calendar credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Event\*\*.

- \*\*Operation\*\*: Select \*\*Get\*\*.

- \*\*Calendar\*\*: Choose a calendar you want to get an event from. Select \*\*From list\*\* to choose the title from the dropdown list or \*\*By ID\*\* to enter a calendar ID.

- \*\*Event ID\*\*: The ID of the event to get.

### Options

- \*\*Max Attendees\*\*: The maximum number of attendees to include in the response. If there are more than the specified number of attendees, only returns the participant.

- \*\*Return Next Instance of Recurrent Event\*\*: Whether to return the next instance of a recurring event instead of the event itself.

- \*\*Timezone\*\*: The timezone used in the response. By default, uses the n8n timezone.

Refer to the [Events: get | Google Calendar](https://developers.google.com/calendar/api/v3/reference/events/get){:target=\_blank .external-link} API documentation for more information.

<!-- vale from-write-good.Weasel = NO -->

## Get Many

<!-- vale from-write-good.Weasel = YES -->

Use this operation to retrieve more than one event from a Google Calendar.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Calendar credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Event\*\*.

- \*\*Operation\*\*: Select \*\*Get Many\*\*.

- \*\*Calendar\*\*: Choose a calendar you want to get an event from. Select \*\*From list\*\* to choose the title from the dropdown list or \*\*By ID\*\* to enter a calendar ID.

- \*\*Return All\*\*: Whether to return all results or only up to a given limit.

- \*\*Limit\*\*: (When "Return All" isn't selected) The maximum number of results to return.

- \*\*After\*\*: Retrieve events that occur after this time. At least part of the event must be after this time. By default, this uses an expression evaluating to the current time (`{{ $now }}`). Switch the field to "fixed" to select a date from a date widget.

- \*\*Before\*\*: Retrieve events that occur before this time. At least part of the event must be before this time. By default, this uses an expression evaluating to the current time plus a week (`{{ $now.plus({ week: 1 }) }}`). Switch the field to "fixed" to select a date from a date widget.

### Options

- \*\*Fields\*\*: Specify the fields to return. By default, returns a set of commonly used fields predefined by Google. Use "\*" to return all fields. You can find out more in [Google Calendar's documentation on working with partial resources](https://developers.google.com/calendar/api/guides/performance#partial).

<!-- vale Vale.Spelling = NO -->

- \*\*iCalUID\*\*: Specifies an event ID (in the iCalendar format) to include in the response.

<!-- vale Vale.Spelling = YES -->

- \*\*Max Attendees\*\*: The maximum number of attendees to include in the response. If there are more than the specified number of attendees, only returns the participant.

- \*\*Order By\*\*: The order to use for the events in the response.

- \*\*Query\*\*: Free text search terms to find events that match. This searches all fields except for extended properties.

- \*\*Recurring Event Handling\*\*: What to do for recurring events:

- \*\*All Occurrences\*\*: Return all instances of the recurring event for the specified time range.

- \*\*First Occurrence\*\*: Return the first event of a recurring event within the specified time range.

- \*\*Next Occurrence\*\*: Return the next instance of a recurring event within the specified time range.

- \*\*Show Deleted\*\*: Whether to include deleted events (with status equal to "cancelled") in the results.

- \*\*Show Hidden Invitations\*\*: Whether to include hidden invitations in the results.

- \*\*Timezone\*\*: The timezone used in the response. By default, uses the n8n timezone.

- \*\*Updated Min\*\*: The lower bounds for an event's last modification time (as an [RFC 3339 timestamp](https://datatracker.ietf.org/doc/html/rfc3339))

Refer to the [Events: list | Google Calendar](https://developers.google.com/calendar/api/v3/reference/events/list){:target=\_blank .external-link} API documentation for more information.

## Update

Use this operation to update an event in a Google Calendar.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Calendar credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Event\*\*.

- \*\*Operation\*\*: Select \*\*Update\*\*.

- \*\*Calendar\*\*: Choose a calendar you want to add an event to. Select \*\*From list\*\* to choose the title from the dropdown list or \*\*By ID\*\* to enter a calendar ID.

- \*\*Event ID\*\*: The ID of the event to update.

<!-- vale from-write-good.TooWordy = NO -->

- \*\*Modify\*\*: For recurring events, choose whether to update the recurring event or a specific instance of the recurring event.

<!-- vale from-write-good.TooWordy = YES -->

- \*\*Use Default Reminders\*\*: Whether to enable default reminders for the event according to the calendar configuration.

- \*\*Update Fields\*\*: The fields of the event to update:

- \*\*All Day\*\*: Whether the event is all day or not.

- \*\*Attendees\*\*: Attendees to invite to the event. You can choose to either add attendees or replace the existing attendee list.

- \*\*Color Name or ID\*\*: The color of the event. Choose from the list or specify the ID using an expression.

- \*\*Description\*\*: A description for the event.

- \*\*End\*\*: The end time of the event.

- \*\*Guests Can Invite Others\*\*: Whether attendees other than the organizer can invite others to the event.

<!-- vale from-write-good.TooWordy = NO -->

- \*\*Guests Can Modify\*\*: Whether attendees other than the organizer can make changes to the event.

<!-- vale from-write-good.TooWordy = YES -->

- \*\*Guests Can See Other Guests\*\*: Whether attendees other than the organizer can see who the event's attendees are.

- \*\*ID\*\*: Opaque identifier of the event.

- \*\*Location\*\*: Geographic location of the event as free-form text.

- \*\*Max Attendees\*\*: The maximum number of attendees to include in the response. If there are more than the specified number of attendees, only returns the participant.

- \*\*Repeat Frequency\*\*: The repetition interval for recurring events.

- \*\*Repeat How Many Times?\*\*: The number of instances to create for recurring events.

- \*\*Repeat Until\*\*: The date at which recurring events should stop.

<!-- vale from-write-good.Weasel = NO -->

- \*\*RRULE\*\*: Recurrence rule. When set, ignores the Repeat Frequency, Repeat How Many Times, and Repeat Until parameters.

<!-- vale from-write-good.Weasel = YES -->

- \*\*Send Updates\*\*: Whether to send notifications about the creation of the new event.

- \*\*Show Me As\*\*: Whether the event blocks time on the calendar.

- \*\*Start\*\*: The start time of the event.

- \*\*Summary\*\*: The title of the event.

- \*\*Visibility\*\*: The visibility of the event:

<!-- vale from-write-good.Passive = NO -->

- \*\*Confidential\*\*: The event is private. This value is provided for compatibility.

<!-- vale from-write-good.Passive = YES -->

- \*\*Default\*\*: Uses the default visibility for events on the calendar.

- \*\*Public\*\*: The event is public and the event details are visible to all readers of the calendar.

- \*\*Private\*\*: The event is private and only event attendees may view event details.

Refer to the [Events: update | Google Calendar](https://developers.google.com/calendar/api/v3/reference/events/update){:target=\_blank .external-link} API documentation for more information.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Calendar node documentation

description: Learn how to use the Google Calendar node in n8n. Follow technical documentation to integrate Google Calendar node into your workflows.

contentType: [integration, reference]

priority: high

---

# Google Calendar node

Use the Google Calendar node to automate work in Google Calendar, and integrate Google Calendar with other applications. n8n has built-in support for a wide range of Google Calendar features, including adding, retrieving, deleting and updating calendar events.

On this page, you'll find a list of operations the Google Calendar node supports and links to more resources.

/// note | Credentials

Refer to [Google Calendar credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* \*\*Calendar\*\*

\* [\*\*Availability\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/calendar-operations.md#availability): If a time-slot is available in a calendar

\* \*\*Event\*\*

\* [\*\*Create\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/event-operations.md#create): Add an event to calendar

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/event-operations.md#delete): Delete an event

\* [\*\*Get\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/event-operations.md#get): Retrieve an event

\* [\*\*Get Many\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/event-operations.md#get-many): Retrieve all events from a calendar

\* [\*\*Update\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/event-operations.md#update): Update an event

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-calendar') ]]

## Related resources

n8n provides a trigger node for Google Calendar. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlecalendartrigger.md).

Refer to [Google Calendar's documentation](https://developers.google.com/calendar/api/v3/reference){:target=\_blank .external-link} for more information about the service.

View [example workflows and related content](https://n8n.io/integrations/google-calendar/){:target=\_blank .external-link} on n8n's website.

## common-issues.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive node common issues

description: Documentation for common questions and solutions in the Google Drive node in n8n, a workflow automation platform. Includes details of the issue and suggested resolutions.

contentType: [integration, reference]

priority: high

---

# Google Drive node common issues

Here are some common errors and issues with the [Google Drive node](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) and steps to resolve or troubleshoot them.

## Google hasn't verified this app

--8<-- "\_snippets/integrations/builtin/credentials/google/unverified-app.md"

## Google Cloud app becoming unauthorized

--8<-- "\_snippets/integrations/builtin/credentials/google/app-becoming-unauthorized.md"

## Google Drive OAuth error

If using the OAuth authentication method, you may see an error indicating that you can't sign in because the app doesn't meet Google's expectations for keeping apps secure.

Most often, the actual cause of this issue is that the URLs don't match between Google's OAuth configuration and n8n. To avoid this, start by reviewing any links included in Google's error message. This will contain details about the exact error that occurred.

If you are self-hostin n8n, check the n8n configuration items used to construct external URLs. Verify that the [`N8N\_EDITOR\_BASE\_URL`](/hosting/configuration/environment-variables/deployment.md) and [`WEBHOOK\_URL`](/hosting/configuration/configuration-examples/webhook-url.md) environment variables use fully qualified domains.

## Get recent files from Google Drive

To retrieve recent files from Google Drive, you need to sort files by modification time. To do this, you need to search for existing files and retrieve their modification times. Next you can sort the files to find the most recent file and use another Google Drive node target the file by ID.

The process looks like this:

1. Add a \*\*Google Drive\*\* node to your canvas.

2. Select the \*\*File/Folder\*\* resource and the \*\*Search\*\* operation.

3. Enable \*\*Return All\*\* to sort through all files.

4. Set the \*\*What to Search\*\* filter to \*\*Files\*\*.

5. In the \*\*Options\*\*, set the \*\*Fields\*\* to \*\*All\*\*.

6. Connect a \*\*Sort\*\* node to the output of the \*\*Google Drive\*\* node.

7. Choose \*\*Simple\*\* sort type.

8. Enter `modifiedTime` as the \*\*Field Name\*\* in the \*\*Fields To Sort By\*\* section.

9. Choose \*\*Descending\*\* sort order.

10. Add a \*\*Limit\*\* node to the output of the \*\*Sort\*\* node.

11. Set \*\*Max Items\*\* to \*\*1\*\* to keep the most recent file.

12. Connect another \*\*Google Drive\*\* node to the output of the \*\*Limit\*\* node.

13. Select \*\*File\*\* as the \*\*Resource\*\* and the operation of your choice.

14. In the \*\*File\*\* selection, choose \*\*By ID\*\*.

15. Select \*\*Expression\*\* and enter `{{ $json.id }}` as the expression.

[[ workflowDemo("file:///integrations/builtin/app-nodes/n8n-nodes-base.googledrive/get-most-recent-file.json") ]]

## file-folder-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive File and Folder operations

description: Documentation for the File and Folder operations in Google Drive node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: high

---

# Google Drive File and Folder operations

Use this operation to search for files and folders in Google Drive. Refer to [Google Drive](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) for more information on the Google Drive node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Search files and folders

Use this operation to search for files and folders in a drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File/Folder\*\*.

- \*\*Operation\*\*: Select \*\*Search\*\*.

- \*\*Search Method\*\*: Choose how you want to search:

- \*\*Search File/Folder Name\*\*: Fill out the \*\*Search Query\*\* with the name of the file or folder you want to search for. Returns files and folders that are partial matches for the query as well.

- \*\*Advanced Search\*\*: Fill out the \*\*Query String\*\* to search for files and folders using [Google query string syntax](https://developers.google.com/drive/api/guides/search-files).

- \*\*Return All\*\*: Choose whether to return all results or only up to a given limit.

- \*\*Limit\*\*: The maximum number of items to return when \*\*Return All\*\* is disabled.

- \*\*Filter\*\*: Choose whether to limit the scope of your search:

- \*\*Drive\*\*: The drive you want to search in. By default, uses your personal "My Drive". Select \*\*From list\*\* to choose the drive from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- You can find the `driveId` by visiting the shared drive in your browser and copying the last URL component: `https://drive.google.com/drive/u/1/folders/driveId`.

- \*\*Folder\*\*: The folder to search in. Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

- You can find the `folderId` by visiting the shared folder in your browser and copying the last URL component: `https://drive.google.com/drive/u/1/folders/folderId`.

- \*\*What to Search\*\*: Whether to search for \*\*Files and Folders\*\*, \*\*Files\*\*, or \*\*Folders\*\*.

- \*\*Include Trashed Items\*\*: Whether to also return items in the Drive's trash.

### Options

- \*\*Fields\*\*: Select the fields to return. Can be one or more of the following: \*\*[All]\*\*, \*\*explicitlyTrashed\*\*, \*\*exportLinks\*\*, \*\*hasThumbnail\*\*, \*\*iconLink\*\*, \*\*ID\*\*, \*\*Kind\*\*, \*\*mimeType\*\*, \*\*Name\*\*, \*\*Permissions\*\*, \*\*Shared\*\*, \*\*Spaces\*\*, \*\*Starred\*\*, \*\*thumbnailLink\*\*, \*\*Trashed\*\*, \*\*Version\*\*, or \*\*webViewLink\*\*.

Refer to the [Method: files.list | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/list){:target=\_blank .external-link} API documentation for more information.

## file-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive File operations

description: Documentation for the File operations in Google Drive node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: high

---

# Google Drive File operations

Use this operation to create, delete, change, and manage files in Google Drive. Refer to [Google Drive](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) for more information on the Google Drive node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Copy a file

Use this operation to copy a file to a drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Copy\*\*.

- \*\*File\*\*: Choose a file you want to copy.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the file, or \*\*By ID\*\* to enter the `fileId`.

- You can find the `fileId` in a shareable Google Drive file URL: `https://docs.google.com/document/d/fileId/edit#gid=0`. In your Google Drive, select \*\*Share > Copy link\*\* to get the shareable file URL.

- \*\*File Name\*\*: The name to use for the new copy of the file.

- \*\*Copy In The Same Folder\*\*: Choose whether to copy the file to the same folder. If disabled, set the following:

- \*\*Parent Drive\*\*: Select \*\*From list\*\* to choose the drive from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- \*\*Parent Folder\*\*: Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

- You can find the `driveId` and `folderID` by visiting the shared drive or folder in your browser and copying the last URL component: `https://drive.google.com/drive/u/1/folders/driveId`.

### Options

- \*\*Copy Requires Writer Permissions\*\*: Select whether to enable readers and commenters to copy, print, or download the new file.

- \*\*Description\*\*: A short description of the file.

Refer to the [Method: files.copy | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/copy){:target=\_blank .external-link} API documentation for more information.

## Create from text

Use this operation to create a new file in a drive from provided text.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Create From Text\*\*.

- \*\*File Content\*\*: Enter the file content to use to create the new file.

- \*\*File Name\*\*: The name to use for the new file.

- \*\*Parent Drive\*\*: Select \*\*From list\*\* to choose the drive from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- \*\*Parent Folder\*\*: Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

You can find the `driveId` and `folderID` by visiting the shared drive or folder in your browser and copying the last URL component: `https://drive.google.com/drive/u/1/folders/driveId`.

### Options

- \*\*APP Properties\*\*: A bundle of arbitrary key-value pairs which are private to the requesting app.

- \*\*Properties\*\*: A bundle of arbitrary key-value pairs which are visible to all apps.

- \*\*Keep Revision Forever\*\*: Choose whether to set the `keepForever` field in the new head revision. This only applies to files with binary content. You can keep a maximum of 200 revisions, after which you must delete the pinned revisions.

<!-- vale from-microsoft.RangeFormat = NO -->

<!-- vale from-microsoft.Ranges = NO -->

- \*\*OCR Language\*\*: An [ISO 639-1](https://en.wikipedia.org/wiki/ISO\_639-1) language code to help the OCR interpret the content during import.

<!-- vale from-microsoft.Ranges = YES -->

<!-- vale from-microsoft.RangeFormat = YES -->

- \*\*Use Content As Indexable Text\*\*: Choose whether to mark the uploaded content as indexable text.

- \*\*Convert to Google Document\*\*: Choose whether to create a Google Document instead of the default `.txt` format. You must enable the Google Docs API in the [Google API Console](https://console.cloud.google.com/apis/library/docs.googleapis.com) for this to work.

Refer to the [Method: files.insert | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/insert){:target=\_blank .external-link} API documentation for more information.

## Delete a file

Use this operation to delete a file from a drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Delete\*\*.

- \*\*File\*\*: Choose a file you want to delete.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the file, or \*\*By ID\*\* to enter the `fileId`.

- You can find the `fileId` in a shareable Google Drive file URL: `https://docs.google.com/document/d/fileId/edit#gid=0`. In your Google Drive, select \*\*Share > Copy link\*\* to get the shareable file URL.

### Options

- \*\*Delete Permanently\*\*: Choose whether to delete the file now instead of moving it to the trash.

Refer to the [Method: files.delete | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/delete){:target=\_blank .external-link} API documentation for more information.

## Download a file

Use this operation to download a file from a drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Download\*\*.

- \*\*File\*\*: Choose a file you want to download.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the file, or \*\*By ID\*\* to enter the `fileId`.

- You can find the `fileId` in a shareable Google Drive file URL: `https://docs.google.com/document/d/fileId/edit#gid=0`. In your Google Drive, select \*\*Share > Copy link\*\* to get the shareable file URL.

### Options

- \*\*Put Output File in Field\*\*: Choose the field name to place the binary file contents to make it available to following nodes.

- \*\*Google File Conversion\*\*: Choose the formats to export as when downloading Google Files:

\* \*\*Google Docs\*\*: Choose the export format to use when downloading Google Docs files: \*\*HTML\*\*, \*\*MS Word Document\*\*, \*\*Open Office Document\*\*, \*\*PDF\*\*, \*\*Rich Text (rtf)\*\*, or \*\*Text (txt)\*\*.

\* \*\*Google Drawings\*\*: Choose the export format to use when downloading Google Drawing files: \*\*JPEG\*\*, \*\*PDF\*\*, \*\*PNG\*\*, or \*\*SVG\*\*.

\* \*\*Google Slides\*\*: Choose the export format to use when downloading Google Slides files: \*\*MS PowerPoint\*\*, \*\*OpenOffice Presentation\*\*, or \*\*PDF\*\*.

\* \*\*Google Sheets\*\*: Choose the export format to use when downloading Google Sheets files: \*\*CSV\*\*, \*\*MS Excel\*\*, \*\*Open Office Sheet\*\*, or \*\*PDF\*\*.

- \*\*File Name\*\*: The name to use for the downloaded file.

Refer to the [Method: files.get | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/get){:target=\_blank .external-link} API documentation for more information.

## Move a file

Use this operation to move a file to a different location in a drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Move\*\*.

- \*\*File\*\*: Choose a file you want to move.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the file, or \*\*By ID\*\* to enter the `fileId`.

- You can find the `fileId` in a shareable Google Drive file URL: `https://docs.google.com/document/d/fileId/edit#gid=0`. In your Google Drive, select \*\*Share > Copy link\*\* to get the shareable file URL.

- \*\*Parent Drive\*\*: Select \*\*From list\*\* to choose the drive from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- \*\*Parent Folder\*\*: Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

You can find the `driveId` and `folderID` by visiting the shared drive or folder in your browser and copying the last URL component: `https://drive.google.com/drive/u/1/folders/driveId`.

Refer to the [Method: parents.insert | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/parents/insert){:target=\_blank .external-link} API documentation for more information.

## Share a file

Use this operation to add sharing permissions to a file.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Share\*\*.

- \*\*File\*\*: Choose a file you want to share.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the file, or \*\*By ID\*\* to enter the `fileId`.

- You can find the `fileId` in a shareable Google Drive file URL: `https://docs.google.com/document/d/fileId/edit#gid=0`. In your Google Drive, select \*\*Share > Copy link\*\* to get the shareable file URL.

- \*\*Permissions\*\*: The permissions to add to the file:

- \*\*Role\*\*: Select what users can do with the file. Can be one of \*\*Commenter\*\*, \*\*File Organizer\*\*, \*\*Organizer\*\*, \*\*Owner\*\*, \*\*Reader\*\*, \*\*Writer\*\*.

- \*\*Type\*\*: Select the scope of the new permission:

- \*\*User\*\*: Grant permission to a specific user, defined by entering their \*\*Email Address\*\*.

- \*\*Group\*\*: Grant permission to a specific group, defined by entering its \*\*Email Address\*\*.

- \*\*Domain\*\*: Grant permission to a complete domain, defined by the \*\*Domain\*\*.

- \*\*Anyone\*\*: Grant permission to anyone. Can optionally \*\*Allow File Discovery\*\* to make the file discoverable through search.

### Options

- \*\*Email Message\*\*: A plain text custom message to include in the notification email.

<!-- vale from-microsoft.FirstPerson = NO -->

- \*\*Move to New Owners Root\*\*: Available when trying to transfer ownership while sharing an item not in a shared drive. When enabled, moves the file to the new owner's My Drive root folder.

<!-- vale from-microsoft.FirstPerson = YES -->

- \*\*Send Notification Email\*\*: Whether to send a notification email when sharing to users or groups.

- \*\*Transfer Ownership\*\*: Whether to transfer ownership to the specified user and downgrade the current owner to writer permissions.

- \*\*Use Domain Admin Access\*\*: Whether to perform the action as a domain administrator.

Refer to the [REST Resources: files | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files){:target=\_blank .external-link} API documentation for more information.

## Update a file

Use this operation to update a file.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Update\*\*.

- \*\*File to Update\*\*: Choose a file you want to update.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the file, or \*\*By ID\*\* to enter the `fileId`.

- You can find the `fileId` in a shareable Google Drive file URL: `https://docs.google.com/document/d/fileId/edit#gid=0`. In your Google Drive, select \*\*Share > Copy link\*\* to get the shareable file URL.

- \*\*Change File Content\*\*: Choose whether to send new binary data to replace the existing file content. If enabled, fill in the following:

- \*\*Input Data Field Name\*\*: The name of the input field that contains the binary file data you wish to use.

- \*\*New Updated File Name\*\*: A new name for the file if you want to update the filename.

### Options

- \*\*APP Properties\*\*: A bundle of arbitrary key-value pairs which are private to the requesting app.

- \*\*Properties\*\*: A bundle of arbitrary key-value pairs which are visible to all apps.

- \*\*Keep Revision Forever\*\*: Choose whether to set the `keepForever` field in the new head revision. This only applies to files with binary content. You can keep a maximum of 200 revisions, after which you must delete the pinned revisions.

<!-- vale from-microsoft.RangeFormat = NO -->

<!-- vale from-microsoft.Ranges = NO -->

- \*\*OCR Language\*\*: An [ISO 639-1](https://en.wikipedia.org/wiki/ISO\_639-1) language code to help the OCR interpret the content during import.

<!-- vale from-microsoft.Ranges = YES -->

<!-- vale from-microsoft.RangeFormat = YES -->

- \*\*Use Content As Indexable Text\*\*: Choose whether to mark the uploaded content as indexable text.

- \*\*Move to Trash\*\*: Whether to move the file to the trash. Only possible for the file owner.

- \*\*Return Fields\*\*: Return metadata fields about the file. Can be one or more of the following: \*\*[All]\*\*, \*\*explicitlyTrashed\*\*, \*\*exportLinks\*\*, \*\*hasThumbnail\*\*, \*\*iconLink\*\*, \*\*ID\*\*, \*\*Kind\*\*, \*\*mimeType\*\*, \*\*Name\*\*, \*\*Permissions\*\*, \*\*Shared\*\*, \*\*Spaces\*\*, \*\*Starred\*\*, \*\*thumbnailLink\*\*, \*\*Trashed\*\*, \*\*Version\*\*, or \*\*webViewLink\*\*.

Refer to the [Method: files.update | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/update){:target=\_blank .external-link} API documentation for more information.

## Upload a file

Use this operation to upload a file.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Upload\*\*.

- \*\*Input Data Field Name\*\*: The name of the input field that contains the binary file data you wish to use.

- \*\*File Name\*\*: The name to use for the new file.

- \*\*Parent Drive\*\*: Select \*\*From list\*\* to choose the drive from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- \*\*Parent Folder\*\*: Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

You can find the `driveId` and `folderID` by visiting the shared drive or folder in your browser and copying the last URL component: `https://drive.google.com/drive/u/1/folders/driveId`.

### Options

- \*\*APP Properties\*\*: A bundle of arbitrary key-value pairs which are private to the requesting app.

- \*\*Properties\*\*: A bundle of arbitrary key-value pairs which are visible to all apps.

- \*\*Keep Revision Forever\*\*: Choose whether to set the `keepForever` field in the new head revision. This only applies to files with binary content. You can keep a maximum of 200 revisions, after which you must delete the pinned revisions.

<!-- vale from-microsoft.RangeFormat = NO -->

<!-- vale from-microsoft.Ranges = NO -->

- \*\*OCR Language\*\*: An [ISO 639-1](https://en.wikipedia.org/wiki/ISO\_639-1) language code to help the OCR interpret the content during import.

<!-- vale from-microsoft.Ranges = YES -->

<!-- vale from-microsoft.RangeFormat = YES -->

- \*\*Use Content As Indexable Text\*\*: Choose whether to mark the uploaded content as indexable text.

- \*\*Simplify Output\*\*: Choose whether to return a simplified version of the response instead of including all fields.

Refer to the [Method: files.insert | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/insert){:target=\_blank .external-link} API documentation for more information.

## folder-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive Folder operations

description: Documentation for the Folder operations in Google Drive node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: high

---

# Google Drive Folder operations

Use this operation to create, delete, and share folders in Google Drive. Refer to [Google Drive](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) for more information on the Google Drive node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Create a folder

Use this operation to create a new folder in a drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Folder\*\*.

- \*\*Operation\*\*: Select \*\*Create\*\*.

- \*\*Folder Name\*\*: The name to use for the new folder.

- \*\*Parent Drive\*\*: Select \*\*From list\*\* to choose the drive from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- \*\*Parent Folder\*\*: Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

You can find the `driveId` and `folderID` by visiting the shared drive or folder in your browser and copying the last URL component: `https://drive.google.com/drive/u/1/folders/driveId`.

### Options

- \*\*Simplify Output\*\*: Choose whether to return a simplified version of the response instead of including all fields.

- \*\*Folder Color\*\*: The color of the folder as an RGB hex string.

Refer to the [Method: files.insert | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/insert){:target=\_blank .external-link} API documentation for more information.

## Delete a folder

Use this operation to delete a folder from a drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Folder\*\*.

- \*\*Operation\*\*: Select \*\*Delete\*\*.

- \*\*Folder\*\*: Choose a folder you want to delete.

- Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

- You can find the `folderId` in a Google Drive folder URL: `https://drive.google.com/drive/u/0/folders/folderID`.

### Options

- \*\*Delete Permanently\*\*: Choose whether to delete the folder now instead of moving it to the trash.

Refer to the [Method: files.delete | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/delete){:target=\_blank .external-link} API documentation for more information.

## Share a folder

Use this operation to add sharing permissions to a folder.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Folder\*\*.

- \*\*Operation\*\*: Select \*\*Share\*\*.

- \*\*Folder\*\*: Choose a file you want to move.

- Select \*\*From list\*\* to choose the folder from the dropdown list, \*\*By URL\*\* to enter the URL of the folder, or \*\*By ID\*\* to enter the `folderId`.

- You can find the `folderId` in a Google Drive folder URL: `https://drive.google.com/drive/u/0/folders/folderID`.

- \*\*Permissions\*\*: The permissions to add to the folder:

- \*\*Role\*\*: Select what users can do with the folder. Can be one of \*\*Commenter\*\*, \*\*File Organizer\*\*, \*\*Organizer\*\*, \*\*Owner\*\*, \*\*Reader\*\*, \*\*Writer\*\*.

- \*\*Type\*\*: Select the scope of the new permission:

- \*\*User\*\*: Grant permission to a specific user, defined by entering their \*\*Email Address\*\*.

- \*\*Group\*\*: Grant permission to a specific group, defined by entering its \*\*Email Address\*\*.

- \*\*Domain\*\*: Grant permission to a complete domain, defined by the \*\*Domain\*\*.

- \*\*Anyone\*\*: Grant permission to anyone. Can optionally \*\*Allow File Discovery\*\* to make the file discoverable through search.

### Options

- \*\*Email Message\*\*: A plain text custom message to include in the notification email.

<!-- vale from-microsoft.FirstPerson = NO -->

- \*\*Move to New Owners Root\*\*: Available when trying to transfer ownership while sharing an item not in a shared drive. When enabled, moves the folder to the new owner's My Drive root folder.

<!-- vale from-microsoft.FirstPerson = YES -->

- \*\*Send Notification Email\*\*: Whether to send a notification email when sharing to users or groups.

- \*\*Transfer Ownership\*\*: Whether to transfer ownership to the specified user and downgrade the current owner to writer permissions.

- \*\*Use Domain Admin Access\*\*: Whether to perform the action as a domain administrator.

Refer to the [REST Resources: files | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files){:target=\_blank .external-link} API documentation for more information.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive node documentation

description: Learn how to use the Google Drive node in n8n. Follow technical documentation to integrate Google Drive node into your workflows.

contentType: [integration, reference]

priority: high

---

# Google Drive node

Use the Google Drive node to automate work in Google Drive, and integrate Google Drive with other applications. n8n has built-in support for a wide range of Google Drive features, including creating, updating, listing, deleting, and getting drives, files, and folders.

On this page, you'll find a list of operations the Google Drive node supports and links to more resources.

/// note | Credentials

Refer to [Google Drive credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

## Operations

\* \*\*File\*\*

\* [\*\*Copy\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#copy-a-file) a file

\* [\*\*Create from text\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#create-from-text)

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#delete-a-file) a file

\* [\*\*Download\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#download-a-file) a file

\* [\*\*Move\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#move-a-file) a file

\* [\*\*Share\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#share-a-file) a file

\* [\*\*Update\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#update-a-file) a file

\* [\*\*Upload\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-operations.md#upload-a-file) a file

\* \*\*File/Folder\*\*

\* [\*\*Search\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/file-folder-operations.md#search-files-and-folders) files and folders

\* \*\*Folder\*\*

\* [\*\*Create\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/folder-operations.md#create-a-folder) a folder

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/folder-operations.md#delete-a-folder) a folder

\* [\*\*Share\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/folder-operations.md#share-a-folder) a folder

\* \*\*Shared Drive\*\*

\* [\*\*Create\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/shared-drive-operations.md#create-a-shared-drive) a shared drive

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/shared-drive-operations.md#delete-a-shared-drive) a shared drive

\* [\*\*Get\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/shared-drive-operations.md#get-a-shared-drive) a shared drive

\* [\*\*Get Many\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/shared-drive-operations.md#get-many-shared-drives) shared drives

\* [\*\*Update\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/shared-drive-operations.md#update-a-shared-drive) a shared drive

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-drive') ]]

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/common-issues.md).

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## shared-drive-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive Shared Drive operations

description: Documentation for the Shared Drive operations in Google Drive node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: high

---

# Google Drive Shared Drive operations

Use this operation to create, delete, get, and update shared drives in Google Drive. Refer to [Google Drive](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) for more information on the Google Drive node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Create a shared drive

Use this operation to create a new shared drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Shared Drive\*\*.

- \*\*Operation\*\*: Select \*\*Create\*\*.

- \*\*Name\*\*: The name to use for the new shared drive.

### Options

- \*\*Capabilities\*\*: The capabilities to set for the new shared drive (see [REST Resources: drives | Google Drive](https://developers.google.com/drive/api/reference/rest/v3/drives) for more details):

- \*\*Can Add Children\*\*: Whether the current user can add children to folders in this shared drive.

- \*\*Can Change Copy Requires Writer Permission Restriction\*\*: Whether the current user can change the `copyRequiresWriterPermission` restriction on this shared drive.

- \*\*Can Change Domain Users Only Restriction\*\*: Whether the current user can change the `domainUsersOnly` restriction on this shared drive.

- \*\*Can Change Drive Background\*\*: Whether the current user can change the background on this shared drive.

- \*\*Can Change Drive Members Only Restriction\*\*: Whether the current user can change the `driveMembersOnly` restriction on this shared drive.

- \*\*Can Comment\*\*: Whether the current user can comment on files in this shared drive.

- \*\*Can Copy\*\*: Whether the current user can copy files in this shared drive.

- \*\*Can Delete Children\*\*: Whether the current user can delete children from folders in this shared drive.

- \*\*Can Delete Drive\*\*: Whether the current user can delete this shared drive. This operation may still fail if there are items not in the trash in the shared drive.

- \*\*Can Download\*\*: Whether the current user can download files from this shared drive.

- \*\*Can Edit\*\*: Whether the current user can edit files from this shared drive.

- \*\*Can List Children\*\*: Whether the current user can list the children of folders in this shared drive.

- \*\*Can Manage Members\*\*: Whether the current user can add, remove, or change the role of members of this shared drive.

- \*\*Can Read Revisions\*\*: Whether the current user can read the revisions resource of files in this shared drive.

- \*\*Can Rename Drive\*\*: Whether the current user can rename this shared drive.

- \*\*Can Share\*\*: Whether the current user can share files or folders in this shared drive.

- \*\*Can Trash Children\*\*: Whether the current user can trash children from folders in this shared drive.

- \*\*Color RGB\*\*: The color of this shared drive as an RGB hex string.

- \*\*Hidden\*\*: Whether to hide this shared drive in the default view.

- \*\*Restrictions\*\*: Restrictions to add to this shared drive (see [REST Resources: drives | Google Drive](https://developers.google.com/drive/api/reference/rest/v3/drives) for more details):

- \*\*Admin Managed Restrictions\*\*: When enabled, restrictions here will override the similarly named fields to true for any file inside of this shared drive.

- \*\*Copy Requires Writer Permission\*\*: Whether the options to copy, print, or download files inside this shared drive should be disabled for readers and commenters.

- \*\*Domain Users Only\*\*: Whether to restrict access to this shared drive and items inside this shared drive to users of the domain to which this shared drive belongs.

- \*\*Drive Members Only\*\*: Whether to restrict access to items inside this shared drive to its members.

Refer to the [Method: drives.insert | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/drives/insert){:target=\_blank .external-link} API documentation for more information.

## Delete a shared drive

Use this operation to delete a shared drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Shared Drive\*\*.

- \*\*Operation\*\*: Select \*\*Delete\*\*.

- \*\*Shared Drive\*\*: Choose the shared drive want to delete.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- You can find the `driveId` in the URL for the shared Google Drive: `https://drive.google.com/drive/u/0/folders/driveID`.

Refer to the [Method: drives.delete | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/drives/delete){:target=\_blank .external-link} API documentation for more information.

## Get a shared drive

Use this operation to get a shared drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Shared Drive\*\*.

- \*\*Operation\*\*: Select \*\*Get\*\*.

- \*\*Shared Drive\*\*: Choose the shared drive want to get.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- You can find the `driveId` in the URL for the shared Google Drive: `https://drive.google.com/drive/u/0/folders/driveID`.

### Options

- \*\*Use Domain Admin Access\*\*: Whether to issue the request as a domain administrator. When enabled, grants the requester access if they're an administrator of the domain to which the shared drive belongs.

Refer to the [Method: drives.get | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/drives/get){:target=\_blank .external-link} API documentation for more information.

<!-- vale from-write-good.Weasel = NO -->

## Get many shared drives

Use this operation to get many shared drives.

<!-- vale from-write-good.Weasel = YES -->

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Shared Drive\*\*.

- \*\*Operation\*\*: Select \*\*Get Many\*\*.

- \*\*Return All\*\*: Choose whether to return all results or only up to a given limit.

- \*\*Limit\*\*: The maximum number of items to return when \*\*Return All\*\* is disabled.

- \*\*Shared Drive\*\*: Choose the shared drive want to get.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- You can find the `driveId` in the URL for the shared Google Drive: `https://drive.google.com/drive/u/0/folders/driveID`.

### Options

- \*\*Query\*\*: The query string to use to search for shared drives. See [Search for shared drives | Google Drive](https://developers.google.com/drive/api/guides/search-shareddrives) for more information.

- \*\*Use Domain Admin Access\*\*: Whether to issue the request as a domain administrator. When enabled, grants the requester access if they're an administrator of the domain to which the shared drive belongs.

Refer to the [Method: drives.get | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/drives/get){:target=\_blank .external-link} API documentation for more information.

## Update a shared drive

Use this operation to update a shared drive.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Drive credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Shared Drive\*\*.

- \*\*Operation\*\*: Select \*\*Update\*\*.

- \*\*Shared Drive\*\*: Choose the shared drive you want to update.

- Select \*\*From list\*\* to choose the drive from the dropdown list, \*\*By URL\*\* to enter the URL of the drive, or \*\*By ID\*\* to enter the `driveId`.

- You can find the `driveId` in the URL for the shared Google Drive: `https://drive.google.com/drive/u/0/folders/driveID`.

### Update Fields

- \*\*Color RGB\*\*: The color of this shared drive as an RGB hex string.

- \*\*Name\*\*: The updated name for the shared drive.

- \*\*Restrictions\*\*: Restrictions for this shared drive (see [REST Resources: drives | Google Drive](https://developers.google.com/drive/api/reference/rest/v3/drives) for more details):

- \*\*Admin Managed Restrictions\*\*: When enabled, restrictions here will override the similarly named fields to true for any file inside of this shared drive.

- \*\*Copy Requires Writer Permission\*\*: Whether the options to copy, print, or download files inside this shared drive should be disabled for readers and commenters.

- \*\*Domain Users Only\*\*: Whether to restrict access to this shared drive and items inside this shared drive to users of the domain to which this shared drive belongs.

- \*\*Drive Members Only\*\*: Whether to restrict access to items inside this shared drive to its members.

Refer to the [Method: drives.update | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/drives/update){:target=\_blank .external-link} API documentation for more information.

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Sheets node common issues

description: Documentation for common questions and solutions in the Google Sheets node in n8n, a workflow automation platform. Includes details of the issue and suggested resolutions.

contentType: [integration, reference]

priority: critical

---

# Google Sheets node common issues

Here are some common errors and issues with the [Google Sheets node](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) and steps to resolve or troubleshoot them.

## Append an array

To insert an array of data into Google Sheets, you must convert the array into a valid JSON (key, value) format.

To do so, consider using:

1. The [Split Out](/integrations/builtin/core-nodes/n8n-nodes-base.splitout.md) node.

1. The [AI Transform](/integrations/builtin/core-nodes/n8n-nodes-base.aitransform.md) node. For example, try entering something like:

```

Convert 'languages' array to JSON (key, value) pairs.

```

1. The [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md).

<!-- vale off -->

## Column names were updated after the node's setup

<!-- vale on -->

You'll receive this error if the Google Sheet's column names have changed since you set up the node.

To refresh the column names, re-select \*\*Mapping Column Mode\*\*. This should prompt the node to fetch the column names again.

Once the column names refresh, update the node parameters.

## document-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Sheets Document operations

description: Documentation for the Document operations in Google Sheets node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# Google Sheets Document operations

Use this operation to create or delete a Google spreadsheet from Google Sheets. Refer to [Google Sheets](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) for more information on the Google Sheets node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Create a spreadsheet

Use this operation to create a new spreadsheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Document\*\*.

- \*\*Operation\*\*: Select \*\*Create\*\*.

- \*\*Title\*\*: Enter the title of the new spreadsheet you want to create.

- \*\*Sheets\*\*: Add the \*\*Title(s)\*\* of the sheet(s) you want to create within the spreadsheet.

<!-- vale off -->

### Options

- \*\*Locale\*\*: Enter the locale of the spreadsheet. This affects formatting details such as functions, dates, and currency. Use one of the following formats:

- `en` (639-1)

- `fil` (639-2 if no 639-1 format exists)

- `en\_US` (combination of ISO language and country).

- Refer to [List of ISO 639 language codes](https://en.wikipedia.org/wiki/List\_of\_ISO\_639\_language\_codes){:target=\_blank .external link} and [List of ISO 3166 country codes](https://en.wikipedia.org/wiki/List\_of\_ISO\_3166\_country\_codes){:target=\_blank .external link} for language and country codes. Note that Google doesn't support all locales/languages.

- \*\*Recalculation Interval\*\*: Enter the desired recalculation interval for the spreadsheet functions. This affects how often `NOW`, `TODAY`, `RAND`, and `RANDBETWEEN` are updated. Select \*\*On Change\*\* for recalculating whenever there is a change in the spreadsheet, \*\*Minute\*\* for recalculating every minute, or \*\*Hour\*\* for recalculating every hour. Refer to [Set a spreadsheet’s location & calculation settings](https://support.google.com/docs/answer/58515){:target=\_blank .external-link} for more information about these options.

Refer to the [Method: spreadsheets.create | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/create){:target=\_blank .external-link} API documentation for more information.

## Delete a spreadsheet

Use this operation to delete an existing spreadsheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Document\*\*.

- \*\*Operation\*\*: Select \*\*Delete\*\*.

- \*\*Document\*\*: Choose a spreadsheet you want to delete.

- Select \*\*From list\*\* to choose the title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

Refer to the [Method: files.delete | Google Drive](https://developers.google.com/drive/api/reference/rest/v2/files/delete){:target=\_blank .external-link} API documentation for more information.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Sheets

description: Documentation for the Google Sheets node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# Google Sheets

Use the Google Sheets node to automate work in Google Sheets, and integrate Google Sheets with other applications. n8n has built-in support for a wide range of Google Sheets features, including creating, updating, deleting, appending, removing and getting documents.

On this page, you'll find a list of operations the Google Sheets node supports and links to more resources.

/// note | Credentials

Refer to [Google Sheets credentials](/integrations/builtin/credentials/google/index.md) for guidance on setting up authentication.

///

## Operations

\* \*\*Document\*\*

\* [\*\*Create\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/document-operations.md#create-a-spreadsheet) a spreadsheet.

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/document-operations.md#delete-a-spreadsheet) a spreadsheet.

\* \*\*Sheet Within Document\*\*

\* [\*\*Append or Update Row\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#append-or-update-row): Append a new row, or update the current one if it already exists.

\* [\*\*Append Row\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#append-row): Create a new row.

\* [\*\*Clear\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#clear-a-sheet) all data from a sheet.

\* [\*\*Create\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#create-a-new-sheet) a new sheet.

\* [\*\*Delete\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#delete-a-sheet) a sheet.

\* [\*\*Delete Rows or Columns\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#delete-rows-or-columns): Delete columns and rows from a sheet.

\* [\*\*Get Row(s)\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#get-rows): Read all rows in a sheet.

\* [\*\*Update Row\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/sheet-operations.md#update-row): Update a row in a sheet.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-sheets') ]]

## Related resources

Refer to [Google Sheet's API documentation](https://developers.google.com/sheets/api){:target=\_blank .external-link} for more information about the service.

<!-- ## Examples

This example uses the Customer Datastore node to provide sample data to load into Google Sheets. It assumes you've already set up your [credentials](/integrations/builtin/credentials/google/index.md).

1. Set up a Google Sheet with two columns, `test1` and `test`. In `test1`, enter the names from the Customer Datastore node:

![The spreadsheet set up for testing](/\_images/integrations/builtin/app-nodes/googlesheets/test-sheet-before.png)

2. Create the workflow: use the manual trigger, Customer Datastore, and Google Sheets nodes.

![The spreadsheet set up for testing](/\_images/integrations/builtin/app-nodes/googlesheets/workflow.png)

3. Open the Customer Datastore node, enable \*\*Return All\*\*, then select \*\*Execute step\*\*.

4. In the Google Sheets node, go through the steps above, using these settings:

\* Select \*\*Update Row\*\* as the \*\*Operation\*\*.

\* In \*\*Column to Match On\*\*, select `test1`.

\* For the first field of \*\*Values to Update\*\*, drag in the \*\*name\*\* from the input view.

\* For the second field of \*\*Values to Update\*\*, drag in the \*\*email\*\* from the input view.

5. Select \*\*Execute step\*\*.

6. View your spreadsheet. \*\*test2\*\* should now contain the email addresses that match to the names in the input data.

![The spreadsheet set up for testing](/\_images/integrations/builtin/app-nodes/googlesheets/test-sheet-after.png) -->

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/common-issues.md).

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## sheet-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Sheets Sheet Within Document operations

description: Documentation for the Sheet operations in Google Sheets node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# Google Sheets Sheet Within Document operations

Use this operation to create, update, clear or delete a sheet in a Google spreadsheet from Google Sheets. Refer to [Google Sheets](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) for more information on the Google Sheets node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Append or Update Row

Use this operation to update an existing row or add a new row at the end of the data if a matching entry isn't found in a sheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Append or Update Row\*\*.

- \*\*Document\*\*: Choose a spreadsheet that contains the sheet you want to append or update row(s) to.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Sheet\*\*: Choose a sheet you want to append or update row(s) to.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the sheet title.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

- \*\*Mapping Column Mode\*\*:

- \*\*Map Each Column Manually\*\*: Enter \*\*Values to Send\*\* for each column.

- \*\*Map Automatically\*\*: n8n looks for incoming data that matches the columns in Google Sheets automatically. In this mode, make sure the incoming data fields are the same as the columns in Google Sheets. (Use an [Edit Fields](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node before this node to change them if required.)

- \*\*Nothing\*\*: Don't map any data.

### Options

--8<-- "\_snippets/integrations/builtin/app-nodes/googlesheets/node-options.md"

Refer to the [Method: spreadsheets.values.update | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets.values/update){:target=\_blank .external-link} API documentation for more information.

## Append Row

Use this operation to append a new row at the end of the data in a sheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Append Row\*\*.

- \*\*Document\*\*: Choose a spreadsheet with the sheet you want to append a row to.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Sheet\*\*: Choose a sheet you want to append a row to.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the sheet title.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

- \*\*Mapping Column Mode\*\*:

- \*\*Map Each Column Manually\*\*: Select the \*\*Column to Match On\*\* when finding the rows to update. Enter \*\*Values to Send\*\* for each column.

- \*\*Map Automatically\*\*: n8n looks for incoming data that matches the columns in Google Sheets automatically. In this mode, make sure the incoming data fields are the same as the columns in Google Sheets. (Use an [Edit Fields](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node before this node to change them if required.)

- \*\*Nothing\*\*: Don't map any data.

### Options

--8<-- "\_snippets/integrations/builtin/app-nodes/googlesheets/node-options.md"

Refer to the [Method: spreadsheets.values.append | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets.values/append){:target=\_blank .external-link} API documentation for more information.

## Clear a sheet

Use this operation to clear all data from a sheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Clear\*\*.

- \*\*Document\*\*: Choose a spreadsheet with the sheet you want to clear data from.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Sheet\*\*: Choose a sheet you want to clear data from.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the sheet title.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

- \*\*Clear\*\*: Select what data you want cleared from the sheet.

- \*\*Whole Sheet\*\*: Clear the entire sheet's data. Turn on \*\*Keep First Row\*\* to keep the first row of the sheet.

- \*\*Specific Rows\*\*: Clear data from specific rows. Also enter:

- \*\*Start Row Number\*\*: Enter the first row number you want to clear.

- \*\*Number of Rows to Delete\*\*: Enter the number of rows to clear. `1` clears data only the row in the \*\*Start Row Number\*\*.

- \*\*Specific Columns\*\*: Clear data from specific columns. Also enter:

- \*\*Start Column\*\*: Enter the first column you want to clear using the letter notation.

- \*\*Number of Columns to Delete\*\*: Enter the number of columns to clear. `1` clears data only in the \*\*Start Column\*\*.

- \*\*Specific Range\*\*: Enter the table range to clear data from, in [A1 notation](https://developers.google.com/sheets/api/guides/concepts#cell){:target=\_blank .external-link}.

Refer to the [Method: spreadsheets.values.clear | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets.values/clear){:target=\_blank .external-link} API documentation for more information.

## Create a new sheet

Use this operation to create a new sheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Create\*\*.

- \*\*Document\*\*: Choose a spreadsheet in which you want to create a new sheet.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Title\*\*: Enter the title for your new sheet.

### Options

- \*\*Hidden\*\*: Turn on this option to keep the sheet hidden in the UI.

- \*\*Right To Left\*\*: Turn on this option to use RTL sheet instead of an LTR sheet.

- \*\*Sheet ID\*\*: Enter the ID of the sheet.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`

- \*\*Sheet Index\*\*: By default, the new sheet is the last sheet in the spreadsheet. To override this behavior, enter the index you want the new sheet to use. When you add a sheet at a given index, Google increments the indices for all following sheets. Refer to [Sheets | SheetProperties](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/sheets#SheetProperties){:target=\_blank .external-link} documentation for more information.

- \*\*Tab Color\*\*: Enter the color as hex code or use the color picker to set the color of the tab in the UI.

Refer to the [Method: spreadsheets.batchUpdate | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/batchUpdate){:target=\_blank .external-link} API documentation for more information.

## Delete a sheet

Use this operation to permanently delete a sheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Delete\*\*.

- \*\*Document\*\*: Choose a spreadsheet that contains the sheet you want to delete.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Sheet\*\*: Choose the sheet you want to delete.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the name of the sheet.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

Refer to the [Method: spreadsheets.batchUpdate | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/batchUpdate){:target=\_blank .external-link} API documentation for more information.

## Delete Rows or Columns

Use this operation to delete rows or columns in a sheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Delete Rows or Columns\*\*.

- \*\*Document\*\*: Choose a spreadsheet that contains the sheet you want to delete rows or columns from.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Sheet\*\*: Choose the sheet in which you want to delete rows or columns.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the name of the sheet.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

- \*\*Start Row Number\*\* or \*\*Start Column\*\*: Enter the row number or column letter to start deleting.

- \*\*Number of Rows to Delete\*\* or \*\*Number of Columns to delete\*\*: Enter the number of rows or columns to delete.

Refer to the [Method: spreadsheets.batchUpdate | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/batchUpdate){:target=\_blank .external-link} API documentation for more information.

## Get Row(s)

Use this operation to read one or more rows from a sheet.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Get Row(s)\*\*.

- \*\*Document\*\*: Choose a spreadsheet that contains the sheet you want to get rows from.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Sheet\*\*: Choose a sheet you want to read rows from.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the name of the sheet.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

- \*\*Filters\*\*: By default, the node returns all rows in the sheet. Set filters to return a limited set of results:

- \*\*Column\*\*: Select the column in your sheet to search against.

- \*\*Value\*\*: Enter a cell value to search for. You can drag input data parameters here.

If your filter matches multiple rows, n8n returns the first result. If you want all matching rows:

1. Under \*\*Options\*\*, select \*\*Add Option\*\* > \*\*When Filter Has Multiple Matches\*\*.

2. Change \*\*When Filter Has Multiple Matches\*\* to \*\*Return All Matches\*\*.

### Options

- \*\*Data Location on Sheet\*\*: Use this option to specify a data range. By default, n8n will detect the range automatically until the last row in the sheet.

- \*\*Output Formatting\*\*: Use this option to choose how n8n formats the data returned by Google Sheets.

- \*\*General Formatting\*\*:

- \*\*Values (unformatted)\*\* (default): n8n removes currency signs and other special formatting. Data type remains as number.

- \*\*Values (formatted)\*\*: n8n displays the values as they appear in Google Sheets (for example, retaining commas or currency signs) by converting the data type from number to string.

- \*\*Formulas\*\*: n8n returns the formula. It doesn't calculate the formula output. For example, if a cell B2 has the formula `=A2`, n8n returns B2's value as `=A2` (in text). Refer to [About date & time values | Google Sheets](https://developers.google.com/sheets/api/guides/formats#about\_date\_time\_values){:target=\_blank .external-link} for more information.

- \*\*Date Formatting\*\*: Refer to [DateTimeRenderOption | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/DateTimeRenderOption){:target=\_blank .external-link} for more information.

- \*\*Formatted Text\*\* (default): As displayed in Google Sheets, which depends on the spreadsheet locale. For example `01/01/2024`.

- \*\*Serial Number\*\*: Number of days since December 30th 1899.

- \*\*When Filter Has Multiple Matches\*\*: Set to \*\*Return All Matches\*\* to get multiple matches. By default only the first result gets returned.

/// note | First row

n8n treats the first row in a Google Sheet as a heading row, and doesn't return it when reading all rows. If you want to read the first row, use the \*\*Options\*\* to set \*\*Data Location on Sheet\*\*.

///

Refer to the [Method: spreadsheets.batchUpdate | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/batchUpdate){:target=\_blank .external-link} API documentation for more information.

## Update Row

Use this operation to update existing row in a sheet. This operation only updates existing rows. To append rows when a matching entry isn't found in a sheet, use \*\*Append or Update Row\*\* operation instead.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

- \*\*Resource\*\*: Select \*\*Sheet Within Document\*\*.

- \*\*Operation\*\*: Select \*\*Update Row\*\*.

- \*\*Document\*\*: Choose a spreadsheet with the sheet you want to update.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

- \*\*Sheet\*\*: Choose a sheet you want to update.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the sheet title.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

- \*\*Mapping Column Mode\*\*:

- \*\*Map Each Column Manually\*\*: Enter \*\*Values to Send\*\* for each column.

- \*\*Map Automatically\*\*: n8n looks for incoming data that matches the columns in Google Sheets automatically. In this mode, make sure the incoming data fields are the same as the columns in Google Sheets. (Use an [Edit Fields](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node before this node to change them if required.)

- \*\*Nothing\*\*: Don't map any data.

### Options

- \*\*Cell Format\*\*: Use this option to choose how to format the data in cells. Refer to [Google Sheets API | CellFormat](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/cells#CellFormat){:target=\_blank .external-link} for more information.

- \*\*Let Google Sheets format\*\* (default): n8n formats text and numbers in the cells according to Google Sheets' default settings.

- \*\*Let n8n format\*\*: New cells in your sheet will have the same data types as the input data provided by n8n.

- \*\*Data Location on Sheet\*\*: Use this option when you need to specify where the data range on your sheet.

- \*\*Header Row\*\*: Specify the row index that contains the column headers.

- \*\*First Data Row\*\*: Specify the row index where the actual data starts.

Refer to the [Method: spreadsheets.batchUpdate | Google Sheets](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/batchUpdate){:target=\_blank .external-link} API documentation for more information.

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MySQL node common issues

description: Documentation for common issues and questions in the MySQL node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# MySQL node common issues

Here are some common errors and issues with the [MySQL node](/integrations/builtin/app-nodes/n8n-nodes-base.mysql/index.md) and steps to resolve or troubleshoot them.

## Update rows by composite key

The MySQL node's \*\*Update\*\* operation lets you to update rows in a table by providing a \*\*Column to Match On\*\* and a value. This works for tables where single column values can uniquely identify individual rows.

You can't use this pattern for tables that use [composite keys](https://en.wikipedia.org/wiki/Composite\_key), where you need multiple columns to uniquely identify a row. A example of this is MySQL's [`user` table](https://mariadb.com/kb/en/mysql-user-table/) in the `mysql` database, where you need both the `user` and `host` columns to uniquely identify rows.

To update tables with composite keys, write the query manually with the \*\*Execute SQL\*\* operation instead. There, you can match on multiple values, like in this example which matches on both `customer\_id` and `product\_id`:

```sql

UPDATE orders SET quantity = 3 WHERE customer\_id = 538 AND product\_id = 800;

```

## Can't connect to a local MySQL server when using Docker

When you run either n8n or MySQL in Docker, you need to configure the network so that n8n can connect to MySQL.

The solution depends on how you're hosting the two components.

### If only MySQL is in Docker

If only MySQL is running in Docker, configure MySQL to listen on all interfaces by binding to `0.0.0.0` inside of the container (the official images are already configured this way).

When running the container, [publish the port](https://docs.docker.com/get-started/docker-concepts/running-containers/publishing-ports/) with the `-p` flag. By default, MySQL runs on port 3306, so your Docker command should look like this:

```shell

docker run -p 3306:3306 --name my-mysql -d mysql:latest

```

When configuring [MySQL credentials](/integrations/builtin/credentials/mysql.md), the `localhost` address should work without a problem (set the \*\*Host\*\* to `localhost`).

### If only n8n is in Docker

If only n8n is running in Docker, configure MySQL to listen on all interfaces by binding to `0.0.0.0` on the host.

If you are running n8n in Docker on \*\*Linux\*\*, use the `--add-host` flag to map `host.docker.internal` to `host-gateway` when you start the container. For example:

```shell

docker run -it --rm --add-host host.docker.internal:host-gateway --name n8n -p 5678:5678 -v n8n\_data:/home/node/.n8n docker.n8n.io/n8nio/n8n

```

If you are using Docker Desktop, this is automatically configured for you.

When configuring [MySQL credentials](/integrations/builtin/credentials/mysql.md), use `host.docker.internal` as the \*\*Host\*\* address instead of `localhost`.

### If MySQL and n8n are running in separate Docker containers

If both n8n and MySQL are running in Docker in separate containers, you can use Docker networking to connect them.

Configure MySQL to listen on all interfaces by binding to `0.0.0.0` inside of the container (the official images are already configured this way). Add both the MySQL and n8n containers to the same [user-defined bridge network](https://docs.docker.com/engine/network/drivers/bridge/).

When configuring [MySQL credentials](/integrations/builtin/credentials/mysql.md), use the MySQL container's name as the host address instead of `localhost`. For example, if you call the MySQL container `my-mysql`, you would set the \*\*Host\*\* to `my-mysql`.

### If MySQL and n8n are running in the same Docker container

If MySQL and n8n are running in the same Docker container, the `localhost` address doesn't need any special configuration. You can configure MySQL to listen on `localhost` and configure the \*\*Host\*\* in the [MySQL credentials in n8n](/integrations/builtin/credentials/ollama.md) to use `localhost`.

## Decimal numbers returned as strings

By default, the MySQL node returns [`DECIMAL` values](https://dev.mysql.com/doc/refman/8.4/en/fixed-point-types.html) as strings. This is done intentionally to avoid loss of precision that can occur due to limitation with the way JavaScript represents numbers. You can learn more about the decision in the documentation for the [MySQL library](https://sidorares.github.io/node-mysql2/docs/api-and-configurations) that n8n uses.

To output decimal values as numbers instead of strings and ignore the risks in loss of precision, enable the \*\*Output Decimals as Numbers\*\* option. This will output the values as numbers instead of strings.

As an alternative, you can manually convert from the string to a decimal using the [`toFloat()` function](/code/builtin/data-transformation-functions/strings.md#string-toFloat) with [`toFixed()`](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global\_Objects/Number/toFixed) or with the [Edit Fields (Set) node](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) after the MySQL node. Be aware that you may still need to account for a potential loss of precision.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MySQL node documentation

description: Learn how to use the MySQL node in n8n. Follow technical documentation to integrate MySQL node into your workflows.

contentType: [integration, reference]

priority: high

---

# MySQL node

Use the MySQL node to automate work in MySQL, and integrate MySQL with other applications. n8n has built-in support for a wide range of MySQL features, including executing an SQL query, as well as inserting, and updating rows in a database.

On this page, you'll find a list of operations the MySQL node supports and links to more resources.

/// note | Credentials

Refer to [MySQL credentials](/integrations/builtin/credentials/mysql.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Delete

\* Execute SQL

\* Insert

\* Insert or Update

\* Select

\* Update

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mysql') ]]

## Related resources

Refer to [MySQL's Connectors and APIs documentation](https://dev.mysql.com/doc/index-connectors.html){:target=\_blank .external-link} for more information about the service.

Refer to MySQL's [SELECT statement documentation](https://dev.mysql.com/doc/refman/8.4/en/select.html){:target=\_blank .external-link} for more information on writing SQL queries.

## Use query parameters

When creating a query to run on a MySQL database, you can use the \*\*Query Parameters\*\* field in the \*\*Options\*\* section to load data into the query. n8n sanitizes data in query parameters, which prevents SQL injection.

For example, you want to find a person by their email address. Given the following input data:

```js

[

{

"email": "alex@example.com",

"name": "Alex",

"age": 21

},

{

"email": "jamie@example.com",

"name": "Jamie",

"age": 33

}

]

```

You can write a query like:

```sql

SELECT \* FROM $1:name WHERE email = $2;

```

Then in \*\*Query Parameters\*\*, provide the field values to use. You can provide fixed values or expressions. For this example, use expressions so the node can pull the email address from each input item in turn:

```js

// users is an example table name

users, {{ $json.email }}

```

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common issues](/integrations/builtin/app-nodes/n8n-nodes-base.mysql/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Notion node common issues

description: Documentation for common issues and questions in the Notion node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Notion node common issues

Here are some common errors and issues with the [Notion node](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) and steps to resolve or troubleshoot them.

## Relation property not displaying

The Notion node only supports displaying the data relation property for [two-way relations](https://www.notion.com/help/relations-and-rollups). When you connect two Notion databases with a two-way relationship, you can select or filter by the relation property when working with the Notion node's \*\*Database Page\*\* resource.

To enable two-way relations, edit the relation property in Notion and enable the \*\*Show on [name of related database]\*\* option to create a reverse relation. Select a name to use for the relation in the new context. The relation is now accessible in n8n when filtering or selecting.

If you need to work with Notion databases with one-way relationship, you can use the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) with your existing Notion credentials. For example, to update a one-way relationship, you can send a `PATCH` request to the following URL:

```

https://api.notion.com/v1/pages/<page\_id>

```

Enable \*\*Send Body\*\*, set the \*\*Body Content Type\*\* to \*\*JSON\*\*, and set \*\*Specify Body\*\* to \*\*Using JSON\*\*. Afterward, you can enter a JSON object like the following into the \*\*JSON\*\* field:

```json

{

"properties": {

"Account": {

"relation": [

{

"id": "<your\_relation\_ID>"

}

]

}

}

}

```

## Create toggle heading

The Notion node allows you to create headings and toggles when adding blocks to \*\*Page\*\*, \*\*Database Page\*\*, or \*\*Block\*\* resources. Creating toggleable headings isn't yet supported by the Notion node itself.

You can work around this be creating a regular heading and then modifying it to enable the [`is\_toggleable` property](https://developers.notion.com/reference/block#headings):

1. Add a heading with Notion node.

2. Select the resource you want to add a heading to:

\* To add a new page with a heading, select the \*\*Page\*\* or \*\*Database Page\*\* resources with the \*\*Create\*\* operation.

\* To add a heading to an existing page, select the \*\*Block\*\* resource with the \*\*Append After\*\* operation.

3. Select \*\*Add Block\*\* and set the \*\*Type Name or ID\*\* to either \*\*Heading 1\*\*, \*\*Heading 2\*\*, or \*\*Heading 3\*\*.

4. Add an [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node connected to the Notion node and select the `GET` method.

5. Set the \*\*URL\*\* to `https://api.notion.com/v1/blocks/<block\_ID>`. For example, if your added the heading to an existing page, you could use the following URL: `https://api.notion.com/v1/blocks/{{ $json.results[0].id }}`. If you created a new page instead of appending a block, you may need to discover the block ID by querying the page contents first.

6. Select \*\*Predefined Credential Type\*\* and connect your existing Notion credentials.

7. Add an [Edit Fields (Set)](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node after the HTTP Request node.

8. Add `heading\_1.is\_toggleable` as a new \*\*Boolean\*\* field set to `true`. Swap `heading\_1` for a different heading number as necessary.

9. Add a second HTTP Request node after the Edit Fields (Set) node.

10. Set the \*\*Method\*\* to `PATCH` and use `https://api.notion.com/v1/blocks/{{ $json.id }}` as the \*\*URL\*\* value.

11. Select \*\*Predefined Credential Type\*\* and connect your existing Notion credentials.

12. Enable \*\*Send Body\*\* and set a parameter.

13. Set the parameter \*\*Name\*\* to `heading\_1` (substitute `heading\_1` for the heading level you are using).

14. Set the parameter \*\*Value\*\* to `{{ $json.heading\_1 }}` (substitute `heading\_1` for the heading level you are using).

The above sequence will create a regular heading block. It will query the newly created header, add the `is\_toggleable` property, and update the heading block.

## Handle null and empty values

You may receive a validation error when working with the Notion node if you submit fields with empty or null values. This can occur any time you populate fields from previous nodes when that data is missing.

To work around this, check for the existence of the field data before sending it to Notion or use a default value.

To check for the data before executing the Notion node, use an [If](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) node to check whether the field is unset. This allows you to use the [Edit Fields (Set)](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node to conditionally remove the field when it doesn't have a valid value.

As an alternative, you can set a [default value](/code/cookbook/expressions/check-incoming-data.md) if the incoming data doesn't provide one.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Notion node documentation

description: Learn how to use the Notion node in n8n. Follow technical documentation to integrate Notion node into your workflows.

contentType: [integration, reference]

priority: high

---

# Notion node

Use the Notion node to automate work in Notion, and integrate Notion with other applications. n8n has built-in support for a wide range of Notion features, including getting and searching databases, creating pages, and getting users.

On this page, you'll find a list of operations the Notion node supports and links to more resources.

/// note | Credentials

Refer to [Notion credentials](/integrations/builtin/credentials/notion.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Block

\* Append After

\* Get Child Blocks

\* Database

\* Get

\* Get Many

\* Search

\* Database Page

\* Create

\* Get

\* Get Many

\* Update

\* Page

\* Archive

\* Create

\* Search

\* User

\* Get

\* Get Many

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'notion') ]]

## Related resources

n8n provides an app node for Notion. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.notiontrigger.md).

Refer to [Notion's documentation](https://developers.notion.com/){:target=\_blank .external-link} for details about their API.

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common issues](/integrations/builtin/app-nodes/n8n-nodes-base.notion/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Postgres node common issues

description: Documentation for common issues and questions in the Postgres node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Postgres node common issues

Here are some common errors and issues with the [Postgres node](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md) and steps to resolve or troubleshoot them.

## Dynamically populate SQL `IN` groups with parameters

In Postgres, you can use the SQL [`IN` comparison construct](https://www.postgresql.org/docs/current/functions-comparisons.html#FUNCTIONS-COMPARISONS-IN-SCALAR) to make comparisons between groups of values:

```sql

SELECT color, shirt\_size FROM shirts WHERE shirt\_size IN ('small', 'medium', 'large');

```

While you can use n8n [expressions](/code/expressions.md) in your query to dynamically populate the values in an `IN` group, combining this with [query parameters](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md#use-query-parameters) provides extra protection by automatically sanitizing input.

To construct an `IN` group query with query parameters:

1. Set the \*\*Operation\*\* to \*\*Execute Query\*\*.

2. In \*\*Options\*\*, select \*\*Query Parameters\*\*.

3. Use an expression to select an array from the input data. For example, `{{ $json.input\_shirt\_sizes }}`.

4. In the \*\*Query\*\* parameter, write your query with the `IN` construct with an empty set of parentheses. For example:

```sql

SELECT color, shirt\_size FROM shirts WHERE shirt\_size IN ();

```

5. Inside of the `IN` parentheses, use an expression to dynamically create index-based placeholders (like `$1`, `$2`, and `$3`) for the number of items in your query parameter array. You can do this by increasing each array index by one since the placeholder variables are 1 indexed:

```sql

SELECT color, shirt\_size FROM shirts WHERE shirt\_size IN ({{ $json.input\_shirt\_sizes.map((i, pos) => "$" + (pos+1)).join(', ') }});

```

With this technique, n8n automatically creates the correct number of [prepared statement placeholders](https://www.postgresql.org/docs/current/sql-prepare.html) for the `IN` values according to the number of items in your array.

## Working with timestamps and time zones

To avoid complications with how n8n and Postgres interpret timestamp and time zone data, follow these general tips:

- \*\*Use UTC when storing and passing dates\*\*: Using UTC helps avoid confusion over timezone conversions when converting dates between different representations and systems.

- \*\*Set the execution timezone\*\*: Set the global timezone in n8n using either [environment variables](/hosting/configuration/configuration-examples/time-zone.md) (for self-hosted) or in the [settings](/manage-cloud/set-cloud-timezone.md) (for n8n Cloud). You can set a workflow-specific timezone in the [workflow settings](/workflows/settings.md).

- \*\*Use ISO 8601 format\*\*: The [ISO 8601 format](https://en.wikipedia.org/wiki/ISO\_8601) encodes the day of the month, month, year, hour, minutes, and seconds in a standardized string. n8n passes dates between nodes as strings and uses [Luxon](/code/cookbook/luxon.md) to parse dates. If you need to cast to ISO 8601 explicitly, you can use the [Date & Time node](/integrations/builtin/core-nodes/n8n-nodes-base.datetime.md) and a custom format set to the string `yyyy-MM-dd'T'HH:mm:ss`.

## Outputting Date columns as date strings instead of ISO datetime strings

n8n's uses the [`pg` package](https://www.npmjs.com/package/pg) to integrate with Postgres, which affects how n8n processes date, timestamp, and related types from Postgres.

The `pg` package parses `DATE` values into `new Date(row\_value)` by default, which produces a date that follows the [ISO 8601 datetime string](https://en.wikipedia.org/wiki/ISO\_8601#Combined\_date\_and\_time\_representations) format. For example, a date of `2025-12-25` might produce a datetime sting of `2025-12-25T23:00:00.000Z` depending on the instance's timezone settings.

To work around this, use the [Postgres `TO\_CHAR` function](https://www.postgresql.org/docs/current/functions-formatting.html#FUNCTIONS-FORMATTING) to format the date into the expected format at query time:

```sql

SELECT TO\_CHAR(date\_col, 'YYYY-MM-DD') AS date\_col\_as\_date FROM table\_with\_date\_col

```

This will produce the date as a string without the time or timezone components. To continue the earlier example, with this casting, a date of `2025-12-25` would produce the string `2025-12-25`. You can find out more in the [`pg` package documentation on dates](https://node-postgres.com/features/types#date--timestamp--timestamptz).

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Postgres node documentation

description: Learn how to use the Postgres node in n8n. Follow technical documentation to integrate Postgres node into your workflows.

contentType: [integration, reference]

priority: critical

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# Postgres node

Use the Postgres node to automate work in Postgres, and integrate Postgres with other applications. n8n has built-in support for a wide range of Postgres features, including executing queries, as well as inserting and updating rows in a database.

On this page, you'll find a list of operations the Postgres node supports and links to more resources.

/// note | Credentials

Refer to [Postgres credentials](/integrations/builtin/credentials/postgres.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* [\*\*Delete\*\*](#delete): Delete an entire table or rows in a table

\* [\*\*Execute Query\*\*](#execute-query): Execute an SQL query

\* [\*\*Insert\*\*](#insert): Insert rows in a table

\* [\*\*Insert or Update\*\*](#insert-or-update): Insert or update rows in a table

\* [\*\*Select\*\*](#select): Select rows from a table

\* [\*\*Update\*\*](#update): Update rows in a table

### Delete

Use this operation to delete an entire table or rows in a table.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Postgres credential](/integrations/builtin/credentials/postgres.md).

- \*\*Operation\*\*: Select \*\*Delete\*\*.

- \*\*Schema\*\*: Choose the schema that contains the table you want to work on. Select \*\*From list\*\* to choose the schema from the dropdown list or \*\*By Name\*\* to enter the schema name.

- \*\*Table\*\*: Choose the table that you want to work on. Select \*\*From list\*\* to choose the table from the dropdown list or \*\*By Name\*\* to enter the table name.

- \*\*Command\*\*: The deletion action to take:

- \*\*Truncate\*\*: Removes the table's data but preserves the table's structure.

- \*\*Restart Sequences\*\*: Whether to reset auto increment columns to their initial values as part of the Truncate process.

- \*\*Delete\*\*: Delete the rows that match the "Select Rows" condition. If you don't select anything, Postgres deletes all rows.

- \*\*Select Rows\*\*: Define a \*\*Column\*\*, \*\*Operator\*\*, and \*\*Value\*\* to match rows on.

- \*\*Combine Conditions\*\*: How to combine the conditions in "Select Rows". \*\*AND\*\* requires all conditions to be true, while \*\*OR\*\* requires at least one condition to be true.

- \*\*Drop\*\*: Deletes the table's data and structure permanently.

#### Delete options

- \*\*Cascade\*\*: Whether to also drop all objects that depend on the table, like views and sequences. Available if using \*\*Truncate\*\* or \*\*Drop\*\* commands.

- \*\*Connection Timeout\*\*: The number of seconds to try to connect to the database.

- \*\*Delay Closing Idle Connection\*\*: The number of seconds to wait before considering idle connections eligible for closing.

- \*\*Query Batching\*\*: The way to send queries to the database:

- \*\*Single Query\*\*: A single query for all incoming items.

- \*\*Independently\*\*: Execute one query per incoming item of the execution.

- \*\*Transaction\*\*: Execute all queries in a transaction. If a failure occurs, Postgres rolls back all changes.

- \*\*Output Large-Format Numbers As\*\*: The format to output `NUMERIC` and `BIGINT` columns as:

- \*\*Numbers\*\*: Use this for standard numbers.

- \*\*Text\*\*: Use this if you expect numbers longer than 16 digits. Without this, numbers may be incorrect.

### Execute Query

Use this operation to execute an SQL query.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Postgres credential](/integrations/builtin/credentials/postgres.md).

- \*\*Operation\*\*: Select \*\*Execute Query\*\*.

- \*\*Query\*\*: The SQL query to execute. You can use n8n [expressions](/code/expressions.md) and tokens like `$1`, `$2`, and `$3` to build [prepared statements](https://www.postgresql.org/docs/current/sql-prepare.html) to use with [query parameters](#use-query-parameters).

#### Execute Query options

- \*\*Connection Timeout\*\*: The number of seconds to try to connect to the database.

- \*\*Delay Closing Idle Connection\*\*: The number of seconds to wait before considering idle connections eligible for closing.

- \*\*Query Batching\*\*: The way to send queries to the database:

- \*\*Single Query\*\*: A single query for all incoming items.

- \*\*Independently\*\*: Execute one query per incoming item of the execution.

- \*\*Transaction\*\*: Execute all queries in a transaction. If a failure occurs, Postgres rolls back all changes.

- \*\*Query Parameters\*\*: A comma-separated list of values that you want to use as [query parameters](#use-query-parameters).

- \*\*Output Large-Format Numbers As\*\*: The format to output `NUMERIC` and `BIGINT` columns as:

- \*\*Numbers\*\*: Use this for standard numbers.

- \*\*Text\*\*: Use this if you expect numbers longer than 16 digits. Without this, numbers may be incorrect.

- \*\*Replace Empty Strings with NULL\*\*: Whether to replace empty strings with NULL in input. This may be useful when working with data exported from spreadsheet software.

### Insert

Use this operation to insert rows in a table.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Postgres credential](/integrations/builtin/credentials/postgres.md).

- \*\*Operation\*\*: Select \*\*Insert\*\*.

- \*\*Schema\*\*: Choose the schema that contains the table you want to work on. Select \*\*From list\*\* to choose the schema from the dropdown list or \*\*By Name\*\* to enter the schema name.

- \*\*Table\*\*: Choose the table that you want to work on. Select \*\*From list\*\* to choose the table from the dropdown list or \*\*By Name\*\* to enter the table name.

- \*\*Mapping Column Mode\*\*: How to map column names to incoming data:

- \*\*Map Each Column Manually\*\*: Select the values to use for each column.

- \*\*Map Automatically\*\*: Automatically map incoming data to matching column names in Postgres. The incoming data field names must match the column names in Postgres for this to work. If necessary, consider using the [edit fields (set) node](https://docs.n8n.io/integrations/builtin/core-nodes/n8n-nodes-base.set/) before this node to adjust the format as needed.

#### Insert options

- \*\*Connection Timeout\*\*: The number of seconds to try to connect to the database.

- \*\*Delay Closing Idle Connection\*\*: The number of seconds to wait before considering idle connections eligible for closing.

- \*\*Query Batching\*\*: The way to send queries to the database:

- \*\*Single Query\*\*: A single query for all incoming items.

- \*\*Independently\*\*: Execute one query per incoming item of the execution.

- \*\*Transaction\*\*: Execute all queries in a transaction. If a failure occurs, Postgres rolls back all changes.

- \*\*Output Columns\*\*: Choose which columns to output. You can select from a list of available columns or specify IDs using [expressions](/code/expressions.md).

- \*\*Output Large-Format Numbers As\*\*: The format to output `NUMERIC` and `BIGINT` columns as:

- \*\*Numbers\*\*: Use this for standard numbers.

- \*\*Text\*\*: Use this if you expect numbers longer than 16 digits. Without this, numbers may be incorrect.

- \*\*Skip on Conflict\*\*: Whether to skip the row if the insert violates a unique or exclusion constraint instead of throwing an error.

- \*\*Replace Empty Strings with NULL\*\*: Whether to replace empty strings with NULL in input. This may be useful when working with data exported from spreadsheet software.

### Insert or Update

Use this operation to insert or update rows in a table.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Postgres credential](/integrations/builtin/credentials/postgres.md).

- \*\*Operation\*\*: Select \*\*Insert or Update\*\*.

- \*\*Schema\*\*: Choose the schema that contains the table you want to work on. Select \*\*From list\*\* to choose the schema from the dropdown list or \*\*By Name\*\* to enter the schema name.

- \*\*Table\*\*: Choose the table that you want to work on. Select \*\*From list\*\* to choose the table from the dropdown list or \*\*By Name\*\* to enter the table name.

- \*\*Mapping Column Mode\*\*: How to map column names to incoming data:

- \*\*Map Each Column Manually\*\*: Select the values to use for each column.

- \*\*Map Automatically\*\*: Automatically map incoming data to matching column names in Postgres. The incoming data field names must match the column names in Postgres for this to work. If necessary, consider using the [edit fields (set) node](https://docs.n8n.io/integrations/builtin/core-nodes/n8n-nodes-base.set/) before this node to adjust the format as needed.

#### Insert or Update options

- \*\*Connection Timeout\*\*: The number of seconds to try to connect to the database.

- \*\*Delay Closing Idle Connection\*\*: The number of seconds to wait before considering idle connections eligible for closing.

- \*\*Query Batching\*\*: The way to send queries to the database:

- \*\*Single Query\*\*: A single query for all incoming items.

- \*\*Independently\*\*: Execute one query per incoming item of the execution.

- \*\*Transaction\*\*: Execute all queries in a transaction. If a failure occurs, Postgres rolls back all changes.

- \*\*Output Columns\*\*: Choose which columns to output. You can select from a list of available columns or specify IDs using [expressions](/code/expressions.md).

- \*\*Output Large-Format Numbers As\*\*: The format to output `NUMERIC` and `BIGINT` columns as:

- \*\*Numbers\*\*: Use this for standard numbers.

- \*\*Text\*\*: Use this if you expect numbers longer than 16 digits. Without this, numbers may be incorrect.

- \*\*Replace Empty Strings with NULL\*\*: Whether to replace empty strings with NULL in input. This may be useful when working with data exported from spreadsheet software.

### Select

Use this operation to select rows in a table.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Postgres credential](/integrations/builtin/credentials/postgres.md).

- \*\*Operation\*\*: Select \*\*Select\*\*.

- \*\*Schema\*\*: Choose the schema that contains the table you want to work on. Select \*\*From list\*\* to choose the schema from the dropdown list or \*\*By Name\*\* to enter the schema name.

- \*\*Table\*\*: Choose the table that you want to work on. Select \*\*From list\*\* to choose the table from the dropdown list or \*\*By Name\*\* to enter the table name.

- \*\*Return All\*\*: Whether to return all results or only up to a given limit.

- \*\*Limit\*\*: The maximum number of items to return when \*\*Return All\*\* is disabled.

- \*\*Select Rows\*\*: Set the conditions to select rows. Define a \*\*Column\*\*, \*\*Operator\*\*, and \*\*Value\*\* to match rows on. If you don't select anything, Postgres selects all rows.

- \*\*Combine Conditions\*\*: How to combine the conditions in \*\*Select Rows\*\*. \*\*AND\*\* requires all conditions to be true, while \*\*OR\*\* requires at least one condition to be true.

- \*\*Sort\*\*: Choose how to sort the selected rows. Choose a \*\*Column\*\* from a list or by ID and a sort \*\*Direction\*\*.

#### Select options

- \*\*Connection Timeout\*\*: The number of seconds to try to connect to the database.

- \*\*Delay Closing Idle Connection\*\*: The number of seconds to wait before considering idle connections eligible for closing.

- \*\*Query Batching\*\*: The way to send queries to the database:

- \*\*Single Query\*\*: A single query for all incoming items.

- \*\*Independently\*\*: Execute one query per incoming item of the execution.

- \*\*Transaction\*\*: Execute all queries in a transaction. If a failure occurs, Postgres rolls back all changes.

- \*\*Output Columns\*\*: Choose which columns to output. You can select from a list of available columns or specify IDs using [expressions](/code/expressions.md).

- \*\*Output Large-Format Numbers As\*\*: The format to output `NUMERIC` and `BIGINT` columns as:

- \*\*Numbers\*\*: Use this for standard numbers.

- \*\*Text\*\*: Use this if you expect numbers longer than 16 digits. Without this, numbers may be incorrect.

### Update

Use this operation to update rows in a table.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Postgres credential](/integrations/builtin/credentials/postgres.md).

- \*\*Operation\*\*: Select \*\*Update\*\*.

- \*\*Schema\*\*: Choose the schema that contains the table you want to work on. Select \*\*From list\*\* to choose the schema from the dropdown list or \*\*By Name\*\* to enter the schema name.

- \*\*Table\*\*: Choose the table that you want to work on. Select \*\*From list\*\* to choose the table from the dropdown list or \*\*By Name\*\* to enter the table name.

- \*\*Mapping Column Mode\*\*: How to map column names to incoming data:

- \*\*Map Each Column Manually\*\*: Select the values to use for each column.

- \*\*Map Automatically\*\*: Automatically map incoming data to matching column names in Postgres. The incoming data field names must match the column names in Postgres for this to work. If necessary, consider using the [edit fields (set) node](https://docs.n8n.io/integrations/builtin/core-nodes/n8n-nodes-base.set/) before this node to adjust the format as needed.

#### Update options

- \*\*Connection Timeout\*\*: The number of seconds to try to connect to the database.

- \*\*Delay Closing Idle Connection\*\*: The number of seconds to wait before considering idle connections eligible for closing.

- \*\*Query Batching\*\*: The way to send queries to the database:

- \*\*Single Query\*\*: A single query for all incoming items.

- \*\*Independently\*\*: Execute one query per incoming item of the execution.

- \*\*Transaction\*\*: Execute all queries in a transaction. If a failure occurs, Postgres rolls back all changes.

- \*\*Output Columns\*\*: Choose which columns to output. You can select from a list of available columns or specify IDs using [expressions](/code/expressions.md).

- \*\*Output Large-Format Numbers As\*\*: The format to output `NUMERIC` and `BIGINT` columns as:

- \*\*Numbers\*\*: Use this for standard numbers.

- \*\*Text\*\*: Use this if you expect numbers longer than 16 digits. Without this, numbers may be incorrect.

- \*\*Replace Empty Strings with NULL\*\*: Whether to replace empty strings with NULL in input. This may be useful when working with data exported from spreadsheet software.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'postgres') ]]

## Related resources

n8n provides a trigger node for Postgres. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.postgrestrigger.md).

## Use query parameters

When creating a query to run on a Postgres database, you can use the \*\*Query Parameters\*\* field in the \*\*Options\*\* section to load data into the query. n8n sanitizes data in query parameters, which prevents SQL injection.

For example, you want to find a person by their email address. Given the following input data:

```js

[

{

"email": "alex@example.com",

"name": "Alex",

"age": 21

},

{

"email": "jamie@example.com",

"name": "Jamie",

"age": 33

}

]

```

You can write a query like:

```sql

SELECT \* FROM $1:name WHERE email = $2;

```

Then in \*\*Query Parameters\*\*, provide the field values to use. You can provide fixed values or expressions. For this example, use expressions so the node can pull the email address from each input item in turn:

```js

// users is an example table name

{{ [ 'users', $json.email ] }}

```

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Supabase node common issues

description: Documentation for common issues and questions in the Supabase node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Supabase node common issues

Here are some common errors and issues with the [Supabase node](/integrations/builtin/app-nodes/n8n-nodes-base.supabase/index.md) and steps to resolve or troubleshoot them.

## Filtering rows by metadata

To filter rows by [Supabase metadata](https://supabase.com/docs/guides/ai/python/metadata), set the \*\*Select Type\*\* to \*\*String\*\*.

From there, you can construct a query in the \*\*Filters (String)\*\* parameter to filter the metadata using the [Supabase metadata query language](https://supabase.com/docs/guides/ai/python/metadata#metadata-query-language), inspired by the [MongoDB selectors](https://www.mongodb.com/docs/manual/reference/operator/query/) format. Access the metadata properties using the [Postgres `->>` arrow JSON operator](https://www.postgresql.org/docs/current/functions-json.html#FUNCTIONS-JSON-PROCESSING) like this (curly brackets denote components to fill in):

```

metadata->>{your-property}={comparison-operator}.{comparison-value}

```

For example to access an `age` property in the metadata and return results greater than or equal to 21, you could enter the following in the \*\*Filters (String)\*\* field:

```

metadata->>age=gte.21

```

You can combine these operators to construct more complex queries.

## Can't connect to a local Supabase database when using Docker

When you run Supabase in Docker, you need to configure the network so that n8n can connect to Supabase.

The solution depends on how you're hosting the two components.

### If only Supabase is in Docker

If only Supabase is running in Docker, the Docker Compose file used by the [self-hosting guide](https://supabase.com/docs/guides/self-hosting/docker) already runs Supabase bound to the correct interfaces.

When configuring [Supabase credentials](/integrations/builtin/credentials/supabase.md), the `localhost` address should work without a problem (set the \*\*Host\*\* to `localhost`).

### If Supabase and n8n are running in separate Docker containers

If both n8n and Supabase are running in Docker in separate containers, you can use Docker networking to connect them.

Configure Supabase to listen on all interfaces by binding to `0.0.0.0` inside of the container (the official [Docker compose configuration](https://supabase.com/docs/guides/self-hosting/docker) already does this this). Add both the Supabase and n8n components to the same [user-defined bridge network](https://docs.docker.com/engine/network/drivers/bridge/) if you aren't already managing them together in the same Docker Compose file.

When configuring [Supabase credentials](/integrations/builtin/credentials/supabase.md), use the Supabase API gateway container's name (`supabase-kong` by default) as the host address instead of `localhost`. For example, if you use the default configuration, you would set the \*\*Host\*\* to `http://supabase-kong:8000`.

## Records are accessible through Postgres but not Supabase

If queries for records return empty using the Supabase node, but are available through the [Postgres](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md) node or with a Postgres client, there may be a conflict with Supabase's [Row Level Security (RLS)](https://supabase.com/docs/guides/database/postgres/row-level-security) policy.

Supabase always enables RLS when you create a table in a public schema with the Table Editor. When RLS is active, the API doesn't return any data with the public `anon` key until you create policies. This is a security measure to ensure that you only expose data you intend to.

To access data from a table with RLS enabled as the `anon` role, [create a policy](https://supabase.com/docs/guides/database/postgres/row-level-security#creating-policies) to enable the access patterns you intend to use.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Supabase node documentation

description: Learn how to use the Supabase node in n8n. Follow technical documentation to integrate Supabase node into your workflows.

contentType: [integration, reference]

priority: high

---

# Supabase node

Use the Supabase node to automate work in Supabase, and integrate Supabase with other applications. n8n has built-in support for a wide range of Supabase features, including creating, deleting, and getting rows.

On this page, you'll find a list of operations the Supabase node supports and links to more resources.

/// note | Credentials

Refer to [Supabase credentials](/integrations/builtin/credentials/supabase.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Operations

\* Row

\* Create a new row

\* Delete a row

\* Get a row

\* Get all rows

\* Update a row

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'supabase') ]]

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common issues](/integrations/builtin/app-nodes/n8n-nodes-base.supabase/common-issues.md).

## callback-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram node Callback operations documentation

description: Documentation for the Callback operations in the Telegram node in n8n, a workflow automation platform. Includes details to configure all Callback operations.

contentType: [integration, reference]

priority: critical

---

# Telegram node Callback operations

Use these operations to respond to callback queries sent from the in-line keyboard or in-line queries. Refer to [Telegram](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) for more information on the Telegram node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Answer Query

Use this operation to send answers to callback queries sent from [inline keyboards](https://core.telegram.org/bots/features#inline-keyboards){:target=\_blank .external-link} using the Bot API [answerCallbackQuery](https://core.telegram.org/bots/api#answercallbackquery){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Callback\*\*.

\* \*\*Operation\*\*: Select \*\*Answer Query\*\*.

\* \*\*Query ID\*\*: Enter the unique identifier of the query you want to answer.

\* To feed a Query ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node triggered on the \*\*Callback Query\*\*.

\* \*\*Results\*\*: Enter a JSON-serialized array of results you want to use as answers to the query. Refer to the Telegram [InlineQueryResults](https://core.telegram.org/bots/api#inlinequeryresult){:target=\_blank .external-link} documentation for more information on formatting your array.

Refer to the Telegram Bot API [answerCallbackQuery](https://core.telegram.org/bots/api#answercallbackquery){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Answer Query additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Cache Time\*\*: Enter the maximum amount of time in seconds that the client may cache the result of the callback query. Telegram defaults to `0` seconds for this method.

\* \*\*Show Alert\*\*: Telegram can display the answer as a notification at the top of the chat screen or as an alert. Choose whether you want to keep the default notification display (turned off) or display the answer as an alert (turned on).

\* \*\*Text\*\*: If you want the answer to show text, enter up to 200 characters of text here.

\* \*\*URL\*\*: Enter a URL that will be opened by the user's client. Refer to the \*\*url\*\* parameter instructions at the Telegram Bot API [answerCallbackQuery](https://core.telegram.org/bots/api#answercallbackquery){:target=\_blank .external-link} documentation for more information.

<!-- vale on -->

## Answer Inline Query

Use this operation to send answers to callback queries sent from inline queries using the Bot API [answerInlineQuery](https://core.telegram.org/bots/api#answerinlinequery){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Callback\*\*.

\* \*\*Operation\*\*: Select \*\*Answer Inline Query\*\*.

\* \*\*Query ID\*\*: Enter the unique identifier of the query you want to answer.

\* To feed a Query ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node triggered on the \*\*Inline Query\*\*.

\* \*\*Results\*\*: Enter a JSON-serialized array of results you want to use as answers to the query. Refer to the Telegram [InlineQueryResults](https://core.telegram.org/bots/api#inlinequeryresult){:target=\_blank .external-link} documentation for more information on formatting your array.

Telegram allows a maximum of 50 results per query.

Refer to the Telegram Bot API [answerInlineQuery](https://core.telegram.org/bots/api#answerinlinequery){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Answer Inline Query additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Cache Time\*\*: The maximum amount of time in seconds that the client may cache the result of the callback query. Telegram defaults to `300` seconds for this method.

\* \*\*Show Alert\*\*: Telegram can display the answer as a notification at the top of the chat screen or as an alert. Choose whether you want to keep the default notification display (turned off) or display the answer as an alert (turned on).

\* \*\*Text\*\*: If you want the answer to show text, enter up to 200 characters of text here.

\* \*\*URL\*\*: Enter a URL that the user's client will open.

<!-- vale on -->

## chat-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram node Chat operations documentation

description: Documentation for the Chat operations in the Telegram node in n8n, a workflow automation platform. Includes details to configure all Chat operations.

contentType: [integration, reference]

priority: critical

---

# Telegram node Chat operations

Use these operations to get information about chats, members, administrators, leave chat, and set chat titles and descriptions. Refer to [Telegram](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) for more information on the Telegram node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Get Chat

Use this operation to get up to date information about a chat using the Bot API [getChat](https://core.telegram.org/bots/api#getchat){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Chat\*\*.

\* \*\*Operation\*\*: Select \*\*Get\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the target channel in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

Refer to the Telegram Bot API [getChat](https://core.telegram.org/bots/api#getchat){:target=\_blank .external-link} documentation for more information.

## Get Administrators

Use this operation to get a list of all administrators in a chat using the Bot API [getChatAdministrators](https://core.telegram.org/bots/api#getchatadministrators){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Chat\*\*.

\* \*\*Operation\*\*: Select \*\*Get Administrators\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the target channel in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

Refer to the Telegram Bot API [getChatAdministrators](https://core.telegram.org/bots/api#getchatadministrators){:target=\_blank .external-link} documentation for more information.

## Get Chat Member

Use this operation to get the details of a chat member using the Bot API [getChatMember](https://core.telegram.org/bots/api#getchatmember){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Chat\*\*.

\* \*\*Operation\*\*: Select \*\*Get Member\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the target channel in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*User ID\*\*: Enter the unique identifier of the user whose information you want to get.

Refer to the Telegram Bot API [getChatMember](https://core.telegram.org/bots/api#getchatmember){:target=\_blank .external-link} documentation for more information.

## Leave Chat

Use this operation to leave a chat using the Bot API [leaveChat](https://core.telegram.org/bots/api#leavechat){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Chat\*\*.

\* \*\*Operation\*\*: Select \*\*Leave\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to leave in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

Refer to the Telegram Bot API [leaveChat](https://core.telegram.org/bots/api#leavechat){:target=\_blank .external-link} documentation for more information.

## Set Description

Use this operation to set the description of a chat using the Bot API [setChatDescription](https://core.telegram.org/bots/api#setchatdescription){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Chat\*\*.

\* \*\*Operation\*\*: Select \*\*Set Description\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to leave in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Description\*\*: Enter the new description you'd like to set the chat to use, maximum of 255 characters.

Refer to the Telegram Bot API [setChatDescription](https://core.telegram.org/bots/api#setchatdescription){:target=\_blank .external-link} documentation for more information.

## Set Title

Use this operation to set the title of a chat using the Bot API [setChatTitle](https://core.telegram.org/bots/api#setchattitle){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Chat\*\*.

\* \*\*Operation\*\*: Select \*\*Set Title\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to leave in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Title\*\*: Enter the new title you'd like to set the chat to use, maximum of 255 characters.

Refer to the Telegram Bot API [setChatTitle](https://core.telegram.org/bots/api#setchattitle){:target=\_blank .external-link} documentation for more information.

## common-issues.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram node common issues

description: Documentation for common issues and questions in the Telegram node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# Telegram node common issues

Here are some common errors and issues with the [Telegram node](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) and steps to resolve or troubleshoot them.

## Add a bot to a Telegram channel

For a bot to send a message to a channel, you must add the bot to the channel. If you haven't added the bot to the channel, you'll see an error with a description like:

`Error: Forbidden: bot is not a participant of the channel`.

To add a bot to a channel:

1. In the Telegram app, access the target channel and select the channel name.

2. Label the channel name as \*\*public channel\*\*.

3. Select \*\*Administrators\*\* > \*\*Add Admin\*\*.

4. Search for the bot's username and select it.

5. Select the checkmark on the top-right corner to add the bot to the channel.

## Get the Chat ID

You can only use `@channelusername` on public channels. To interact with a Telegram group, you need that group's Chat ID.

There are three ways to get that ID:

1. From the Telegram Trigger: Use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node in your workflow to get a Chat ID. This node can trigger on different events and returns a Chat ID on successful execution.

2. From your web browser: Open Telegram in a web browser and open the group chat. The group's Chat ID is the series of digits behind the letter "g." Prefix your group Chat ID with a `-` when you enter it in n8n.

3. Invite Telegram's [@RawDataBot](https://t.me/RawDataBot){:target=\_blank .external-link} to the group: Once you add it, the bot outputs a JSON file that includes a `chat` object. The `id` for that object is the group Chat ID. Then remove the RawDataBot from your group.

## Send more than 30 messages per second

The Telegram API has a [limitation](https://core.telegram.org/bots/faq#broadcasting-to-users){:target=\_blank .external-link} of sending only 30 messages per second. Follow these steps to send more than 30 messages:

1. \*\*Loop Over Items node\*\*: Use the [Loop Over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) node to get at most 30 chat IDs from your database.

2. \*\*Telegram node\*\*: Connect the Telegram node with the Loop Over Items node. Use the \*\*Expression Editor\*\* to select the Chat IDs from the Loop Over Items node.

3. \*\*Code node\*\*: Connect the [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) node with the Telegram node. Use the Code node to wait for a few seconds before fetching the next batch of chat IDs. Connect this node with the Loop Over Items node.

You can also use this [workflow](https://n8n.io/workflows/772){:target=\_blank .external-link}.

## Remove the n8n attribution from sent messages

If you're using the node to [send Telegram messages](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-message), the message automatically gets an n8n attribution appended to the end:

> This message was sent automatically with n8n

To remove this attribution:

1. In the node's \*\*Additional Fields\*\* section, select \*\*Add Field\*\*.

2. Select \*\*Append n8n attribution\*\*.

3. Turn the toggle off.

Refer to [Send Message additional fields](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-message-additional-fields) for more information.

## file-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram node File operations documentation

description: Documentation for the File operations in the Telegram node in n8n, a workflow automation platform. Includes details to configure all File operations.

contentType: [integration, reference]

priority: critical

---

# Telegram node File operations

Use this operation to get a file from Telegram. Refer to [Telegram](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) for more information on the Telegram node itself.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Get File

Use this operation to get a file from Telegram using the Bot API [getFile](https://core.telegram.org/bots/api#getfile){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*File\*\*.

\* \*\*Operation\*\*: Select \*\*Get\*\*.

\* \*\*File ID\*\*: Enter the ID of the file you want to get.

\* \*\*Download\*\*: Choose whether you want the node to download the file (turned on) or not (turned off).

Refer to the Telegram Bot API [getFile](https://core.telegram.org/bots/api#getfile){:target=\_blank .external-link} documentation for more information.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram node documentation

description: Documentation for the Telegram node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

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# Telegram node

Use the Telegram node to automate work in [Telegram](https://telegram.org/){:target=\_blank .external-link} and integrate Telegram with other applications. n8n has built-in support for a wide range of Telegram features, including getting files as well as deleting and editing messages.

On this page, you'll find a list of operations the Telegram node supports and links to more resources.

/// note | Credentials

Refer to [Telegram credentials](/integrations/builtin/credentials/telegram.md) for guidance on setting up authentication.

///

## Operations

\* [\*\*Chat\*\* operations](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/chat-operations.md)

\* [\*\*Get\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/chat-operations.md#get-chat) up-to-date information about a chat.

\* [\*\*Get Administrators\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/chat-operations.md#get-administrators): Get a list of all administrators in a chat.

\* [\*\*Get Member\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/chat-operations.md#get-chat-member): Get the details of a chat member.

\* [\*\*Leave\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/chat-operations.md#leave-chat) a chat.

\* [\*\*Set Description\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/chat-operations.md#set-description) of a chat.

\* [\*\*Set Title\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/chat-operations.md#set-title) of a chat.

\* [\*\*Callback\*\* operations](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/callback-operations.md)

\* [\*\*Answer Query\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/callback-operations.md#answer-query): Send answers to callback queries sent from [inline keyboards](https://core.telegram.org/bots/features#inline-keyboards){:target=\_blank .external-link}.

\* [\*\*Answer Inline Query\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/callback-operations.md#answer-inline-query): Send answers to callback queries sent from inline queries.

\* [\*\*File\*\* operations](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/file-operations.md)

\* [\*\*Get File\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/file-operations.md#get-file) from Telegram.

\* [\*\*Message\*\* operations](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md)

\* [\*\*Delete Chat Message\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#delete-chat-message).

\* [\*\*Edit Message Text\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#edit-message-text): Edit the text of an existing message.

\* [\*\*Pin Chat Message\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#pin-chat-message) for the chat.

\* [\*\*Send Animation\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-animation) to the chat.

\* For use with GIFs or H.264/MPEG-4 AVC videos without sound up to 50 MB in size.

\* [\*\*Send Audio\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-audio) file to the chat and display it in the music player.

\* [\*\*Send Chat Action\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-chat-action): Tell the user that something is happening on the bot's side. The status is set for 5 seconds or less.

\* [\*\*Send Document\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-document) to the chat.

\* [\*\*Send Location\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-location): Send a geolocation to the chat.

\* [\*\*Send Media Group\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-media-group): Send a group of photos and/or videos.

\* [\*\*Send Message\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-message) to the chat.

\* [\*\*Send Photo\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-photo) to the chat.

\* [\*\*Send Sticker\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-sticker) to the chat.

\* For use with static .WEBP, animated .TGS, or video .WEBM stickers.

\* [\*\*Send Video\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#send-video) to the chat.

\* [\*\*Unpin Chat Message\*\*](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/message-operations.md#unpin-chat-message) from the chat.

/// note | Add bot to channel

To use most of the \*\*Message\*\* operations, you must add your bot to a channel so that it can send messages to that channel. Refer to [Common Issues | Add a bot to a Telegram channel](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#add-a-bot-to-a-telegram-channel) for more information.

///

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'telegram') ]]

## Related resources

Refer to [Telegram's API documentation](https://core.telegram.org/bots/api){:target=\_blank .external-link} for more information about the service.

n8n provides a trigger node for Telegram. Refer to the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md).

## message-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram node Message operations documentation

description: Documentation for the Message operations in the Telegram node in n8n, a workflow automation platform. Includes details to configure all Message operations.

contentType: [integration, reference]

priority: critical

---

# Telegram node Message operations

Use these operations to send, edit, and delete messages in a chat; send files to a chat; and pin/unpin message from a chat. Refer to [Telegram](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) for more information on the Telegram node itself.

/// note | Add bot to channel

To use most of these operations, you must add your bot to a channel so that it can send messages to that channel. Refer to [Common Issues | Add a bot to a Telegram channel](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#add-a-bot-to-a-telegram-channel) for more information.

///

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## Delete Chat Message

Use this operation to delete a message from chat using the Bot API [deleteMessage](https://core.telegram.org/bots/api#deletemessage){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Delete Chat Message\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to delete in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Message ID\*\*: Enter the unique identifier of the message you want to delete.

Refer to the Telegram Bot API [deleteMessage](https://core.telegram.org/bots/api#deletemessage){:target=\_blank .external-link} documentation for more information.

## Edit Message Text

Use this operation to edit the text of an existing message using the Bot API [editMessageText](https://core.telegram.org/bots/api#editmessagetext){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Edit Message Text\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to leave in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Message ID\*\*: Enter the unique identifier of the message you want to edit.

\* \*\*Reply Markup\*\*: Select whether to use the \*\*Inline Keyboard\*\* to display the InlineKeyboardMarkup \*\*None\*\* not to. This sets the `reply\_markup` parameter. Refer to the [InlineKeyboardMarkup](https://core.telegram.org/bots/api#inlinekeyboardmarkup){:target=\_blank .external-link} documentation for more information.

\* \*\*Text\*\*: Enter the text you want to edit the message to.

Refer to the Telegram Bot API [editMessageText](https://core.telegram.org/bots/api#editmessagetext){:target=\_blank .external-link} documentation for more information.

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### Edit Message Text additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Disable WebPage Preview\*\*: Select whether you want to enable link previews for links in this message (turned off) or disable link previews for links in this message (turned on). This sets the `link\_preview\_options` parameter for `is\_disabled`. Refer to the [LinkPreviewOptions](https://core.telegram.org/bots/api#linkpreviewoptions){:target=\_blank .external-link} documentation for more information.

\* \*\*Parse Mode\*\*: Choose whether the message should be parsed using \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, or \*\*MarkdownV2\*\*. This sets the `parse\_mode` parameter.

<!-- vale on -->

## Pin Chat Message

Use this operation to pin a message for the chat using the Bot API [pinChatMessage](https://core.telegram.org/bots/api#pinchatmessage){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Pin Chat Message\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to pin the message to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Message ID\*\*: Enter the unique identifier of the message you want to pin.

Refer to the Telegram Bot API [pinChatMessage](https://core.telegram.org/bots/api#pinchatmessage){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Pin Chat Message additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Disable Notifications\*\*: By default, Telegram will notify all chat members that the message has been pinned. If you don't want these notifications to go out, turn this control on. Sets the `disable\_notification` parameter to `true`.

<!-- vale on -->

## Send Animation

Use this operation to send GIFs or H.264/MPEG-4 AVC videos without sound up to 50 MB in size to the chat using the Bot API [sendAnimation](https://core.telegram.org/bots/api#sendanimation){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Animation\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the animation to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Binary File\*\*: To send a binary file from the node itself, turn this option on. If you turn this parameter on, you must enter the \*\*Input Binary Field\*\* containing the file you want to send.

\* \*\*Animation\*\*: If you aren't using the \*\*Binary File\*\*, enter the animation to send here. Pass a `file\_id` to send a file that exists on the Telegram servers (recommended) or an HTTP URL for Telegram to get a file from the internet.

\* \*\*Reply Markup\*\*: Use this parameter to set more interface options. Refer to [Reply Markup parameters](#reply-markup-parameters) for more information on these options and how to use them.

Refer to the Telegram Bot API [sendAnimation](https://core.telegram.org/bots/api#sendanimation){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Send Animation additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendAnimation method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Caption\*\*: Enter a caption text for the animation, max of 1024 characters.

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Duration\*\*: Enter the animation's duration in seconds.

\* \*\*Height\*\*: Enter the height of the animation.

\* \*\*Parse Mode\*\*: Enter the parser to use for any related text. Options include \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, \*\*MarkdownV2\*\*. Refer to Telegram's [Formatting options](https://core.telegram.org/bots/api#formatting-options){:target=\_blank .external-link} for more information on these options.

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

\* \*\*Thumbnail\*\*: Add the thumbnail of the file sent. Ignore this field if thumbnail generation for the file is supported server-side. The thumbnail should meet these specs:

\* JPEG format

\* Less than 200 KB in size

\* Width and height less than 320px.

\* \*\*Width\*\*: Enter the width of the video clip.

<!-- vale on -->

### Send Audio

Use this operation to send an audio file to the chat and display it in the music player using the Bot API [sendAudio](https://core.telegram.org/bots/api#sendaudio){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Audio\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the audio to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Binary File\*\*: To send a binary file from the node itself, turn this option on. If you turn this parameter on, you must enter the \*\*Input Binary Field\*\* containing the file you want to send.

\* \*\*Audio\*\*: If you aren't using the \*\*Binary File\*\*, enter the audio to send here. Pass a `file\_id` to send a file that exists on the Telegram servers (recommended) or an HTTP URL for Telegram to get a file from the internet.

\* \*\*Reply Markup\*\*: Use this parameter to set more interface options. Refer to [Reply Markup parameters](#reply-markup-parameters) for more information on these options and how to use them.

Refer to the Telegram Bot API [sendAudio](https://core.telegram.org/bots/api#sendaudio){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Send Audio additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendAudio method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Caption\*\*: Enter a caption text for the audio, max of 1024 characters.

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Duration\*\*: Enter the audio's duration in seconds.

\* \*\*Parse Mode\*\*: Enter the parser to use for any related text. Options include \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, \*\*MarkdownV2\*\*. Refer to Telegram's [Formatting options](https://core.telegram.org/bots/api#formatting-options){:target=\_blank .external-link} for more information on these options.

\* \*\*Performer\*\*: Enter the name of the performer.

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

\* \*\*Title\*\*: Enter the audio track's name.

\* \*\*Thumbnail\*\*: Add the thumbnail of the file sent. Ignore this field if thumbnail generation for the file is supported server-side. The thumbnail should meet these specs:

\* JPEG format

\* Less than 200 KB in size

\* Width and height less than 320px.

<!-- vale on -->

## Send Chat Action

Use this operation when you need to tell the user that something is happening on the bot's side. The status is set for 5 seconds or less using the Bot API [sendChatAction](https://core.telegram.org/bots/api#sendchataction){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Chat Action\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the chat action to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Action\*\*: Select the action you'd like to broadcast the bot as taking. The options here include: \*\*Find Location\*\*, \*\*Typing\*\*, \*\*Recording\*\* audio or video, and \*\*Uploading\*\* file types.

Refer to Telegram's Bot API [sendChatAction](https://core.telegram.org/bots/api#sendchataction){:target=\_blank .external-link} documentation for more information.

## Send Document

Use this operation to send a document to the chat using the Bot API [sendDocument](https://core.telegram.org/bots/api#senddocument){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Document\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the document to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Binary File\*\*: To send a binary file from the node itself, turn this option on. If you turn this parameter on, you must enter the \*\*Input Binary Field\*\* containing the file you want to send.

\* \*\*Document\*\*: If you aren't using the \*\*Binary File\*\*, enter the document to send here. Pass a `file\_id` to send a file that exists on the Telegram servers (recommended) or an HTTP URL for Telegram to get a file from the internet.

\* \*\*Reply Markup\*\*: Use this parameter to set more interface options. Refer to [Reply Markup parameters](#reply-markup-parameters) for more information on these options and how to use them.

Refer to Telegram's Bot API [sendDocument](https://core.telegram.org/bots/api#sendchataction){:target=\_blank .external-link} documentation for more information.

<!--vale off-->

### Send Document additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendDocument method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Caption\*\*: Enter a caption text for the file, max of 1024 characters.

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Parse Mode\*\*: Enter the parser to use for any related text. Options include \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, \*\*MarkdownV2\*\*. Refer to [Formatting options](https://core.telegram.org/bots/api#formatting-options){:target=\_blank .external-link} for more information on these options.

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

\* \*\*Thumbnail\*\*: Add the thumbnail of the file sent. Ignore this field if thumbnail generation for the file is supported server-side. The thumbnail should meet these specs:

\* JPEG format

\* Less than 200 KB in size

\* Width and height less than 320px.

<!--vale on -->

## Send Location

Use this operation to send a geolocation to the chat using the Bot API [sendLocation](https://core.telegram.org/bots/api#sendlocation){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Location\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the location to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Latitude\*\*: Enter the latitude of the location.

\* \*\*Longitude\*\*: Enter the longitude of the location.

\* \*\*Reply Markup\*\*: Use this parameter to set more interface options. Refer to [Reply Markup parameters](#reply-markup-parameters) for more information on these options and how to use them.

Refer to Telegram's Bot API [sendLocation](https://core.telegram.org/bots/api#sendlocation){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Send Location additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendLocation method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

<!-- vale on -->

## Send Media Group

Use this operation to send a group of photos and/or videos using the Bot API [sendMediaGroup](https://core.telegram.org/bots/api#sendmediagroup){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Media Group\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the media group to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Media\*\*: Use \*\*Add Media\*\* to add different media types to your media group. For each medium, select:

\* \*\*Type\*\*: The type of media this is. Choose from \*\*Photo\*\* and \*\*Video\*\*.

\* \*\*Media File\*\*: Enter the media file to send. Pass a `file\_id` to send a file that exists on the Telegram servers (recommended) or an HTTP URL for Telegram to get a file from the internet.

\* \*\*Additional Fields\*\*: For each media file, you can choose to add these fields:

\* \*\*Caption\*\*: Enter a caption text for the file, max of 1024 characters.

\* \*\*Parse Mode\*\*: Enter the parser to use for any related text. Options include \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, \*\*MarkdownV2\*\*. Refer to [Formatting options](https://core.telegram.org/bots/api#formatting-options){:target=\_blank .external-link} for more information on these options.

Refer to Telegram's Bot API [sendMediaGroup](https://core.telegram.org/bots/api#sendmediagroup){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Send Media Group additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendMediaGroup method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

<!-- vale on -->

## Send Message

Use this operation to send a message to the chat using the Bot API [sendMessage](https://core.telegram.org/bots/api#sendmessage){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Message\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the message to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Text\*\*: Enter the text to send, max 4096 characters after entities parsing.

Refer to Telegram's Bot API [sendMessage](https://core.telegram.org/bots/api#sendmessage){:target=\_blank .external-link} documentation for more information.

/// warning | Send Message limits

Telegram limits the number of messages you can send to 30 per second. If you expect to hit this limit, refer to [Send more than 30 messages per second](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#send-more-than-30-messages-per-second) for a suggested workaround.

///

<!-- vale off -->

### Send Message additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendMessage method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Append n8n Attribution\*\*: Choose whether to include the phrase `This message was sent automatically with n8n` to the end of the message (turned on, default) or not (turned off).

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Disable WebPage Preview\*\*: Select whether you want to enable link previews for links in this message (turned off) or disable link previews for links in this message (turned on). This sets the `link\_preview\_options` parameter for `is\_disabled`. Refer to the [LinkPreviewOptions](https://core.telegram.org/bots/api#linkpreviewoptions){:target=\_blank .external-link} documentation for more information.

\* \*\*Parse Mode\*\*: Enter the parser to use for any related text. Options include \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, \*\*MarkdownV2\*\*. Refer to Telegram's [Formatting options](https://core.telegram.org/bots/api#formatting-options){:target=\_blank .external-link} for more information on these options.

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

<!-- vale on -->

## Send and Wait for Response

Use this operation to send a message to the chat using the Bot API [`sendMessage`](https://core.telegram.org/bots/api#sendmessage) method and pause the workflow execution until the user confirms the operation.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send and Wait for Response\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the message to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Message\*\*: Enter the text to send.

\* \*\*Response Type\*\*: The approval or response type to use:

\* \*\*Approval\*\*: Users can approve or disapprove from within the message.

\* \*\*Free Text\*\*: Users can submit a response with a form.

\* \*\*Custom Form\*\*: Users can submit a response with a custom form.

Refer to Telegram's Bot API [`sendMessage`](https://core.telegram.org/bots/api#sendmessage) documentation for more information.

/// warning | Send Message limits

Telegram limits the number of messages you can send to 30 per second. If you expect to hit this limit, refer to [Send more than 30 messages per second](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#send-more-than-30-messages-per-second) for a suggested workaround.

///

<!-- vale off -->

### Send and Wait for Response additional fields

The additional fields depend on which \*\*Response Type\*\* you choose.

#### Approval

The \*\*Approval\*\* response type adds these options:

\* \*\*Type of Approval\*\*: Whether to present only an approval button or both an approval and disapproval buttons.

\* \*\*Button Label\*\*: The label for the approval or disapproval button. The default choice is `✅ Approve` and `❌ Decline` for approval and disapproval actions respectively.

\* \*\*Limit Wait Time\*\*: Whether the workflow will automatically resume execution after a specified time limit. This can be an interval or a specific wall time.

#### Free Text

When using the Free Text response type, the following options are available:

\* \*\*Message Button Label\*\*: The label to use for message button. The default choice is `Respond`.

\* \*\*Response Form Title\*\*: The title of the form where users provide their response.

\* \*\*Response Form Description\*\*: A description for the form where users provide their response.

\* \*\*Response Form Button Label\*\*: The label for the button on the form to submit their response. The default choice is `Submit`.

\* \*\*Limit Wait Time\*\*: Whether the workflow will automatically resume execution after a specified time limit. This can be an interval or a specific wall time.

#### Custom Form

When using the Custom Form response type, you build a form using the fields and options you want.

You can customize each form element with the settings outlined in the [n8n Form trigger's form elements](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md#form-elements). To add more fields, select the \*\*Add Form Element\*\* button.

The following options are also available:

\* \*\*Message Button Label\*\*: The label to use for message button. The default choice is `Respond`.

\* \*\*Response Form Title\*\*: The title of the form where users provide their response.

\* \*\*Response Form Description\*\*: A description for the form where users provide their response.

\* \*\*Response Form Button Label\*\*: The label for the button on the form to submit their response. The default choice is `Submit`.

\* \*\*Limit Wait Time\*\*: Whether the workflow will automatically resume execution after a specified time limit. This can be an interval or a specific wall time.

<!-- vale on -->

## Send Photo

Use this operation to send a photo to the chat using the Bot API [sendPhoto](https://core.telegram.org/bots/api#sendphoto){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Photo\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the photo to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Binary File\*\*: To send a binary file from the node itself, turn this option on. If you turn this parameter on, you must enter the \*\*Input Binary Field\*\* containing the file you want to send.

\* \*\*Photo\*\*: If you aren't using the \*\*Binary File\*\*, enter the photo to send here. Pass a `file\_id` to send a file that exists on the Telegram servers (recommended) or an HTTP URL for Telegram to get a file from the internet.

\* \*\*Reply Markup\*\*: Use this parameter to set more interface options. Refer to [Reply Markup parameters](#reply-markup-parameters) for more information on these options and how to use them.

Refer to Telegram's Bot API [sendPhoto](https://core.telegram.org/bots/api#sendphoto){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Send Photo additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendPhoto method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Caption\*\*: Enter a caption text for the file, max of 1024 characters.

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Parse Mode\*\*: Enter the parser to use for any related text. Options include \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, \*\*MarkdownV2\*\*. Refer to Telegram's [Formatting options](https://core.telegram.org/bots/api#formatting-options){:target=\_blank .external-link} for more information on these options.

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

<!-- vale on -->

## Send Sticker

Use this method to send static .WEBP, animated .TGS, or video .WEBM stickers using the Bot API [sendSticker](https://core.telegram.org/bots/api#sendsticker){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Sticker\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the sticker to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Binary File\*\*: To send a binary file from the node itself, turn this option on. If you turn this parameter on, you must enter the \*\*Input Binary Field\*\* containing the file you want to send.

\* \*\*Sticker\*\*: If you aren't using the \*\*Binary File\*\*, enter the photo to send here. Pass a `file\_id` to send a file that exists on the Telegram servers (recommended) or an HTTP URL for Telegram to get a file from the internet.

\* \*\*Reply Markup\*\*: Use this parameter to set more interface options. Refer to [Reply Markup parameters](#reply-markup-parameters) for more information on these options and how to use them.

Refer to Telegram's Bot API [sendSticker](https://core.telegram.org/bots/api#sendsticker){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Send Sticker additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendSticker method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

<!-- vale on -->

## Send Video

Use this operation to send a video to the chat using the Bot API [sendVideo](https://core.telegram.org/bots/api#sendvideo){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Send Video\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to send the video to in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Binary File\*\*: To send a binary file from the node itself, turn this option on. If you turn this parameter on, you must enter the \*\*Input Binary Field\*\* containing the file you want to send.

\* \*\*Video\*\*: If you aren't using the \*\*Binary File\*\*, enter the video to send here. Pass a `file\_id` to send a file that exists on the Telegram servers (recommended) or an HTTP URL for Telegram to get a file from the internet.

\* \*\*Reply Markup\*\*: Use this parameter to set more interface options. Refer to [Reply Markup parameters](#reply-markup-parameters) for more information on these options and how to use them.

Refer to Telegram's Bot API [sendVideo](https://core.telegram.org/bots/api#sendvideo){:target=\_blank .external-link} documentation for more information.

<!-- vale off -->

### Send Video additional fields

Use the \*\*Additional Fields\*\* to further refine the behavior of the node using optional fields in Telegram's sendVideo method. Select \*\*Add Field\*\* to add any of the following:

\* \*\*Caption\*\*: Enter a caption text for the video, max of 1024 characters.

\* \*\*Disable Notification\*\*: Choose whether to send the notification silently (turned on) or with a standard notification (turned off).

\* \*\*Duration\*\*: Enter the video's duration in seconds.

\* \*\*Height\*\*: Enter the height of the video.

\* \*\*Parse Mode\*\*: Enter the parser to use for any related text. Options include \*\*HTML\*\* (default), \*\*Markdown (Legacy)\*\*, \*\*MarkdownV2\*\*. Refer to Telegram's [Formatting options](https://core.telegram.org/bots/api#formatting-options){:target=\_blank .external-link} for more information on these options.

\* \*\*Reply To Message ID\*\*: If the message is a reply, enter the ID of the message it's replying to.

\* \*\*Message Thread ID\*\*: Enter a unique identifier for the target message thread (topic) of the forum; for forum supergroups only.

\* \*\*Thumbnail\*\*: Add the thumbnail of the file sent. Ignore this field if thumbnail generation for the file is supported server-side. The thumbnail should meet these specs:

\* JPEG format

\* Less than 200 KB in size

\* Width and height less than 320px.

\* \*\*Width\*\*: Enter the width of the video.

<!-- vale on -->

## Unpin Chat Message

Use this operation to unpin a message from the chat using the Bot API [unpinChatMessage](https://core.telegram.org/bots/api#unpinchatmessage){:target=\_blank .external-link} method.

Enter these parameters:

\* \*\*Credential to connect with\*\*: Create or select an existing [Telegram credential](/integrations/builtin/credentials/telegram.md).

\* \*\*Resource\*\*: Select \*\*Message\*\*.

\* \*\*Operation\*\*: Select \*\*Pin Chat Message\*\*.

\* \*\*Chat ID\*\*: Enter the Chat ID or username of the channel you wish to unpin the message from in the format `@channelusername`.

\* To feed a Chat ID directly into this node, use the [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) node. Refer to [Common Issues | Get the Chat ID](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/common-issues.md#get-the-chat-id) for more information.

\* \*\*Message ID\*\*: Enter the unique identifier of the message you want to unpin.

Refer to the Telegram Bot API [unpinChatMessage](https://core.telegram.org/bots/api#unpinchatmessage){:target=\_blank .external-link} documentation for more information.

## Reply Markup parameters

For most of the \*\*Message\*\* \*\*Send\*\* actions (such as Send Animation, Send Audio), use the \*\*Reply Markup\*\* parameter to set more interface options:

\* \*\*Force Reply\*\*: The Telegram client will act as if the user has selected the bot's message and tapped \*\*Reply\*\*, automatically displaying a reply interface to the user. Refer to [Force Reply parameters](#force-reply-parameters) for further guidance on this option.

\* \*\*Inline Keyboard\*\*: Display an inline keyboard right next to the message. Refer to [Inline Keyboard parameters](#inline-keyboard-parameters) for further guidance on this option.

\* \*\*Reply Keyboard\*\*: Display a custom keyboard with reply options. Refer to [Reply Keyboard parameters](#reply-keyboard-parameters) for further guidance on this option.

\* \*\*Reply Keyboard Remove\*\*: The Telegram client will remove the current custom keyboard and display the default letter-keyboard. Refer to [Reply Keyboard parameters](#reply-keyboard-remove-parameters) for further guidance on this option.

/// note | Telegram Business accounts

Telegram restricts the following options in channels and for messages sent on behalf of a Telegram Business account:

\* Force Reply

\* Reply Keyboard

\* Reply Keyboard Remove

///

### Force Reply parameters

\*\*Force Reply\*\* is useful if you want to create user-friendly step-by-step interfaces without having to sacrifice privacy mode.

If you select \*\*Reply Markup > Force Reply\*\*, choose from these \*\*Force Reply\*\* parameters:

\* \*\*Force Reply\*\*: Turn on to show the reply interface to the user, as described above.

\* \*\*Selective\*\*: Turn this on if you want to force reply from these users only:

\* Users that are `@mentioned` in the text of the message.

\* The sender of the original message, if this Send Animation message is a reply to a message.

Refer to [ForceReply](https://core.telegram.org/bots/api#forcereply){:target=\_blank .external-link} for more information.

### Inline Keyboard parameters

If you select \*\*Reply Markup > Inline Keyboard\*\*, define the inline keyboard buttons you want to display using the \*\*Add Button\*\* option. To add more rows to your keyboard, use \*\*Add Keyboard Row\*\*.

Refer to [InlineKeyboardMarkup](https://core.telegram.org/bots/api#inlinekeyboardmarkup){:target=\_blank .external-link} and [InlineKeyboardButtons](https://core.telegram.org/bots/api#inlinekeyboardbutton){:target=\_blank .external-link} for more information.

### Reply Keyboard parameters

If you select \*\*Reply Markup > Reply Keyboard\*\*, use the \*\*Reply Keyboard\*\* section to define the buttons and rows in your Reply Keyboard.

Use the \*\*Reply Keyboard Options\*\* to further refine the keyboard's behavior:

\* \*\*Resize Keyboard\*\*: Choose whether to request the Telegram client to resize the keyboard vertically for optimal fit (turned on) or whether to use the same height as the app's standard keyboard (turned off).

\* \*\*One Time Keyboard\*\*: Choose whether the Telegram client should hide the keyboard as soon as a user uses it (turned on) or to keep displaying it (turned off).

\* \*\*Selective\*\*: Turn this on if you want to show the keyboard to these users only:

\* Users that are `@mentioned` in the text of the message.

\* The sender of the original message, if this Send Animation message is a reply to a message.

Refer to [ReplyKeyboardMarkup](https://core.telegram.org/bots/api#replykeyboardmarkup){:target=\_blank .external-link} for more information.

### Reply Keyboard Remove parameters

If you select \*\*Reply Markup > Reply Keyboard Remove\*\*, choose from these \*\*Reply Keyboard Remove\*\* parameters:

\* \*\*Remove Keyboard\*\*: Choose whether to request the Telegram client to remove the custom keyboard (turned on) or to keep it (turned off).

\* \*\*Selective\*\*: Turn this on if you want to remove the keyboard for these users only:

\* Users that are `@mentioned` in the text of the message.

\* The sender of the original message, if this Send Animation message is a reply to a message.

Refer to [ReplyKeyboardRemove](https://core.telegram.org/bots/api#replykeyboardremove){:target=\_blank .external-link} for more information.

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WhatsApp Business Cloud node common issues

description: Documentation for common issues and questions in the WhatsApp Business Cloud node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# WhatsApp Business Cloud node common issues

Here are some common errors and issues with the [WhatsApp Business Cloud node](/integrations/builtin/app-nodes/n8n-nodes-base.whatsapp/index.md) and steps to resolve or troubleshoot them.

## Bad request - please check your parameters

This error occurs when WhatsApp Business Cloud rejects your request because of a problem with its parameters. It's common to see this when using the \*\*Send Template\*\* operation if the data you send doesn't match the format of your template.

To resolve this issue, review the parameters in your [message template](https://www.facebook.com/business/help/2055875911147364?id=2129163877102343). Pay attention to each parameter's data type and the order they're defined in the template.

Check the data that n8n is mapping to the template parameters. If you're using expressions to set parameter values, check the input data to make sure each item resolves to a valid value. You may want to use the [Edit Fields (Set) node](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) or [set a fallback value](/code/cookbook/expressions/check-incoming-data.md) to ensure you send a value with the correct format.

## Working with non-text media

The WhatsApp Business Cloud node can work with non-text messages and media like images, audio, documents, and more.

If your operation includes a \*\*Input Data Field Name\*\* or \*\*Property Name\*\* parameter, set this to the field name itself rather than referencing the data in an expression.

For example, if you are trying to send a message with an "Image" \*\*MessageType\*\* and \*\*Take Image From\*\* set to "n8n", set \*\*Input Data Field Name\*\* to a field name like `data` instead of an expression like `{{ $json.input.data }}`.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WhatsApp Business Cloud node documentation

description: Learn how to use the WhatsApp Business Cloud node in n8n. Follow technical documentation to integrate WhatsApp Business Cloud node into your workflows.

contentType: [integration, reference]

priority: high

---

# WhatsApp Business Cloud node

Use the WhatsApp Business Cloud node to automate work in WhatsApp Business, and integrate WhatsApp Business with other applications. n8n has built-in support for a wide range of WhatsApp Business features, including sending messages, and uploading, downloading, and deleting media.

On this page, you'll find a list of operations the WhatsApp Business Cloud node supports and links to more resources.

/// note | Credentials

Refer to [WhatsApp Business Cloud credentials](/integrations/builtin/credentials/whatsapp.md) for guidance on setting up authentication.

///

## Operations

\* Message

\* Send

\* Send and Wait for Response

\* Send Template

\* Media

\* Upload

\* Download

\* Delete

--8<-- "\_snippets/integrations/builtin/send-and-wait-operation.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'whatsapp-business-cloud') ]]

## Related resources

Refer to [WhatsApp Business Platform's Cloud API documentation](https://developers.facebook.com/docs/whatsapp/cloud-api){:target=\_blank} for details about the operations.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-base.whatsapp/common-issues.md).

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## assistant-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI Assistant operations

description: Documentation for the Assistant operations in OpenAI node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# OpenAI Assistant operations

Use this operation to create, delete, list, message, or update an assistant in OpenAI. Refer to [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) for more information on the OpenAI node itself.

## Create an Assistant

Use this operation to create a new assistant.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Assistant\*\*.

- \*\*Operation\*\*: Select \*\*Create an Assistant\*\*.

- \*\*Model\*\*: Select the model that the assistant will use. If you’re not sure which model to use, try `gpt-4o` if you need high intelligence or `gpt-4o-mini` if you need the fastest speed and lowest cost. Refer to [Models overview | OpenAI Platform](https://platform.openai.com/docs/models){:target=\_blank .external-link} for more information.

- \*\*Name\*\*: Enter the name of the assistant. The maximum length is 256 characters.

- \*\*Description\*\*: Enter the description of the assistant. The maximum length is 512 characters.

```

A virtual assistant that helps users with daily tasks, including setting reminders, answering general questions, and providing quick information.

```

- \*\*Instructions\*\*: Enter the system instructions that the assistant uses. The maximum length is 32,768 characters. Use this to specify the persona used by the model in its replies.

```

Always respond in a friendly and engaging manner. When a user asks a question, provide a concise answer first, followed by a brief explanation or additional context if necessary. If the question is open-ended, offer a suggestion or ask a clarifying question to guide the conversation. Keep the tone positive and supportive, and avoid technical jargon unless specifically requested by the user.

```

- \*\*Code Interpreter\*\*: Turn on to enable the code interpreter for the assistant, where it can write and execute code in a sandbox environment. Enable this tool for tasks that require computations, data analysis, or any logic-based processing.

- \*\*Knowledge Retrieval\*\*: Turn on to enable knowledge retrieval for the assistant, allowing it to access external sources or a connected knowledge base. Refer to [File Search | OpenAI Platform](https://platform.openai.com/docs/assistants/tools/file-search){:target=\_blank .external-link} for more information.

- \*\*Files\*\*: Select a file to upload for your external knowledge source. Use \*\*Upload a File\*\* operation to add more files.

### Options

- \*\*Output Randomness (Temperature)\*\*: Adjust the randomness of the response. The range is between `0.0` (deterministic) and `1.0` (maximum randomness). We recommend altering this or \*\*Output Randomness (Top P)\*\* but not both. Start with a medium temperature (around 0.7) and adjust based on the outputs you observe. If the responses are too repetitive or rigid, increase the temperature. If they’re too chaotic or off-track, decrease it. Defaults to `1.0`.

- \*\*Output Randomness (Top P)\*\*: Adjust the Top P setting to control the diversity of the assistant's responses. For example, `0.5` means half of all likelihood-weighted options are considered. We recommend altering this or \*\*Output Randomness (Temperature)\*\* but not both. Defaults to `1.0`.

- \*\*Fail if Assistant Already Exists\*\*: If enabled, the operation will fail if an assistant with the same name already exists.

Refer to [Create assistant | OpenAI](https://platform.openai.com/docs/api-reference/assistants/createAssistant){:target=\_blank .external-link} documentation for more information.

## Delete an Assistant

Use this operation to delete an existing assistant from your account.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Assistant\*\*.

- \*\*Operation\*\*: Select \*\*Delete an Assistant\*\*.

- \*\*Assistant\*\*: Select the assistant you want to delete \*\*From list\*\* or \*\*By ID\*\*.

Refer to [Delete assistant | OpenAI](https://platform.openai.com/docs/api-reference/assistants/deleteAssistant){:target=\_blank .external-link} documentation for more information.

## List Assistants

Use this operation to retrieve a list of assistants in your organization.

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Assistant\*\*.

- \*\*Operation\*\*: Select \*\*List Assistants\*\*.

### Options

- \*\*Simplify Output\*\*: Turn on to return a simplified version of the response instead of the raw data. This option is enabled by default.

Refer to [List assistants | OpenAI](https://platform.openai.com/docs/api-reference/assistants/listAssistants){:target=\_blank .external-link} documentation for more information.

## Message an Assistant

Use this operation to send a message to an assistant and receive a response.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Assistant\*\*.

- \*\*Operation\*\*: Select \*\*Message an Assistant\*\*.

- \*\*Assistant\*\*: Select the assistant you want to message.

- \*\*Prompt\*\*: Enter the text prompt or message that you want to send to the assistant.

- \*\*Connected Chat Trigger Node\*\*: Automatically use the input from a previous node's `chatInput` field.

- \*\*Define Below\*\*: Manually define the prompt by entering static text or using an expression to reference data from previous nodes.

### Options

- \*\*Base URL\*\*: Enter the base URL that the assistant should use for making API requests. This option is useful for directing the assistant to use endpoints provided by other LLM providers that offer an OpenAI-compatible API.

- \*\*Max Retries\*\*: Specify the number of times the assistant should retry an operation in case of failure.

- \*\*Timeout\*\*: Set the maximum amount of time in milliseconds, that the assistant should wait for a response before timing out. Use this option to prevent long waits during operations.

- \*\*Preserve Original Tools\*\*: Turn off to remove the original tools associated with the assistant. Use this if you want to temporarily remove tools for this specific operation.

Refer to [Assistants | OpenAI](https://platform.openai.com/docs/api-reference/assistants){:target=\_blank .external-link} documentation for more information.

## Update an Assistant

Use this operation to update the details of an existing assistant.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Assistant\*\*.

- \*\*Operation\*\*: Select \*\*Update an Assistant\*\*.

- \*\*Assistant\*\*: Select the assistant you want to update.

### Options

- \*\*Code Interpreter\*\*: Turn on to enable the code interpreter for the assistant, where it can write and execute code in a sandbox environment. Enable this tool for tasks that require computations, data analysis, or any logic-based processing.

- \*\*Description\*\*: Enter the description of the assistant. The maximum length is 512 characters.

```

A virtual assistant that helps users with daily tasks, including setting reminders, answering general questions, and providing quick information.

```

- \*\*Instructions\*\*: Enter the system instructions that the assistant uses. The maximum length is 32,768 characters. Use this to specify the persona used by the model in its replies.

```

Always respond in a friendly and engaging manner. When a user asks a question, provide a concise answer first, followed by a brief explanation or additional context if necessary. If the question is open-ended, offer a suggestion or ask a clarifying question to guide the conversation. Keep the tone positive and supportive, and avoid technical jargon unless specifically requested by the user.

```

- \*\*Knowledge Retrieval\*\*: Turn on to enable knowledge retrieval for the assistant, allowing it to access external sources or a connected knowledge base. Refer to [File Search | OpenAI Platform](https://platform.openai.com/docs/assistants/tools/file-search){:target=\_blank .external-link} for more information.

- \*\*Files\*\*: Select a file to upload for your external knowledge source. Use [\*\*Upload a File\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/file-operations.md#upload-a-file) operation to add more files. Note that this only updates the [Code Interpreter](https://platform.openai.com/docs/assistants/tools/code-interpreter) tool, not the [File Search](https://platform.openai.com/docs/assistants/tools/file-search) tool.

- \*\*Model\*\*: Select the model that the assistant will use. If you’re not sure which model to use, try `gpt-4o` if you need high intelligence or `gpt-4o-mini` if you need the fastest speed and lowest cost. Refer to [Models overview | OpenAI Platform](https://platform.openai.com/docs/models){:target=\_blank .external-link} for more information.

- \*\*Name\*\*: Enter the name of the assistant. The maximum length is 256 characters.

- \*\*Remove All Custom Tools (Functions)\*\*: Turn on to remove all custom tools (functions) from the assistant.

- \*\*Output Randomness (Temperature)\*\*: Adjust the randomness of the response. The range is between `0.0` (deterministic) and `1.0` (maximum randomness). We recommend altering this or \*\*Output Randomness (Top P)\*\* but not both. Start with a medium temperature (around 0.7) and adjust based on the outputs you observe. If the responses are too repetitive or rigid, increase the temperature. If they’re too chaotic or off-track, decrease it. Defaults to `1.0`.

- \*\*Output Randomness (Top P)\*\*: Adjust the Top P setting to control the diversity of the assistant's responses. For example, `0.5` means half of all likelihood-weighted options are considered. We recommend altering this or \*\*Output Randomness (Temperature)\*\* but not both. Defaults to `1.0`.

Refer to [Modify assistant | OpenAI](https://platform.openai.com/docs/api-reference/assistants/modifyAssistant){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/common-issues.md).

## audio-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI Audio operations

description: Documentation for the Audio operations in OpenAI node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# OpenAI Audio operations

Use this operation to generate an audio, or transcribe or translate a recording in OpenAI. Refer to [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) for more information on the OpenAI node itself.

## Generate Audio

Use this operation to create audio from a text prompt.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Audio\*\*.

- \*\*Operation\*\*: Select \*\*Generate Audio\*\*.

- \*\*Model\*\*: Select the model you want to use to generate the audio. Refer to [TTS | OpenAI](https://platform.openai.com/docs/models/tts){:target=\_blank .external-link} for more information.

- \*\*TTS-1\*\*: Use this to optimize for speed.

- \*\*TTS-1-HD\*\*: Use this to optimize for quality.

- \*\*Text Input\*\*: Enter the text to generate the audio for. The maximum length is 4096 characters.

- \*\*Voice\*\*: Select a voice to use when generating the audio. Listen to the previews of the voices in [Text to speech guide | OpenAI](https://platform.openai.com/docs/guides/text-to-speech/quickstart){:target=\_blank .external-link}.

### Options

- \*\*Response Format\*\*: Select the format for the audio response. Choose from \*\*MP3\*\* (default), \*\*OPUS\*\*, \*\*AAC\*\*, \*\*FLAC\*\*, \*\*WAV\*\*, and \*\*PCM\*\*.

- \*\*Audio Speed\*\*: Enter the speed for the generated audio from a value from `0.25` to `4.0`. Defaults to `1`.

- \*\*Put Output in Field\*\*: Defaults to `data`. Enter the name of the output field to put the binary file data in.

Refer to [Create speech | OpenAI](https://platform.openai.com/docs/api-reference/audio/createSpeech){:target=\_blank .external-link} documentation for more information.

## Transcribe a Recording

Use this operation to transcribe audio into text. OpenAI API limits the size of the audio file to 25 MB. OpenAI will use the `whisper-1` model by default.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Audio\*\*.

- \*\*Operation\*\*: Select \*\*Transcribe a Recording\*\*.

- \*\*Input Data Field Name\*\*: Defaults to `data`. Enter the name of the binary property that contains the audio file in one of these formats: `.flac`, `.mp3`, `.mp4`, `.mpeg`, `.mpga`, `.m4a`, `.ogg`, `.wav`, or `.webm`.

### Options

- \*\*Language of the Audio File\*\*: Enter the language of the input audio in [ISO-639-1](https://en.wikipedia.org/wiki/List\_of\_ISO\_639\_language\_codes){:target=\_blank .external-link}. Use this option to improve accuracy and latency.

- \*\*Output Randomness (Temperature)\*\*: Defaults to `1.0`. Adjust the randomness of the response. The range is between `0.0` (deterministic) and `1.0` (maximum randomness). We recommend altering this or \*\*Output Randomness (Top P)\*\* but not both. Start with a medium temperature (around 0.7) and adjust based on the outputs you observe. If the responses are too repetitive or rigid, increase the temperature. If they’re too chaotic or off-track, decrease it.

Refer to [Create transcription | OpenAI](https://platform.openai.com/docs/api-reference/audio/createTranscription){:target=\_blank .external-link} documentation for more information.

## Translate a Recording

Use this operation to translate audio into English. OpenAI API limits the size of the audio file to 25 MB. OpenAI will use the `whisper-1` model by default.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Audio\*\*.

- \*\*Operation\*\*: Select \*\*Translate a Recording\*\*.

- \*\*Input Data Field Name\*\*: Defaults to `data`. Enter the name of the binary property that contains the audio file in one of these formats: `.flac`, `.mp3`, `.mp4`, `.mpeg`, `.mpga`, `.m4a`, `.ogg`, `.wav`, or `.webm`.

### Options

- \*\*Output Randomness (Temperature)\*\*: Defaults to `1.0`. Adjust the randomness of the response. The range is between `0.0` (deterministic) and `1.0` (maximum randomness). We recommend altering this or \*\*Output Randomness (Top P)\*\* but not both. Start with a medium temperature (around 0.7) and adjust based on the outputs you observe. If the responses are too repetitive or rigid, increase the temperature. If they’re too chaotic or off-track, decrease it.

Refer to [Create transcription | OpenAI](https://platform.openai.com/docs/api-reference/audio/createTranscription){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI node common issues

description: Documentation for common issues and questions in the OpenAI node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# OpenAI node common issues

Here are some common errors and issues with the [OpenAI node](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) and steps to resolve or troubleshoot them.

--8<-- "\_snippets/integrations/openai-api-issues.md"

--8<-- "\_snippets/integrations/referenced-node-unexecuted.md"

## file-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI File operations

description: Documentation for the File operations in OpenAI node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# OpenAI File operations

Use this operation to create, delete, list, message, or update a file in OpenAI. Refer to [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) for more information on the OpenAI node itself.

## Delete a File

Use this operation to delete a file from the server.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Delete a File\*\*.

- \*\*File\*\*: Enter the ID of the file to use for this operation or select the file name from the dropdown.

Refer to [Delete file | OpenAI](https://platform.openai.com/docs/api-reference/files/delete){:target=\_blank .external-link} documentation for more information.

## List Files

Use this operation to list files that belong to the user's organization.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*List Files\*\*.

### Options

- \*\*Purpose\*\*: Use this to only return files with the given purpose. Use \*\*Assistants\*\* to return only files related to Assistants and Message operations. Use \*\*Fine-Tune\*\* for files related to [Fine-tuning](https://platform.openai.com/docs/api-reference/fine-tuning){:target=\_blank .external-link}.

Refer to [List files | OpenAI](https://platform.openai.com/docs/api-reference/files/list) documentation for more information.

## Upload a File

Use this operation to upload a file. This can be used across various operations.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*File\*\*.

- \*\*Operation\*\*: Select \*\*Upload a File\*\*.

- \*\*Input Data Field Name\*\*: Defaults to `data`. Enter the name of the binary property which contains the file. The size of individual files can be a maximum of 512 MB or 2 million tokens for Assistants.

### Options

- \*\*Purpose\*\*: Enter the intended purpose of the uploaded file. Use \*\*Assistants\*\* for files associated with Assistants and Message operations. Use \*\*Fine-Tune\*\* for [Fine-tuning](https://platform.openai.com/docs/api-reference/fine-tuning){:target=\_blank .external-link}.

Refer to [Upload file | OpenAI](https://platform.openai.com/docs/api-reference/files/create){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/common-issues.md).

## image-operations.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI Image operations

description: Documentation for the Image operations in OpenAI node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# OpenAI Image operations

Use this operation to analyze or generate an image in OpenAI. Refer to [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) for more information on the OpenAI node itself.

## Analyze Image

Use this operation to take in images and answer questions about them.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Image\*\*.

- \*\*Operation\*\*: Select \*\*Analayze Image\*\*.

- \*\*Model\*\*: Select the model you want to use to generate an image.

- \*\*Text Input\*\*: Ask a question about the image.

- \*\*Input Type\*\*: Select how you'd like to input the image. Options include:

- \*\*Image URL(s)\*\*: Enter the \*\*URL(s)\*\* of the image(s) to analyze. Add multiple URLs in a comma-separated list.

- \*\*Binary File(s)\*\*: Enter the name of the binary property which contains the image(s) in the \*\*Input Data Field Name\*\*.

### Options

- \*\*Detail\*\*: Specify the balance between response time versus token usage.

- \*\*Length of Description (Max Tokens)\*\*: Defaults to 300. Fewer tokens will result in shorter, less detailed image description.

Refer to [Images | OpenAI](https://platform.openai.com/docs/api-reference/images){:target=\_blank .external-link} documentation for more information.

## Generate an Image

Use this operation to create an image from a text prompt.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Image\*\*.

- \*\*Operation\*\*: Select \*\*Generate an Image\*\*.

- \*\*Model\*\*: Select the model you want to use to generate an image.

- \*\*Prompt\*\*: Enter the text description of the desired image(s). The maximum length is 1000 characters for `dall-e-2` and 4000 characters for `dall-e-3`.

### Options

- \*\*Quality\*\*: The quality of the image you generate. \*\*HD\*\* creates images with finer details and greater consistency across the image. This option is only supported for `dall-e-3`. Otherwise, choose \*\*Standard\*\*.

- \*\*Resolution\*\*: Select the resolution of the generated images. Select \*\*1024x1024\*\* for `dall-e-2`. Select one of \*\*1024x1024\*\*, \*\*1792x1024\*\*, or \*\*1024x1792\*\* for `dall-e-3` models.

- \*\*Style\*\*: Select the style of the generated images. This option is only supported for `dall-e-3`.

- \*\*Natural\*\*: Use this to produce more natural looking images.

- \*\*Vivid\*\*: Use this to produce hyper-real and dramatic images.

- \*\*Respond with image URL(s)\*\*: Whether to return image URL(s) instead of binary file(s).

- \*\*Put Output in Field\*\*: Defaults to `data`. Enter the name of the output field to put the binary file data in. Only available if \*\*Respond with image URL(s)\*\* is turned off.

Refer to [Create image | OpenAI](https://platform.openai.com/docs/api-reference/images/create){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/common-issues.md).

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI node documentation

description: Learn how to use the OpenAI node in n8n. Follow technical documentation to integrate OpenAI node into your workflows.

contentType: [integration, reference]

priority: critical

search:

boost: 3

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# OpenAI node

Use the OpenAI node to automate work in OpenAI and integrate OpenAI with other applications. n8n has built-in support for a wide range of OpenAI features, including creating images and assistants, as well as chatting with models.

On this page, you'll find a list of operations the OpenAI node supports and links to more resources.

/// note | OpenAI Assistant node

The OpenAI node replaces the OpenAI assistant node from version 1.29.0 on.

///

/// note | Credentials

Refer to [OpenAI credentials](/integrations/builtin/credentials/openai.md) for guidance on setting up authentication.

///

## Operations

- \*\*Assistant\*\*

- [\*\*Create an Assistant\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/assistant-operations.md#create-an-assistant)

- [\*\*Delete an Assistant\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/assistant-operations.md#delete-an-assistant)

- [\*\*List Assistants\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/assistant-operations.md#list-assistants)

- [\*\*Message an Assistant\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/assistant-operations.md#message-an-assistant)

- [\*\*Update an Assistant\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/assistant-operations.md#update-an-assistant)

- \*\*Text\*\*

- [\*\*Message a Model\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/text-operations.md#message-a-model)

- [\*\*Classify Text for Violations\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/text-operations.md#classify-text-for-violations)

- \*\*Image\*\*

- [\*\*Analyze Image\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/image-operations.md#analyze-image)

- [\*\*Generate an Image\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/image-operations.md#generate-an-image)

- \*\*Audio\*\*

- [\*\*Generate Audio\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/audio-operations.md#generate-audio)

- [\*\*Transcribe a Recording\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/audio-operations.md#transcribe-a-recording)

- [\*\*Translate a Recording\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/audio-operations.md#translate-a-recording)

- \*\*File\*\*

- [\*\*Delete a File\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/file-operations.md#delete-a-file)

- [\*\*List Files\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/file-operations.md#list-files)

- [\*\*Upload a File\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/file-operations.md#upload-a-file)

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'openai') ]]

## Related resources

Refer to [OpenAI's documentation](https://beta.openai.com/docs/introduction){:target=\_blank .external-link} for more information about the service.

Refer to [OpenAI's assistants documentation](https://platform.openai.com/docs/assistants/how-it-works/objects){:target=\_blank .external-link} for more information about how assistants work.

For help dealing with rate limits, refer to [Handling rate limits](/integrations/builtin/rate-limits.md).

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

## Using tools with OpenAI assistants

Some operations allow you to connect tools. [Tools](https://docs.n8n.io/advanced-ai/examples/understand-tools/) act like addons that your AI can use to access extra context or resources.

Select the \*\*Tools\*\* connector to browse the available tools and add them.

Once you add a tool connection, the OpenAI node becomes a [root node](/glossary.md#root-node-n8n), allowing it to form a [cluster node](/glossary.md#cluster-node-n8n) with the tools [sub-nodes](/glossary.md#sub-node-n8n). See [Node types](/integrations/builtin/node-types.md#cluster-nodes) for more information on cluster nodes and root nodes.

### Operations that support tool connectors

- \*\*Assistant\*\*

- [\*\*Message an Assistant\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/assistant-operations.md#message-an-assistant)

- \*\*Text\*\*

- [\*\*Message a Model\*\*](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/text-operations.md#message-a-model)

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/common-issues.md).

## text-operations.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI Text operations

description: Documentation for the Text operations in OpenAI node in n8n, a workflow automation platform. Includes details of operations and configuration, and links to examples and credentials information.

contentType: [integration, reference]

priority: critical

---

# OpenAI Text operations

Use this operation to message a model or classify text for violations in OpenAI. Refer to [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) for more information on the OpenAI node itself.

## Message a Model

Use this operation to send a message or prompt to an OpenAI model and receive a response.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Text\*\*.

- \*\*Operation\*\*: Select \*\*Message a Model\*\*.

- \*\*Model\*\*: Select the model you want to use. If you’re not sure which model to use, try `gpt-4o` if you need high intelligence or `gpt-4o-mini` if you need the fastest speed and lowest cost. Refer to [Models overview | OpenAI Platform](https://platform.openai.com/docs/models){:target=\_blank .external-link} for more information.

- \*\*Messages\*\*: Enter a \*\*Text\*\* prompt and assign a \*\*Role\*\* that the model will use to generate responses. Refer to [Prompt engineering | OpenAI](https://platform.openai.com/docs/guides/prompt-engineering){:target=\_blank .external-link} for more information on how to write a better prompt by using these roles. Choose from one of these roles:

- \*\*User\*\*: Sends a message as a user and gets a response from the model.

- \*\*Assistant\*\*: Tells the model to adopt a specific tone or personality.

- \*\*System\*\*: By default, the system message is `"You are a helpful assistant"`. You can define instructions in the user message, but the instructions set in the system message are more effective. You can only set one system message per conversation. Use this to set the model's behavior or context for the next user message.

- \*\*Simplify Output\*\*: Turn on to return a simplified version of the response instead of the raw data.

- \*\*Output Content as JSON\*\*: Turn on to attempt to return the response in JSON format. Compatible with `GPT-4 Turbo` and all `GPT-3.5 Turbo` models newer than `gpt-3.5-turbo-1106`.

### Options

- \*\*Frequency Penalty\*\*: Apply a penalty to reduce the model's tendency to repeat similar lines. The range is between `0.0` and `2.0`.

- \*\*Maximum Number of Tokens\*\*: Set the maximum number of tokens for the response. One token is roughly four characters for standard English text. Use this to limit the length of the output.

- \*\*Number of Completions\*\*: Defaults to 1. Set the number of completions you want to generate for each prompt. Use carefully since setting a high number will quickly consume your tokens.

- \*\*Presence Penalty\*\*: Apply a penalty to influence the model to discuss new topics. The range is between `0.0` and `2.0`.

- \*\*Output Randomness (Temperature)\*\*: Adjust the randomness of the response. The range is between `0.0` (deterministic) and `1.0` (maximum randomness). We recommend altering this or \*\*Output Randomness (Top P)\*\* but not both. Start with a medium temperature (around `0.7`) and adjust based on the outputs you observe. If the responses are too repetitive or rigid, increase the temperature. If they’re too chaotic or off-track, decrease it. Defaults to `1.0`.

- \*\*Output Randomness (Top P)\*\*: Adjust the Top P setting to control the diversity of the assistant's responses. For example, `0.5` means half of all likelihood-weighted options are considered. We recommend altering this or \*\*Output Randomness (Temperature)\*\* but not both. Defaults to `1.0`.

Refer to [Message a Model | OpenAI](https://platform.openai.com/docs/api-reference/text-completion/create){:target=\_blank .external-link} documentation for more information.

## Classify Text for Violations

Use this operation to identify and flag content that might be harmful. OpenAI model will analyze the text and return a response containing:

- `flagged`: A boolean field indicating if the content is potentially harmful.

- `categories`: A list of category-specific violation flags.

- `category\_scores`: Scores for each category.

Enter these parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [OpenAI credential](/integrations/builtin/credentials/openai.md).

- \*\*Resource\*\*: Select \*\*Text\*\*.

- \*\*Operation\*\*: Select \*\*Classify Text for Violations\*\*.

- \*\*Text Input\*\*: Enter text to classify if it violates the moderation policy.

- \*\*Simplify Output\*\*: Turn on to return a simplified version of the response instead of the raw data.

### Options

- \*\*Use Stable Model\*\*: Turn on to use the stable version of the model instead of the latest version, accuracy may be slightly lower.

Refer to [Moderations | OpenAI](https://platform.openai.com/docs/api-reference/moderations){:target=\_blank .external-link} documentation for more information.

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/common-issues.md).

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

title: Cluster nodes

description: Understand cluster nodes in n8n, and browse the cluster nodes library.

---

# Cluster nodes

--8<-- "\_snippets/integrations/builtin/cluster-nodes/cluster-nodes-summary.md"

## Root nodes

Each cluster starts with one [root node](/glossary.md#root-node-n8n).

## Sub-nodes

Each root node can have one or more [sub-nodes](/glossary.md#sub-node-n8n) attached to it.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

title: Root nodes

description: Understand root nodes in n8n, and browse the root nodes library.

---

# Root nodes

Root nodes are the foundational nodes within a group of cluster nodes.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/cluster-nodes-summary.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.chainllm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Basic LLM Chain node documentation

description: Learn how to use the Basic LLM Chain node in n8n. Follow technical documentation to integrate Basic LLM Chain node into your workflows.

contentType: [integration, reference]

priority: critical

---

# Basic LLM Chain node

Use the Basic LLM Chain node to set the prompt that the model will use along with setting an optional parser for the response.

On this page, you'll find the node parameters for the Basic LLM Chain node and links to more resources.

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Basic LLM Chain integrations](https://n8n.io/integrations/basic-llm-chain/){:target=\_blank .external-link} page.

///

## Node parameters

### Prompt

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/prompt.md"

### Require Specific Output Format

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/output-format.md"

## Chat Messages

Use \*\*Chat Messages\*\* when you're using a chat model to set a message.

n8n ignores these options if you don't connect a chat model. Select the \*\*Type Name or ID\*\* you want the node to use:

#### AI

Enter a sample expected response in the \*\*Message\*\* field. The model will try to respond in the same way in its messages.

#### System

Enter a system \*\*Message\*\* to include with the user input to help guide the model in what it should do.

Use this option for things like defining tone, for example: `Always respond talking like a pirate`.

#### User

Enter a sample user input. Using this with the AI option can help improve the output of the agent. Using both together provides a sample of an input and expected response (the \*\*AI Message\*\*) for the model to follow.

Select one of these input types:

\* \*\*Text\*\*: Enter a sample user input as a text \*\*Message\*\*.

\* \*\*Image (Binary)\*\*: Select a binary input from a previous node. Enter the \*\*Image Data Field Name\*\* to identify which binary field from the previous node contains the image data.

\* \*\*Image (URL)\*\*: Use this option to feed an image in from a URL. Enter the \*\*Image URL\*\*.

For both the \*\*Image\*\* types, select the \*\*Image Details\*\* to control how the model processes the image and generates its textual understanding. Choose from:

\* \*\*Auto\*\*: The model uses the auto setting, which looks at the image input size and decide if it should use the Low or High setting.

\* \*\*Low\*\*: The model receives a low-resolution 512px x 512px version of the image and represents the image with a budget of 65 tokens. This allows the API to return faster responses and consume fewer input tokens. Use this option for use cases that don't require high detail.

\* \*\*High\*\*: The model can access the low-resolution image and then creates detailed crops of input images as 512px squares based on the input image size. Each of the detailed crops uses twice the token budget (65 tokens) for a total of 129 tokens. Use this option for use cases that require high detail.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'basic-llm-chain') ]]

## Related resources

Refer to [LangChain's documentation on Basic LLM Chains](https://js.langchain.com/docs/tutorials/llm\_chain/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## Common issues

Here are some common errors and issues with the Basic LLM Chain node and steps to resolve or troubleshoot them.

### No prompt specified error

This error displays when the \*\*Prompt\*\* is empty or invalid.

You might see this error in one of two scenarios:

1. When you've set the \*\*Prompt\*\* to \*\*Define below\*\* and haven't entered anything in the \*\*Text\*\* field.

\* To resolve, enter a valid prompt in the \*\*Text\*\* field.

2. When you've set the \*\*Prompt\*\* to \*\*Connected Chat Trigger Node\*\* and the incoming data has no field called `chatInput`.

\* The node expects the `chatInput` field. If your previous node doesn't have this field, add an [Edit Fields (Set)](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node to edit an incoming field name to `chatInput`.

## n8n-nodes-langchain.chainsummarization.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Summarization Chain node documentation

description: Learn how to use the Summarize Chain node in n8n. Follow technical documentation to integrate Summarize Chain node into your workflows.

contentType: [integration, reference]

priority: high

---

# Summarization Chain node

Use the Summarization Chain node to summarize multiple documents.

On this page, you'll find the node parameters for the Summarization Chain node, and links to more resources.

## Node parameters

Choose the type of data you need to summarize in \*\*Data to Summarize\*\*. The data type you choose determines the other node parameters.

\* \*\*Use Node Input (JSON)\*\* and \*\*Use Node Input (Binary)\*\*: summarize the data coming into the node from the workflow.

\* You can configure the \*\*Chunking Strategy\*\*: choose what strategy to use to define the data chunk sizes.

\* If you choose \*\*Simple (Define Below)\*\* you can then set \*\*Characters Per Chunk\*\* and \*\*Chunk Overlap (Characters)\*\*.

\* Choose \*\*Advanced\*\* if you want to connect a splitter sub-node that provides more configuration options.

\* \*\*Use Document Loader\*\*: summarize data provided by a document loader sub-node.

## Node Options

You can configure the summarization method and prompts. Select \*\*Add Option\*\* > \*\*Summarization Method and Prompts\*\*.

Options in \*\*Summarization Method\*\*:

\* \*\*Map Reduce\*\*: this is the recommended option. Learn more about [Map Reduce](https://js.langchain.com/v0.1/docs/modules/chains/document/map\_reduce/){:target=\_blank .external-link} in the LangChain documentation.

\* \*\*Refine\*\*: learn more about [Refine](https://js.langchain.com/v0.1/docs/modules/chains/document/refine/){:target=\_blank .external-link} in the LangChain documentation.

\* \*\*Stuff\*\*: learn more about [Stuff](https://js.langchain.com/v0.1/docs/modules/chains/document/stuff/){:target=\_blank .external-link} in the LangChain documentation.

You can customize the \*\*Individual Summary Prompts\*\* and the \*\*Final Prompt to Combine\*\*. There are examples in the node. You must include the `"{text}"` placeholder.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'summarization-chain') ]]

## Related resources

Refer to [LangChain's documentation on summarization](https://js.langchain.com/docs/tutorials/summarization/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.code.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LangChain Code node documentation

description: Learn how to use the LangChain Code node in n8n. Follow technical documentation to integrate LangChain Code node into your workflows.

contentType: [integration, reference]

priority: medium

---

# LangChain Code node

Use the LangChain Code node to import LangChain. This means if there is functionality you need that n8n hasn't created a node for, you can still use it. By configuring the LangChain Code node connectors you can use it as a normal node, root node or sub-node.

On this page, you'll find the node parameters, guidance on configuring the node, and links to more resources.

/// note | Not available on Cloud

This node is only available on self-hosted n8n.

///

## Node parameters

### Add Code

Add your custom code. Choose either \*\*Execute\*\* or \*\*Supply Data\*\* mode. You can only use one mode.

Unlike the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md), the LangChain Code node doesn't support Python.

\* \*\*Execute\*\*: use the LangChain Code node like n8n's own Code node. This takes input data from the workflow, processes it, and returns it as the node output. This mode requires a main input and output. You must create these connections in \*\*Inputs\*\* and \*\*Outputs\*\*.

\* \*\*Supply Data\*\*: use the LangChain Code node as a sub-node, sending data to a root node. This uses an output other than main.

By default, you can't load built-in or external modules in this node. Self-hosted users can [enable built-in and external modules](/hosting/configuration/configuration-methods.md).

### Inputs

Choose the input types.

The main input is the normal connector found in all n8n workflows. If you have a main input and output set in the node, \*\*Execute\*\* code is required.

### Outputs

Choose the output types.

The main output is the normal connector found in all n8n workflows. If you have a main input and output set in the node, \*\*Execute\*\* code is required.

## Node inputs and outputs configuration

By configuring the LangChain Code node connectors (inputs and outputs) you can use it as an app node, root node or sub-node.

![Screenshot of a workflow with four LangChain nodes, configured as different node types](/\_images/integrations/builtin/cluster-nodes/langchaincode/create-node-types.png)

| Node type | Inputs | Outputs | Code mode |

| --------- | ------ | ------- | --------- |

| App node. Similar to the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md). | Main | Main | Execute |

| Root node | Main; at least one other type | Main | Execute |

| Sub-node | - | A type other than main. Must match the input type you want to connect to. | Supply Data |

| Sub-node with sub-nodes | A type other than main |A type other than main. Must match the input type you want to connect to. | Supply Data |

## Built-in methods

n8n provides these methods to make it easier to perform common tasks in the LangChain Code node.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/langchaincode/builtin-methods.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'langchain-code') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.information-extractor.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Information Extractor node documentation

description: Learn how to use the Information Extractor node in n8n. Follow technical documentation to integrate Information Extractor node into your workflows.

contentType: [integration, reference]

---

# Information Extractor node

Use the Information Extractor node to extract structured information from incoming data.

On this page, you'll find the node parameters for the Information Extractor node,

and links to more resources.

## Node parameters

\* \*\*Text\*\* defines the input text to extract information from. This is usually an expression that references a field from the input items. For example, this could be `{{ $json.chatInput }}` if the input is a chat trigger, or `{{ $json.text }}` if a previous node is Extract from PDF.

\* Use \*\*Schema Type\*\* to choose how you want to describe the desired output data format. You can choose between:

\* \*\*From Attribute Descriptions\*\*: This option allows you to define the schema by specifying the list of attributes and their descriptions.

\* \*\*Generate From JSON Example\*\*: Input an example JSON object to automatically generate the schema. The node uses the object property types and names. It ignores the actual values. n8n treats every field as mandatory when generating schemas from JSON examples.

\* \*\*Define using JSON Schema\*\*: Manually input the JSON schema. Read the JSON Schema [guides and examples](https://json-schema.org/learn/miscellaneous-examples){:target=\_blank .external-link} for help creating a valid JSON schema.

## Node options

\* \*\*System Prompt Template\*\*: Use this option to change the system prompt that's used for the information extraction. n8n automatically appends format specification instructions to the prompt.

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.sentimentanalysis.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sentiment Analysis node documentation

description: Learn how to use the Sentiment Analysis node in n8n. Follow technical documentation to integrate Sentiment Analysis node into your workflows.

contentType: [integration, reference]

---

# Sentiment Analysis node

Use the Sentiment Analysis node to analyze the sentiment of incoming text data.

The language model uses the [\*\*Sentiment Categories\*\*](#node-options) in the node options to determine each item's sentiment.

## Node parameters

\* \*\*Text to Analyze\*\* defines the input text for sentiment analysis. This is an expression that references a field from the input items. For example, this could be

`{{ $json.chatInput }}` if the input is from a chat or message source. By default, it expects a `text` field.

## Node options

\* \*\*Sentiment Categories\*\*: Define the categories that you want to classify your input as.

\* By default, these are `Positive, Neutral, Negative`. You can customize these categories to fit your specific use case, such as `Very Positive, Positive, Neutral, Negative, Very Negative` for more granular analysis.

\* \*\*Include Detailed Results\*\*: When turned on, this option includes sentiment strength and confidence scores in the output. Note that these scores are estimates generated by the language model and are rough indicators rather than precise measurements.

\* \*\*System Prompt Template\*\*: Use this option to change the system prompt that's used for the sentiment analysis. It uses the `{categories}` placeholder for the categories.

\* \*\*Enable Auto-Fixing\*\*: When enabled, the node automatically fixes model outputs to ensure they match the expected format. Do this by sending the schema parsing error to the LLM and asking it to fix it.

## Usage Notes

### Model Temperature Setting

It's strongly advised to set the temperature of the connected language model to 0 or a value close to 0. This helps ensure that the results are as deterministic as possible, providing more consistent and reliable sentiment analysis across multiple runs.

### Language Considerations

The node's performance may vary depending on the language of the input text.

For best results, ensure your chosen language model supports the input language.

### Processing Large Volumes

When analyzing large amounts of text, consider splitting the input into smaller chunks to optimize processing time and resource usage.

### Iterative Refinement

For complex sentiment analysis tasks, you may need to iteratively refine the system prompt and categories to achieve the desired results.

## Example Usage

### Basic Sentiment Analysis

1. Connect a data source (for example, RSS Feed, HTTP Request) to the Sentiment Analysis node.

2. Set the "Text to Analyze" field to the relevant item property (for example, `{{ $json.content }}` for blog post content).

3. Keep the default sentiment categories.

4. Connect the node's outputs to separate paths for processing positive, neutral, and negative sentiments differently.

### Custom Category Analysis

1. Change the \*\*Sentiment Categories\*\* to `Excited, Happy, Neutral, Disappointed, Angry`.

2. Adjust your workflow to handle these five output categories.

3. Use this setup to analyze customer feedback with more nuanced emotional categories.

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.text-classifier.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Text Classifier node documentation

description: Learn how to use the Text Classifier node in n8n. Follow technical documentation to integrate Text Classifier node into your workflows.

contentType: [integration, reference]

---

# Text Classifier node

Use the Text Classifier node to classify (categorize) incoming data. Using the categories provided in the parameters (see below), each item is passed to the model to determine its category.

On this page, you'll find the node parameters for the Text Classifier node, and links to more resources.

## Node parameters

\* \*\*Input Prompt\*\* defines the input to classify. This is usually an expression that references a field from the input items. For example, this could be `{{ $json.chatInput }}` if the input is a chat trigger. By default it references the `text` field.

\* \*\*Categories\*\*: Add the categories that you want to classify your input as. Categories have a name and a description. Use the description to tell the model what the category means. This is important if the meaning isn't obvious. You can add as many categories as you like.

## Node options

\* \*\*Allow Multiple Classes To Be True\*\*: You can configure the classifier to always output a single class per item (turned off), or allow the model to select multiple classes (turned on).

\* \*\*When No Clear Match\*\*: Define what happens if the model can't find a good match for an item. There are two options:

- \*\*Discard Item\*\* (the default): If the node doesn't detect any of the categories, it drops the item.

- \*\*Output on Extra, 'Other' Branch\*\*: Creates a separate output branch called \*\*Other\*\*. When the node doesn't detect any of the categories, it outputs items in this branch.

\* \*\*System Prompt Template\*\*: Use this option to change the system prompt that's used for the classification. It uses the `{categories}` placeholder for the categories.

\* \*\*Enable Auto-Fixing\*\*: When enabled, the node automatically fixes model outputs to ensure they match the expected format. Do this by sending the schema parsing error to the LLM and asking it to fix it.

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.vectorstoreinmemory.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Simple Vector Store node documentation

description: Learn how to use the Simple Vector Store node in n8n. Follow technical documentation to integrate Simple Vector Store node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Simple Vector Store node

Use the Simple Vector Store node to store and retrieve [embeddings](/glossary.md#ai-embedding) in n8n's in-app memory.

On this page, you'll find the node parameters for the Simple Vector Store node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

/// note | This node is different from AI memory nodes

The simple vector storage described here is different to the AI memory nodes such as [Simple Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorybufferwindow/index.md).

This node creates a [vector database](/glossary.md#ai-vector-store) in the app memory.

///

## Data safety limitations

Before using the Simple Vector Store node, it's important to understand its limitations and how it works.

/// warning

n8n recommends using Simple Vector store for development use only.

///

### Vector store data isn't persistent

This node stores data in memory only. All data is lost when n8n restarts and may also be purged in low-memory conditions.

### All instance users can access vector store data

Memory keys for the Simple Vector Store node are global, not scoped to individual workflows.

This means that all users of the instance can access vector store data by adding a Simple Vector Store node and selecting the memory key, regardless of the access controls set for the original workflow. Take care not to expose sensitive information when ingesting data with the Simple Vector Store node.

## Node usage patterns

You can use the Simple Vector Store node in the following patterns.

### Use as a regular node to insert and retrieve documents

You can use the Simple Vector Store as a regular node to insert or get documents. This pattern places the Simple Vector Store in the regular connection flow without using an agent.

You can see an example of in step 2 of [this template](https://n8n.io/workflows/2465-building-your-first-whatsapp-chatbot/).

### Connect directly to an AI agent as a tool

You can connect the Simple Vector Store node directly to the [tool](/glossary.md#ai-tool) connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> Simple Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the Simple Vector Store node to fetch documents from the Simple Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

An [example of the connection flow](https://n8n.io/workflows/1960-ask-questions-about-a-pdf-using-ai/) (the linked example uses Pinecone, but the pattern is the same) would be: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> Simple Vector Store.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the Simple Vector Store node. Rather than connecting the Simple Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

The [connections flow](https://n8n.io/workflows/2465-building-your-first-whatsapp-chatbot/) in this case would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> Simple Vector store.

## Memory Management

The Simple Vector Store implements memory management to prevent excessive memory usage:

- Automatically cleans up old vector stores when memory pressure increases

- Removes inactive stores that haven't been accessed for a configurable amount of time

### Configuration Options

You can control memory usage with these environment variables:

| Variable | Type | Default | Description |

|-------------------------------|--------|---------|-------------------------------------------------------------------------------------|

| `N8N\_VECTOR\_STORE\_MAX\_MEMORY` | Number | -1 | Maximum memory in MB allowed for all vector stores combined (-1 to disable limits). |

| `N8N\_VECTOR\_STORE\_TTL\_HOURS` | Number | -1 | Hours of inactivity after which a store gets removed (-1 to disable TTL). |

On n8n Cloud, these values are preset to 100MB (about 8,000 documents, depending on document size and metadata) and 7 days respectively. For self-hosted instances, both values default to -1(no memory limits or time-based cleanup).

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

<!-- vale from-write-good.Weasel = NO -->

### Get Many parameters

<!-- vale from-write-good.Weasel = YES -->

\* \*\*Memory Key\*\*: Select or create the key containing the vector memory you want to query.

\* \*\*Prompt\*\*: Enter the search query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Insert Documents parameters

\* \*\*Memory Key\*\*: Select or create the key you want to store the vector memory as.

\* \*\*Clear Store\*\*: Use this parameter to control whether to wipe the vector store for the given memory key for this workflow before inserting data (turned on).

### Retrieve Documents (As Vector Store for Chain/Tool) parameters

\* \*\*Memory Key\*\*: Select or create the key containing the vector memory you want to query.

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Name\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Memory Key\*\*: Select or create the key containing the vector memory you want to query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'in-memory-vector-store') ]]

## Related resources

Refer to [LangChains's Memory Vector Store documentation](https://js.langchain.com/docs/integrations/vectorstores/memory/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.vectorstoremilvus.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Milvus Vector Store node documentation

description: Learn how to use the Milvus Vector Store node in n8n. Follow technical documentation to integrate Milvus Vector Store node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Milvus Vector Store node

Use the Milvus node to interact with your Milvus database as [vector store](/glossary.md#ai-vector-store). You can insert documents into a vector database, get documents from a vector database, retrieve documents to provide them to a retriever connected to a [chain](/glossary.md#ai-chain), or connect directly to an [agent](/glossary.md#ai-agent) as a [tool](/glossary.md#ai-tool).

On this page, you'll find the node parameters for the Milvus node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/milvus.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node usage patterns

You can use the Milvus Vector Store node in the following patterns.

### Use as a regular node to insert and retrieve documents

You can use the Milvus Vector Store as a regular node to insert, or get documents. This pattern places the Milvus Vector Store in the regular connection flow without using an agent.

See this [example template](https://n8n.io/workflows/3573-create-a-rag-system-with-paul-essays-milvus-and-openai-for-cited-answers/) for how to build a system that stores documents in Milvus and retrieves them to support cited, chat-based answers.

### Connect directly to an AI agent as a tool

You can connect the Milvus Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> Milvus Vector Store node. See this [example template](https://n8n.io/workflows/3576-paul-graham-essay-search-and-chat-with-milvus-vector-database/) where data is embedded and indexed in Milvus, and the AI Agent uses the vector store as a knowledge tool for question-answering.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the Milvus Vector Store node to fetch documents from the Milvus Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

A typical node connection flow looks like this: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> Milvus Vector Store.

Check out this [workflow example](https://n8n.io/workflows/3574-create-a-paul-graham-essay-qanda-system-with-openai-and-milvus-vector-database/) to see how to ingest external data into Milvus and build a chat-based semantic Q&A system.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the Milvus Vector Store node. Rather than connecting the Milvus Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

The connections flow would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> Milvus Vector store.

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

<!-- vale from-write-good.Weasel = NO -->

### Get Many parameters

<!-- vale from-write-good.Weasel = YES -->

\* \*\*Milvus Collection\*\*: Select or enter the Milvus Collection to use.

\* \*\*Prompt\*\*: Enter your search query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Insert Documents parameters

\* \*\*Milvus Collection\*\*: Select or enter the Milvus Collection to use.

\* \*\*Clear Collection\*\*: Specify whether to clear the collection before inserting new documents.

### Retrieve Documents (As Vector Store for Chain/Tool) parameters

\* \*\*Milvus collection\*\*: Select or enter the Milvus Collection to use.

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Name\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Milvus Collection\*\*: Select or enter the Milvus Collection to use.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

## Node options

### Metadata Filter

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/vector-store-metadata-filter.md"

### Clear Collection

Available in \*\*Insert Documents\*\* mode. Deletes all data from the collection before inserting the new data.

## Related resources

Refer to [LangChain's Milvus documentation](https://js.langchain.com/docs/integrations/vectorstores/milvus/) for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## n8n-nodes-langchain.vectorstoremongodbatlas.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MongoDB Atlas Vector Store node documentation

description: Learn how to use the MongoDB Atlas Vector Store node in n8n. Follow technical documentation to integrate MongoDB Atlas Vector Store node into your workflows.

contentType: [integration, reference]

priority: medium

---

# MongoDB Atlas Vector Store node

MongoDB Atlas Vector Search is a feature of MongoDB Atlas that enables users to store and query vector embeddings. Use this node to interact with Vector Search indexes in your MongoDB Atlas collections. You can insert documents, retrieve documents, and use the vector store in chains or as a tool for agents.

On this page, you'll find the node parameters for the MongoDB Atlas Vector Store node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mongodb.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Prerequisites

Before using this node, create a [Vector Search index](https://www.mongodb.com/docs/atlas/atlas-vector-search/vector-search-type/) in your MongoDB Atlas collection. Follow these steps to create one:

1. Log in to the [MongoDB Atlas dashboard](https://cloud.mongodb.com/).

3. Select your organization and project.

4. Find "Search & Vector Search" section.

5. Select your cluster and click "Go to search".

7. Click "Create Search Index".

8. Choose "Vector Search" mode and use the visual or JSON editors. For example:

```json

{

"fields": [

{

"type": "vector",

"path": "<field-name>",

"numDimensions": 1536, // any other value

"similarity": "<similarity-function>"

}

]

}

```

9. Adjust the "dimensions" value according to your embedding model (For example, `1536` for OpenAI's `text-embedding-small-3`).

10. Name your index and create.

Make sure to note the following values which are required when configuring the node:

- Collection name

- Vector index name

- Field names for embeddings and metadata

## Node usage patterns

You can use the MongoDB Atlas Vector Store node in the following patterns:

### Use as a regular node to insert and retrieve documents

You can use the MongoDB Atlas Vector Store as a regular node to insert or get documents. This pattern places the MongoDB Atlas Vector Store in the regular connection flow without using an agent.

You can see an example of this in scenario 1 of [this template](https://n8n.io/workflows/2621-ai-agent-to-chat-with-files-in-supabase-storage/) (the template uses the Supabase Vector Store, but the pattern is the same).

### Connect directly to an AI agent as a tool

You can connect the MongoDB Atlas Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use the vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> MongoDB Atlas Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the MongoDB Atlas Vector Store node to fetch documents from the MongoDB Atlas Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

An [example of the connection flow](https://n8n.io/workflows/1960-ask-questions-about-a-pdf-using-ai/) (the linked example uses Pinecone, but the pattern is the same) would be: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> MongoDB Atlas Vector Store.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the MongoDB Atlas Vector Store node. Rather than connecting the MongoDB Atlas Vector Store directly as a tool, this pattern uses a tool specifically designed to summarize data in the vector store.

The [connections flow](https://n8n.io/workflows/2465-building-your-first-whatsapp-chatbot/) (the linked example uses the In-Memory Vector Store, but the pattern is the same) in this case would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> In-Memory Vector store.

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

<!-- vale off -->

### Get Many parameters

<!-- vale on -->

- \*\*Mongo Collection\*\*: Enter the name of the MongoDB collection to use.

- \*\*Vector Index Name\*\*: Enter the name of the Vector Search index in your MongoDB Atlas collection.

- \*\*Embedding Field\*\*: Enter the field name in your documents that contains the vector embeddings.

- \*\*Metadata Field\*\*: Enter the field name in your documents that contains the text metadata.

### Insert Documents parameters

- \*\*Mongo Collection\*\*: Enter the name of the MongoDB collection to use.

- \*\*Vector Index Name\*\*: Enter the name of the Vector Search index in your MongoDB Atlas collection.

- \*\*Embedding Field\*\*: Enter the field name in your documents that contains the vector embeddings.

- \*\*Metadata Field\*\*: Enter the field name in your documents that contains the text metadata.

### Retrieve Documents parameters (As Vector Store for Chain/Tool)

- \*\*Mongo Collection\*\*: Enter the name of the MongoDB collection to use.

- \*\*Vector Index Name\*\*: Enter the name of the Vector Search index in your MongoDB Atlas collection.

- \*\*Embedding Field\*\*: Enter the field name in your documents that contains the vector embeddings.

- \*\*Metadata Field\*\*: Enter the field name in your documents that contains the text metadata.

### Retrieve Documents (As Tool for AI Agent) parameters

- \*\*Name\*\*: The name of the vector store.

- \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

- \*\*Mongo Collection\*\*: Enter the name of the MongoDB collection to use.

- \*\*Vector Index Name\*\*: Enter the name of the Vector Search index in your MongoDB Atlas collection.

- \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

## Node options

### Options

- \*\*Metadata Filter\*\*: Filters results based on metadata.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mongodb-atlas-vector-store') ]]

## Related resources

Refer to:

- [LangChain's MongoDB Atlas Vector Search documentation](https://js.langchain.com/docs/integrations/vectorstores/mongodb\_atlas){:target=\_blank .external-link} for more information about the service.

- [MongoDB Atlas Vector Search documentation](https://www.mongodb.com/docs/atlas/atlas-vector-search/){:target=\_blank .external-link} for more information about MongoDB Atlas Vector Search.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_snippets/self-hosting/starter-kits/self-hosted-ai-starter-kit.md"

## n8n-nodes-langchain.vectorstorepgvector.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PGVector Vector Store node documentation

description: Learn how to use the PGVector Vector Store node in n8n. Follow technical documentation to integrate PGVector Vector Store node into your workflows.

priority: medium

---

# PGVector Vector Store node

PGVector is an extension of Postgresql. Use this node to interact with the PGVector tables in your Postgresql database. You can insert documents into a vector table, get documents from a vector table, retrieve documents to provide them to a retriever connected to a [chain](/glossary.md#ai-chain), or connect directly to an [agent](/glossary.md#ai-agent) as a [tool](/glossary.md#ai-tool).

On this page, you'll find the node parameters for the PGVector node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/postgres.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node usage patterns

You can use the PGVector Vector Store node in the following patterns.

### Use as a regular node to insert and retrieve documents

You can use the PGVector Vector Store as a regular node to insert or get documents. This pattern places the PGVector Vector Store in the regular connection flow without using an agent.

You can see an example of this in scenario 1 of [this template](https://n8n.io/workflows/2621-ai-agent-to-chat-with-files-in-supabase-storage/) (the template uses the Supabase Vector Store, but the pattern is the same).

### Connect directly to an AI agent as a tool

You can connect the PGVector Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> PGVector Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the PGVector Vector Store node to fetch documents from the PGVector Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

An [example of the connection flow](https://n8n.io/workflows/1960-ask-questions-about-a-pdf-using-ai/) (the linked example uses Pinecone, but the pattern is the same) would be: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> PGVector Vector Store.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the PGVector Vector Store node. Rather than connecting the PGVector Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

The [connections flow](https://n8n.io/workflows/2465-building-your-first-whatsapp-chatbot/) (the linked example uses the Simple Vector Store, but the pattern is the same) in this case would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> Simple Vector store.

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

<!-- vale off -->

### Get Many parameters

<!-- vale on -->

\* \*\*Table name\*\*: Enter the name of the table you want to query.

\* \*\*Prompt\*\*: Enter your search query.

\* \*\*Limit\*\*: Enter a number to set how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Insert Documents parameters

\* \*\*Table name\*\*: Enter the name of the table you want to query.

### Retrieve Documents parameters (As Vector Store for Chain/Tool)

\* \*\*Table name\*\*: Enter the name of the table you want to query.

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Name\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Table Name\*\*: Enter the PGVector table to use.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

## Node options

### Collection

A way to separate datasets in PGVector. This creates a separate table and column to keep track of which collection a vector belongs to.

\* \*\*Use Collection\*\*: Select whether to use a collection (turned on) or not (turned off).

\* \*\*Collection Name\*\*: Enter the name of the collection you want to use.

\* \*\*Collection Table Name\*\*: Enter the name of the table to store collection information in.

### Column Names

The following options specify the names of the columns to store the vectors and corresponding information in:

\* \*\*ID Column Name\*\*

\* \*\*Vector Column Name\*\*

\* \*\*Content Column Name\*\*

\* \*\*Metadata Column Name\*\*

### Metadata Filter

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/vector-store-metadata-filter.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'postgres-pgvector-store') ]]

## Related resources

Refer to [LangChain's PGVector documentation](https://js.langchain.com/docs/integrations/vectorstores/pgvector){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_snippets/self-hosting/starter-kits/self-hosted-ai-starter-kit.md"

## n8n-nodes-langchain.vectorstorepinecone.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pinecone Vector Store node documentation

description: Learn how to use the Pinecone Vector Store node in n8n. Follow technical documentation to integrate Pinecone Vector Store node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Pinecone Vector Store node

Use the Pinecone node to interact with your Pinecone database as [vector store](/glossary.md#ai-vector-store). You can insert documents into a vector database, get documents from a vector database, retrieve documents to provide them to a retriever connected to a [chain](/glossary.md#ai-chain), or connect directly to an [agent](/glossary.md#ai-agent) as a [tool](/glossary.md#ai-tool).

On this page, you'll find the node parameters for the Pinecone node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/pinecone.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node usage patterns

You can use the Pinecone Vector Store node in the following patterns.

### Use as a regular node to insert, update, and retrieve documents

You can use the Pinecone Vector Store as a regular node to insert, update, or get documents. This pattern places the Pinecone Vector Store in the regular connection flow without using an agent.

You can see an example of this in scenario 1 of [this template](https://n8n.io/workflows/2165-chat-with-pdf-docs-using-ai-quoting-sources/).

### Connect directly to an AI agent as a tool

You can connect the Pinecone Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> Pinecone Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the Pinecone Vector Store node to fetch documents from the Pinecone Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

An [example of the connection flow](https://n8n.io/workflows/1960-ask-questions-about-a-pdf-using-ai/) would be: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> Pinecone Vector Store.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the Pinecone Vector Store node. Rather than connecting the Pinecone Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

The [connections flow](https://n8n.io/workflows/2705-chat-with-github-api-documentation-rag-powered-chatbot-with-pinecone-and-openai/) in this case would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> Pinecone Vector store.

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode-with-update.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

<!-- vale from-write-good.Weasel = NO -->

### Get Many parameters

<!-- vale from-write-good.Weasel = YES -->

\* \*\*Pinecone Index\*\*: Select or enter the Pinecone Index to use.

\* \*\*Prompt\*\*: Enter your search query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Insert Documents parameters

\* \*\*Pinecone Index\*\*: Select or enter the Pinecone Index to use.

### Retrieve Documents (As Vector Store for Chain/Tool) parameters

\* \*\*Pinecone Index\*\*: Select or enter the Pinecone Index to use.

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Name\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Pinecone Index\*\*: Select or enter the Pinecone Index to use.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

## Node options

### Pinecone Namespace

Another segregation option for how to store your data within the index.

### Metadata Filter

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/vector-store-metadata-filter.md"

### Clear Namespace

Available in \*\*Insert Documents\*\* mode. Deletes all data from the namespace before inserting the new data.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'pinecone-vector-store') ]]

## Related resources

Refer to [LangChain's Pinecone documentation](https://js.langchain.com/docs/integrations/vectorstores/pinecone/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

### Find your Pinecone index and namespace

Your Pinecone index and namespace are available in your Pinecone account.

![Screenshot of a Pinecone account, with the Pinecone index labelled](/\_images/integrations/builtin/cluster-nodes/vectorstorepinecone/pinecone-index-namespace.png)

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.vectorstoreqdrant.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Qdrant Vector Store node documentation

description: Learn how to use the Qdrant Vector Store node in n8n. Follow technical documentation to integrate Qdrant Vector Store node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Qdrant Vector Store node

Use the Qdrant node to interact with your Qdrant collection as a [vector store](/glossary.md#ai-vector-store). You can insert documents into a vector database, get documents from a vector database, retrieve documents to provide them to a retriever connected to a [chain](/glossary.md#ai-chain) or connect it directly to an [agent](/glossary.md#ai-agent) to use as a [tool](/glossary.md#ai-tool).

On this page, you'll find the node parameters for the Qdrant node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/qdrant.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node usage patterns

You can use the Qdrant Vector Store node in the following patterns.

### Use as a regular node to insert and retrieve documents

You can use the Qdrant Vector Store as a regular node to insert or get documents. This pattern places the Qdrant Vector Store in the regular connection flow without using an agent.

You can see an example of this in the first part of [this template](https://n8n.io/workflows/2440-building-rag-chatbot-for-movie-recommendations-with-qdrant-and-open-ai/).

### Connect directly to an AI agent as a tool

You can connect the Qdrant Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> Qdrant Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the Qdrant Vector Store node to fetch documents from the Qdrant Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

An [example of the connection flow](https://n8n.io/workflows/2183-ai-crew-to-automate-fundamental-stock-analysis-qanda-workflow/) would be: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> Qdrant Vector Store.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the Qdrant Vector Store node. Rather than connecting the Qdrant Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

The [connections flow](https://n8n.io/workflows/2464-scale-deal-flow-with-a-pitch-deck-ai-vision-chatbot-and-qdrant-vector-store/) in this case would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> Qdrant Vector store.

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

<!-- vale from-write-good.Weasel = NO -->

### Get Many parameters

<!-- vale from-write-good.Weasel = YES -->

\* \*\*Qdrant collection name\*\*: Enter the name of the Qdrant collection to use.

\* \*\*Prompt\*\*: Enter the search query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

This Operation Mode includes one \*\*Node option\*\*, the [Metadata Filter](#metadata-filter).

### Insert Documents parameters

\* \*\*Qdrant collection name\*\*: Enter the name of the Qdrant collection to use.

This Operation Mode includes one \*\*Node option\*\*:

\* \*\*Collection Config\*\*: Enter JSON options for creating a Qdrant collection creation configuration. Refer to the Qdrant [Collections](https://qdrant.tech/documentation/concepts/collections/){:target=\_blank .external-link} documentation for more information.

### Retrieve Documents (As Vector Store for Chain/Tool) parameters

\* \*\*Qdrant Collection\*\*: Enter the name of the Qdrant collection to use.

This Operation Mode includes one \*\*Node option\*\*, the [Metadata Filter](#metadata-filter).

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Name\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Qdrant Collection\*\*: Enter the name of the Qdrant collection to use.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

## Node options

### Metadata Filter

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/vector-store-metadata-filter.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'qdrant-vector-store') ]]

## Related resources

Refer to [LangChain's Qdrant documentation](https://js.langchain.com/docs/integrations/vectorstores/qdrant){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_snippets/self-hosting/starter-kits/self-hosted-ai-starter-kit.md"

## n8n-nodes-langchain.vectorstoresupabase.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Supabase Vector Store node documentation

description: Learn how to use the Supabase Vector Store node in n8n. Follow technical documentation to integrate Supabase Vector Store node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Supabase Vector Store node

Use the Supabase Vector Store to interact with your Supabase database as [vector store](/glossary.md#ai-vector-store). You can insert documents into a vector database, get documents from a vector database, retrieve documents to provide them to a retriever connected to a [chain](/glossary.md#ai-chain), or connect it directly to an [agent](/glossary.md#ai-agent) to use as a [tool](/glossary.md#ai-tool).

On this page, you'll find the node parameters for the Supabase node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/supabase.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

Supabase provides a [quickstart for setting up your vector store](https://supabase.com/docs/guides/ai/langchain?database-method=sql){:target=\_blank .external-link}. If you use settings other than the defaults in the quickstart, this may affect parameter settings in n8n. Make sure you understand what you're doing.

## Node usage patterns

You can use the Supabase Vector Store node in the following patterns.

### Use as a regular node to insert, update, and retrieve documents

You can use the Supabase Vector Store as a regular node to insert, update, or get documents. This pattern places the Supabase Vector Store in the regular connection flow without using an agent.

You can see an example of this in scenario 1 of [this template](https://n8n.io/workflows/2621-ai-agent-to-chat-with-files-in-supabase-storage/).

### Connect directly to an AI agent as a tool

You can connect the Supabase Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> Supabase Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the Supabase Vector Store node to fetch documents from the Supabase Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

An [example of the connection flow](https://n8n.io/workflows/1960-ask-questions-about-a-pdf-using-ai/) (the example uses Pinecone, but the pattern in the same) would be: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> Supabase Vector Store.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the Supabase Vector Store node. Rather than connecting the Supabase Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

The [connections flow](https://n8n.io/workflows/2621-ai-agent-to-chat-with-files-in-supabase-storage/) in this case would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> Supabase Vector store.

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode-with-update.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

<!-- vale from-write-good.Weasel = NO -->

### Get Many parameters

<!-- vale from-write-good.Weasel = YES -->

\* \*\*Table Name\*\*: Enter the Supabase table to use.

\* \*\*Prompt\*\*: Enter the search query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Insert Documents parameters

\* \*\*Table Name\*\*: Enter the Supabase table to use.

### Retrieve Documents (As Vector Store for Chain/Tool) parameters

\* \*\*Table Name\*\*: Enter the Supabase table to use.

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Name\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Table Name\*\*: Enter the Supabase table to use.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Update Documents

\* \*\*Table Name\*\*: Enter the Supabase table to use.

\* \*\*ID\*\*: The ID of an embedding entry.

## Node options

### Query Name

The name of the matching function you set up in Supabase. If you follow the [Supabase quickstart](https://supabase.com/docs/guides/ai/langchain?database-method=sql){:target=\_blank .external-link}, this will be `match\_documents`.

### Metadata Filter

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/vector-store-metadata-filter.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'supabase-vector-store') ]]

## Related resources

Refer to [LangChain's Supabase documentation](https://js.langchain.com/docs/integrations/vectorstores/supabase/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.vectorstoreweaviate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Weaviate Vector Store node documentation

description: Learn how to use the Weaviate Vector Store node in n8n. Follow technical documentation to integrate Weaviate Vector Store node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Weaviate Vector Store node

Use the Weaviate node to interact with your Weaviate collection as a [vector store](/glossary.md#ai-vector-store). You can insert documents into or retrieve documents from a vector database. You can also retrieve documents to provide them to a retriever connected to a [chain](/glossary.md#ai-chain) or connect this node directly to an [agent](/glossary.md#ai-agent) to use as a [tool](/glossary.md#ai-tool).

On this page, you'll find the node parameters for the Weaviate node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/weaviate.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node usage patterns

You can use the Weaviate Vector Store node in the following patterns.

### Use as a regular node to insert and retrieve documents

You can use the Weaviate Vector Store as a regular node to insert or get documents. This pattern places the Weaviate Vector Store in the regular connection flow without using an agent.

### Connect directly to an AI agent as a tool

You can connect the Weaviate Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> Weaviate Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the Weaviate Vector Store node to fetch documents from the Weaviate Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the Weaviate Vector Store node. Rather than connecting the Weaviate Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

## Node parameters

/// note | Multitenancy

You can separate your data into isolated tenants for the same collection (for example, for different customers). For that, you must always provide a [Tenant Name](#tenant-name) both when inserting and retrieving objects. [Read more about multi tenancy in Weaviate docs](https://docs.weaviate.io/weaviate/manage-collections/multi-tenancy).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode.md"

<!-- vale from-write-good.Weasel = NO -->

### Get Many parameters

<!-- vale from-write-good.Weasel = YES -->

\* \*\*Weaviate Collection\*\*: Enter the name of the Weaviate collection to use.

\* \*\*Prompt\*\*: Enter the search query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Insert Documents parameters

\* \*\*Weaviate Collection\*\*: Enter the name of the Weaviate collection to use.

\* \*\*Embedding Batch Size\*\*: The number of documents to embed in a single batch. The default is 200 documents.

### Retrieve Documents (As Vector Store for Chain/Tool) parameters

\* \*\*Weaviate Collection\*\*: Enter the name of the Weaviate collection to use.

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Weaviate Collection\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Weaviate Collection\*\*: Enter the name of the Weaviate collection to use.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Include Metadata

Whether to include document metadata.

You can use this with the [Get Many](#get-many) and [Retrieve Documents (As Tool for AI Agent)](#retrieve-documents-as-tool-for-ai-agent-parameters) modes.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

## Node options

### Search Filters

Available for the [Get Many](#get-many), [Retrieve Documents (As Vector Store for Chain/Tool)](#retrieve-documents-as-vector-store-for-chaintool), and [Retrieve Documents (As Tool for AI Agent)](#retrieve-documents-as-tool-for-ai-agent) operation modes.

When searching for data, use this to match metadata associated with documents. You can learn more about the operators and query structure in [Weaviate's conditional filters documentation](https://docs.weaviate.io/weaviate/api/graphql/filters#filter-structure).

You can use both `AND` and `OR` with different operators. Operators are case insensitive:

```json

{

"OR": [

{

"path": ["source"],

"operator": "Equal",

"valueString": "source1"

},

{

"path": ["source"],

"operator": "Equal",

"valueString": "source1"

}

]

}

```

Supported operators:

| Operator | Required Field(s) | Description |

|--------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| `'equal'` | `valueString` or `valueNumber` | Checks if the property is equal to the given string or number. |

| `'like'` | `valueString` | Checks if the string property matches a pattern (for example, sub-string match). |

| `'containsAny'` | `valueTextArray` (string\[]) | Checks if the property contains \*\*any\*\* of the given values. |

| `'containsAll'` | `valueTextArray` (string\[]) | Checks if the property contains \*\*all\*\* of the given values. |

| `'greaterThan'` | `valueNumber` | Checks if the property value is greater than the given number. |

| `'lessThan'` | `valueNumber` | Checks if the property value is less than the given number. |

| `'isNull'` | `valueBoolean` (true/false) | Checks if the property is null or not. ([must enable before ingestion](https://docs.weaviate.io/weaviate/manage-collections/collection-operations#set-inverted-index-parameters)) |

| `'withinGeoRange'` | `valueGeoCoordinates` (object with geolocation data) | Filters by proximity to geographic coordinates. |

When inserting data, the document loader sets the metadata. Refer to [Default Data Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentdefaultdataloader.md) for more information on loading documents.

### Metadata Keys

You can define which metadata keys you want Weaviate to return on your queries. This can reduce network load, as you will only get properties you have defined. Returns all properties from the server by default.

Available for the [Get Many](#get-many), [Retrieve Documents (As Vector Store for Chain/Tool)](#retrieve-documents-as-vector-store-for-chaintool), and [Retrieve Documents (As Tool for AI Agent)](#retrieve-documents-as-tool-for-ai-agent) operation modes.

### Tenant Name

The specific tenant to store or retrieve documents for.

/// note | Must enable at creation

You must pass a tenant name at first ingestion to enable multitenancy for a collection. You can't enable or disable multitenancy after creation.

///

### Text Key

The key in the document that contains the embedded text.

### Skip Init Checks

Whether to [skip initialization checks](https://docs.weaviate.io/weaviate/client-libraries/typescript/notes-best-practices#initial-connection-checks) when instantiating the client.

### Init Timeout

Number of seconds to wait before [timing out](https://docs.weaviate.io/weaviate/client-libraries/typescript/notes-best-practices#timeout-values) during initial checks.

### Insert Timeout

Number of seconds to wait before [timing out](https://docs.weaviate.io/weaviate/client-libraries/typescript/notes-best-practices#timeout-values) during inserts.

### Query Timeout

Number of seconds to wait before [timing out](https://docs.weaviate.io/weaviate/client-libraries/typescript/notes-best-practices#timeout-values) during queries.

### GRPC Proxy

A proxy to use for gRPC requests.

### Clear Data

Available for the [Insert Documents](#insert-documents) operation mode.

Whether to clear the collection or tenant before inserting new data.

## Templates and examples

[[ templatesWidget(page.title, 'weaviate-vector-store') ]]

## Related resources

Refer to [LangChain's Weaviate documentation](https://js.langchain.com/docs/integrations/vectorstores/weaviate/){:target=\_blank .external-link} for more information about the service.

Refer to [Weaviate Installation](https://docs.weaviate.io/deploy) for a self hosted Weaviate Cluster.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## n8n-nodes-langchain.vectorstorezep.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zep Vector Store node documentation

description: Learn how to use the Zep Vector Store node in n8n. Follow technical documentation to integrate Zep Vector Store node into your workflows.

contentType: [integration, reference]

---

# Zep Vector Store node

Use the Zep Vector Store to interact with Zep vector databases. You can insert documents into a vector database, get documents from a vector database, retrieve documents to provide them to a retriever connected to a [chain](/glossary.md#ai-chain), or connect it directly to an [agent](/glossary.md#ai-agent) to use as a [tool](/glossary.md#ai-tool).

On this page, you'll find the node parameters for the Zep Vector Store node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/zep.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Zep Vector Store integrations](https://n8n.io/integrations/zep-vector-store/){:target=\_blank .external-link} page.

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node usage patterns

You can use the Zep Vector Store node in the following patterns.

### Use as a regular node to insert, update, and retrieve documents

You can use the Zep Vector Store as a regular node to insert or get documents. This pattern places the Zep Vector Store in the regular connection flow without using an agent.

You can see an example of this in scenario 1 of [this template](https://n8n.io/workflows/2621-ai-agent-to-chat-with-files-in-supabase-storage/) (the example uses Supabase, but the pattern is the same).

### Connect directly to an AI agent as a tool

You can connect the Zep Vector Store node directly to the tool connector of an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) to use a vector store as a resource when answering queries.

Here, the connection would be: AI agent (tools connector) -> Zep Vector Store node.

### Use a retriever to fetch documents

You can use the [Vector Store Retriever](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.retrievervectorstore.md) node with the Zep Vector Store node to fetch documents from the Zep Vector Store node. This is often used with the [Question and Answer Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) node to fetch documents from the vector store that match the given chat input.

An [example of the connection flow](https://n8n.io/workflows/1960-ask-questions-about-a-pdf-using-ai/) (the example uses Pinecone, but the pattern in the same) would be: Question and Answer Chain (Retriever connector) -> Vector Store Retriever (Vector Store connector) -> Zep Vector Store.

### Use the Vector Store Question Answer Tool to answer questions

Another pattern uses the [Vector Store Question Answer Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md) to summarize results and answer questions from the Zep Vector Store node. Rather than connecting the Zep Vector Store directly as a tool, this pattern uses a tool specifically designed to summarizes data in the vector store.

The [connections flow](https://n8n.io/workflows/2621-ai-agent-to-chat-with-files-in-supabase-storage/) (this example uses Supabase, but the pattern is the same) in this case would look like this: AI agent (tools connector) -> Vector Store Question Answer Tool (Vector Store connector) -> Zep Vector store.

## Node parameters

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-mode.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/vector-store-rerank-results.md"

### Insert Documents parameters

\* \*\*Collection Name\*\*: Enter the collection name to store the data in.

<!-- vale from-write-good.Weasel = NO -->

### Get Many parameters

<!-- vale from-write-good.Weasel = YES -->

\* \*\*Collection Name\*\*: Enter the collection name to retrieve the data from.

\* \*\*Prompt\*\*: Enter the search query.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

### Retrieve Documents (As Vector Store for Chain/Tool) parameters

\* \*\*Collection Name\*\*: Enter the collection name to retrieve the data from.

### Retrieve Documents (As Tool for AI Agent) parameters

\* \*\*Name\*\*: The name of the vector store.

\* \*\*Description\*\*: Explain to the LLM what this tool does. A good, specific description allows LLMs to produce expected results more often.

\* \*\*Collection Name\*\*: Enter the collection name to retrieve the data from.

\* \*\*Limit\*\*: Enter how many results to retrieve from the vector store. For example, set this to `10` to get the ten best results.

## Node options

### Embedding Dimensions

Must be the same when embedding the data and when querying it.

This sets the size of the array of floats used to represent the semantic meaning of a text document.

Read more about Zep embeddings in [Zep's embeddings documentation](https://docs.getzep.com/deployment/embeddings/){:target=\_blank .external-link}.

### Is Auto Embedded

Available in the \*\*Insert Documents\*\* Operation Mode, enabled by default.

Disable this to configure your embeddings in Zep instead of in n8n.

### Metadata Filter

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/vector-store-metadata-filter.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'zep-vector-store') ]]

## Related resources

Refer to [LangChain's Zep documentation](https://js.langchain.com/docs/integrations/vectorstores/zep/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AI Agent node common issues

description: Documentation for common issues and questions in the AI Agent node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# AI Agent node common issues

Here are some common errors and issues with the [AI Agent node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) and steps to resolve or troubleshoot them.

## Internal error: 400 Invalid value for 'content'

A full error message might look like this:

```

Internal error

Error: 400 Invalid value for 'content': expected a string, got null.

<stack-trace>

```

This error can occur if the \*\*Prompt\*\* input contains a null value.

You might see this in one of two scenarios:

1. When you've set the \*\*Prompt\*\* to \*\*Define below\*\* and have an expression in your \*\*Text\*\* that isn't generating a value.

\* To resolve, make sure your expressions reference valid fields and that they resolve to valid input rather than null.

2. When you've set the \*\*Prompt\*\* to \*\*Connected Chat Trigger Node\*\* and the incoming data has null values.

\* To resolve, remove any null values from the `chatInput` field of the input node.

## Error in sub-node Simple Memory

This error displays when n8n runs into an issue with the [Simple Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorybufferwindow/index.md) sub-node.

It most often occurs when your workflow or the workflow template you copied uses an older version of the Simple memory node (previously known as "Window Buffer Memory").

Try removing the Simple Memory node from your workflow and re-adding it, which will guarantee you're using the latest version of the node.

## A Chat Model sub-node must be connected error

This error displays when n8n tries to execute the node without having a Chat Model connected.

To resolve this, click the + Chat Model button at the bottom of your screen when the node is open, or click the Chat Model + connector when the node is closed. n8n will then open a selection of possible Chat Models to pick from.

## No prompt specified error

This error occurs when the agent expects to get the prompt from the previous node automatically. Typically, this happens when you're using the [Chat Trigger Node](https://docs.n8n.io/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/).

To resolve this issue, find the \*\*Prompt\*\* parameter of the AI Agent node and change it from \*\*Connected Chat Trigger Node\*\* to \*\*Define below\*\*. This allows you to manually build your prompt by referencing output data from other nodes or by adding static text.

## conversational-agent.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Conversational AI Agent node documentation

description: Learn how to use the Conversational Agent of the AI Agent node in n8n. Follow technical documentation to integrate the Conversational Agent into your workflows.

contentType: [integration, reference]

priority: critical

---

# Conversational AI Agent node

The Conversational Agent has human-like conversations. It can maintain context, understand user intent, and provide relevant answers. This agent is typically used for building chatbots, virtual assistants, and customer support systems.

The Conversational Agent describes [tools](/glossary.md#ai-tool) in the system prompt and parses JSON responses for tool calls. If your preferred AI model doesn't support tool calling or you're handling simpler interactions, this agent is a good general option. It's more flexible but may be less accurate than the [Tools Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/tools-agent.md).

Refer to [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) for more information on the AI Agent node itself.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/use-with-chat-trigger.md"

## Node parameters

Configure the Conversational Agent using the following parameters.

### Prompt

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/prompt.md"

### Require Specific Output Format

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/output-format.md"

## Node options

Refine the Conversational Agent node's behavior using these options:

### Human Message

Tell the agent about the tools it can use and add context to the user's input.

You must include these expressions and variable:

\* `{tools}`: A LangChain expression that provides a string of the tools you've connected to the Agent. Provide some context or explanation about who should use the tools and how they should use them.

\* `{format\_instructions}`: A LangChain expression that provides the schema or format from the output parser node you've connected. Since the instructions themselves are context, you don't need to provide context for this expression.

\* `{{input}}`: A LangChain variable containing the user's prompt. This variable populates with the value of the \*\*Prompt\*\* parameter. Provide some context that this is the user's input.

Here's an example of how you might use these strings:

Example:

```

TOOLS

------

Assistant can ask the user to use tools to look up information that may be helpful in answering the user's original question. The tools the human can use are:

{tools}

{format\_instructions}

USER'S INPUT

--------------------

Here is the user's input (remember to respond with a markdown code snippet of a JSON blob with a single action, and NOTHING else):

{{input}}

```

### System Message

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/system-message.md"

### Max Iterations

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/max-iterations.md"

### Return Intermediate Steps

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/return-intermediate-steps.md"

## Templates and examples

Refer to the main AI Agent node's [Templates and examples](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md#templates-and-examples) section.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AI Agent node documentation

description: Learn how to use the AI Agent node in n8n. Follow technical documentation to integrate AI Agent node into your workflows.

contentType: [integration, reference]

priority: critical

---

# AI Agent node

An [AI agent](/glossary.md#ai-agent) is an autonomous system that receives data, makes rational decisions, and acts within its environment to achieve specific goals. The AI agent's environment is everything the agent can access that isn't the agent itself. This agent uses external [tools](/glossary.md#ai-tool) and APIs to perform actions and retrieve information. It can understand the capabilities of different tools and determine which tool to use depending on the task.

/// note | Connect a tool

You must connect at least one tool [sub-node](/integrations/builtin/cluster-nodes/sub-nodes/index.md) to an AI Agent node.

///

/// note | Agent type

Prior to version 1.82.0, the AI Agent had a setting for working as different agent types. This has now been removed and all AI Agent nodes work as a `Tools Agent` which was the recommended and most frequently used setting. If you're working with older versions of the AI Agent in workflows or templates, as long as they were set to 'Tools Agent', they should continue to behave as intended with the updated node.

///

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'agent') ]]

## Related resources

Refer to [LangChain's documentation on agents](https://js.langchain.com/docs/concepts/agents/){:target=\_blank .external-link} for more information about the service.

New to AI Agents? Read the [n8n blog introduction to AI agents](https://blog.n8n.io/ai-agents/){:target=\_blank .external-link}.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## openai-functions-agent.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI Functions Agent node documentation

description: Learn how to use the OpenAI Functions Agent of the AI Agent node in n8n. Follow technical documentation to integrate the OpenAI Functions Agent into your workflows.

contentType: [integration, reference]

priority: critical

---

# OpenAI Functions Agent node

Use the OpenAI Functions Agent node to use an [OpenAI functions model](https://platform.openai.com/docs/guides/function-calling){:target=\_blank .external-link}. These are models that detect when a function should be called and respond with the inputs that should be passed to the function.

Refer to [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) for more information on the AI Agent node itself.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/use-with-chat-trigger.md"

/// note | OpenAI Chat Model required

You must use the [OpenAI Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/index.md) with this agent.

///

## Node parameters

Configure the OpenAI Functions Agent using the following parameters.

### Prompt

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/prompt.md"

### Require Specific Output Format

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/output-format.md"

## Node options

Refine the OpenAI Functions Agent node's behavior using these options:

### System Message

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/system-message.md"

### Max Iterations

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/max-iterations.md"

### Return Intermediate Steps

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/return-intermediate-steps.md"

## Templates and examples

Refer to the main AI Agent node's [Templates and examples](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md#templates-and-examples) section.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## plan-execute-agent.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Plan and Execute AI Agent node documentation

description: Learn how to use the Plan and Execute Agent of the AI Agent node in n8n. Follow technical documentation to integrate the Plan and Execute Agent into your workflows.

contentType: [integration, reference]

priority: critical

---

# Plan and Execute Agent node

The Plan and Execute Agent is like the [ReAct agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/react-agent.md) but with a focus on planning. It first creates a high-level plan to solve the given task and then executes the plan step by step. This agent is most useful for tasks that require a structured approach and careful planning.

Refer to [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) for more information on the AI Agent node itself.

## Node parameters

Configure the Plan and Execute Agent using the following parameters.

### Prompt

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/prompt.md"

### Require Specific Output Format

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/output-format.md"

## Node options

Refine the Plan and Execute Agent node's behavior using these options:

### Human Message Template

Enter a message that n8n will send to the agent during each step execution.

Available LangChain expressions:

\* `{previous\_steps}`: Contains information about the previous steps the agent's already completed.

\* `{current\_step}`: Contains information about the current step.

\* `{agent\_scratchpad}`: Information to remember for the next iteration.

## Templates and examples

Refer to the main AI Agent node's [Templates and examples](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md#templates-and-examples) section.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## react-agent.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ReAct AI Agent node documentation

description: Learn how to use the ReAct Agent of the AI Agent node in n8n. Follow technical documentation to integrate the ReAct Agent into your workflows.

contentType: [integration, reference]

priority: critical

---

# ReAct AI Agent node

The ReAct Agent node implements [ReAct](https://react-lm.github.io/){:target=\_blank .external-link} logic. ReAct (reasoning and acting) brings together the reasoning powers of chain-of-thought prompting and action plan generation.

The ReAct Agent reasons about a given task, determines the necessary actions, and then executes them. It follows the cycle of reasoning and acting until it completes the task. The ReAct agent can break down complex tasks into smaller sub-tasks, prioritise them, and execute them one after the other.

Refer to [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) for more information on the AI Agent node itself.

/// note | No memory

The ReAct agent doesn't support memory sub-nodes. This means it can't recall previous prompts or simulate an ongoing conversation.

///

## Node parameters

Configure the ReAct Agent using the following parameters.

### Prompt

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/prompt.md"

### Require Specific Output Format

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/output-format.md"

## Node options

Use the options to create a message to send to the agent at the start of the conversation. The message type depends on the model you're using:

\* \*\*Chat models\*\*: These models have the concept of three components interacting (AI, system, and human). They can receive system messages and human messages (prompts).

\* \*\*Instruct models\*\*: These models don't have the concept of separate AI, system, and human components. They receive one body of text, the instruct message.

### Human Message Template

Use this option to extend the user prompt. This is a way for the agent to pass information from one iteration to the next.

Available LangChain expressions:

\* `{input}`: Contains the user prompt.

\* `{agent\_scratchpad}`: Information to remember for the next iteration.

### Prefix Message

Enter text to prefix the tools list at the start of the conversation. You don't need to add the list of tools. LangChain automatically adds the tools list.

### Suffix Message for Chat Model

Add text to append after the tools list at the start of the conversation when the agent uses a chat model. You don't need to add the list of tools. LangChain automatically adds the tools list.

### Suffix Message for Regular Model

Add text to append after the tools list at the start of the conversation when the agent uses a regular/instruct model. You don't need to add the list of tools. LangChain automatically adds the tools list.

### Return Intermediate Steps

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/return-intermediate-steps.md"

## Related resources

Refer to LangChain's [ReAct Agents](https://js.langchain.com/docs/concepts/agents/){:target=\_blank .external-link} documentation for more information.

## Templates and examples

Refer to the main AI Agent node's [Templates and examples](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md#templates-and-examples) section.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## sql-agent.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SQL AI Agent node documentation

description: Learn how to use the SQL Agent of the AI Agent node in n8n. Follow technical documentation to integrate the SQL Agent into your workflows.

contentType: [integration, reference]

priority: critical

---

# SQL AI Agent node

The SQL Agent uses a SQL database as a data source. It can understand natural language questions, convert them into SQL queries, execute the queries, and present the results in a user-friendly format. This agent is valuable for building natural language interfaces to databases.

Refer to [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) for more information on the AI Agent node itself.

## Node parameters

Configure the SQL Agent using the following parameters.

### Data Source

Choose the database to use as a data source for the node. Options include:

\* \*\*MySQL\*\*: Select this option to use a MySQL database.

\* Also select the \*\*Credential for MySQL\*\*.

\* \*\*SQLite\*\*: Select this option to use a SQLite database.

\* You must add a [Read/Write File From Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node before the Agent to read your SQLite file.

\* Also enter the \*\*Input Binary Field\*\* name of your SQLite file coming from the Read/Write File From Disk node.

\* \*\*Postgres\*\*: Select this option to use a Postgres database.

\* Also select the \*\*Credential for Postgres\*\*.

/// warning | Postgres and MySQL Agents

If you are using [Postgres](/integrations/builtin/credentials/postgres.md) or [MySQL](/integrations/builtin/credentials/mysql.md), this agent doesn't support the credential tunnel options.

///

### Prompt

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/prompt.md"

## Node options

Refine the SQL Agent node's behavior using these options:

### Ignored Tables

If you'd like the node to ignore any tables from the database, enter a comma-separated list of tables you'd like it to ignore.

If left empty, the agent doesn't ignore any tables.

### Include Sample Rows

Enter the number of sample rows to include in the prompt to the agent. Default is `3`.

Sample rows help the agent understand the schema of the database, but they also increase the number of tokens used.

### Included Tables

If you'd only like to include specific tables from the database, enter a comma-separated list of tables to include.

If left empty, the agent includes all tables.

### Prefix Prompt

Enter a message you'd like to send to the agent before the \*\*Prompt\*\* text. This initial message can provide more context and guidance to the agent about what it can and can't do, and how to format the response.

n8n fills this field with an example.

### Suffix Prompt

Enter a message you'd like to send to the agent after the \*\*Prompt\*\* text.

Available LangChain expressions:

\* `{chatHistory}`: A history of messages in this conversation, useful for maintaining context.

\* `{input}`: Contains the user prompt.

\* `{agent\_scratchpad}`: Information to remember for the next iteration.

n8n fills this field with an example.

### Limit

Enter the maximum number of results to return.

Default is `10`.

## Templates and examples

Refer to the main AI Agent node's [Templates and examples](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md#templates-and-examples) section.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## tools-agent.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Tools AI Agent node documentation

description: Learn how to use the Tools Agent of the AI Agent node in n8n. Follow technical documentation to integrate the Tools Agent into your workflows.

contentType: [integration, reference]

priority: critical

---

# Tools AI Agent node

The Tools Agent uses external [tools](/glossary.md#ai-tool) and APIs to perform actions and retrieve information. It can understand the capabilities of different tools and determine which tool to use depending on the task. This agent helps integrate LLMs with various external services and databases.

This agent has an enhanced ability to work with tools and can ensure a standard output format.

The Tools Agent implements [Langchain's tool calling](https://js.langchain.com/docs/concepts/tool\_calling/){:target=\_blank .external-link} interface. This interface describes available tools and their schemas. The agent also has improved output parsing capabilities, as it passes the parser to the model as a formatting tool.

Refer to [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) for more information on the AI Agent node itself.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/use-with-chat-trigger.md"

This agent supports the following chat models:

\* [OpenAI Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/index.md)

\* [Groq Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatgroq.md)

\* [Mistral Cloud Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatmistralcloud.md)

\* [Anthropic Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatanthropic.md)

\* [Azure OpenAI Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatazureopenai.md)

??? Details "The Tools Agent can use the following tools..."

\* [Call n8n Workflow](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md)

\* [Code](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolcode.md)

\* [HTTP Request](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolhttprequest.md)

\* [Action Network](/integrations/builtin/app-nodes/n8n-nodes-base.actionnetwork.md)

\* [ActiveCampaign](/integrations/builtin/app-nodes/n8n-nodes-base.activecampaign.md)

\* [Affinity](/integrations/builtin/app-nodes/n8n-nodes-base.affinity.md)

\* [Agile CRM](/integrations/builtin/app-nodes/n8n-nodes-base.agilecrm.md)

\* [Airtable](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md)

\* [APITemplate.io](/integrations/builtin/app-nodes/n8n-nodes-base.apitemplateio.md)

\* [Asana](/integrations/builtin/app-nodes/n8n-nodes-base.asana.md)

\* [AWS Lambda](/integrations/builtin/app-nodes/n8n-nodes-base.awslambda.md)

\* [AWS S3](/integrations/builtin/app-nodes/n8n-nodes-base.awss3.md)

\* [AWS SES](/integrations/builtin/app-nodes/n8n-nodes-base.awsses.md)

\* [AWS Textract](/integrations/builtin/app-nodes/n8n-nodes-base.awstextract.md)

\* [AWS Transcribe](/integrations/builtin/app-nodes/n8n-nodes-base.awstranscribe.md)

\* [Baserow](/integrations/builtin/app-nodes/n8n-nodes-base.baserow.md)

\* [Bubble](/integrations/builtin/app-nodes/n8n-nodes-base.bubble.md)

\* [Calculator](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolcalculator.md)

\* [ClickUp](/integrations/builtin/app-nodes/n8n-nodes-base.clickup.md)

\* [CoinGecko](/integrations/builtin/app-nodes/n8n-nodes-base.coingecko.md)

\* [Compression](/integrations/builtin/core-nodes/n8n-nodes-base.compression.md)

\* [Crypto](/integrations/builtin/core-nodes/n8n-nodes-base.crypto.md)

\* [DeepL](/integrations/builtin/app-nodes/n8n-nodes-base.deepl.md)

\* [DHL](/integrations/builtin/app-nodes/n8n-nodes-base.dhl.md)

\* [Discord](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md)

\* [Dropbox](/integrations/builtin/app-nodes/n8n-nodes-base.dropbox.md)

\* [Elasticsearch](/integrations/builtin/app-nodes/n8n-nodes-base.elasticsearch.md)

\* [ERPNext](/integrations/builtin/app-nodes/n8n-nodes-base.erpnext.md)

\* [Facebook Graph API](/integrations/builtin/app-nodes/n8n-nodes-base.facebookgraphapi.md)

\* [FileMaker](/integrations/builtin/app-nodes/n8n-nodes-base.filemaker.md)

\* [Ghost](/integrations/builtin/app-nodes/n8n-nodes-base.ghost.md)

\* [Git](/integrations/builtin/core-nodes/n8n-nodes-base.git.md)

\* [GitHub](/integrations/builtin/app-nodes/n8n-nodes-base.github.md)

\* [GitLab](/integrations/builtin/app-nodes/n8n-nodes-base.gitlab.md)

\* [Gmail](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md)

\* [Google Analytics](/integrations/builtin/app-nodes/n8n-nodes-base.googleanalytics.md)

\* [Google BigQuery](/integrations/builtin/app-nodes/n8n-nodes-base.googlebigquery.md)

\* [Google Calendar](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md)

\* [Google Chat](/integrations/builtin/app-nodes/n8n-nodes-base.googlechat.md)

\* [Google Cloud Firestore](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudfirestore.md)

\* [Google Cloud Realtime Database](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudrealtimedatabase.md)

\* [Google Contacts](/integrations/builtin/app-nodes/n8n-nodes-base.googlecontacts.md)

\* [Google Docs](/integrations/builtin/app-nodes/n8n-nodes-base.googledocs.md)

\* [Google Drive](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md)

\* [Google Sheets](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md)

\* [Google Slides](/integrations/builtin/app-nodes/n8n-nodes-base.googleslides.md)

\* [Google Tasks](/integrations/builtin/app-nodes/n8n-nodes-base.googletasks.md)

\* [Google Translate](/integrations/builtin/app-nodes/n8n-nodes-base.googletranslate.md)

\* [Google Workspace Admin](/integrations/builtin/app-nodes/n8n-nodes-base.gsuiteadmin.md)

\* [Gotify](/integrations/builtin/app-nodes/n8n-nodes-base.gotify.md)

\* [Grafana](/integrations/builtin/app-nodes/n8n-nodes-base.grafana.md)

\* [GraphQL](/integrations/builtin/core-nodes/n8n-nodes-base.graphql.md)

\* [Hacker News](/integrations/builtin/app-nodes/n8n-nodes-base.hackernews.md)

\* [Home Assistant](/integrations/builtin/app-nodes/n8n-nodes-base.homeassistant.md)

\* [HubSpot](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md)

\* [Jenkins](/integrations/builtin/app-nodes/n8n-nodes-base.jenkins.md)

\* [Jira Software](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md)

\* [JWT](/integrations/builtin/core-nodes/n8n-nodes-base.jwt.md)

\* [Kafka](/integrations/builtin/app-nodes/n8n-nodes-base.kafka.md)

\* [LDAP](/integrations/builtin/core-nodes/n8n-nodes-base.ldap.md)

\* [Line](/integrations/builtin/app-nodes/n8n-nodes-base.line.md)

\* [LinkedIn](/integrations/builtin/app-nodes/n8n-nodes-base.linkedin.md)

\* [Mailcheck](/integrations/builtin/app-nodes/n8n-nodes-base.mailcheck.md)

\* [Mailgun](/integrations/builtin/app-nodes/n8n-nodes-base.mailgun.md)

\* [Mattermost](/integrations/builtin/app-nodes/n8n-nodes-base.mattermost.md)

\* [Mautic](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md)

\* [Medium](/integrations/builtin/app-nodes/n8n-nodes-base.medium.md)

\* [Microsoft Excel 365](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftexcel.md)

\* [Microsoft OneDrive](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md)

\* [Microsoft Outlook](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftoutlook.md)

\* [Microsoft SQL](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftsql.md)

\* [Microsoft Teams](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftteams.md)

\* [Microsoft To Do](/integrations/builtin/app-nodes/n8n-nodes-base.microsofttodo.md)

\* [Monday.com](/integrations/builtin/app-nodes/n8n-nodes-base.mondaycom.md)

\* [MongoDB](/integrations/builtin/app-nodes/n8n-nodes-base.mongodb.md)

\* [MQTT](/integrations/builtin/app-nodes/n8n-nodes-base.mqtt.md)

\* [MySQL](/integrations/builtin/app-nodes/n8n-nodes-base.mysql/index.md)

\* [NASA](/integrations/builtin/app-nodes/n8n-nodes-base.nasa.md)

\* [Nextcloud](/integrations/builtin/app-nodes/n8n-nodes-base.nextcloud.md)

\* [NocoDB](/integrations/builtin/app-nodes/n8n-nodes-base.nocodb.md)

\* [Notion](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md)

\* [Odoo](/integrations/builtin/app-nodes/n8n-nodes-base.odoo.md)

\* [OpenWeatherMap](/integrations/builtin/app-nodes/n8n-nodes-base.openweathermap.md)

\* [Pipedrive](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md)

\* [Postgres](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md)

\* [Pushover](/integrations/builtin/app-nodes/n8n-nodes-base.pushover.md)

\* [QuickBooks Online](/integrations/builtin/app-nodes/n8n-nodes-base.quickbooks.md)

\* [QuickChart](/integrations/builtin/app-nodes/n8n-nodes-base.quickchart.md)

\* [RabbitMQ](/integrations/builtin/app-nodes/n8n-nodes-base.rabbitmq.md)

\* [Reddit](/integrations/builtin/app-nodes/n8n-nodes-base.reddit.md)

\* [Redis](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md)

\* [RocketChat](/integrations/builtin/app-nodes/n8n-nodes-base.rocketchat.md)

\* [S3](/integrations/builtin/app-nodes/n8n-nodes-base.s3.md)

\* [Salesforce](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md)

\* [Send Email](/integrations/builtin/core-nodes/n8n-nodes-base.sendemail.md)

\* [SendGrid](/integrations/builtin/app-nodes/n8n-nodes-base.sendgrid.md)

\* [SerpApi (Google Search)](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolserpapi.md)

\* [Shopify](/integrations/builtin/app-nodes/n8n-nodes-base.shopify.md)

\* [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md)

\* [Spotify](/integrations/builtin/app-nodes/n8n-nodes-base.spotify.md)

\* [Stripe](/integrations/builtin/app-nodes/n8n-nodes-base.stripe.md)

\* [Supabase](/integrations/builtin/app-nodes/n8n-nodes-base.supabase/index.md)

\* [Telegram](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md)

\* [Todoist](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md)

\* [TOTP](/integrations/builtin/core-nodes/n8n-nodes-base.totp.md)

\* [Trello](/integrations/builtin/app-nodes/n8n-nodes-base.trello.md)

\* [Twilio](/integrations/builtin/app-nodes/n8n-nodes-base.twilio.md)

\* [urlscan.io](/integrations/builtin/app-nodes/n8n-nodes-base.urlscanio.md)

\* [Vector Store](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolvectorstore.md)

\* [Webflow](/integrations/builtin/app-nodes/n8n-nodes-base.webflow.md)

\* [Wikipedia](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolwikipedia.md)

\* [Wolfram|Alpha](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolwolframalpha.md)

\* [WooCommerce](/integrations/builtin/app-nodes/n8n-nodes-base.woocommerce.md)

\* [Wordpress](/integrations/builtin/app-nodes/n8n-nodes-base.wordpress.md)

\* [X (Formerly Twitter)](/integrations/builtin/app-nodes/n8n-nodes-base.twitter.md)

\* [YouTube](/integrations/builtin/app-nodes/n8n-nodes-base.youtube.md)

\* [Zendesk](/integrations/builtin/app-nodes/n8n-nodes-base.zendesk.md)

\* [Zoho CRM](/integrations/builtin/app-nodes/n8n-nodes-base.zohocrm.md)

\* [Zoom](/integrations/builtin/app-nodes/n8n-nodes-base.zoom.md)

## Node parameters

Configure the Tools Agent using the following parameters.

### Prompt

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/prompt.md"

### Require Specific Output Format

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/output-format.md"

## Node options

Refine the Tools Agent node's behavior using these options:

### System Message

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/system-message.md"

### Max Iterations

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/max-iterations.md"

### Return Intermediate Steps

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/return-intermediate-steps.md"

<!-- vale off -->

### Automatically Passthrough Binary Images

<!-- vale on -->

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-root-nodes/binary-images.md"

## Templates and examples

Refer to the main AI Agent node's [Templates and examples](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md#templates-and-examples) section.

## Dynamic parameters for tools with `$fromAI()`

To learn how to dynamically populate parameters for app node tools, refer to [Let AI specify tool parameters with `$fromAI()`](/advanced-ai/examples/using-the-fromai-function.md).

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Question and Answer Chain node common issues

description: Documentation for common issues and questions in the Question and Answer Chain node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Question and Answer Chain node common issues

Here are some common errors and issues with the [Question and Answer Chain node](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/index.md) and steps to resolve or troubleshoot them.

## No prompt specified error

This error displays when the \*\*Prompt\*\* is empty or invalid.

You might see this in one of two scenarios:

1. When you've set the \*\*Prompt\*\* to \*\*Define below\*\* and have an expression in your \*\*Text\*\* that isn't generating a value.

\* To resolve, enter a valid prompt in the \*\*Text\*\* field.

\* Make sure any expressions reference valid fields and that they resolve to valid input rather than null.

2. When you've set the \*\*Prompt\*\* to \*\*Connected Chat Trigger Node\*\* and the incoming data has null values.

\* To resolve, make sure your input contains a `chatInput` field. Add an [Edit Fields (Set)](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node to edit an incoming field name to `chatInput`.

\* Remove any null values from the `chatInput` field of the input node.

<!-- vale from-write-good.Passive = NO -->

## A Retriever sub-node must be connected error

<!-- vale from-write-good.Passive = YES -->

This error displays when n8n tries to execute the node without having a Retriever connected.

To resolve this, click the + Retriever button at the bottom of your screen when the node is open, or click the Retriever + connector when the node isn't open. n8n will then open a selection of possible Retrievers to pick from.

## Can't produce longer responses

If you need to generate longer responses than the Question and Answer Chain node produces by default, you can try one or more of the following techniques:

\* \*\*Connect a more verbose model\*\*: Some AI models produce more terse results than others. Swapping your model for one with a larger context window and more verbose output can increase the word length of your responses.

\* \*\*Increase the maximum number of tokens\*\*: Many model nodes (for example the [OpenAI Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/index.md#maximum-number-of-tokens)) include a \*\*Maximum Number of Tokens\*\* option. You can set this to increase the maximum number of tokens the model can use to produce a response.

\* \*\*Build larger responses in stages\*\*: For more detailed answers, you may want to construct replies in stages using a variety of AI nodes. You can use AI split up a single question into multiple prompts and create responses for each. You can then compose a final reply by combining the responses again. Though the details are different, you can find a good example of the general idea in this [template for writing a WordPress post with AI](https://n8n.io/workflows/2187-write-a-wordpress-post-with-ai-starting-from-a-few-keywords/).

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Question and Answer Chain node documentation

description: Learn how to use the Question and Answer Chain node in n8n. Follow technical documentation to integrate Question and Answer Chain node into your workflows.

contentType: [integration, reference]

priority: high

---

# Question and Answer Chain node

Use the Question and Answer Chain node to use a [vector store](/glossary.md#ai-vector-store) as a retriever.

On this page, you'll find the node parameters for the Question and Answer Chain node, and links to more resources.

## Node parameters

### Query

The question you want to ask.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'retrieval-qanda-chain') ]]

## Related resources

Refer to [LangChain's documentation on retrieval chains](https://js.langchain.com/docs/tutorials/rag/){:target=\_blank .external-link} for examples of how LangChain can use a vector store as a retriever.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Common issues

For common errors or issues and suggested resolution steps, refer to [Common Issues](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainretrievalqa/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

title: Sub-nodes

description: Understand sub-nodes in n8n, and browse the sub-nodes library.

---

# Sub nodes

Sub nodes attach to root nodes within a group of cluster nodes. They configure the overall functionality of the cluster.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/cluster-nodes-summary.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.documentdefaultdataloader.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Default Data Loader node documentation

description: Learn how to use the Default Data Loader node in n8n. Follow technical documentation to integrate Default Data Loader node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Default Data Loader node

Use the Default Data Loader node to load binary data files or JSON data for [vector stores](/glossary.md#ai-vector-store) or summarization.

On this page, you'll find a list of parameters the Default Data Loader node supports, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Text Splitting\*\*: Choose from:

\* \*\*Simple\*\*: Uses the [Recursive Character Text Splitter](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.textsplitterrecursivecharactertextsplitter.md) with a chunk size of 1000 and an overlap of 200.

\* \*\*Custom\*\*: Allows you to connect a text splitter of your choice.

\* \*\*Type of Data\*\*: Select \*\*Binary\*\* or \*\*JSON\*\*.

\* \*\*Mode\*\*: Choose from:

\* \*\*Load All Input Data\*\*: Use all the node's input data.

\* \*\*Load Specific Data\*\*: Use [expressions](/code/expressions.md) to define the data you want to load. You can add text as well as expressions. This means you can create a custom document from a mix of text and expressions.

\* \*\*Data Format\*\*: Displays when you set \*\*Type of Data\*\* to \*\*Binary\*\*. Select the file MIME type for your binary data. Set to \*\*Automatically Detect by MIME Type\*\* if you want n8n to set the data format for you. If you set a specific data format and the incoming file MIME type doesn't match it, the node errors. If you use \*\*Automatically Detect by MIME Type\*\*, the node falls back to text format if it can't match the file MIME type to a supported data format.

## Node options

\* \*\*Metadata\*\*: Set the metadata that should accompany the document in the vector store. This is what you match to using the \*\*Metadata Filter\*\* option when retrieving data using the vector store nodes.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'default-data-loader') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-doc-loaders-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.documentgithubloader.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GitHub Document Loader node documentation

description: Learn how to use the GitHub Document Loader node in n8n. Follow technical documentation to integrate GitHub Document Loader node into your workflows.

contentType: [integration, reference]

---

# GitHub Document Loader node

Use the GitHub Document Loader node to load data from a GitHub repository for [vector stores](/glossary.md#ai-vector-store) or summarization.

On this page, you'll find the node parameters for the GitHub Document Loader node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/github.md). This node doesn't support OAuth for authentication.

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Text Splitting\*\*: Choose from:

\* \*\*Simple\*\*: Uses the [Recursive Character Text Splitter](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.textsplitterrecursivecharactertextsplitter.md) with a chunk size of 1000 and an overlap of 200.

\* \*\*Custom\*\*: Allows you to connect a text splitter of your choice.

\* \*\*Repository Link\*\*: Enter the URL of your GitHub repository.

\* \*\*Branch\*\*: Enter the branch name to use.

## Node options

\* \*\*Recursive\*\*: Select whether to include sub-folders and files (turned on) or not (turned off).

\* \*\*Ignore Paths\*\*: Enter directories to ignore.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'github-document-loader') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-doc-loaders-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsawsbedrock.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings AWS Bedrock node documentation

description: Learn how to use the Embeddings AWS Bedrock node in n8n. Follow technical documentation to integrate Embeddings AWS Bedrock node into your workflows.

contentType: [integration, reference]

---

# Embeddings AWS Bedrock node

Use the Embeddings AWS Bedrock node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings AWS Bedrock node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/aws.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the embedding.

Learn more about available models in the [Amazon Bedrock documentation](https://docs.aws.amazon.com/bedrock/latest/userguide/what-is-bedrock.html){:target=\_blank .external-link}.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-aws-bedrock') ]]

## Related resources

Refer to [LangChains's AWS Bedrock embeddings documentation](https://js.langchain.com/docs/integrations/platforms/aws/#text-embedding-models){:target=\_blank .external-link} and the [AWS Bedrock documentation](https://docs.aws.amazon.com/bedrock/){:target=\_blank .external-link} for more information about AWS Bedrock.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsazureopenai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings Azure OpenAI node documentation

description: Learn how to use the Embeddings Azure OpenAI node in n8n. Follow technical documentation to integrate Embeddings Azure OpenAI node into your workflows.

contentType: [integration, reference]

---

# Embeddings Azure OpenAI node

Use the Embeddings Azure OpenAI node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings Azure OpenAI node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/azureopenai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node options

\* \*\*Model (Deployment) Name\*\*: Select the model (deployment) to use for generating embeddings.

\* \*\*Batch Size\*\*: Enter the maximum number of documents to send in each request.

\* \*\*Strip New Lines\*\*: Select whether to remove new line characters from input text (turned on) or not (turned off). n8n enables this by default.

\* \*\*Timeout\*\*: Enter the maximum amount of time a request can take in seconds. Set to `-1` for no timeout.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-azure-openai') ]]

## Related resources

Refer to [LangChains's OpenAI embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/azure\_openai/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingscohere.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings Cohere node documentation

description: Learn how to use the Embeddings Cohere node in n8n. Follow technical documentation to integrate Embeddings Cohere node into your workflows.

contentType: [integration, reference]

---

# Embeddings Cohere node

Use the Embeddings Cohere node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings Cohere node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/cohere.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the embedding. Choose from:

\* \*\*Embed-English-v2.0(4096 Dimensions)\*\*

\* \*\*Embed-English-Light-v2.0(1024 Dimensions)\*\*

\* \*\*Embed-Multilingual-v2.0(768 Dimensions)\*\*

Learn more about available models in [Cohere's models documentation](https://docs.cohere.com/docs/models){:target=\_blank .external-link}.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-cohere') ]]

## Related resources

Refer to [Langchain's Cohere embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/cohere/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsgooglegemini.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings Google Gemini node documentation

description: Learn how to use the Embeddings Google Gemini node in n8n. Follow technical documentation to integrate Embeddings Google Gemini node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Embeddings Google Gemini node

Use the Embeddings Google Gemini node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings Google Gemini node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/googleai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the embedding.

Learn more about available models in [Google Gemini's models documentation](https://ai.google.dev/models/gemini){:target=\_blank .external-link}.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-google-gemini') ]]

## Related resources

Refer to [Langchain's Google Generative AI embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/google\_generativeai){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsgooglepalm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings Google PaLM node documentation

description: Learn how to use the Embeddings Google PaLM node in n8n. Follow technical documentation to integrate Embeddings Google PaLM node into your workflows.

contentType: [integration, reference]

---

# Embeddings Google PaLM node

Use the Embeddings Google PaLM node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings Google PaLM node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/googleai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the embedding.

n8n dynamically loads models from the Google PaLM API and you'll only see the models available to your account.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-google-palm') ]]

## Related resources

Refer to [Langchain's Google PaLM embeddings documentation](https://js.langchain.com/v0.2/docs/integrations/text\_embedding/google\_palm/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsgooglevertex.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings Google Vertex node documentation

description: Learn how to use the Embeddings Google Vertex node in n8n. Follow technical documentation to integrate Embeddings Google Gemini node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Embeddings Google Vertex node

Use the Embeddings Google Vertex node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings Google Vertex node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/service-account.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

- \*\*Model\*\*: Select the model to use to generate the embedding.

Learn more about available embedding models in [Google VertexAI embeddings API documentation](https://cloud.google.com/vertex-ai/generative-ai/docs/model-reference/text-embeddings-api).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[templatesWidget(page.title, 'embeddings-google-vertex')]]

## Related resources

Refer to [LangChain's Google Generative AI embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/google\_generativeai) for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingshuggingfaceinference.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings HuggingFace Inference node documentation

description: Learn how to use the Embeddings HuggingFace Inference node in n8n. Follow technical documentation to integrate Embeddings HuggingFace Inference node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Embeddings HuggingFace Inference node

Use the Embeddings HuggingFace Inference node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings HuggingFace Inference, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/huggingface.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the embedding.

Refer to the [Hugging Face models documentation](https://huggingface.co/models?other=embeddings){:target=\_blank .external-link} for available models.

## Node options

\* \*\*Custom Inference Endpoint\*\*: Enter the URL of your deployed model, hosted by HuggingFace. If you set this, n8n ignores the \*\*Model Name\*\*.

Refer to [HuggingFace's guide to inference](https://huggingface.co/inference-endpoints){:target=\_blank .external-link} for more information.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-hugging-face-inference') ]]

## Related resources

Refer to [Langchain's HuggingFace Inference embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/hugging\_face\_inference/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsmistralcloud.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings Mistral Cloud node documentation

description: Learn how to use the Embeddings Mistral Cloud node in n8n. Follow technical documentation to integrate Embeddings Mistral Cloud node into your workflows.

contentType: [integration, reference]

---

# Embeddings Mistral Cloud node

Use the Embeddings Mistral Cloud node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings Mistral Cloud node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mistral.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the embedding.

Learn more about available models in [Mistral's models documentation](https://docs.mistral.ai/platform/pricing/){:target=\_blank .external-link}.

## Node options

\* \*\*Batch Size\*\*: Enter the maximum number of documents to send in each request.

\* \*\*Strip New Lines\*\*: Select whether to remove new line characters from input text (turned on) or not (turned off). n8n enables this by default.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-mistral-cloud') ]]

## Related resources

Refer to [Langchain's Mistral embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/mistralai){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsollama.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings Ollama node documentation

description: Learn how to use the Embeddings Ollama node in n8n. Follow technical documentation to integrate Embeddings Ollama node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Embeddings Ollama node

Use the Embeddings Ollama node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings Ollama node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/ollama.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the embedding. Choose from:

\* [all-minilm](https://ollama.com/library/all-minilm) (384 Dimensions)

\* [nomic-embed-text](https://ollama.com/library/nomic-embed-text) (768 Dimensions)

Learn more about available models in [Ollama's models documentation](https://ollama.ai/library){:target=\_blank .external-link}.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-ollama') ]]

## Related resources

Refer to [Langchain's Ollama embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/ollama/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.embeddingsopenai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Embeddings OpenAI node documentation

description: Learn how to use the Embeddings OpenAI node in n8n. Follow technical documentation to integrate Embeddings OpenAI node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Embeddings OpenAI node

Use the Embeddings OpenAI node to generate [embeddings](/glossary.md#ai-embedding) for a given text.

On this page, you'll find the node parameters for the Embeddings OpenAI node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/openai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node options

\* \*\*Model\*\*: Select the model to use for generating embeddings.

\* \*\*Base URL\*\*: Enter the URL to send the request to. Use this if you are using a self-hosted OpenAI-like model.

\* \*\*Batch Size\*\*: Enter the maximum number of documents to send in each request.

\* \*\*Strip New Lines\*\*: Select whether to remove new line characters from input text (turned on) or not (turned off). n8n enables this by default.

\* \*\*Timeout\*\*: Enter the maximum amount of time a request can take in seconds. Set to `-1` for no timeout.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'embeddings-openai') ]]

## Related resources

Refer to [LangChains's OpenAI embeddings documentation](https://js.langchain.com/docs/integrations/text\_embedding/openai/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatanthropic.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Anthropic Chat Model node documentation

description: Learn how to use the Anthropic Chat Model node in n8n. Follow technical documentation to integrate Anthropic Chat Model node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Anthropic Chat Model node

Use the Anthropic Chat Model node to use Anthropic's Claude family of chat models with conversational [agents](/glossary.md#ai-agent).

On this page, you'll find the node parameters for the Anthropic Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/anthropic.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model that generates the completion. Choose from:

\* \*\*Claude\*\*

\* \*\*Claude Instant\*\*

Learn more in the [Anthropic model documentation](https://docs.anthropic.com/claude/reference/selecting-a-model){:target=\_blank .external-link}.

## Node options

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Top K\*\*: Enter the number of token choices the model uses to generate the next token.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'anthropic-chat-model') ]]

## Related resources

Refer to [LangChains's Anthropic documentation](https://js.langchain.com/docs/integrations/chat/anthropic/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatawsbedrock.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS Bedrock Chat Model node documentation

description: Learn how to use the AWS Bedrock Chat Model node in n8n. Follow technical documentation to integrate AWS Bedrock Chat Model node into your workflows.

contentType: [integration, reference]

---

# AWS Bedrock Chat Model node

The AWS Bedrock Chat Model node allows you use LLM models utilising AWS Bedrock platform.

On this page, you'll find the node parameters for the AWS Bedrock Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/aws.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model that generates the completion.

Learn more about available models in the [Amazon Bedrock model documentation](https://docs.aws.amazon.com/bedrock/latest/userguide/models-supported.html){:target=\_blank .external-link}.

## Node options

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aws-bedrock-chat-model') ]]

## Related resources

Refer to [LangChains's AWS Bedrock Chat Model documentation](https://js.langchain.com/docs/integrations/chat/bedrock/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatazureopenai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Azure OpenAI Chat Model node documentation

description: Learn how to use the Azure OpenAI Chat Model node in n8n. Follow technical documentation to integrate Azure OpenAI Chat Model node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Azure OpenAI Chat Model node

Use the Azure OpenAI Chat Model node to use OpenAI's chat models with conversational [agents](/glossary.md#ai-agent).

On this page, you'll find the node parameters for the Azure OpenAI Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/azureopenai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the completion.

## Node options

\* \*\*Frequency Penalty\*\*: Use this option to control the chances of the model repeating itself. Higher values reduce the chance of the model repeating itself.

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Response Format\*\*: Choose \*\*Text\*\* or \*\*JSON\*\*. \*\*JSON\*\* ensures the model returns valid JSON.

\* \*\*Presence Penalty\*\*: Use this option to control the chances of the model talking about new topics. Higher values increase the chance of the model talking about new topics.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Timeout\*\*: Enter the maximum request time in milliseconds.

\* \*\*Max Retries\*\*: Enter the maximum number of times to retry a request.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'azure-openai-chat-model') ]]

## Related resources

Refer to [LangChains's Azure OpenAI documentation](https://js.langchain.com/docs/integrations/chat/azure){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatcohere.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cohere Chat Model node documentation

description: Learn how to use the Cohere Chat Model node in n8n. Follow technical documentation to integrate Cohere Chat Model node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Cohere Chat Model node

Use the Cohere Chat Model node to access Cohere's large language models for conversational AI and text generation tasks.

On this page, you'll find the node parameters for the Cohere Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/cohere.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model which will generate the completion. n8n dynamically loads available models from the Cohere API. Learn more in the [Cohere model documentation](https://docs.cohere.com/v2/docs/models#command).

## Node options

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Max Retries\*\*: Enter the maximum number of times to retry a request.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'cohere-chat-model') ]]

## Related resources

Refer to [Cohere's API documentation](https://docs.cohere.com/v2/reference/about) for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatdeepseek.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: DeepSeek Chat Model node documentation

description: Learn how to use the DeepSeek Chat Model node in n8n. Follow technical documentation to integrate DeepSeek Chat Model node into your workflows.

contentType: [integration, reference]

priority: high

---

# DeepSeek Chat Model node

Use the DeepSeek Chat Model node to use DeepSeek's chat models with conversational [agents](/glossary.md#ai-agent).

On this page, you'll find the node parameters for the DeepSeek Chat Model node and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/deepseek.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Model

Select the model to use to generate the completion.

n8n dynamically loads models from DeepSeek and you'll only see the models available to your account.

## Node options

Use these options to further refine the node's behavior.

### Base URL

Enter a URL here to override the default URL for the API.

### Frequency Penalty

Use this option to control the chances of the model repeating itself. Higher values reduce the chance of the model repeating itself.

### Maximum Number of Tokens

Enter the maximum number of tokens used, which sets the completion length.

### Response Format

Choose \*\*Text\*\* or \*\*JSON\*\*. \*\*JSON\*\* ensures the model returns valid JSON.

### Presence Penalty

Use this option to control the chances of the model talking about new topics. Higher values increase the chance of the model talking about new topics.

### Sampling Temperature

Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

### Timeout

Enter the maximum request time in milliseconds.

### Max Retries

Enter the maximum number of times to retry a request.

### Top P

Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'deepseek-chat-model') ]]

## Related resources

As DeepSeek is API-compatible with OpenAI, you can refer to [LangChains's OpenAI documentation](https://js.langchain.com/docs/integrations/chat/openai/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatgooglegemini.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Gemini Chat Model node documentation

description: Learn how to use the Google Gemini Chat Model node in n8n. Follow technical documentation to integrate Google Gemini Chat Model node into your workflows.

contentType: [integration, reference]

priority: high

---

# Google Gemini Chat Model node

Use the Google Gemini Chat Model node to use Google's Gemini chat models with conversational agents.

On this page, you'll find the node parameters for the Google Gemini Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/googleai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the completion.

n8n dynamically loads models from the Google Gemini API and you'll only see the models available to your account.

## Node options

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Top K\*\*: Enter the number of token choices the model uses to generate the next token.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

\* \*\*Safety Settings\*\*: Gemini supports adjustable safety settings. Refer to Google's [Gemini API safety settings](https://ai.google.dev/docs/safety\_setting\_gemini){:target=\_blank .external-link} for information on the available filters and levels.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-gemini-chat-model') ]]

## Related resources

Refer to [LangChain's Google Gemini documentation](https://js.langchain.com/docs/integrations/chat/google\_generativeai){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatgooglevertex.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Vertex Chat Model node documentation

description: Learn how to use the Google Vertex Chat Model node in n8n. Follow technical documentation to integrate Google Vertex Chat Model node into your workflows.

contentType: [integration, reference]

---

# Google Vertex Chat Model node

Use the Google Vertex AI Chat Model node to use Google's Vertex AI chat models with conversational [agents](/glossary.md#ai-agent).

On this page, you'll find the node parameters for the Google Vertex AI Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/service-account.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Project ID\*\*: Select the project ID from your Google Cloud account to use. n8n dynamically loads projects from the Google Cloud account, but you can also enter it manually.

\* \*\*Model Name\*\*: Select the name of the model to use to generate the completion, for example `gemini-1.5-flash-001`, `gemini-1.5-pro-001`, etc. Refer to [Google models](https://cloud.google.com/vertex-ai/generative-ai/docs/learn/models){:target=\_blank .external-link} for a list of available models.

## Node options

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Top K\*\*: Enter the number of token choices the model uses to generate the next token.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

\* \*\*Safety Settings\*\*: Gemini supports adjustable safety settings. Refer to Google's [Gemini API safety settings](https://ai.google.dev/docs/safety\_setting\_gemini){:target=\_blank .external-link} for information on the available filters and levels.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'google-vertex-chat-model') ]]

## Related resources

Refer to [LangChain's Google Vertex AI documentation](https://js.langchain.com/docs/integrations/chat/google\_vertex\_ai/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatgroq.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Groq Chat Model node documentation

description: Learn how to use the Groq Chat Model node in n8n. Follow technical documentation to integrate Groq Chat Model node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Groq Chat Model node

Use the Groq Chat Model node to access Groq's large language models for conversational AI and text generation tasks.

On this page, you'll find the node parameters for the Groq Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/groq.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model which will generate the completion. n8n dynamically loads available models from the Groq API. Learn more in the [Groq model documentation](https://console.groq.com/docs/models){:target=\_blank .external-link}.

## Node options

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'groq-chat-model') ]]

## Related resources

Refer to [Groq's API documentation](https://console.groq.com/docs/quickstart){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatmistralcloud.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mistral Cloud Chat Model node documentation

description: Learn how to use the Mistral Cloud Chat Model node in n8n. Follow technical documentation to integrate Mistral Cloud Chat Model node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Mistral Cloud Chat Model node

Use the Mistral Cloud Chat Model node to combine Mistral Cloud's chat models with conversational [agents](/glossary.md#ai-agent).

On this page, you'll find the node parameters for the Mistral Cloud Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mistral.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the completion. n8n dynamically loads models from Mistral Cloud and you'll only see the models available to your account.

## Node options

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Timeout\*\*: Enter the maximum request time in milliseconds.

\* \*\*Max Retries\*\*: Enter the maximum number of times to retry a request.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

\* \*\*Enable Safe Mode\*\*: Enable safe mode by injecting a safety prompt at the beginning of the completion. This helps prevent the model from generating offensive content.

\* \*\*Random Seed\*\*: Enter a seed to use for random sampling. If set, different calls will generate deterministic results.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mistral-cloud-chat-model') ]]

## Related resources

Refer to [LangChains's Mistral documentation](https://js.langchain.com/docs/integrations/chat/mistral){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatopenrouter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenRouter Chat Model node documentation

description: Learn how to use the OpenRouter Chat Model node in n8n. Follow technical documentation to integrate OpenRouter Chat Model node into your workflows.

contentType: [integration, reference]

priority: high

---

# OpenRouter Chat Model node

Use the OpenRouter Chat Model node to use OpenRouter's chat models with conversational agents.

On this page, you'll find the node parameters for the OpenRouter Chat Model node and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/openrouter.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Model

Select the model to use to generate the completion.

n8n dynamically loads models from OpenRouter and you'll only see the models available to your account.

## Node options

Use these options to further refine the node's behavior.

### Frequency Penalty

Use this option to control the chances of the model repeating itself. Higher values reduce the chance of the model repeating itself.

### Maximum Number of Tokens

Enter the maximum number of tokens used, which sets the completion length.

### Response Format

Choose \*\*Text\*\* or \*\*JSON\*\*. \*\*JSON\*\* ensures the model returns valid JSON.

### Presence Penalty

Use this option to control the chances of the model talking about new topics. Higher values increase the chance of the model talking about new topics.

### Sampling Temperature

Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

### Timeout

Enter the maximum request time in milliseconds.

### Max Retries

Enter the maximum number of times to retry a request.

### Top P

Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'openrouter-chat-model') ]]

## Related resources

As OpenRouter is API-compatible with OpenAI, you can refer to [LangChains's OpenAI documentation](https://js.langchain.com/docs/integrations/chat/openai/) for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmchatxaigrok.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: xAI Grok Chat Model node documentation

description: Learn how to use the xAI Grok Chat Model node in n8n. Follow technical documentation to integrate xAI Grok Chat Model node into your workflows.

contentType: [integration, reference]

priority: medium

---

# xAI Grok Chat Model node

Use the xAI Grok Chat Model node to access xAI Grok's large language models for conversational AI and text generation tasks.

On this page, you'll find the node parameters for the xAI Grok Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/xai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model which will generate the completion. n8n dynamically loads available models from the xAI Grok API. Learn more in the [xAI Grok model documentation](https://docs.x.ai/docs/models).

## Node options

\* \*\*Frequency Penalty\*\*: Use this option to control the chances of the model repeating itself. Higher values reduce the chance of the model repeating itself.

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length. Most models have a context length of 2048 tokens with the newest models supporting up to 32,768 tokens.

\* \*\*Response Format\*\*: Choose \*\*Text\*\* or \*\*JSON\*\*. \*\*JSON\*\* ensures the model returns valid JSON.

\* \*\*Presence Penalty\*\*: Use this option to control the chances of the model talking about new topics. Higher values increase the chance of the model talking about new topics.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Timeout\*\*: Enter the maximum request time in milliseconds.

\* \*\*Max Retries\*\*: Enter the maximum number of times to retry a request.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'xai-grok-chat-model') ]]

## Related resources

Refer to [xAI Grok's API documentation](https://docs.x.ai/docs/api-reference) for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmcohere.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cohere Model node documentation

description: Learn how to use the Cohere Model node in n8n. Follow technical documentation to integrate Cohere Model node into your workflows.

contentType: [integration, reference]

---

# Cohere Model node

Use the Cohere Model node to use Cohere's models.

On this page, you'll find the node parameters for the Cohere Model node, and links to more resources.

This node lacks tools support, so it won't work with the [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) node. Instead, connect it with the [Basic LLM Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md) node.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/cohere.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node Options

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'cohere-model') ]]

## Related resources

Refer to [LangChains's Cohere documentation](https://js.langchain.com/docs/integrations/llms/cohere/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.lmopenhuggingfaceinference.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Hugging Face Inference Model node documentation

description: Learn how to use the Hugging Face Inference Model node in n8n. Follow technical documentation to integrate Hugging Face Inference Model node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Hugging Face Inference Model node

Use the Hugging Face Inference Model node to use Hugging Face's models.

On this page, you'll find the node parameters for the Hugging Face Inference Model node, and links to more resources.

This node lacks tools support, so it won't work with the [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) node. Instead, connect it with the [Basic LLM Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md) node.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/huggingface.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model to use to generate the completion.

## Node options

\* \*\*Custom Inference Endpoint\*\*: Enter a custom inference endpoint URL.

\* \*\*Frequency Penalty\*\*: Use this option to control the chances of the model repeating itself. Higher values reduce the chance of the model repeating itself.

\* \*\*Maximum Number of Tokens\*\*: Enter the maximum number of tokens used, which sets the completion length.

\* \*\*Presence Penalty\*\*: Use this option to control the chances of the model talking about new topics. Higher values increase the chance of the model talking about new topics.

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Top K\*\*: Enter the number of token choices the model uses to generate the next token.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'hugging-face-inference-model') ]]

## Related resources

Refer to [LangChains's Hugging Face Inference Model documentation](https://js.langchain.com/docs/integrations/llms/huggingface\_inference/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.memorymanager.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Chat Memory Manager node documentation

description: Learn how to use the Chat Memory Manager node in n8n. Follow technical documentation to integrate Chat Memory Manager node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Chat Memory Manager node

The Chat Memory Manager node manages chat message [memories](/glossary.md#ai-memory) within your workflows. Use this node to load, insert, and delete chat messages in an in-memory [vector store](/glossary.md#ai-vector-store).

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-sub-nodes/chat-memory-manager-purpose.md"

On this page, you'll find a list of operations that the Chat Memory Manager node supports, along with links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Operation Mode\*\*: Choose between \*\*Get Many Messages\*\*, \*\*Insert Messages\*\*, and \*\*Delete Messages\*\* operations.

\* \*\*Insert Mode\*\*: Available in \*\*Insert Messages\*\* mode. Choose from:

\* \*\*Insert Messages\*\*: Insert messages alongside existing messages.

\* \*\*Override All Messages\*\*: Replace current memory.

\* \*\*Delete Mode\*\*: available in \*\*Delete Messages\*\* mode. Choose from:

\* \*\*Last N\*\*: Delete the last N messages.

\* \*\*All Messages\*\*: Delete messages from memory.

\* \*\*Chat Messages\*\*: available in \*\*Insert Messages\*\* mode. Define the chat messages to insert into the memory, including:

\* \*\*Type Name or ID\*\*: Set the message type. Select one of:

\* \*\*AI\*\*: Use this for messages from the AI.

\* \*\*System\*\*: Add a message containing instructions for the AI.

\* \*\*User\*\*: Use this for messages from the user. This message type is sometimes called the 'human' message in other AI tools and guides.

\* \*\*Message\*\*: Enter the message contents.

\* \*\*Hide Message in Chat\*\*: Select whether n8n should display the message to the user in the chat UI (turned off) or not (turned on).

\* \*\*Messages Count\*\*: Available in \*\*Delete Messages\*\* mode when you select \*\*Last N\*\*. Enter the number of latest messages to delete.

\* \*\*Simplify Output\*\*: Available in \*\*Get Many Messages\*\* mode. Turn on to simplify the output to include only the sender (AI, user, or system) and the text.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'chat-memory-manager') ]]

## Related resources

Refer to [LangChain's Memory documentation](https://langchain-ai.github.io/langgraphjs/concepts/memory/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.memorymongochat.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MongoDB Chat Memory node documentation

description: Learn how to use the MongoDB Chat Memory node in n8n. Follow technical documentation to integrate MongoDB Chat Memory node into your workflows.

contentType: [integration, reference]

---

# MongoDB Chat Memory node

Use the MongoDB Chat Memory node to use MongoDB as a [memory](/glossary.md#ai-memory) server for storing chat history.

On this page, you'll find a list of operations the MongoDB Chat Memory node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mongodb.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Session Key\*\*: Enter the key to use to store the memory in the workflow data.

\* \*\*Collection Name\*\*: Enter the name of the collection to store the chat history in. The system will create the collection if it doesn't exist.

\* \*\*Database Name\*\*: Enter the name of the database to store the chat history in. If not provided, the database from credentials will be used.

\* \*\*Context Window Length\*\*: Enter the number of previous interactions to consider for context.

## Related resources

Refer to [LangChain's MongoDB Chat Message History documentation](https://js.langchain.com/docs/integrations/memory/mongodb){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Single memory instance

[[% include "\_includes/integrations/cluster-nodes/memory-shared.html" %]]

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.memorymotorhead.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Motorhead node documentation

description: Learn how to use the Motorhead node in n8n. Follow technical documentation to integrate Motorhead node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Motorhead node

Use the Motorhead node to use Motorhead as a [memory](/glossary.md#ai-memory) server.

On this page, you'll find a list of operations the Motorhead node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/motorhead.md).

///

## Node parameters

\* \*\*Session ID\*\*: Enter the ID to use to store the memory in the workflow data.

## Node reference

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'motorhead') ]]

## Related resources

Refer to [LangChain's Motorhead documentation](https://js.langchain.com/docs/integrations/memory/motorhead\_memory){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Single memory instance

[[% include "\_includes/integrations/cluster-nodes/memory-shared.html" %]]

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.memorypostgreschat.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Postgres Chat Memory node documentation

description: Learn how to use the Postgres Chat Memory node in n8n. Follow technical documentation to integrate Postgres Chat Memory node into your workflows.

contentType: [integration, reference]

---

# Postgres Chat Memory node

Use the Postgres Chat Memory node to use Postgres as a [memory](/glossary.md#ai-memory) server for storing chat history.

On this page, you'll find a list of operations the Postgres Chat Memory node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/postgres.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Session Key\*\*: Enter the key to use to store the memory in the workflow data.

\* \*\*Table Name\*\*: Enter the name of the table to store the chat history in. The system will create the table if doesn't exist.

\* \*\*Context Window Length\*\*: Enter the number of previous interactions to consider for context.

## Related resources

Refer to [LangChain's Postgres Chat Message History documentation](https://js.langchain.com/docs/integrations/memory/postgres){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Single memory instance

[[% include "\_includes/integrations/cluster-nodes/memory-shared.html" %]]

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.memoryredischat.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Redis Chat Memory node documentation

description: Learn how to use the Redis Chat Memory node in n8n. Follow technical documentation to integrate Redis Chat Memory node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Redis Chat Memory node

Use the Redis Chat Memory node to use Redis as a [memory](/glossary.md#ai-memory) server.

On this page, you'll find a list of operations the Redis Chat Memory node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/redis.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Session Key\*\*: Enter the key to use to store the memory in the workflow data.

\* \*\*Session Time To Live\*\*: Use this parameter to make the session expire after a given number of seconds.

\* \*\*Context Window Length\*\*: Enter the number of previous interactions to consider for context.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'redis-chat-memory') ]]

## Related resources

Refer to [LangChain's Redis Chat Memory documentation](https://js.langchain.com/docs/integrations/memory/redis){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Single memory instance

[[% include "\_includes/integrations/cluster-nodes/memory-shared.html" %]]

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.memoryxata.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Xata node documentation

description: Learn how to use the Xata node in n8n. Follow technical documentation to integrate Xata node into your workflows.

contentType: [integration, reference]

---

# Xata node

Use the Xata node to use Xata as a [memory](/glossary.md#ai-memory) server.

On this page, you'll find a list of operations the Xata node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/xata.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

- \*\*Session ID\*\*: Enter the ID to use to store the memory in the workflow data.

- \*\*Context Window Length\*\*: Enter the number of previous interactions to consider for context.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'xata') ]]

## Related resources

Refer to [LangChain's Xata documentation](https://js.langchain.com/docs/integrations/memory/xata){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Single memory instance

[[% include "\_includes/integrations/cluster-nodes/memory-shared.html" %]]

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.memoryzep.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zep node documentation

description: Learn how to use the Zep node in n8n. Follow technical documentation to integrate Zep node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Zep node

Use the Zep node to use Zep as a [memory](/glossary.md#ai-memory) server.

On this page, you'll find a list of operations the Zep node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/zep.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Session ID\*\*: Enter the ID to use to store the memory in the workflow data.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'zep') ]]

## Related resources

Refer to [LangChain's Zep documentation](https://js.langchain.com/docs/integrations/memory/zep\_memory){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Single memory instance

[[% include "\_includes/integrations/cluster-nodes/memory-shared.html" %]]

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.modelselector.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Model Selector

description: Learn how to use the Model Selector node in n8n. Follow technical documentation to integrate Model Selector node into your workflows.

contentType: [integration, reference]

priority: high

---

# Model Selector

The Model Selector node dynamically selects one of the connected language models during workflow execution based on a set of defined conditions. This enables implementing fallback mechanisms for error handling or choosing the optimal model for specific tasks.

This page covers node parameters for the Model Selector node and includes links to related resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Number of Inputs

Specifies the number of input connections available for attaching language models.

### Rules

Each rule defines the model to use when specific conditions match.

The Model Selector node evaluates rules sequentially, starting from the first input, and stops evaluation as soon as it finds a match. This means that if multiple rules would match, n8n will only use the model defined by the first matching rule.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'model-selector') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## n8n-nodes-langchain.outputparserautofixing.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Auto-fixing Output Parser node documentation

description: Learn how to use the Auto-fixing Output Parser node in n8n. Follow technical documentation to integrate Auto-fixing Output Parser node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Auto-fixing Output Parser node

The Auto-fixing Output Parser node wraps another output parser. If the first one fails, it calls out to another LLM to fix any errors.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'auto-fixing-output-parser') ]]

## Related resources

Refer to [LangChain's output parser documentation](https://js.langchain.com/docs/concepts/output\_parsers/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.outputparseritemlist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Item List Output Parser node documentation

description: Learn how to use the Item List Output Parser node in n8n. Follow technical documentation to integrate Item List Output Parser node into your workflows.

contentType: [integration, reference]

priority: high

---

# Item List Output Parser node

Use the Item List Output Parser node to return a list of items with a specific length and separator.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node options

\* \*\*Number of Items\*\*: Enter the maximum items to return. Set to `-1` for unlimited items.

\* \*\*Separator\*\*: Select the separator used to split the results into separate items. Defaults to a new line.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'item-list-output-parser') ]]

## Related resources

Refer to [LangChain's output parser documentation](https://js.langchain.com/docs/concepts/output\_parsers){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.rerankercohere.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Reranker Cohere

description: Learn how to use the Reranker Cohere node in n8n. Follow technical documentation to integrate Cohere reranking into your workflows.

contentType: [integration, reference]

---

# Reranker Cohere

The Reranker Cohere node allows you to [rerank](/glossary.md#ai-reranking) the resulting chunks from a [vector store](/glossary.md#ai-vector-store). You can connect this node to a vector store.

The reranker reorders the list of documents retrieved from a vector store for a given query in order of descending relevance.

On this page, you'll find the node parameters for the Reranker Cohere node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/cohere.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Model

Choose the reranking model to use. You can find out more about the available models in [Cohere's model documentation](https://docs.cohere.com/docs/models#rerank).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'reranker-cohere') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.retrievercontextualcompression.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Contextual Compression Retriever node documentation

description: Learn how to use the Contextual Compression Retriever node in n8n. Follow technical documentation to integrate Contextual Compression Retriever node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Contextual Compression Retriever node

The Contextual Compression Retriever node improves the answers returned from [vector store](/glossary.md#ai-vector-store) document similarity searches by taking into account the context from the query.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'contextual-compression-retriever') ]]

## Related resources

Refer to [LangChain's contextual compression retriever documentation](https://js.langchain.com/docs/how\_to/contextual\_compression/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.retrievermultiquery.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MultiQuery Retriever node documentation

description: Learn how to use the MultiQuery Retriever node in n8n. Follow technical documentation to integrate MultiQuery Retriever node into your workflows.

contentType: [integration, reference]

priority: medium

---

# MultiQuery Retriever node

The MultiQuery Retriever node automates the process of prompt tuning by using an LLM to generate multiple queries from different perspectives for a given user input query.

On this page, you'll find the node parameters for the MultiQuery Retriever node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node options

\* \*\*Query Count\*\*: Enter how many different versions of the query to generate.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'multiquery-retriever') ]]

## Related resources

Refer to [LangChain's retriever conceptual documentation](https://js.langchain.com/docs/concepts/retrievers){:target=\_blank .external-link} and [LangChain's multiquery retriever API documentation](https://v03.api.js.langchain.com/classes/langchain.retrievers\_multi\_query.MultiQueryRetriever.html){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.retrievervectorstore.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Vector Store Retriever node documentation

description: Learn how to use the Vector Store Retriever node in n8n. Follow technical documentation to integrate Vector Store Retriever node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Vector Store Retriever node

Use the Vector Store Retriever node to retrieve documents from a [vector store](/glossary.md#ai-vector-store).

On this page, you'll find the node parameters for the Vector Store Retriever node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Limit\*\*: Enter the maximum number of results to return.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'vector-store-retriever') ]]

## Related resources

Refer to [LangChain's vector store retriever documentation](https://js.langchain.com/docs/how\_to/vectorstore\_retriever/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.retrieverworkflow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Workflow Retriever node documentation

description: Learn how to use the Workflow Retriever node in n8n. Follow technical documentation to integrate Workflow Retriever node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Workflow Retriever node

Use the Workflow Retriever node to retrieve data from an n8n workflow for use in a Retrieval QA Chain or another Retriever node.

On this page, you'll find the node parameters for the Workflow Retriever node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Source

Tell n8n which workflow to call. You can choose either:

\* \*\*Database\*\* and enter a workflow ID.

\* \*\*Parameter\*\* and copy in a complete [workflow JSON](/workflows/export-import.md).

### Workflow values

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-sub-nodes/workflow-values.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'workflow-retriever') ]]

## Related resources

Refer to [LangChain's general retriever documentation](https://js.langchain.com/docs/concepts/retrievers/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.textsplittercharactertextsplitter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Character Text Splitter node documentation

description: Learn how to use the Character Text Splitter node in n8n. Follow technical documentation to integrate Character Text Splitter node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Character Text Splitter node

Use the Character Text Splitter node to split document data based on characters.

On this page, you'll find the node parameters for the Character Text Splitter node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Separator\*\*: Select the separator used to split the document into separate items.

\* \*\*Chunk Size\*\*: Enter the number of characters in each chunk.

\* \*\*Chunk Overlap\*\*: Enter how much overlap to have between chunks.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'character-text-splitter') ]]

## Related resources

Refer to [LangChain's text splitter documentation](https://js.langchain.com/docs/concepts/text\_splitters){:target=\_blank .external-link} and [LangChain's API documentation for character text splitting](https://v03.api.js.langchain.com/classes/langchain.text\_splitter.CharacterTextSplitter.html){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.textsplitterrecursivecharactertextsplitter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Recursive Character Text Splitter node documentation

description: Learn how to use the Recursive Character Text Splitter node in n8n. Follow technical documentation to integrate Recursive Character Text Splitter node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Recursive Character Text Splitter node

The Recursive Character Text Splitter node splits document data recursively to keep all paragraphs, sentences then words together as long as possible.

On this page, you'll find the node parameters for the Recursive Character Text Splitter node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Chunk Size\*\*: Enter the number of characters in each chunk.

\* \*\*Chunk Overlap\*\*: Enter how much overlap to have between chunks.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'recursive-character-text-splitter') ]]

## Related resources

Refer to [LangChain's text splitter documentation](https://js.langchain.com/docs/concepts/text\_splitters){:target=\_blank .external-link} and [LangChain's recursively split by character documentation](https://v03.api.js.langchain.com/classes/langchain.text\_splitter.RecursiveCharacterTextSplitter.html){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.textsplittertokensplitter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Token Splitter node documentation

description: Learn how to use the Token Splitter node in n8n. Follow technical documentation to integrate Token Splitter node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Token Splitter node

The Token Splitter node splits a raw text string by first converting the text into BPE tokens, then splits these tokens into chunks and converts the tokens within a single chunk back into text.

On this page, you'll find the node parameters for the Token Splitter node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Chunk Size\*\*: Enter the number of characters in each chunk.

\* \*\*Chunk Overlap\*\*: Enter how much overlap to have between chunks.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'token-splitter') ]]

## Related resources

Refer to [LangChain's token documentation](https://js.langchain.com/docs/concepts/tokens/){:target=\_blank .external-link} and [LangChain's text splitter documentation](https://js.langchain.com/docs/concepts/text\_splitters/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolcalculator.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Calculator node documentation

description: Learn how to use the Calculator node in n8n. Follow technical documentation to integrate Calculator node into your workflows.

contentType: [integration, reference]

priority: high

---

# Calculator node

The Calculator node is a [tool](/glossary.md#ai-tool) that allows an [agent](/glossary.md#ai-agent) to run mathematical calculations.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'calculator') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolcode.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Custom Code Tool node documentation

description: Learn how to use the Custom Code Tool node in n8n. Follow technical documentation to integrate Custom Code Tool node into your workflows.

contentType: [integration, reference]

priority: high

---

# Custom Code Tool node

Use the Custom Code Tool node to write code that an [agent](/glossary.md#ai-agent) can run.

On this page, you'll find the node parameters for the Custom Code Tool node and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Description

Give your custom code a description. This tells the agent when to use this tool. For example:

> Call this tool to get a random color. The input should be a string with comma separated names of colors to exclude.

### Language

You can use JavaScript or Python.

### JavaScript / Python box

Write the code here.

You can access the tool input using `query`. For example, to take the input string and lowercase it:

```js

let myString = query;

return myString.toLowerCase();

```

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'code-tool') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolhttprequest.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HTTP Request Tool node documentation

description: Learn how to use the HTTP Request Tool node in n8n. Follow technical documentation to integrate HTTP Request Tool node into your workflows.

search:

exclude: true

contentType: [integration, reference]

---

# HTTP Request Tool node

/// warning | Legacy tool version

New instances of the HTTP Request tool node that you add to workflows use the standard [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node as a tool. This page is describes the legacy, standalone HTTP Request tool node.

You can identify which tool version is in your workflow by checking if the node has an \*\*Add option\*\* property when you open the node on the canvas. If that button is present, you're using the new version, not the one described on this page.

///

The HTTP Request tool works just like the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node, but it's designed to be used with an [AI agent](/glossary.md#ai-agent) as a tool to collect information from a website or API.

On this page, you'll find a list of operations the HTTP Request node supports and links to more resources.

/// note | Credentials

Refer to [HTTP Request credentials](/integrations/builtin/credentials/httprequest.md) for guidance on setting up authentication.

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'http-request-tool') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolmcp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MCP Client Tool node documentation

description: Learn how to use the MCP Client Tool node in n8n. Follow technical documentation to integrate MCP Client Tool node into your workflows.

contentType: [integration, reference]

---

# MCP Client Tool node

The MCP Client Tool node is a [Model Context Protocol (MCP)](https://modelcontextprotocol.io/introduction) client, allowing you to use the tools exposed by an external MCP server. You can connect the MCP Client Tool node to your models to call external tools with n8n agents.

/// note | Credentials

The MCP Client Tool node supports both [Bearer](/integrations/builtin/credentials/httprequest.md#using-bearer-auth) and generic [header](/integrations/builtin/credentials/httprequest.md#using-header-auth) authentication methods.

///

## Node parameters

Configure the node with the following parameters.

\* \*\*SSE Endpoint\*\*: The SSE endpoint for the MCP server you want to connect to.

\* \*\*Authentication\*\*: The authentication method for authentication to your MCP server. The MCP tool supports [bearer](/integrations/builtin/credentials/httprequest.md#using-bearer-auth) and generic [header](/integrations/builtin/credentials/httprequest.md#using-header-auth) authentication. Select \*\*None\*\* to attempt to connect without authentication.

\* \*\*Tools to Include\*\*: Choose which tools you want to expose to the AI Agent:

\* \*\*All\*\*: Expose all the tools given by the MCP server.

\* \*\*Selected\*\*: Activates a \*\*Tools to Include\*\* parameter where you can select the tools you want to expose to the AI Agent.

\* \*\*All Except\*\*: Activates a \*\*Tools to Exclude\*\* parameter where you can select the tools you want to avoid sharing with the AI Agent. The AI Agent will have access to all MCP server's tools that aren't selected.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mcp-client-tool') ]]

## Related resources

n8n also has an [MCP Server Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.mcptrigger.md) node that allows you to expose n8n tools to external AI Agents.

Refer to the [MCP documentation](https://modelcontextprotocol.io/introduction) and [MCP specification](https://modelcontextprotocol.io/specification/) for more details about the protocol, servers, and clients.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolsearxng.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SearXNG Tool node documentation

description: Learn how to use the SearXNG Tool node in n8n. Follow technical documentation to integrate SearXNG Tool node into your workflows.

contentType: [integration, reference]

---

# SearXNG Tool node

The SearXNG Tool node allows you to integrate search capabilities into your workflows using SearXNG. SearXNG aggregates results from multiple search engines without tracking you.

On this page, you'll find the node options for the SearXNG Tool node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/searxng.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node Options

\* \*\*Number of Results\*\*: The number of results to retrieve. The default is 10.

\* \*\*Page Number\*\*: The page number of the search results to retrieve. The default is 1.

\* \*\*Language\*\*: A two-letter [language code](https://en.wikipedia.org/wiki/List\_of\_ISO\_639\_language\_codes) to filter search results by language. For example: `en` for English, `fr` for French. The default is `en`.

\* \*\*Safe Search\*\*: Enables or disables filtering explicit content in the search results. Can be None, Moderate, or Strict. The default is None.

## Running a SearXNG instance

This node requires running the SearXNG service on the same network as your n8n instance. Ensure your n8n instance has network access to the SearXNG service.

This node requires results in JSON format, which isn't enabled in the default SearXNG configuration. To enable JSON output, add `json` to the `search.formats` section of your SearXNG instance's `settings.yml` file:

```yaml

search:

# options available for formats: [html, csv, json, rss]

formats:

- html

- json

```

If the `formats` section isn't there, add it. The exact location of the `settings.yml` file depends on how you installed SearXNG. You can find more by visiting the [SearXNG configuration documentation](https://docs.searxng.org/admin/installation-searxng.html#configuration).

The quality and availability of search results depend on the configuration and health of the SearXNG instance you use.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'searxng') ]]

## Related resources

Refer to [SearXNG's documentation](https://docs.searxng.org/) for more information about the service. You can also view [LangChain's documentation on their SearXNG integration](https://python.langchain.com/docs/integrations/tools/searx\_search/).

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolserpapi.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SerpApi (Google Search) node documentation

description: Learn how to use the SerpApi (Google Search) node in n8n. Follow technical documentation to integrate SerpApi (Google Search) node into your workflows.

contentType: [integration, reference]

priority: high

---

# SerpApi (Google Search) node

The SerpAPI node allows an [agent](/glossary.md#ai-agent) in your workflow to call Google's Search API.

On this page, you'll find the node parameters for the SerpAPI node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/serp.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node options

\* \*\*Country\*\*: Enter the country code you'd like to use. Refer to [Google GL Parameter: Supported Google Countries](https://serpapi.com/google-countries){:target=\_blank .external-link} for supported countries and country codes.

\* \*\*Device\*\*: Select the device to use to get the search results.

\* \*\*Explicit Array\*\*: Choose whether to force SerpApi to fetch the Google results even if a cached version is already present (turned on) or not (turned off).

\* \*\*Google Domain\*\*: Enter the Google Domain to use. Refer to [Supported Google Domains](https://serpapi.com/google-domains) for supported domains.

\* \*\*Language\*\*: Enter the language code you'd like to use. Refer to [Google HL Parameter: Supported Google Languages](https://serpapi.com/google-languages){:target=\_blank .external-link} for supported languages and language codes.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'serpapi') ]]

## Related resources

Refer to [Serp's documentation](https://serpapi.com/search-api){:target=\_blank .external-link} for more information about the service. You can also view [LangChain's documentation on their Serp integration](https://js.langchain.com/docs/integrations/tools/serpapi/){:target=\_blank .external-link}.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolthink.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Think Tool node documentation

description: Learn how to use the Think Tool node in n8n. Follow technical documentation to integrate the Tool Think node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Think Tool node

The Think Tool node is a [tool](/glossary.md#ai-tool) that invites an [agent](/glossary.md#ai-agent) to do some thinking before answering. Essentially, it allows the agent to reflect on the question by talking to itself before providing an answer. In particular, this is useful for complex queries that require a thoughtful response.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'think-tool') ]]

### Prompting example

As an example, say you ask the agent:

<!-- vale off -->

> \*Jack is looking at Anne. Anne is looking at George. Jack is married, George is not, and we don't know if Anne is married. Is a married person looking at an unmarried person?\*

<!-- vale on -->

The agent will do its thinking with the tool:

<!-- vale off -->

> \*We have the following information: 1. Jack is looking at Anne. 2. Anne is looking at George. 3. Jack is married. 4. George is not married. 5. We don't know if Anne is married or not.\*

> \*We need to determine if a married person is looking at an unmarried person. Let's consider both cases for Anne:\*

> \*Case 1: Anne is married.\*

> - \*If Anne is married, then she (married) is looking at George (unmarried). In this case, a married person (Anne) is looking at an unmarried person (George).\*

> \*Case 2: Anne is unmarried.\*

> - \*If Anne is unmarried, then Jack (married) is looking at Anne (unmarried). In this case, a married person (Jack) is looking at an unmarried person (Anne).\*

> \*In both scenarios, we find that a married person is looking at an unmarried person. Therefore, the answer to the question is yes.\*

<!-- vale on -->

and then afterward provide the answer:

<!-- vale off -->

> \*Yes, a married person is looking at an unmarried person. In both possible scenarios regarding Anne's marital status, we find that a married individual (either Jack or Anne) is looking at an unmarried individual (either George or Anne).\*

<!-- vale on -->

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolvectorstore.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Vector Store Question Answer Tool node documentation

description: Learn how to use the Vector Store Question Answer Tool node in n8n. Follow technical documentation to integrate Vector Store Question Answer Tool node into your workflows.

contentType: [integration, reference]

---

# Vector Store Question Answer Tool node

The Vector Store Question Answer node is a [tool](/glossary.md#ai-tool) that allows an [agent](/glossary.md#ai-agent) to summarize results and answer questions based on chunks from a [vector store](/glossary.md#ai-vector-store).

On this page, you'll find the node parameters for the Vector Store Question Answer node, and links to more resources.

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Vector Store Question Answer Tool integrations](https://n8n.io/integrations/vector-store-tool/){:target=\_blank .external-link} page.

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Description of Data

Enter a description of the data in the vector store.

### Limit

The maximum number of results to return.

## How n8n populates the tool description

n8n uses the node name (select the name to edit) and \*\*Description of Data\*\* parameter to populate the tool description for AI agents using the following format:

> Useful for when you need to answer questions about [node name]. Whenever you need information about [Description of Data], you should ALWAYS use this. Input should be a fully formed question.

Spaces in the node name are converted to underscores in the tool description.

/// warning | Avoid special characters in node names

Using special characters in the node name will cause errors when the agent runs:

![model errors from special characters](/\_images/integrations/builtin/cluster-nodes/toolvectorstore/name-characters-error.png)

Use only alphanumeric characters, spaces, dashes, and underscores in node names.

///

## Related resources

View [example workflows and related content](https://n8n.io/integrations/vector-store-tool/){:target=\_blank .external-link} on n8n's website.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolwikipedia.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wikipedia node documentation

description: Learn how to use the Wikipedia node in n8n. Follow technical documentation to integrate Wikipedia node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Wikipedia node

The Wikipedia node is a [tool](/glossary.md#ai-tool) that allows an [agent](/glossary.md#ai-agent) to search and return information from Wikipedia.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'wikipedia') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolwolframalpha.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wolfram|Alpha tool node documentation

description: Learn how to use the Wolfram|Alpha tool node in n8n. Follow technical documentation to integrate Wolfram|Alpha tool node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Wolfram|Alpha tool node

Use the Wolfram|Alpha tool node to connect your [agents](/glossary.md#ai-agent) and [chains](/glossary.md#ai-chain) to Wolfram|Alpha's computational intelligence engine.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/wolframalpha.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'wolframoralpha') ]]

## Related resources

Refer to [Wolfram|Alpha's documentation](https://products.wolframalpha.com/api){:target=\_blank .external-link} for more information about the service. You can also view [LangChain's documentation on their WolframAlpha Tool](https://js.langchain.com/docs/integrations/tools/wolframalpha/){:target=\_blank .external-link}.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## n8n-nodes-langchain.toolworkflow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Call n8n Workflow Tool node documentation

description: Learn how to use the Call n8n Workflow Tool node in n8n. Follow technical documentation to integrate Call n8n Workflow Tool node into your workflows.

contentType: [integration, reference]

priority: high

---

# Call n8n Workflow Tool node

The Call n8n Workflow Tool node is a [tool](/glossary.md#ai-tool) that allows an [agent](/glossary.md#ai-agent) to run another n8n workflow and fetch its output data.

On this page, you'll find the node parameters for the Call n8n Workflow Tool node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Description

Enter a custom code a description. This tells the agent when to use this tool. For example:

> Call this tool to get a random color. The input should be a string with comma separated names of colors to exclude.

### Source

Tell n8n which workflow to call. You can choose either:

\* \*\*Database\*\* to select the workflow from a list or enter a workflow ID.

\* \*\*Define Below\*\* and copy in a complete [workflow JSON](/workflows/export-import.md).

### Workflow Inputs

When using \*\*Database\*\* as workflow source, once you choose a sub-workflow (and define the \*\*Workflow Input Schema\*\* in the sub-workflow), you can define the \*\*Workflow Inputs\*\*.

Select the \*\*Refresh\*\* button to pull in the input fields from the sub-workflow.

You can define the workflow input values using any combination of the following options:

\* providing fixed values

\* using expressions to reference data from the current workflow

\* [letting the AI model specify the parameter](/advanced-ai/examples/using-the-fromai-function.md) by selecting the button AI button on the right side of the field

\* using the [`$fromAI()` function](/advanced-ai/examples/using-the-fromai-function.md#use-the-fromai-function) in expressions to control the way the model fills in data and to mix AI generated input with other custom input

To reference data from the current workflow, drag fields from the input panel to the field with the Expressions mode selected.

To get started with the `$fromAI()` function, select the "Let the model define this parameter" button on the right side of the field and then use the \*\*X\*\* on the box to revert to user-defined values. The field will change to an expression field pre-populated with the `$fromAI()` expression. From here, you can customize the expression to add other static or dynamic content, or tweak the `$fromAI()` function parameters.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'workflow-tool') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/tools-link.md"

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Ollama Chat Model node common issues

description: Documentation for common issues and questions in the Ollama Chat Model node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Ollama Chat Model node common issues

Here are some common errors and issues with the [Ollama Chat Model node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatollama/index.md) and steps to resolve or troubleshoot them.

## Processing parameters

The Ollama Chat Model node is a [sub-node](/glossary.md#sub-node-n8n). Sub-nodes behave differently than other nodes when processing multiple items using expressions.

Most nodes, including [root nodes](/glossary.md#root-node-n8n), take any number of items as input, process these items, and output the results. You can use expressions to refer to input items, and the node resolves the expression for each item in turn. For example, given an input of five name values, the expression `{{ $json.name }}` resolves to each name in turn.

In sub-nodes, the expression always resolves to the first item. For example, given an input of five name values, the expression `{{ $json.name }}` always resolves to the first name.

## Can't connect to a remote Ollama instance

The Ollama Chat Model node is only designed to connect to a locally hosted Ollama instance. It doesn't include the authentication features you'd need to connect to a remotely hosted Ollama instance.

To use the Ollama Chat Model, follow the [Ollama credentials instructions](/integrations/builtin/credentials/ollama.md) to set up Ollama locally and configure the instance URL in n8n.

## Can't connect to a local Ollama instance when using Docker

The Ollama Chat Model node connects to a locally hosted Ollama instance using the base URL defined by [Ollama credentials](/integrations/builtin/credentials/ollama.md). When you run either n8n or Ollama in Docker, you need to configure the network so that n8n can connect to Ollama.

Ollama typically listens for connections on `localhost`, the local network address. In Docker, by default, each container has its own `localhost` which is only accessible from within the container. If either n8n or Ollama are running in containers, they won't be able to connect over `localhost`.

The solution depends on how you're hosting the two components.

### If only Ollama is in Docker

If only Ollama is running in Docker, configure Ollama to listen on all interfaces by binding to `0.0.0.0` inside of the container (the official images are already configured this way).

When running the container, [publish the ports](https://docs.docker.com/get-started/docker-concepts/running-containers/publishing-ports/) with the `-p` flag. By default, Ollama runs on port 11434, so your Docker command should look like this:

```shell

docker run -d -v ollama:/root/.ollama -p 11434:11434 --name ollama ollama/ollama

```

When configuring [Ollama credentials](/integrations/builtin/credentials/ollama.md), the `localhost` address should work without a problem (set the \*\*base URL\*\* to `http://localhost:11434`).

### If only n8n is in Docker

If only n8n is running in Docker, configure Ollama to listen on all interfaces by binding to `0.0.0.0` on the host.

If you are running n8n in Docker on \*\*Linux\*\*, use the `--add-host` flag to map `host.docker.internal` to `host-gateway` when you start the container. For example:

```shell

docker run -it --rm --add-host host.docker.internal:host-gateway --name n8n -p 5678:5678 -v n8n\_data:/home/node/.n8n docker.n8n.io/n8nio/n8n

```

If you are using Docker Desktop, this is automatically configured for you.

When configuring [Ollama credentials](/integrations/builtin/credentials/ollama.md), use `host.docker.internal` as the host address instead of `localhost`. For example, to bind to the default port 11434, you could set the base URL to `http://host.docker.internal:11434`.

### If Ollama and n8n are running in separate Docker containers

If both n8n and Ollama are running in Docker in separate containers, you can use Docker networking to connect them.

Configure Ollama to listen on all interfaces by binding to `0.0.0.0` inside of the container (the official images are already configured this way).

When configuring [Ollama credentials](/integrations/builtin/credentials/ollama.md), use the Ollama container's name as the host address instead of `localhost`. For example, if you call the Ollama container `my-ollama` and it listens on the default port 11434, you would set the base URL to `http://my-ollama:11434`.

### If Ollama and n8n are running in the same Docker container

If Ollama and n8n are running in the same Docker container, the `localhost` address doesn't need any special configuration. You can configure Ollama to listen on localhost and configure the base URL in the [Ollama credentials in n8n](/integrations/builtin/credentials/ollama.md) to use localhost: `http://localhost:11434`.

<!-- vale from-microsoft.HeadingColons = NO -->

## Error: connect ECONNREFUSED ::1:11434

<!-- vale from-microsoft.HeadingColons = YES -->

This error occurs when your computer has IPv6 enabled, but Ollama is listening to an IPv4 address.

To fix this, change the base URL in your [Ollama credentials](/integrations/builtin/credentials/ollama.md) to connect to `127.0.0.1`, the IPv4-specific local address, instead of the `localhost` alias that can resolve to either IPv4 or IPv6: `http://127.0.0.1:11434`.

## Ollama and HTTP/HTTPS proxies

Ollama doesn't support custom HTTP agents in its configuration. This makes it difficult to use Ollama behind custom HTTP/HTTPS proxies. Depending on your proxy configuration, it might not work at all, despite setting the `HTTP\_PROXY` or `HTTPS\_PROXY` environment variables.

Refer to [Ollama's FAQ](https://github.com/ollama/ollama/blob/main/docs/faq.md#how-do-i-use-ollama-behind-a-proxy) for more information.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Ollama Chat Model node documentation

description: Learn how to use the Ollama Chat Model node in n8n. Follow technical documentation to integrate Ollama Chat Model node into your workflows.

contentType: [integration, reference]

priority: high

---

# Ollama Chat Model node

The Ollama Chat Model node allows you use local Llama 2 models with conversational [agents](/glossary.md#ai-agent).

On this page, you'll find the node parameters for the Ollama Chat Model node, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/ollama.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model that generates the completion. Choose from:

\* \*\*Llama2\*\*

\* \*\*Llama2 13B\*\*

\* \*\*Llama2 70B\*\*

\* \*\*Llama2 Uncensored\*\*

Refer to the Ollama [Models Library documentation](https://ollama.com/library){:target=\_blank .external-link} for more information about available models.

## Node options

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Top K\*\*: Enter the number of token choices the model uses to generate the next token.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'ollama-chat-model') ]]

## Related resources

Refer to [LangChains's Ollama Chat Model documentation](https://js.langchain.com/docs/integrations/chat/ollama/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatollama/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

--8<-- "\_snippets/self-hosting/starter-kits/self-hosted-ai-starter-kit.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI Chat Model node common issues

description: Documentation for common issues and questions in the OpenAI Chat Model node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# OpenAI Chat Model node common issues

Here are some common errors and issues with the [OpenAI Chat Model node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/index.md) and steps to resolve or troubleshoot them.

## Processing parameters

The OpenAI Chat Model node is a [sub-node](/glossary.md#sub-node-n8n). Sub-nodes behave differently than other nodes when processing multiple items using expressions.

Most nodes, including [root nodes](/glossary.md#root-node-n8n), take any number of items as input, process these items, and output the results. You can use expressions to refer to input items, and the node resolves the expression for each item in turn. For example, given an input of five name values, the expression `{{ $json.name }}` resolves to each name in turn.

In sub-nodes, the expression always resolves to the first item. For example, given an input of five name values, the expression `{{ $json.name }}` always resolves to the first name.

--8<-- "\_snippets/integrations/openai-api-issues.md"

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI Chat Model node documentation

description: Learn how to use the OpenAI Chat Model node in n8n. Follow technical documentation to integrate OpenAI Chat Model node into your workflows.

contentType: [integration, reference]

priority: high

---

# OpenAI Chat Model node

Use the OpenAI Chat Model node to use OpenAI's chat models with conversational [agents](/glossary.md#ai-agent).

On this page, you'll find the node parameters for the OpenAI Chat Model node and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/openai.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

### Model

Select the model to use to generate the completion.

n8n dynamically loads models from OpenAI and you'll only see the models available to your account.

## Node options

Use these options to further refine the node's behavior.

### Base URL

Enter a URL here to override the default URL for the API.

### Frequency Penalty

Use this option to control the chances of the model repeating itself. Higher values reduce the chance of the model repeating itself.

### Maximum Number of Tokens

Enter the maximum number of tokens used, which sets the completion length.

### Response Format

Choose \*\*Text\*\* or \*\*JSON\*\*. \*\*JSON\*\* ensures the model returns valid JSON.

### Presence Penalty

Use this option to control the chances of the model talking about new topics. Higher values increase the chance of the model talking about new topics.

### Sampling Temperature

Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

### Timeout

Enter the maximum request time in milliseconds.

### Max Retries

Enter the maximum number of times to retry a request.

### Top P

Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'openai-chat-model') ]]

## Related resources

Refer to [LangChains's OpenAI documentation](https://js.langchain.com/docs/integrations/chat/openai/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Ollama Model node common issues

description: Documentation for common issues and questions in the Ollama Model node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Ollama Model node common issues

Here are some common errors and issues with the [Ollama Model node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmollama/index.md) and steps to resolve or troubleshoot them.

## Processing parameters

The Ollama Model node is a [sub-node](/glossary.md#sub-node-n8n). Sub-nodes behave differently than other nodes when processing multiple items using expressions.

Most nodes, including [root nodes](/glossary.md#root-node-n8n), take any number of items as input, process these items, and output the results. You can use expressions to refer to input items, and the node resolves the expression for each item in turn. For example, given an input of five name values, the expression `{{ $json.name }}` resolves to each name in turn.

In sub-nodes, the expression always resolves to the first item. For example, given an input of five name values, the expression `{{ $json.name }}` always resolves to the first name.

## Can't connect to a remote Ollama instance

The Ollama Model node is only designed to connect to a locally hosted Ollama instance. It doesn't include the authentication features you'd need to connect to a remotely hosted Ollama instance.

To use the Ollama Model, follow the [Ollama credentials instructions](/integrations/builtin/credentials/ollama.md) to set up Ollama locally and configure the instance URL in n8n.

## Can't connect to a local Ollama instance when using Docker

The Ollama Model node connects to a locally hosted Ollama instance using the base URL defined by [Ollama credentials](/integrations/builtin/credentials/ollama.md). When you run either n8n or Ollama in Docker, you need to configure the network so that n8n can connect to Ollama.

Ollama typically listens for connections on `localhost`, the local network address. In Docker, by default, each container has its own `localhost` which is only accessible from within the container. If either n8n or Ollama are running in containers, they won't be able to connect over `localhost`.

The solution depends on how you're hosting the two components.

### If only Ollama is in Docker

If only Ollama is running in Docker, configure Ollama to listen on all interfaces by binding to `0.0.0.0` inside of the container (the official images are already configured this way).

When running the container, [publish the ports](https://docs.docker.com/get-started/docker-concepts/running-containers/publishing-ports/) with the `-p` flag. By default, Ollama runs on port 11434, so your Docker command should look like this:

```shell

docker run -d -v ollama:/root/.ollama -p 11434:11434 --name ollama ollama/ollama

```

When configuring [Ollama credentials](/integrations/builtin/credentials/ollama.md), the `localhost` address should work without a problem (set the \*\*base URL\*\* to `http://localhost:11434`).

### If only n8n is in Docker

If only n8n is running in Docker, configure Ollama to listen on all interfaces by binding to `0.0.0.0` on the host.

If you are running n8n in Docker on \*\*Linux\*\*, use the `--add-host` flag to map `host.docker.internal` to `host-gateway` when you start the container. For example:

```shell

docker run -it --rm --add-host host.docker.internal:host-gateway --name n8n -p 5678:5678 -v n8n\_data:/home/node/.n8n docker.n8n.io/n8nio/n8n

```

If you are using Docker Desktop, this is automatically configured for you.

When configuring [Ollama credentials](/integrations/builtin/credentials/ollama.md), use `host.docker.internal` as the host address instead of `localhost`. For example, to bind to the default port 11434, you could set the base URL to `http://host.docker.internal:11434`.

### If Ollama and n8n are running in separate Docker containers

If both n8n and Ollama are running in Docker in separate containers, you can use Docker networking to connect them.

Configure Ollama to listen on all interfaces by binding to `0.0.0.0` inside of the container (the official images are already configured this way).

When configuring [Ollama credentials](/integrations/builtin/credentials/ollama.md), use the Ollama container's name as the host address instead of `localhost`. For example, if you call the Ollama container `my-ollama` and it listens on the default port 11434, you would set the base URL to `http://my-ollama:11434`.

### If Ollama and n8n are running in the same Docker container

If Ollama and n8n are running in the same Docker container, the `localhost` address doesn't need any special configuration. You can configure Ollama to listen on localhost and configure the base URL in the [Ollama credentials in n8n](/integrations/builtin/credentials/ollama.md) to use localhost: `http://localhost:11434`.

<!-- vale from-microsoft.HeadingColons = NO -->

## Error: connect ECONNREFUSED ::1:11434

<!-- vale from-microsoft.HeadingColons = YES -->

This error occurs when your computer has IPv6 enabled, but Ollama is listening to an IPv4 address.

To fix this, change the base URL in your [Ollama credentials](/integrations/builtin/credentials/ollama.md) to connect to `127.0.0.1`, the IPv4-specific local address, instead of the `localhost` alias that can resolve to either IPv4 or IPv6: `http://127.0.0.1:11434`.

## Ollama and HTTP/HTTPS proxies

Ollama doesn't support custom HTTP agents in its configuration. This makes it difficult to use Ollama behind custom HTTP/HTTPS proxies. Depending on your proxy configuration, it might not work at all, despite setting the `HTTP\_PROXY` or `HTTPS\_PROXY` environment variables.

Refer to [Ollama's FAQ](https://github.com/ollama/ollama/blob/main/docs/faq.md#how-do-i-use-ollama-behind-a-proxy) for more information.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Ollama Model node documentation

description: Learn how to use the Ollama Model node in n8n. Follow technical documentation to integrate Ollama Model node into your workflows.

contentType: [integration, reference]

priority: high

---

# Ollama Model node

The Ollama Model node allows you use local Llama 2 models.

On this page, you'll find the node parameters for the Ollama Model node, and links to more resources.

This node lacks tools support, so it won't work with the [AI Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md) node. Instead, connect it with the [Basic LLM Chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md) node.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/ollama.md).

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Model\*\*: Select the model that generates the completion. Choose from:

\* \*\*Llama2\*\*

\* \*\*Llama2 13B\*\*

\* \*\*Llama2 70B\*\*

\* \*\*Llama2 Uncensored\*\*

Refer to the Ollama [Models Library documentation](https://ollama.com/library){:target=\_blank .external-link} for more information about available models.

## Node options

\* \*\*Sampling Temperature\*\*: Use this option to control the randomness of the sampling process. A higher temperature creates more diverse sampling, but increases the risk of hallucinations.

\* \*\*Top K\*\*: Enter the number of token choices the model uses to generate the next token.

\* \*\*Top P\*\*: Use this option to set the probability the completion should use. Use a lower value to ignore less probable options.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'ollama-model') ]]

## Related resources

Refer to [LangChains's Ollama documentation](https://js.langchain.com/docs/integrations/llms/ollama/){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmollama/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

--8<-- "\_snippets/self-hosting/starter-kits/self-hosted-ai-starter-kit.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Simple Memory node common issues

description: Documentation for common issues and questions in the Simple Memory node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Simple Memory node common issues

Here are some common errors and issues with the [Simple Memory node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorybufferwindow/index.md) and steps to resolve or troubleshoot them.

## Single memory instance

If you add more than one Simple Memory node to your workflow, all nodes access the same memory instance by default. Be careful when doing destructive actions that override existing memory contents, such as the override all messages operation in the [Chat Memory Manager](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymanager.md) node. If you want more than one memory instance in your workflow, set different session IDs in different memory nodes.

## Managing the Session ID

In most cases, the `sessionId` is automatically retrieved from the \*\*On Chat Message\*\* trigger. But you may run into an error with the phrase `No sessionId`.

If you have this error, first check the output of your Chat trigger to ensure it includes a `sessionId`.

If you're not using the \*\*On Chat Message\*\* trigger, you'll need to manage sessions manually.

For testing purposes, you can use a static key like `my\_test\_session`. If you use this approach, be sure to set up proper session management before activating the workflow to avoid potential issues in a live environment.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Simple Memory node documentation

description: Learn how to use the Simple Memory node in n8n. Follow technical documentation to integrate Simple Memory node into your workflows.

contentType: [integration, reference]

priority: high

---

# Simple Memory node

Use the Simple Memory node to [persist](/glossary.md#ai-memory) chat history in your workflow.

On this page, you'll find a list of operations the Simple Memory node supports, and links to more resources.

/// warning | Don't use this node if running n8n in queue mode

If your n8n instance uses [queue mode](/hosting/scaling/queue-mode.md), this node doesn't work in an active production workflow. This is because n8n can't guarantee that every call to Simple Memory will go to the same worker.

///

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

Configure these parameters to configure the node:

\* \*\*Session Key\*\*: Enter the key to use to store the memory in the workflow data.

\* \*\*Context Window Length\*\*: Enter the number of previous interactions to consider for context.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'window-buffer-memory') ]]

## Related resources

Refer to [LangChain's Buffer Window Memory documentation](https://v03.api.js.langchain.com/classes/langchain.memory.BufferWindowMemory.html){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorybufferwindow/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Structured Output Parser node common issues

description: Documentation for common issues and questions in the Structured Output Parser node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Structured Output Parser node common issues

Here are some common errors and issues with the [Structured Output Parser node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserstructured/index.md) and steps to resolve or troubleshoot them.

## Processing parameters

The Structured Output Parser node is a [sub-node](/glossary.md#sub-node-n8n). Sub-nodes behave differently than other nodes when processing multiple items using expressions.

Most nodes, including [root nodes](/glossary.md#root-node-n8n), take any number of items as input, process these items, and output the results. You can use expressions to refer to input items, and the node resolves the expression for each item in turn. For example, given an input of five name values, the expression `{{ $json.name }}` resolves to each name in turn.

In sub-nodes, the expression always resolves to the first item. For example, given an input of five name values, the expression `{{ $json.name }}` always resolves to the first name.

## Adding the structured output parser node to AI nodes

You can attach output parser nodes to select [AI root nodes](/integrations/builtin/cluster-nodes/root-nodes/index.md).

To add the Structured Output Parser to a node, enable the \*\*Require Specific Output Format\*\* option in the AI root node you wish to format. Once the option is enabled, a new \*\*output parser\*\* attachment point is displayed. Click the \*\*output parser\*\* attachment point to add the Structured Output Parser node to the node.

## Using the structured output parser to format intermediary steps

The Structured Output Parser node structures the final output from AI agents. It's not intended to structure intermediary output to pass to other AI tools or stages.

To request a specific format for intermediary output, include the response structure in the \*\*System Message\*\* for the \*\*AI Agent\*\*. The message can include either a schema or example response for the agent to use as a template for its results.

## Structuring output from agents

Structured output parsing is often not reliable when working with [agents](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md).

If your workflow uses agents, n8n recommends using a separate [LLM-chain](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.chainllm.md) to receive the data from the agent and parse it. This leads to better, more consistent results than parsing directly in the agent workflow.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Structured Output Parser node documentation

description: Learn how to use the Structured Output Parser node in n8n. Follow technical documentation to integrate Structured Output Parser node into your workflows.

contentType: [integration, reference]

priority: high

---

# Structured Output Parser node

Use the Structured Output Parser node to return fields based on a JSON Schema.

On this page, you'll find the node parameters for the Structured Output Parser node, and links to more resources.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/sub-node-expression-resolution.md"

## Node parameters

\* \*\*Schema Type\*\*: Define the output structure and validation. You have two options to provide the schema:

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-sub-nodes/schema-type-structuring.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'structured-output-parser') ]]

## Related resources

Refer to [LangChain's output parser documentation](https://js.langchain.com/docs/concepts/output\_parsers){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserstructured/common-issues.md).

--8<-- "\_glossary/ai-glossary.md"

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Core nodes library

This section provides information about n8n's core [nodes](/glossary.md#node-n8n).

## n8n-nodes-base.activationtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Activation Trigger node documentation

description: Learn how to use the Activation Trigger node in n8n. Follow technical documentation to integrate Activation Trigger node into your workflows.

contentType: [integration, reference]

---

# Activation Trigger node

The Activation Trigger node gets triggered when an event gets fired by n8n or a workflow.

/// warning

n8n has deprecated the Activation Trigger node and replaced it with two new nodes: the [n8n Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.n8ntrigger.md) and the [Workflow Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.workflowtrigger.md). For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01170) page.

///

/// note | Keep in mind

If you want to use the Activation Trigger node for a workflow, add the node to the workflow. You don't have to create a separate workflow.

///

The Activation Trigger node gets triggered for the workflow that it gets added to. You can use the Activation Trigger node to trigger a workflow to notify the state of the workflow.

## Node parameters

- Events

- \*\*Activation\*\*: Run when the workflow gets activated

- \*\*Start\*\*: Run when n8n starts or restarts

- \*\*Update\*\*: Run when the workflow gets saved while it's active

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'activation-trigger') ]]

## n8n-nodes-base.aggregate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Aggregate

description: Documentation for the Aggregate node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Aggregate

Use the Aggregate node to take separate items, or portions of them, and group them together into individual items.

## Node parameters

To begin using the node, select the \*\*Aggregate\*\* you'd like to use:

\* [\*\*Individual Fields\*\*](#individual-fields): Aggregate individual fields separately.

\* [\*\*All Item Data\*\*](#all-item-data): Aggregate all item data into a single list.

### Individual Fields

\* \*\*Input Field Name\*\*: Enter the name of the field in the input data to aggregate together.

\* \*\*Rename Field\*\*: This toggle controls whether to give the field a different name in the aggregated output data. Turn this on to add a different field name. If you're aggregating multiple fields, you must provide new output field names. You can't leave multiple fields undefined.

\* \*\*Output Field Name\*\*: This field is displayed when you turn on \*\*Rename Field\*\*. Enter the field name for the aggregated output data.

Refer to [Node options](#node-options) for more configuration options.

### All Item Data

\* \*\*Put Output in Field\*\*: Enter the name of the field to output the data in.

\* \*\*Include\*\*: Select which fields to include in the output. Choose from:

\* \*\*All fields\*\*: The output includes data from all fields with no further parameters.

\* \*\*Specified Fields\*\*: If you select this option, enter a comma-separated list of fields the output should include data from in the \*\*Fields To Include\*\* parameter. The output will include only the fields in this list.

\* \*\*All Fields Except\*\*: If you select this option, enter a comma-separated list of fields the output should exclude data from in the \*\*Fields To Exclude\*\* parameter. The output will include all fields not in this list.

Refer to [Node options](#node-options) for more configuration options.

## Node options

You can further configure this node using these \*\*Options\*\*:

\* \*\*Disable Dot Notation\*\*: The node displays this toggle when you select the \*\*Individual Fields\*\* Aggregate. It controls whether to disallow referencing child fields using `parent.child` in the field name (turned on), or allow it (turned off, default).

\* \*\*Merge Lists\*\*: The node displays this toggle when you select the \*\*Individual Fields\*\* Aggregate. Turn it on if the field to aggregate is a list and you want to output a single flat list rather than a list of lists.

\* \*\*Include Binaries\*\*: The node displays this toggle for both Aggregate types. Turn it on if you want to include binary data from the input in the new output.

\* \*\*Keep Missing And Null Values\*\*: The node displays this toggle when you select the \*\*Individual Fields\*\* Aggregate. Turn it on to add a null (empty) entry in the output list when there is a null or missing value in the input. If turned off, the output ignores null or empty values.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'aggregate') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/core-nodes/data-transformation-actions/data-section-link.md"

## n8n-nodes-base.aitransform.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AI Transform

description: Documentation for the AI Transform node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

---

# AI Transform

Use the AI Transform node to generate code snippets based on your prompt. The AI is context-aware, understanding the workflow’s nodes and their data types.

/// info | Feature availability

Available only on [Cloud plans](/manage-cloud/overview.md).

///

## Node parameters

### Instructions

Enter your prompt for the AI and click the \*\*Generate code\*\* button to automatically populate the \*\*Transformation Code\*\*. For example, you can specify how you want to process or categorize your data. Refer to [Writing good prompts](/code/ai-code.md#writing-good-prompts) for more information.

The prompt should be in plain English and under 500 characters.

### Transformation Code

The code snippet generated by the node is read-only. To edit this code, adjust your prompt in \*\*Instructions\*\* or copy and paste it into a [Code](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) node.

## Templates and examples

[[ templatesWidget(page.title, 'ai-transform') ]]

## n8n-nodes-base.comparedatasets.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Compare Datasets

description: Documentation for the Compare Datasets node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Compare Datasets

The Compare Datasets node helps you compare data from two input streams.

## Node parameters

1. Decide which fields to compare. In \*\*Input A Field\*\*, enter the name of the field you want to use from input stream A. In \*\*Input B Field\*\*, enter the name of the field you want to use from input stream B.

2. \*\*Optional\*\*: You can compare by multiple fields. Select \*\*Add Fields to Match\*\* to set up more comparisons.

3. Choose how to handle differences between the datasets. In \*\*When There Are Differences\*\*, select one of the following:

\* \*\*Use Input A Version\*\* to treat input stream A as the source of truth.

\* \*\*Use Input B Version\*\* to treat input stream B as the source of truth.

\* \*\*Use a Mix of Versions\*\* to use different inputs for different fields.

\* Use \*\*Prefer\*\* to select either \*\*Input A Version\*\* or \*\*Input B Version\*\* as the main source of truth.

\* Enter input fields that are exceptions to \*\*For Everything Except\*\* to pull from the other input source. To add multiple input fields, enter a comma-separated list.

\* \*\*Include Both Versions\*\* to include both input streams in the output, which may make the structure more complex.

4. Decide whether to use \*\*Fuzzy Compare\*\*. When turned on, the comparison will tolerate small type differences when comparing fields. For example, the number 3 and the string `3` are treated as the same with \*\*Fuzzy Compare\*\* turned on, but wouldn't be treated the same with it turned off.

## Understand item comparison

Item comparison is a two stage process:

1. n8n checks if the values of the fields you selected to compare match across both inputs.

2. If the fields to compare match, n8n then compares all fields within the items, to determine if the items are the same or different.

## Node options

Use the node \*\*Options\*\* to refine your comparison or tweak comparison behavior.

### Fields to Skip Comparing

Enter field names that you want to ignore in the comparison.

For example, if you compare the two datasets below using `person.language` as the \*\*Fields to Match\*\*, n8n returns them as different. If you add `person.name` to \*\*Fields to Skip Comparing\*\*, n8n returns them as matching.

```json

// Input 1

[

{

"person":

{

"name": "Stefan",

"language": "de"

}

},

{

"person":

{

"name": "Jim",

"language": "en"

}

},

{

"person":

{

"name": "Hans",

"language": "de"

}

}

]

// Input 2

[

{

"person":

{

"name": "Sara",

"language": "de"

}

},

{

"person":

{

"name": "Jane",

"language": "en"

}

},

{

"person":

{

"name": "Harriet",

"language": "de"

}

}

]

```

### Disable Dot Notation

Whether to disallow referencing child fields using `parent.child` in the field name (turned on) or allow it (turned off, default).

### Multiple Matches

Choose how to handle duplicate data. The default is \*\*Include All Matches\*\*. You can choose \*\*Include First Match Only\*\*.

For example, given these two datasets:

```json

// Input 1

[

{

"fruit": {

"type": "apple",

"color": "red"

}

},

{

"fruit": {

"type": "apple",

"color": "red"

}

},

{

"fruit": {

"type": "banana",

"color": "yellow"

}

}

]

// Input 2

[

{

"fruit": {

"type": "apple",

"color": "red"

}

},

{

"fruit": {

"type": "apple",

"color": "red"

}

},

{

"fruit": {

"type": "banana",

"color": "yellow"

}

}

]

```

n8n returns three items in the \*\*Same Branch\*\* tab. The data is the same in both branches.

If you select \*\*Include First Match Only\*\*, n8n returns two items, in the \*\*Same Branch\*\* tab. The data is the same in both branches, but n8n only returns the first occurrence of the matching "apple" items.

## Understand the output

There are four output options:

\* \*\*In A only Branch\*\*: Contains data that occurs only in the first input.

\* \*\*Same Branch\*\*: Contains data that's the same in both inputs.

\* \*\*Different Branch\*\*: Contains data that's different between inputs.

\* \*\*In B only Branch\*\*: Contains data that occurs only in the second output.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'compare-datasets') ]]

## n8n-nodes-base.compression.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Compression

description: Documentation for the Compression node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# Compression

Use the Compression node to compress and decompress files. Supports Zip and Gzip formats.

## Node parameters

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

The node parameters depend on which \*\*Operation\*\* you select. Choose to:

\* \*\*Compress\*\*: Create a compressed file from your input data.

\* \*\*Decompress\*\*: Decompress an existing compressed file.

Refer to the sections below for parameters specific to each \*\*Operation\*\*.

### Compress

- \*\*Input Binary Field(s)\*\*: Enter the name of the fields in the input data that contain the binary files you want to compress. To compress more than one file, use a comma-separated list.

- \*\*Output Format\*\*: Choose whether to format the compressed output as \*\*Zip\*\* or \*\*Gzip\*\*.

- \*\*File Name\*\*: Enter the name of the zip file the node creates.

- \*\*Put Output File in Field\*\*: Enter the name of the field in the output data to contain the file.

### Decompress

- \*\*Put Output File in Field\*\*: Enter the name of the fields in the input data that contain the binary files you want to decompress. To decompress more than one file, use a comma-separated list.

- \*\*Output Prefix\*\*: Enter a prefix to add to the output file name.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'compression') ]]

## n8n-nodes-base.converttofile.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Convert to File

description: Documentation for the Convert to File node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Convert to File

Use the Convert to File node to take input data and output it as a file. This converts the input JSON data into a binary format.

/// note | Extract From File

To extract data from a file and convert it to JSON, use the [Extract from File](/integrations/builtin/core-nodes/n8n-nodes-base.extractfromfile.md) node.

///

## Operations

\* [\*\*Convert to CSV\*\*](#convert-to-csv)

\* [\*\*Convert to HTML\*\*](#convert-to-html)

\* [\*\*Convert to ICS\*\*](#convert-to-ics)

\* [\*\*Convert to JSON\*\*](#convert-to-json)

\* [\*\*Convert to ODS\*\*](#convert-to-ods)

\* [\*\*Convert to RTF\*\*](#convert-to-rtf)

\* [\*\*Convert to Text File\*\*](#convert-to-text-file)

\* [\*\*Convert to XLS\*\*](#convert-to-xls)

\* [\*\*Convert to XLSX\*\*](#convert-to-xlsx)

\* [\*\*Move Base64 String to File\*\*](#move-base64-string-to-file)

Node parameters and options depend on the operation you select.

### Convert to CSV

Configure the node for this operation with the \*\*Put Output File in Field\*\* parameter. Enter the name of the field in the output data to contain the file.

#### Convert to CSV options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* If the first row of the file contains header names, turn on the \*\*Header Row\*\* option.

### Convert to HTML

Configure the node for this operation with the \*\*Put Output File in Field\*\* parameter. Enter the name of the field in the output data to contain the file.

#### Convert to HTML options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* If the first row of the file contains header names, turn on the \*\*Header Row\*\* option.

### Convert to ICS

\* \*\*Put Output File in Field\*\*. Enter the name of the field in the output data to contain the file.

\* \*\*Event Title\*\*: Enter the title for the event.

\* \*\*Start\*\*: Enter the date and time the event will start. All-day events ignore the time.

\* \*\*End\*\*: Enter the date and time the event will end. All-day events ignore the time. If unset, the node uses the start date.

\* \*\*All Day\*\*: Select whether the event is an all day event (turned on) or not (turned off).

#### Convert to ICS options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* \*\*Attendees\*\*: Use this option to add attendees to the event. For each attendee, add:

\* \*\*Name\*\*

\* \*\*Email\*\*

\* \*\*RSVP\*\*: Select whether the attendee needs to confirm attendance (turned on) or doesn't (turned off).

\* \*\*Busy Status\*\*: Use this option to set the busy status for Microsoft applications like Outlook. Choose from:

\* \*\*Busy\*\*

\* \*\*Tentative\*\*

\* \*\*Calendar Name\*\*: For Apple and Microsoft calendars, enter the [calendar name](https://learn.microsoft.com/en-us/openspecs/exchange\_server\_protocols/ms-oxcical/1da58449-b97e-46bd-b018-a1ce576f3e6d){:target=\_blank .external-link} for the event.

\* \*\*Description\*\*: Enter an event description.

\* \*\*Geolocation\*\*: Enter the \*\*Latitude\*\* and \*\*Longitude\*\* for the event's location.

\* \*\*Location\*\*: Enter the event's intended venue/location.

\* \*\*Recurrence Rule\*\*: Enter a rule to define the repeat pattern of the event (RRULE). Generate rules using the [iCalendar.org RRULE Tool](https://icalendar.org/rrule-tool.html){:target=\_blank .external-link}.

\* \*\*Organizer\*\*: Enter the organizer's \*\*Name\*\* and \*\*Email\*\*.

\* \*\*Sequence\*\*: If you're sending an update for an event with the same universally unique ID (UID), enter the revision sequence number.

\* \*\*Status\*\*: Set the status of the event. Choose from:

\* \*\*Confirmed\*\*

\* \*\*Cancelled\*\*

\* \*\*Tentative\*\*

\* \*\*UID\*\*: Enter a universally unique ID (UID) for the event. The UID should be globally unique. The node automatically generates a UID if you don't enter one.

\* \*\*URL\*\*: Enter a URL associated with the event.

\* \*\*Use Workflow Timezone\*\*: Whether to use UTC time zone (turned off) or the workflow's timezone (turned on). Set the workflow's timezone in the [Workflow Settings](/workflows/settings.md).

### Convert to JSON

Choose the best output \*\*Mode\*\* for your needs from these options:

\* \*\*All Items to One File\*\*: Send all input items to a single file.

\* \*\*Each Item to Separate File\*\*: Create a file for every input item.

#### Convert to JSON options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* \*\*Format\*\*: Choose whether to format the JSON for easier reading (turned on) or not (turned off).

\* \*\*Encoding\*\*: Choose the character set to use to encode the data. The default is \*\*utf8\*\*.

### Convert to ODS

Configure the node for this operation with the \*\*Put Output File in Field\*\* parameter. Enter the name of the field in the output data to contain the file.

#### Convert to ODS options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* \*\*Compression\*\*: Choose whether to compress and reduce the file's output size.

\* \*\*Header Row\*\*: Turn on if the first row of the file contains header names.

\* \*\*Sheet Name\*\*: Enter the Sheet Name to create in the spreadsheet.

### Convert to RTF

Configure the node for this operation with the \*\*Put Output File in Field\*\* parameter. Enter the name of the field in the output data to contain the file.

#### Convert to RFT options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* If the first row of the file contains header names, turn on the \*\*Header Row\*\* option.

### Convert to Text File

Enter the name of the \*\*Text Input Field\*\* that contains a string to convert to a file. Use dot-notation for deep fields, for example `level1.level2.currentKey`.

#### Convert to Text File options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* \*\*Encoding\*\*: Choose the character set to use to encode the data. The default is \*\*utf8\*\*.

### Convert to XLS

Configure the node for this operation with the \*\*Put Output File in Field\*\* parameter. Enter the name of the field in the output data to contain the file.

#### Convert to XLS options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* \*\*Header Row\*\*: Turn on if the first row of the file contains header names.

\* \*\*Sheet Name\*\*: Enter the Sheet Name to create in the spreadsheet.

### Convert to XLSX

Configure the node for this operation with the \*\*Put Output File in Field\*\* parameter. Enter the name of the field in the output data to contain the file.

#### Convert to XLSX options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* \*\*Compression\*\*: Choose whether to compress and reduce the file's output size.

\* \*\*Header Row\*\*: Turn on if the first row of the file contains header names.

\* \*\*Sheet Name\*\*: Enter the Sheet Name to create in the spreadsheet.

### Move Base64 String to File

Enter the name of the \*\*Base64 Input Field\*\* that contains the Base64 string to convert to a file. Use dot-notation for deep fields, for example `level1.level2.currentKey`.

#### Move Base64 String to File options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Name\*\*: Enter the file name for the generated output file.

\* \*\*MIME Type\*\*: Enter the MIME type of the output file. Refer to [Common MIME types](https://developer.mozilla.org/en-US/docs/Web/HTTP/Basics\_of\_HTTP/MIME\_types/Common\_types){:target=\_blank .external-link} for a list of common MIME types and the file extensions they relate to.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'convert-to-file') ]]

## n8n-nodes-base.crypto.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Crypto

description: Documentation for the Crypto node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# Crypto

Use the Crypto node to encrypt data in workflows.

## Actions

\* [\*\*Generate\*\* a random string](#generate-parameters)

\* [\*\*Hash\*\* a text or file](#hash-parameters) in a specified format

\* [\*\*Hmac\*\* a text or file](#hmac-parameters) in a specified format

\* [\*\*Sign\*\* a string](#sign-parameters) using a private key

## Node parameters

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

Node parameters depend on the action you select.

### Generate parameters

\* \*\*Property Name\*\*: Enter the name of the property to write the random string to.

\* \*\*Type\*\*: Select the encoding type to use to generate the string. Choose from:

\* \*\*ASCII\*\*

\* \*\*BASE64\*\*

\* \*\*HEX\*\*

\* \*\*UUID\*\*

### Hash parameters

\* \*\*Type\*\*: Select the hash type to use. Choose from:

\* \*\*MD5\*\*

\* \*\*SHA256\*\*

\* \*\*SHA3-256\*\*

\* \*\*SHA3-384\*\*

\* \*\*SHA3-512\*\*

\* \*\*SHA385\*\*

\* \*\*SHA512\*\*

\* \*\*Binary File\*\*: Turn this parameter on if the data you want to hash is from a binary file.

\* \*\*Value\*\*: If you turn off \*\*Binary File\*\*, enter the value you want to hash.

\* \*\*Binary Property Name\*\*: If you turn on \*\*Binary File\*\*, enter the name of the binary property that contains the data you want to hash.

\* \*\*Property Name\*\*: Enter the name of the property you want to write the hash to.

\* \*\*Encoding\*\*: Select the encoding type to use. Choose from:

\* \*\*BASE64\*\*

\* \*\*HEX\*\*

### Hmac parameters

\* \*\*Binary File\*\*: Turn this parameter on if the data you want to encrypt is from a binary file.

\* \*\*Value\*\*: If you turn off \*\*Binary File\*\*, enter the value you want to encrypt.

\* \*\*Binary Property Name\*\*: If you turn on \*\*Binary File\*\*, enter the name of the binary property that contains the data you want to encrypt.

\* \*\*Type\*\*: Select the encryption type to use. Choose from:

\* \*\*MD5\*\*

\* \*\*SHA256\*\*

\* \*\*SHA3-256\*\*

\* \*\*SHA3-384\*\*

\* \*\*SHA3-512\*\*

\* \*\*SHA385\*\*

\* \*\*SHA512\*\*

\* \*\*Property Name\*\*: Enter the name of the property you want to write the hash to.

\* \*\*Secret\*\*: Enter the secret or secret key used for decoding.

\* \*\*Encoding\*\*: Select the encoding type to use. Choose from:

\* \*\*BASE64\*\*

\* \*\*HEX\*\*

### Sign parameters

\* \*\*Value\*\*: Enter the value you want to sign.

\* \*\*Property Name\*\*: Enter the name of the property you want to write the signed value to.

\* \*\*Algorithm Name or ID\*\*: Choose an algorithm name from the list or specify an ID using an [expression](/code/expressions.md).

\* \*\*Encoding\*\*: Select the encoding type to use. Choose from:

\* \*\*BASE64\*\*

\* \*\*HEX\*\*

\* \*\*Private Key\*\*: Enter a private key to use when signing the string.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'crypto') ]]

## n8n-nodes-base.datetime.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Date & Time

description: Documentation for the Date & Time node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Date & Time

The Date & Time node manipulates date and time data and convert it to different formats.

--8<-- "\_snippets/integrations/builtin/core-nodes/schedule/timezone-settings.md"

/// note | Date and time in other nodes

You can work with data and time in the Code node, and in expressions in any node. n8n supports Luxon to help work with date and time in JavaScript. Refer to [Date and time with Luxon](/code/cookbook/luxon.md) for more information.

///

## Operations

\* \*\*Add to a Date\*\*: Add a specified amount of time to a date.

\* \*\*Extract Part of a Date\*\*: Extract part of a date, such as the year, month, or day.

\* \*\*Format a Date\*\*: Transform a date's format to a new format using preset options or a custom expression.

\* \*\*Get Current Date\*\*: Get the current date and choose whether to include the current time or not. Useful for triggering other flows and conditional logic.

\* \*\*Get Time Between Dates\*\*: Calculate the amount of time in specific units between two dates.

\* \*\*Round a Date\*\*: Round a date up or down to the nearest unit of your choice, such as month, day, or hour.

\* \*\*Subtract From a Date\*\*: Subtract a specified amount of time from a date.

Refer to the sections below for parameters and options specific to each operation.

## Add to a Date

Configure the node for this operation using these parameters:

\* \*\*Date to Add To\*\*: Enter the date you want to change.

\* \*\*Time Unit to Add\*\*: Select the time unit for the \*\*Duration\*\* parameter.

\* \*\*Duration\*\*: Enter the number of time units to add to the date.

\* \*\*Output Field Name\*\*: Enter the name of the field to output the new date to.

### Add to a Date options

This operation has one option: \*\*Include Input Fields\*\*. If you'd like to include all of the input fields in the output, turn this option on. If turned off, only the \*\*Output Field Name\*\* and its contents are output.

## Extract Part of a Date

Configure the node for this operation using these parameters:

\* \*\*Date\*\*: Enter the date you want to round or extract part of.

\* \*\*Part\*\*: Select the part of the date you want to extract. Choose from:

\* \*\*Year\*\*

\* \*\*Month\*\*

\* \*\*Week\*\*

\* \*\*Day\*\*

\* \*\*Hour\*\*

\* \*\*Minute\*\*

\* \*\*Second\*\*

\* \*\*Output Field Name\*\*: Enter the name of the field to output the extracted date part to.

### Extract Part of a Date options

This operation has one option: \*\*Include Input Fields\*\*. If you'd like to include all of the input fields in the output, turn this option on. If turned off, only the \*\*Output Field Name\*\* and its contents are output.

## Format a Date

Configure the node for this operation using these parameters:

\* \*\*Date\*\*: Enter the date you want to format.

\* \*\*Format\*\*: Select the format you want to change the date to. Choose from:

\* \*\*Custom Format\*\*: Enter your own custom format using Luxon's [special tokens](https://moment.github.io/luxon/#/formatting?id=table-of-tokens){:target=\_blank .external-link}. Tokens are case-sensitive.

\* \*\*MM/DD/YYYY\*\*: For `4 September 1986`, this formats the date as `09/04/1986`.

\* \*\*YYYY/MM/DD\*\*: For `4 September 1986`, this formats the date as `1986/09/04`.

\* \*\*MMMM DD YYYY\*\*: For `4 September 1986`, this formats the date as `September 04 1986`.

\* \*\*MM-DD-YYYY\*\*: For `4 September 1986`, this formats the date as `09-04-1986`.

\* \*\*YYYY-MM-DD\*\*: For `4 September 1986`, this formats the date as `1986-09-04`.

\* \*\*Output Field Name\*\*: Enter the name of the field to output the formatted date to.

### Format a Date options

This operation includes these options:

\* \*\*Include Input Fields\*\*: If you'd like to include all of the input fields in the output, turn this option on. If turned off, only the \*\*Output Field Name\*\* and its contents are output.

\* \*\*From Date Format\*\*: If the node isn't recognizing the \*\*Date\*\* format correctly, enter the format for that \*\*Date\*\* here so the node can process it properly. Use Luxon's [special tokens](https://moment.github.io/luxon/#/formatting?id=table-of-tokens){:target=\_blank .external-link} to enter the format. Tokens are case-sensitive

\* \*\*Use Workflow Timezone\*\*: Whether to use the input's time zone (turned off) or the workflow's timezone (turned on).

## Get Current Date

Configure the node for this operation using these parameters:

\* \*\*Include Current Time\*\*: Choose whether to include the current time (turned on) or to set the time to midnight (turned off).

\* \*\*Output Field Name\*\*: Enter the name of the field to output the current date to.

### Get Current Date options

This operation includes these options:

\* \*\*Include Input Fields\*\*: If you'd like to include all of the input fields in the output, turn this option on. If turned off, only the \*\*Output Field Name\*\* and its contents are output.

\* \*\*Timezone\*\*: Set the timezone to use. If left blank, the node uses the n8n instance's timezone.

/// note | +00:00 timezone

Use `GMT` for +00:00 timezone.

///

## Get Time Between Dates

Configure the node for this operation using these parameters:

\* \*\*Start Date\*\*: Enter the earlier date you want to compare.

\* \*\*End Date\*\*: Enter the later date you want to compare.

\* \*\*Units\*\*: Select the units you want to calculate the time between. You can include multiple units. Choose from:

\* \*\*Year\*\*

\* \*\*Month\*\*

\* \*\*Week\*\*

\* \*\*Day\*\*

\* \*\*Hour\*\*

\* \*\*Minute\*\*

\* \*\*Second\*\*

\* \*\*Millisecond\*\*

\* \*\*Output Field Name\*\*: Enter the name of the field to output the calculated time between to.

### Get Time Between Dates options

The Get Time Between Dates operation includes the \*\*Include Input Fields\*\* option as well as an \*\*Output as ISO String\*\* option. If you leave this option off, each unit you selected will return its own time difference calculation, for example:

timeDifference

years : 1

months : 3

days : 13

If you turn on the \*\*Output as ISO String\*\* option, the node formats the output as a single ISO duration string, for example: `P1Y3M13D`.

ISO duration format displays a format as `P<n>Y<n>M<n>DT<n>H<n>M<n>S`. `<n>` is the number for the unit after it.

\* P = period (duration). It begins all ISO duration strings.

\* Y = years

\* M = months

\* W = weeks

\* D = days

\* T = delineator between dates and times, used to avoid confusion between months and minutes

\* H = hours

\* M = minutes

\* S = seconds

Milliseconds don't get their own unit, but instead are decimal seconds. For example, 2.1 milliseconds is `0.0021S`.

## Round a Date

Configure the node for this operation using these parameters:

\* \*\*Date\*\*: Enter the date you'd like to round.

\* \*\*Mode\*\*: Choose whether to \*\*Round Down\*\* or \*\*Round Up\*\*.

\* \*\*To Nearest\*\*: Select the unit you'd like to round to. Choose from:

\* \*\*Year\*\*

\* \*\*Month\*\*

\* \*\*Week\*\*

\* \*\*Day\*\*

\* \*\*Hour\*\*

\* \*\*Minute\*\*

\* \*\*Second\*\*

\* \*\*Output Field Name\*\*: Enter the name of the field to output the rounded date to.

### Round a Date options

This operation has one option: \*\*Include Input Fields\*\*. If you'd like to include all of the input fields in the output, turn this option on. If turned off, only the \*\*Output Field Name\*\* and its contents are output.

## Subtract From a Date

Configure the node for this operation using these parameters:

\* \*\*Date to Subtract From\*\*: Enter the date you'd like to subtract from.

\* \*\*Time Unit to Subtract\*\*: Select the unit for the \*\*Duration\*\* amount you want to subtract.

\* \*\*Duration\*\*: Enter the amount of the time units you want to subtract from the \*\*Date to Subtract From\*\*.

\* \*\*Output Field Name\*\*: Enter the name of the field to output the rounded date to.

### Subtract From a Date options

This operation has one option: \*\*Include Input Fields\*\*. If you'd like to include all of the input fields in the output, turn this option on. If turned off, only the \*\*Output Field Name\*\* and its contents are output.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'date-and-time') ]]

## Related resources

The Date & Time node uses [Luxon](https://moment.github.io/luxon){:target=\_blank .external-link}. You can also use Luxon in the [Code](/code/code-node.md) node and [expressions](/code/expressions.md). Refer to [Date and time with Luxon](/code/cookbook/luxon.md) for more information.

### Supported date formats

n8n supports all date formats [supported by Luxon](https://moment.github.io/luxon/#/formatting?id=table-of-tokens){:target=\_blank .external-link}. Tokens are case-sensitive.

## n8n-nodes-base.debughelper.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Debug Helper

description: Documentation for the Debug Helper node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# Debug Helper

Use the Debug Helper node to trigger different error types or generate random datasets to help test n8n workflows.

## Operations

Define the operation by selecting the \*\*Category\*\*:

\* \*\*Do Nothing\*\*: Don't do anything.

\* [\*\*Throw Error\*\*](#throw-error): Throw an error with the specified type and message.

\* [\*\*Out Of Memory\*\*](#out-of-memory): Generate a specific memory size to simulate being out of memory.

\* [\*\*Generate Random Data\*\*](#generate-random-data): Generate some random data in a selected format.

## Node parameters

The node parameters depend on the \*\*Category\*\* selected. The \*\*Do Nothing\*\* Category has no other parameters.

### Throw Error

\* \*\*Error Type\*\*: Select the type of error to throw. Choose from:

\* \*\*NodeApiError\*\*

\* \*\*NodeOperationError\*\*

\* \*\*Error\*\*

\* \*\*Error Message\*\*: Enter the error message to throw.

### Out Of Memory

The Out of Memory Category adds one parameter, the \*\*Memory Size to Generate\*\*. Enter the approximate amount of memory to generate.

### Generate Random Data

\* \*\*Data Type\*\*: Choose the type of random data you'd like to generate. Options include:

\* \*\*Address\*\*

\* \*\*Coordinates\*\*

\* \*\*Credit Card\*\*

\* \*\*Email\*\*

\* \*\*IPv4\*\*

\* \*\*IPv6\*\*

\* \*\*MAC\*\*

\* \*\*Nanoids\*\*: If you select this data type, you'll also need to enter:

\* \*\*Nanoid Alphabet\*\*: The alphabet the generator will use to generate the nanoids.

\* \*\*Nanoid Length\*\*: The length of each nanoid.

\* \*\*URL\*\*

\* \*\*User Data\*\*

\* \*\*UUID\*\*

\* \*\*Version\*\*

\* \*\*Seed\*\*: If you'd like to generate the data using a specific seed, enter it here. This ensures the data gets generated consistently. If you'd rather use random data generation, leave this field empty.

\* \*\*Number of Items to Generate\*\*: Enter the number of random items you'd like to generate.

\* \*\*Output as Single Array\*\*: Whether to generate the data as a single array (turned on) or multiple items (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'debughelper') ]]

## n8n-nodes-base.editimage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Edit Image

description: Documentation for the Edit Image node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# Edit Image

Use the Edit Image node to manipulate and edit images.

/// note | Dependencies

1. If you aren't running n8n on Docker, you need to install [GraphicsMagick](http://www.graphicsmagick.org/README.html){:target=\_blank .external-link}.

2. You need to use a node such as the [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node or the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node to pass the image file as a data property to the Edit Image node.

///

## Operations

- Add a \*\*Blur\*\* to the image to reduce sharpness

- Add a \*\*Border\*\* to the image

- \*\*Composite\*\* an image on top of another image

- \*\*Create\*\* a new image

- \*\*Crop\*\* the image

- \*\*Draw\*\* on an image

- \*\*Get Information\*\* about the image

- \*\*Multi Step\*\* perform multiple operations on the image

- \*\*Resize\*\*: Change the size of the image

- \*\*Rotate\*\* the image

- \*\*Shear\*\* image along the X or Y axis

- Add \*\*Text\*\* to the image

- Make a color in image \*\*Transparent\*\*

## Node parameters

The parameters for this node depend on the operation you select.

### Blur parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Blur\*\*: Enter a number to set how strong the blur should be, between 0 and 1000. Higher numbers create blurrier images.

\* \*\*Sigma\*\*: Enter a number to set the stigma for the blur, between 0 and 1000. Higher numbers create blurrier images.

Refer to [Node options](#node-options) for optional configuration options.

### Border parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Border Width\*\*: Enter the width of the border.

\* \*\*Border Height\*\*: Enter the height of the border.

\* \*\*Border Color\*\*: Set the color for the border. You can either enter a hex or select the color swatch to open a color picker.

Refer to [Node options](#node-options) for optional configuration options.

### Composite parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data. This image is your base image.

\* \*\*Composite Image Property\*\*: Enter the name of the binary property that stores image to composite on top of the \*\*Property Name\*\* image.

\* \*\*Operator\*\*: Select composite operator, which determines how the composite works. Options include:

\* \*\*Add\*\*

\* \*\*Atop\*\*

\* \*\*Bumpmap\*\*

\* \*\*Copy\*\*

\* \*\*Copy Black\*\*

\* \*\*Copy Blue\*\*

\* \*\*Copy Cyan\*\*

\* \*\*Copy Green\*\*

\* \*\*Copy Magenta\*\*

\* \*\*Copy Opacity\*\*

\* \*\*Copy Red\*\*

\* \*\*Copy Yellow\*\*

\* \*\*Difference\*\*

\* \*\*Divide\*\*

\* \*\*In\*\*

\* \*\*Minus\*\*

\* \*\*Multiply\*\*

\* \*\*Out\*\*

\* \*\*Over\*\*

\* \*\*Plus\*\*

\* \*\*Subtract\*\*

\* \*\*Xor\*\*

\* \*\*Position X\*\*: Enter the x axis position (horizontal) of the composite image.

\* \*\*Position Y\*\*: Enter the y axis position (vertical) of the composite image.

Refer to [Node options](#node-options) for optional configuration options.

### Create parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Background Color\*\*: Set the background color for the image. You can either enter a hex or select the color swatch to open a color picker.

\* \*\*Image Width\*\*: Enter the width of the image.

\* \*\*Image Height\*\*: Enter the height of the image.

Refer to [Node options](#node-options) for optional configuration options.

### Crop parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Width\*\*: Enter the width you'd like to crop to.

\* \*\*Height\*\*: Enter the height you'd like to crop to.

\* \*\*Position X\*\*: Enter the x axis position (horizontal) to start the crop from.

\* \*\*Position Y\*\*: Enter the y axis position (vertical) to start the crop from.

Refer to [Node options](#node-options) for optional configuration options.

### Draw parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Primitive\*\*: Select the primitive shape to draw. Choose from:

\* \*\*Circle\*\*

\* \*\*Line\*\*

\* \*\*Rectangle\*\*

\* \*\*Color\*\*: Set the color for the primitive. You can either enter a hex or select the color swatch to open a color picker.

\* \*\*Start Position X\*\*: Enter the x axis position (horizontal) to start drawing from.

\* \*\*Start Position Y\*\*: Enter the y axis position (vertical) to start drawing from.

\* \*\*End Position X\*\*: Enter the x axis position (horizontal) to stop drawing at.

\* \*\*End Position Y\*\*: Enter the y axis position (vertical) to start drawing at.

\* \*\*Corner Radius\*\*: Enter a number to set the corner radius. Adding a corner radius will round the corners of the drawn primitive.

Refer to [Node options](#node-options) for optional configuration options.

### Get Information parameters

For this operation, you only need to add the \*\*Property Name\*\* of the binary property that stores the image data.

Refer to [Node options](#node-options) for optional configuration options.

### Multi Step parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Operations\*\*: Add the operations you want the multi step operation to perform. You can use any of the other operations.

Refer to [Node options](#node-options) for optional configuration options.

### Resize parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Width\*\*: Enter the new width you'd like for the image.

\* \*\*Height\*\*: Enter the new height you'd like for the image.

\* \*\*Option\*\*: Select how you'd like to resize the image. Choose from:

\* \*\*Ignore Aspect Ratio\*\*: Ignore the aspect ratio and resize to the exact height and width you've entered.

\* \*\*Maximum Area\*\*: The height and width you've entered is the maximum area/size for the image. The image maintains its aspect ratio and won't be larger than the height and/or width you've entered.

\* \*\*Minimum Area\*\*: The height and width you've entered is the minimum area/size for the image. The image maintains its aspect ratio and won't be smaller than the height and/or width you've entered.

\* \*\*Only if Larger\*\*: Resize the image only if it's larger than the width and height you entered. The image maintains its aspect ratio.

\* \*\*Only if Smaller\*\*: Resize the image only if it's smaller than the width and height you entered. The image maintains its aspect ratio.

\* \*\*Percent\*\*: Resize the image using the width and height as percentages of the original image.

Refer to [Node options](#node-options) for optional configuration options.

### Rotate parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Rotate\*\*: Enter the number of degrees to rotate the image, from --360 to 360.

\* \*\*Background Color\*\*: Set the background color for the image. You can either enter a hex or select the color swatch to open a color picker. This color is used to fill in the empty background whenever the image is rotated by multiples of 90 degrees. If multipled of 90 degrees are used for the \*\*Rotate\*\* field, the background color isn't used.

Refer to [Node options](#node-options) for optional configuration options.

### Shear parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Degrees X\*\*: Enter the number of degrees to shear from the x axis.

\* \*\*Degrees Y\*\*: Enter the number of degrees to shear from the y axis.

Refer to [Node options](#node-options) for optional configuration options.

### Text parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Text\*\*: Enter the text you'd like to write on the image.

\* \*\*Font Size\*\*: Select the font size for the text.

\* \*\*Font Color\*\*: Set the font color. You can either enter a hex or select the color swatch to open a color picker.

\* \*\*Position X\*\*: Enter the x axis position (horizontal) to begin the text at.

\* \*\*Position Y\*\*: Enter the y axis position (vertical) to begin the text at.

\* \*\*Max Line Length\*\*: Enter the maximum amount of characters in a line before adding a line break.

Refer to [Node options](#node-options) for optional configuration options.

### Transparent parameters

\* \*\*Property Name\*\*: Enter the name of the binary property that stores the image data.

\* \*\*Color\*\*: Set the color to make transparent. You can either enter a hex or select the color swatch to open a color picker.

Refer to [Node options](#node-options) for optional configuration options.

## Node options

- \*\*File Name\*\*: Enter the filename of the output file.

- \*\*Format\*\*: Enter the image format of the output file. Choose from:

- \*\*bmp\*\*

- \*\*gif\*\*

- \*\*jpeg\*\*

- \*\*png\*\*

- \*\*tiff\*\*

- \*\*WebP\*\*

The \*\*Text\*\* operation also includes the option for \*\*Font Name or ID\*\*. Select the text font from the dropdown or specify an ID using an [expression](/code/expressions.md).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'edit-image') ]]

## n8n-nodes-base.emailimap.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Email Trigger (IMAP) node documentation

description: Learn how to use the Email Trigger (IMAP) Trigger node in n8n. Follow technical documentation to integrate Email Trigger (IMAP) Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# Email Trigger (IMAP) node

Use the IMAP Email node to receive emails using an IMAP email server. This node is a trigger node.

/// note | Credential

You can find authentication information for this node [here](/integrations/builtin/credentials/imap/index.md).

///

## Operations

- Receive an email

## Node parameters

Configure the node using the following parameters.

### Credential to connect with

Select or create an [IMAP credential](/integrations/builtin/credentials/imap/index.md) to connect to the server with.

### Mailbox Name

Enter the mailbox from which you want to receive emails.

### Action

Choose whether you want an email marked as read when n8n receives it. \*\*None\*\* will leave it marked unread. \*\*Mark as Read\*\* will mark it as read.

### Download Attachments

This toggle controls whether to download email attachments (turned on) or not (turned off). Only set this if necessary, since it increases processing.

### Format

Choose the format to return the message in from these options:

\* \*\*RAW\*\*: This format returns the full email message data with body content in the raw field as a base64url encoded string. It doesn't use the payload field.

\* \*\*Resolved\*\*: This format returns the full email with all data resolved and attachments saved as binary data.

\* \*\*Simple\*\*: This format returns the full email. Don't use it if you want to gather inline attachments.

## Node options

You can further configure the node using these \*\*Options\*\*.

### Custom Email Rules

Enter custom email fetching rules to determine which emails the node fetches.

Refer to [node-imap's search function criteria](https://github.com/mscdex/node-imap){:target=\_blank .external-link} for more information.

### Force Reconnect Every Minutes

Set an interval in minutes to force reconnection.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'email-trigger-imap') ]]

## n8n-nodes-base.errortrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Error Trigger node documentation

description: Learn how to use the Error Trigger node in n8n. Follow technical documentation to integrate Error Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Error Trigger node

You can use the Error Trigger node to create error workflows. When another linked workflow fails, this node gets details about the failed workflow and the errors, and runs the error workflow.

## Usage

--8<-- "\_snippets/flow-logic/create-set-error-workflow.md"

Note the following:

\* If a workflow uses the Error Trigger node, you don't have to activate the workflow.

\* If a workflow contains the Error Trigger node, by default, the workflow uses itself as the error workflow.

\* You can't test error workflows when running workflows manually. The Error Trigger only runs when an automatic workflow errors.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'error-trigger') ]]

## Related resources

You can use the [Stop And Error](/integrations/builtin/core-nodes/n8n-nodes-base.stopanderror.md) node to send custom messages to the Error Trigger.

Read more about [Error workflows](/flow-logic/error-handling.md) in n8n workflows.

## Error data

--8<-- "\_snippets/integrations/builtin/core-nodes/error-trigger/error-data.md"

## n8n-nodes-base.evaluation.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Evaluation node documentation

description: Documentation for the Evaluation node in n8n, a workflow automation platform. Includes guidance on usage and links to examples.

contentType: [integration, reference]

---

# Evaluation node

The Evaluation node performs various operations related to [evaluations](/advanced-ai/evaluations/overview.md) to validate your AI workflow reliability. You can use the Evaluation node to conditionally execute logic based on whether the workflow is under evaluation, to write evaluation outcomes back to a Google Sheet dataset, or to log scoring metrics for your evaluation performance to n8n's evaluations tab.

/// note | Credentials

The Evaluation node's \*\*Set Outputs\*\* operation uses Google Sheets to record evaluation outcomes. To use that operation, you must configure a [Google Sheets credential](/integrations/builtin/credentials/google/index.md).

///

## Operations

The Evaluation node offers the following operations:

\* [\*\*Set Outputs\*\*](#set-outputs): Write the results of an evaluation back to a Google Sheet dataset.

\* [\*\*Set Metrics\*\*](#set-metrics): Record metrics scoring the evaluation performance to n8n's \*\*Evaluations\*\* tab.

\* [\*\*Check If Evaluating\*\*](#check-if-evaluating): Branches the workflow execution logic depending on whether the current execution is an evaluation.

The parameters and options available depend on the operation you select.

### Set Outputs

The \*\*Set Outputs\*\* operation has the following parameters:

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

\* \*\*Document Containing Dataset\*\*: Choose the spreadsheet document you want to write the evaluation results to. Usually this is the same document you select in the [Evaluation Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.evaluationtrigger.md) node.

\* Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

\* You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

\* \*\*Sheet Containing Dataset\*\*: Choose the sheet you want to write the evaluation results to. Usually this is the same sheet you select in the [Evaluation Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.evaluationtrigger.md) node.

\* Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the sheet title.

\* You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

You define the items to write to the Google Sheet in the \*\*Outputs\*\* section. For each output, you set the following:

\* \*\*Name\*\*: The Google Sheet column name to write the evaluation results to.

\* \*\*Value\*\*: The value to write to the Google Sheet.

### Set Metrics

The \*\*Set Metrics\*\* operation includes a \*\*Metrics to Return\*\* section where you define the metrics to record and track for your evaluations. You can see the metric results in your workflow's \*\*Evaluations\*\* tab.

For each metric you wish to record, you set the following details:

\* \*\*Name\*\*: The name to use for the metric.

\* \*\*Value\*\*: The numeric value to record. Once you run your evaluation, you can drag and drop values from previous nodes here. Metric values must be numeric.

### Check If Evaluating

The \*\*Check If Evaluating\*\* operation does not have any parameters. This operation provides branching output connectors so that you can conditionally execute logic depending on whether the current execution is an evaluation or not.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'evaluation') ]]

## Related resources

To learn more about n8n evaluations, check out the [evaluations documentation](/advanced-ai/evaluations/overview.md)

n8n provides a trigger node for evaluations. You can find the node docs [here](/integrations/builtin/core-nodes/n8n-nodes-base.evaluationtrigger.md).

For common questions or issues and suggested solutions, refer to the evaluations [tips and common issues](/advanced-ai/evaluations/tips-and-common-issues.md) page.

## n8n-nodes-base.evaluationtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Evaluation Trigger node documentation

description: Learn how to use the Evaluation Trigger node in n8n. Follow technical documentation to integrate Evaluation Trigger node into your workflows.

contentType: [integration, reference]

---

# Evaluation Trigger node

Use the Evaluation Trigger node when setting up [evaluations](/advanced-ai/evaluations/overview.md) to validate your AI workflow reliability. During evaluation, the Evaluation Trigger node reads your evaluation dataset from Google Sheets, sending the items through the workflow one at a time, in sequence.

On this page, you'll find the Evaluation Trigger node parameters and

/// note | Requires Google Sheets

The Evaluation Trigger node uses Google Sheets to store the test dataset. To use evaluations, you must configure a [Google Sheets credential](/integrations/builtin/credentials/google/index.md).

///

## Parameters

- \*\*Credential to connect with\*\*: Create or select an existing [Google Sheets credentials](/integrations/builtin/credentials/google/index.md).

\* \*\*Document Containing Dataset\*\*: Choose the spreadsheet document with the sheet containing your test dataset.

- Select \*\*From list\*\* to choose the spreadsheet title from the dropdown list, \*\*By URL\*\* to enter the url of the spreadsheet, or \*\*By ID\*\* to enter the `spreadsheetId`.

- You can find the `spreadsheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/spreadsheetId/edit#gid=0`.

\* \*\*Sheet Containing Dataset\*\*: Choose the sheet containing your test dataset.

- Select \*\*From list\*\* to choose the sheet title from the dropdown list, \*\*By URL\*\* to enter the url of the sheet, \*\*By ID\*\* to enter the `sheetId`, or \*\*By Name\*\* to enter the sheet title.

- You can find the `sheetId` in a Google Sheets URL: `https://docs.google.com/spreadsheets/d/aBC-123\_xYz/edit#gid=sheetId`.

\* \*\*Limit Rows\*\*: Whether to limit the number of rows in the sheet to process.

\* \*\*Max Rows to Process\*\*: When \*\*Limit Rows\*\* is enabled, the maximum number of rows to read and process during the evaluation.

## Filters

Optionally filter the evaluation dataset based on column values.

\* \*\*Column\*\*: Choose a sheet column you want to filter by. Select \*\*From list\*\* to choose the column name from the dropdown list, or \*\*By ID\*\* to specify an ID using an [expression](/code/expressions.md).

\* \*\*Value\*\*: The column value you want to filter by. The evaluation will only process rows with the given value for the selected column.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'evaluation-trigger') ]]

## Related resources

To learn more about n8n evaluations, check out the [evaluations documentation](/advanced-ai/evaluations/overview.md)

n8n provides an app node for evaluations. You can find the node docs [here](/integrations/builtin/core-nodes/n8n-nodes-base.evaluation.md).

For common questions or issues and suggested solutions, refer to the evaluations [tips and common issues](/advanced-ai/evaluations/tips-and-common-issues.md) page.

## n8n-nodes-base.executeworkflow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Execute Sub-workflow

description: Documentation for the Execute Sub-workflow node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Execute Sub-workflow

Use the Execute Sub-workflow node to run a different workflow on the host machine that runs n8n.

## Node parameters

### Source

Select where the node should get the sub-workflow's information from:

- \*\*Database\*\*: Select this option to load the workflow from the database by ID. You must also enter either:

- \*\*From list\*\*: Select the workflow from a list of workflows available to your account.

- \*\*Workflow ID\*\*: Enter the ID for the workflow. The URL of the workflow contains the ID after `/workflow/`. For example, if the URL of a workflow is `https://my-n8n-acct.app.n8n.cloud/workflow/abCDE1f6gHiJKL7`, the \*\*Workflow ID\*\* is `abCDE1f6gHiJKL7`.

- \*\*Local File\*\*: Select this option to load the workflow from a locally saved JSON file. You must also enter:

- \*\*Workflow Path\*\*: Enter the path to the local JSON workflow file you want the node to execute.

- \*\*Parameter\*\*: Select this option to load the workflow from a parameter. You must also enter:

- \*\*Workflow JSON\*\*: Enter the JSON code you want the node to execute.

- \*\*URL\*\*: Select this option to load the workflow from a URL. You must also enter:

- \*\*Workflow URL\*\*: Enter the URL you want to load the workflow from.

### Workflow Inputs

If you select a sub-workflow using the \*\*database\*\* and \*\*From list\*\* options, the sub-workflow's input items will automatically display, ready for you to fill in or map values.

You can optionally remove requested input items, in which case the sub-workflow receives `null` as the item's value. You can also enable \*\*Attempt to convert types\*\* to try to automatically convert data to the sub-workflow item's requested type.

Input items won't appear if the sub-workflow's Workflow Input Trigger node uses the "Accept all data" input data mode.

### Mode

Use this parameter to control the execution mode for the node. Choose from these options:

- \*\*Run once with all items\*\*: Pass all input items into a single execution of the node.

- \*\*Run once for each item\*\*: Execute the node once for each input item in turn.

## Node options

This node includes one option: \*\*Wait for Sub-Workflow Completion\*\*. This lets you control whether the main workflow should wait for the sub-workflow's completion before moving on to the next step (turned on) or whether the main workflow should continue without waiting (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'execute-workflow') ]]

## Set up and use a sub-workflow

This section walks through setting up both the parent workflow and sub-workflow.

--8<-- "\_snippets/flow-logic/subworkflow-usage.md"

## How data passes between workflows

--8<-- "\_snippets/flow-logic/subworkflow-data-flow.md"

## n8n-nodes-base.executeworkflowtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Execute Sub-workflow Trigger node documentation

description: Learn how to use the Execute Sub-workflow Trigger node in n8n. Follow technical documentation to integrate Execute Sub-workflow Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# Execute Sub-workflow Trigger node

Use this node to start a workflow in response to another workflow. It should be the first node in the workflow.

n8n allows you to call workflows from other workflows. This is useful if you want to:

\* Reuse a workflow: for example, you could have multiple workflows pulling and processing data from different sources, then have all those workflows call a single workflow that generates a report.

\* Break large workflows into smaller components.

## Usage

This node runs in response to a call from the [Execute Sub-workflow](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md) or [Call n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md) nodes.

--8<-- "\_snippets/flow-logic/subworkflow-usage.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'execute-workflow-trigger') ]]

## How data passes between workflows

--8<-- "\_snippets/flow-logic/subworkflow-data-flow.md"

## n8n-nodes-base.executiondata.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Execution Data

description: Documentation for the Execution Data node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Execution Data

Use this node to save metadata for workflow executions. You can then search by this data in the \*\*Executions\*\* list.

You can retrieve custom execution data during workflow execution using the Code node. Refer to [Custom executions data](/workflows/executions/custom-executions-data.md) for more information.

/// info | Feature availability

Available on Pro and Enterprise plans.

///

## Operations

\* Save Execution Data for Search

## Data to Save

Add a \*\*Saved Field\*\* for each key/value pair of metadata you'd like to save.

## Limitations

The Execution Data node has the following restrictions when storing execution metadata:

\* `key`: limited to 50 characters

\* `value`: limited to 512 characters

If either the `key` or `value` exceed the above limitations, n8n truncates to their maximum length and outputs a log entry.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'execution-data') ]]

## n8n-nodes-base.extractfromfile.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Extract From File

description: Documentation for the Extract From File node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Extract From File

A common pattern in n8n workflows is to receive a file, either from and [HTTP Request node][] (for files you are fetching from a website), a [Webhook Node][] (for files which are sent to your workflow from elsewhere), or from a local source. Data obtained in this way is often in a binary format, for example a spreadsheet or PDF.

The Extract From File node extracts data from a binary format file and converts it to JSON, which can then be easily manipulated by the rest of your workflow. For converting JSON back into a binary file type, please see the [Convert to File](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) node.

## Operations

Use the \*\*Operations\*\* drop-down to select the format of the source file to extract data from.

- \*\*Extract From CSV\*\*: The "Comma Separated Values" file type is commonly used for tabulated data.

- \*\*Extract From HTML\*\*: Extract fields from standard web page HTML format files.

- \*\*Extract From JSON\*\*: Extract JSON data from a binary file.

- \*\*Extract From ICS\*\*: Extract fields from iCalendar format files.

- \*\*Extract From ODS\*\*: Extract fields from ODS spreadsheet files.

- \*\*Extract From PDF\*\*: Extract fields from Portable Document Format files.

- \*\*Extract From RTF\*\*: Extract fields from Rich Text Format files.

- \*\*Extract From Text File\*\*: Extract fields from a standard text file format.

- \*\*Extract From XLS\*\*: Extract fields from a Microsoft Excel file (older format).

- \*\*Extract From XLSX\*\*: Extract fields from a Microsoft Excel file.

- \*\*Move File to Base64 String\*\*: Converts binary data to a text-friendly [base64][] format.

## Example workflow

In this example, a Webhook node is used to trigger the workflow. When a CSV file is sent to the webhook address, the file data is output and received by the Extract From File node.

[[ workflowDemo("file:///integrations/builtin/core-nodes/n8n-nodes-base.extractfromfile/webhook-example.json") ]]

Set to operate as 'Extract from CSV', the node then outputs the data as a series of JSON 'row' objects:

```

{

"row": {

"0": "apple",

"1": "1",

"2": "2",

"3": "3"

}

...

```

/// tip | Receiving files with a webhook

Select the Webhook Node's \*\*Add Options\*\* button and select \*\*Raw body\*\*, then enable that setting to get the node to output the binary file that the subsequent node is expecting.

///

## Node parameters

### Input Binary Field

Enter the name of the field from the node input data that contains the binary file. The default is 'data'.

### Destination Output Field

Enter the name of the field in the node output that will contain the extracted data.

This parameter is only available for these operations:

- Extract From JSON

- Extract From ICS

- Extract From Text File

- Move File to Base64 String

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'extract-from-file') ]]

[HTTP Request Node]: /integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md

[Webhook Node]: /integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md

[base64]: https://datatracker.ietf.org/doc/html/rfc4648#section-4

## n8n-nodes-base.filter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Filter

description: Documentation for the Filter node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Filter

Filter items based on a condition. If the item meets the condition, the Filter node passes it on to the next node in the Filter node output. If the item doesn't meet the condition, the Filter node omits the item from its output.

## Node parameters

Create filter comparison \*\*Conditions\*\* to perform your filter.

- Use the data type dropdown to select the data type and comparison operation type for your condition. For example, to filter for dates after a particular date, select \*\*Date & Time > is after\*\*.

- The fields and values to enter into the condition change based on the data type and comparison you select. Refer to [Available data type comparisons](#available-data-type-comparisons) for a full list of all comparisons by data type.

Select \*\*Add condition\*\* to create more conditions.

### Combining conditions

You can choose to keep items:

\* When they meet all conditions: Create two or more conditions and select \*\*AND\*\* in the dropdown between them.

\* When they meet any of the conditions: Create two or more conditions and select \*\*OR\*\* in the dropdown between them.

You can't create a mix of AND and OR rules.

## Node options

- \*\*Ignore Case\*\*: Whether to ignore letter case (turned on) or be case sensitive (turned off).

- \*\*Less Strict Type Validation\*\*: Whether you want n8n to attempt to convert value types based on the operator you choose (turned on) or not (turned off). Turn this on when facing a "wrong type:" error in your node.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'filter') ]]

--8<-- "\_snippets/integrations/builtin/core-nodes/data-types.md"

## n8n-nodes-base.form.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Form node documentation

description: Documentation for the n8n Form node in n8n, a workflow automation platform. Includes guidance on usage and links to examples.

contentType: [integration, reference]

---

# n8n Form node

Use the n8n Form node to create user-facing forms with multiple steps. You can add other nodes with custom logic between to process user input. You must start the workflow with the [n8n Form Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md).

[[ workflowDemo("file:///integrations/builtin/core-nodes/n8n-nodes-base.form/mutually-exclusive-branching.json") ]]

## Setting up the node

### Set default selections with query parameters

You can set the initial values for fields by using [query parameters](https://en.wikipedia.org/wiki/Query\_string#Web\_forms){:target=\_blank .external-link} with the initial URL provided by the [n8n Form Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md). Every page in the form receives the same query parameters sent to the n8n Form Trigger URL.

/// note | Only for production

Query parameters are only available when using the form in production mode. n8n won't populate field values from query parameters in testing mode.

///

<!-- vale from-microsoft.Percentages = NO -->

When using query parameters, [percent-encode](https://en.wikipedia.org/wiki/Percent-encoding){:target=\_blank .external-link} any field names or values that use special characters. This ensures n8n uses the initial values for the given fields. You can use tools like [URL Encode/Decode](https://www.url-encode-decode.com/) to format your query parameters using percent-encoding.

As an example, imagine you have a form with the following properties:

\* Production URL: `https://my-account.n8n.cloud/form/my-form`

\* Fields:

\* `name`: `Jane Doe`

\* `email`: `jane.doe@example.com`

With query parameters and percent-encoding, you could use the following URL to set initial field values to the data above:

```

https://my-account.n8n.cloud/form/my-form?email=jane.doe%40example.com&name=Jane%20Doe

```

Here, percent-encoding replaces the at-symbol (`@`) with the string `%40` and the space character (` `) with the string `%20`. This will set the initial value for these fields no matter which page of the form they appear on.

<!-- vale from-microsoft.Percentages = YES -->

### Displaying custom HTML

You can display custom HTML on your form by adding a \*\*Custom HTML\*\* field to your form. This provides an \*\*HTML\*\* box where you can insert arbitrary HTML code to display as part of the form page.

You can use the HTML field to enrich your form page by including things like links, images, videos, and more. n8n will render the content with the rest of the form fields in the normal document flow.

Because custom HTML content is read-only, these fields aren't included in the form output data by default. To include the raw HTML content in the node output, provide a name for the data using the \*\*Element Name\*\* field.

The HTML field doesn't support `<script>`, `<style>`, or `<input>` elements.

### Including hidden fields

It's possible to include fields in a form without displaying them to users. This is useful when you want to pass extra data to the form that doesn't require interactive user input.

To add fields that won't show up on the form, use the \*\*Hidden Field\*\* form element. There, you can define the \*\*Field Name\*\* and optionally provide a default value by filling out the \*\*Field Value\*\*.

When serving the form, you can pass values for hidden fields using [query parameters](#set-default-selections-with-query-parameters).

### Defining the form using JSON

Use \*\*Define Form\*\* > \*\*Using JSON\*\* to define the fields of your form with a [JSON array of objects](/data/data-structure.md). Each object defines a single field by using a combination of these keys:

- `fieldLabel`: The label that appears above the input field.

- `fieldType`: Choose from `date`, `dropdown`, `email`, `file`, `number`, `password`, `text`, or `textarea`.

- Use `date` to include a date picker in the form. Refer to [Date and time with Luxon](/code/cookbook/luxon.md) for more information on formatting dates.

- When using `dropdown`, set the choices with `fieldOptions` (reference the example below). By default, the dropdown is single-choice. To make it multiple-choice, set `multiselect` to `true`.

- When using `file`, set `multipleFiles` to `true` to allow users to select more than one file. To define the file types to allow, set `acceptFileTypes` to a string containing a comma-separated list of file extensions (reference the example below).

- `placeholder`: Specify placeholder data for the field. You can use this for every `fieldType` except `dropdown`, `date`, and `file`.

- `requiredField`: Require users to complete this field on the form.

An example JSON that shows the general format required and the keys available:

```javascript

// Use the "requiredField" key on any field to mark it as mandatory

// Use the "placeholder" key to specify placeholder data for all fields

// except 'dropdown', 'date' and 'file'

[

{

"fieldLabel": "Date Field",

"fieldType": "date",

"formatDate": "mm/dd/yyyy", // how to format received date in n8n

"requiredField": true

},

{

"fieldLabel": "Dropdown Options",

"fieldType": "dropdown",

"fieldOptions": {

"values": [

{

"option": "option 1"

},

{

"option": "option 2"

}

]

},

"requiredField": true

},

{

"fieldLabel": "Multiselect",

"fieldType": "dropdown",

"fieldOptions": {

"values": [

{

"option": "option 1"

},

{

"option": "option 2"

}

]

},

"multiselect": true // setting to true allows multi-select

},

{

"fieldLabel": "Email",

"fieldType": "email",

"placeholder": "me@mail.con"

},

{

"fieldLabel": "File",

"fieldType": "file",

"multipleFiles": true, // setting to true allows multiple files selection

"acceptFileTypes": ".jpg, .png" // allowed file types

},

{

"fieldLabel": "Number",

"fieldType": "number"

},

{

"fieldLabel": "Password",

"fieldType": "password"

},

{

// "fieldType": "text" can be omitted since it's the default type

"fieldLabel": "Text"

},

{

"fieldLabel": "Textarea",

"fieldType": "textarea"

}

]

```

### Form Ending

Use the \*\*Form Ending\*\* Page Type to end a form and either show a completion page, redirect the user to a URL, or display custom HTML or text. Only one Form Ending page displays per execution, even when n8n executes [multiple branches](#forms-with-branches) that contain Form Ending nodes.

Choose between these options when using \*\*On n8n Form Submission\*\*:

- \*\*Show Completion Screen\*\*: Shows users a final screen to confirm that they submitted the form.

- Fill in \*\*Completion Title\*\* to set the `h1` title on the form.

- n8n displays the \*\*Completion Message\*\* as a subtitle below the main `h1` title on the form. Use `\n` or `<br>` to add a line break.

- Select \*\*Add option\*\* and fill in \*\*Completion Page Title\*\* to set the page's title in the browser tab.

When using \*\*Redirect to URL\*\*, fill in the \*\*URL\*\* field with the page you want to redirect to when users complete the form.

Use \*\*Show Text\*\* to display a final page defined by arbitrary plain text and HTML. Fill in the \*\*Text\*\* field with the HTML or plain text content you wish to show.

### Forms with branches

The n8n Form node executes and displays its associated form page whenever it receives data from a previous node. When building forms with n8n, to avoid confusion, it's important to understand how forms behave when branching occurs.

#### Workflows with mutually exclusive branches

Form workflows containing mutually exclusive branches work as expected. n8n will execute a single branch according to the submitted data and conditions you outline. As it executes, n8n will display each page in the branch, ending with an n8n Form node with the \*\*Form Ending\*\* page type.

This workflow demonstrates mutually exclusive branching. Each selection can only execute a single branch.

[[ workflowDemo("file:///integrations/builtin/core-nodes/n8n-nodes-base.form/mutually-exclusive-branching.json") ]]

#### Workflows that may execute multiple branches

Form workflows that send data to multiple branches at the same time require more care. When multiple branches receive data during an execution (for example, from a [switch](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md) node), n8n executes each branch that receives data [sequentially](/flow-logic/execution-order.md). Upon reaching the end of one branch, the execution will move to the next branch with data.

n8n only executes a single \*\*Form Ending\*\* n8n Form node for each execution. When multiple branches of a form workflow receive data, n8n ignores all Form Ending nodes except for the one associated with the final branch.

This workflow may execute more than one branch during an execution. Here, n8n executes all valid branches sequentially. This impacts which n8n Form nodes n8n executes (in particular, which \*\*Form Ending\*\* node displays):

[[ workflowDemo("file:///integrations/builtin/core-nodes/n8n-nodes-base.form/multiple-branch-execution.json") ]]

### Node options

Select \*\*Add Option\*\* to view more configuration options:

- \*\*Form Title\*\*: The title for your form. n8n displays the \*\*Form Title\*\* as the webpage title and main `h1` title on the form.

- \*\*Form Description\*\*: The description for your form. n8n displays the \*\*Form Description\*\* as a subtitle below the main `h1` title on the form. This field supports HTML. Use `\n` or `<br>` to add a line break. The Form Description also populates the [HTML meta description](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/meta/name#standard\_metadata\_names\_defined\_in\_the\_html\_specification) for the page.

- \*\*Button Label\*\*: The label to use for your form's submit button. n8n displays the \*\*Button Label\*\* as the name of the submit button.

## Running the node

### Build and test workflows

While building or testing a workflow, use the \*\*Test URL\*\* in the [n8n Form Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md). Using a test URL ensures that you can view the incoming data in the editor UI, which is useful for debugging.

There are two ways to test:

- Select \*\*Test Step\*\*. n8n opens the form. When you submit the form, n8n runs the node and any previous nodes, but not the rest of the workflow.

- Select \*\*Test Workflow\*\*. n8n opens the form. When you submit the form, n8n runs the workflow.

### Production workflows

When your workflow is ready, switch to using the n8n Form Trigger's \*\*Production URL\*\* by opening the trigger node and selecting the \*\*Production URL\*\* in the \*\*From URLS\*\* selector. You can then activate your workflow, and n8n runs it automatically when a user submits the form.

When working with a production URL, ensure that you have saved and activated the workflow. Data flowing through the Form trigger isn't visible in the editor UI with the production URL.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'n8n-form') ]]

## n8n-nodes-base.formtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Form Trigger node documentation

description: Learn how to use the n8n Form Trigger node in n8n. Follow technical documentation to integrate n8n Form Trigger node into your workflows.

contentType: [integration, reference]

priority: critical

---

# n8n Form Trigger node

Use the n8n Form trigger to start a workflow when a user submits a form, taking the input data from the form. The node generates the form web page for you to use.

You can add more pages to continue the form with the [n8n Form](/integrations/builtin/core-nodes/n8n-nodes-base.form.md) node.

## Build and test workflows

While building or testing a workflow, use the \*\*Test URL\*\*. Using a test URL ensures that you can view the incoming data in the editor UI, which is useful for debugging.

There are two ways to test:

- Select \*\*Test Step\*\*. n8n opens the form. When you submit the form, n8n runs the node, but not the rest of the workflow.

- Select \*\*Test Workflow\*\*. n8n opens the form. When you submit the form, n8n runs the workflow.

## Production workflows

When your workflow is ready, switch to using the \*\*Production URL\*\*. You can then activate your workflow, and n8n runs it automatically when a user submits the form.

When working with a production URL, ensure that you have saved and activated the workflow. Data flowing through the Form trigger isn't visible in the editor UI with the production URL.

## Set default selections with query parameters

You can set the initial values for fields by using [query parameters](https://en.wikipedia.org/wiki/Query\_string#Web\_forms){:target=\_blank .external-link} with the initial URL provided by the n8n Form Trigger. Every [page in the form](/integrations/builtin/core-nodes/n8n-nodes-base.form.md) receives the same query parameters sent to the n8n Form Trigger URL.

/// note | Only for production

Query parameters are only available when using the form in production mode. n8n won't populate field values from query parameters in testing mode.

///

<!-- vale from-microsoft.Percentages = NO -->

When using query parameters, [percent-encode](https://en.wikipedia.org/wiki/Percent-encoding){:target=\_blank .external-link} any field names or values that use special characters. This ensures n8n uses the initial values for the given fields. You can use tools like [URL Encode/Decode](https://www.url-encode-decode.com/) to format your query parameters using percent-encoding.

As an example, imagine you have a form with the following properties:

\* Production URL: `https://my-account.n8n.cloud/form/my-form`

\* Fields:

\* `name`: `Jane Doe`

\* `email`: `jane.doe@example.com`

With query parameters and percent-encoding, you could use the following URL to set initial field values to the data above:

```

https://my-account.n8n.cloud/form/my-form?email=jane.doe%40example.com&name=Jane%20Doe

```

Here, percent-encoding replaces the at-symbol (`@`) with the string `%40` and the space character (` `) with the string `%20`. This will set the initial value for these fields no matter which page of the form they appear on.

<!-- vale from-microsoft.Percentages = YES -->

## Node parameters

These are the main node configuration fields:

### Authentication

- \*\*Basic Auth\*\*

- \*\*None\*\*

#### Using basic auth

To configure this credential, you'll need:

- The \*\*Username\*\* you use to access the app or service your HTTP Request is targeting.

- The \*\*Password\*\* that goes with that username.

### Form URLs

The Form Trigger node has two URLs: \*\*Test URL\*\* and \*\*Production URL\*\*. n8n displays the URLs at the top of the node panel. Select \*\*Test URL\*\* or \*\*Production URL\*\* to toggle which URL n8n displays.

![Screenshot of the form URLs](/\_images/integrations/builtin/core-nodes/form-trigger/form-urls.png)

- \*\*Test URL\*\*: n8n registers a test webhook when you select \*\*Test Step\*\* or \*\*Test Workflow\*\*, if the workflow isn't active. When you call the URL, n8n displays the data in the workflow.

- \*\*Production URL\*\*: n8n registers a production webhook when you activate the workflow. When using the production URL, n8n doesn't display the data in the workflow. You can still view workflow data for a production execution. Select the \*\*Executions\*\* tab in the workflow, then select the workflow execution you want to view.

### Form Path

Set a custom slug for the form.

### Form Title

Enter the title for your form. n8n displays the \*\*Form Title\*\* as the webpage title and main `h1` title on the form.

### Form Description

Enter the description for your form. n8n displays the \*\*Form Description\*\* as a subtitle below the main `h1` title on the form. Use `\n` or `<br>` to add a line break.

### Form Elements

Create the question fields for your form. Select \*\*Add Form Element\*\* to add a new field.

Every field has the following settings:

- \*\*Field Label\*\*: Enter the label that appears above the input field.

- \*\*Element Type\*\*: Choose from \*\*Custom HTML\*\*, \*\*Date\*\*, \*\*Dropdown List\*\*, \*\*Email\*\*, \*\*File\*\*, \*\*Hidden Field\*\*, \*\*Number\*\*, \*\*Password\*\*, \*\*Text\*\*, or \*\*Textarea\*\*.

- Select \*\*Custom HTML\*\* to insert arbitrary HTML.

- You can include elements like links, images, video, and more. You can't include `<script>`, `<style>`, or `<input>` elements.

- By default, Custom HTML fields aren't included in the node output. To include the Custom HTML content in the output, fill out the associated \*\*Element Name\*\* field.

- Select \*\*Date\*\* to include a date picker in the form. Refer to [Date and time with Luxon](/code/cookbook/luxon.md) for more information on formatting dates.

- Select \*\*Dropdown List\*\* > \*\*Add Field Option\*\* to add multiple options. By default, the dropdown is single-choice. To make it multiple-choice, turn on \*\*Multiple Choice\*\*.

- Select \*\*Hidden Field\*\* to include a form element without displaying it on the form. You can set a default value using the \*\*Field Value\*\* parameter or pass values for the field using [query parameters](#set-default-selections-with-query-parameters).

- \*\*Required Field\*\*: Turn on to require users to complete this field on the form.

### Respond When

Choose when n8n sends a response to the form submission. You can respond when:

- \*\*Form Is Submitted\*\*: Send a response to the user as soon as they submit the form.

- \*\*Workflow Finishes\*\*: Use this if you want the workflow to complete its execution before you send a response to the user. If the workflow errors, it sends a response to the user telling them there was a problem submitting the form.

## Node options

Select \*\*Add Option\*\* to view more configuration options:

- \*\*Append n8n Attribution\*\*: Turn off to hide the \*\*Form automated with n8n\*\* attribute at the bottom of the form.

- \*\*Form Response\*\*: Choose how to respond when the user submits the form.

- \*\*Respond With\*\* > \*\*Form Submitted Text\*\*: Show a message to the user.

- \*\*Respond With\*\* > \*\*Redirect URL\*\*: Send the user to a new page.

- \*\*Ignore Bots\*\*: Turn on to ignore requests from bots like link previewers and web crawlers.

- \*\*Use Workflow Timezone\*\*: Turn on to use the timezone in the [Workflow settings](/workflows/settings.md) instead of UTC (default). This affects the value of the `submittedAt` timestamp in the node output.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'n8n-form-trigger') ]]

## n8n-nodes-base.ftp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: FTP

description: Documentation for the FTP node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# FTP

The FTP node is useful to access and upload files to an FTP or SFTP server.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/ftp.md).

///

To connect to an SFTP server, use an SFTP credential. Refer to [FTP credentials](/integrations/builtin/credentials/ftp.md) for more information.

## Operations

- [\*\*Delete\*\*](#delete) a file or folder

- [\*\*Download\*\*](#download) a file

- [\*\*List\*\*](#list) folder content

- [\*\*Rename\*\*](#rename) or move a file or folder

- [\*\*Upload\*\*](#upload) a file

/// note | Uploading files

To attach a file for upload, you'll need to use an extra node such as the [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node or the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node to pass the file as a data property.

///

## Delete

This operation includes one parameter: \*\*Path\*\*. Enter the remote path that you would like to connect to.

### Delete options

The delete operation adds one new option: \*\*Folder\*\*. If you turn this option on, the node can delete both folders and files. This configuration also displays one more option:

- \*\*Recursive\*\*: If you turn this option on and you delete a folder or directory, the node will delete all files and directories within the target directory.

## Download

Configure this operation with these parameters:

\* \*\*Path\*\*: Enter the remote path that you would like to connect to.

\* \*\*Put Output File in Field\*\*: Enter the name of the output binary field to put the file in.

## List

Configure this operation with these parameters:

\* \*\*Path\*\*: Enter the remote path that you would like to connect to.

\* \*\*Recursive\*\*: Select whether to return an object representing all directories / objects recursively found within the FTP/SFTP server (turned on) or not (turned off).

## Rename

Configure this operation with these parameters:

- \*\*Old Path\*\*: Enter the existing path of the file you'd like to rename in this field.

- \*\*New Path\*\*: Enter the new path for the renamed file in this field.

### Rename options

This operation adds one new option: \*\*Create Directories\*\*. If you turn this option on, the node will recursively create the destination directory when renaming an existing file or folder.

## Upload

Configure this operation with these parameters:

\* \*\*Path\*\*: Enter the remote path that you would like to connect to.

\* \*\*Binary File\*\*: Select whether you'll upload a binary file (turned on) or enter text content to be uploaded (turned off). Other parameters depend on your selection in this field.

\* \*\*Input Binary Field\*\*: Displayed if you turn on \*\*Binary File\*\*. Enter the name of the input binary field that contains the file you'll upload in this field.

\* \*\*File Content\*\*: Displayed if you turn off \*\*Binary File\*\* Enter the text content of the file you'll upload in this field.

/// note | Uploading files

To attach a file for upload, you'll need to use an extra node such as the [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node or the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node to pass the file as a data property.

///

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'ftp') ]]

## n8n-nodes-base.git.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Git

description: Documentation for the Git node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

---

# Git

[Git](https://git-scm.com/) is a free and open-source distributed version control system designed to handle everything from small to large projects with speed and efficiency.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/git.md).

///

## Operations

\* [\*\*Add\*\*](#add) a file or folder to commit. Performs a [git add](https://git-scm.com/docs/git-add){:target=\_blank .external-link}.

\* [\*\*Add Config\*\*](#add-config): Add configuration property. Performs a [git config](https://git-scm.com/docs/git-config){:target=\_blank .external-link} set or add.

\* [\*\*Clone\*\*](#clone) a repository: Performs a [git clone](https://git-scm.com/docs/git-clone){:target=\_blank .external-link}.

\* [\*\*Commit\*\*](#commit) files or folders to git. Performs a [git commit](https://git-scm.com/docs/git-commit){:target=\_blank .external-link}.

\* [\*\*Fetch\*\*](#fetch) from remote repository. Performs a [git fetch](https://git-scm.com/docs/git-fetch){:target=\_blank .external-link}.

\* [\*\*List Config\*\*](#list-config): Return current configuration. Performs a [git config](https://git-scm.com/docs/git-config){:target=\_blank .external-link} query.

\* [\*\*Log\*\*](#log): Return git commit history. Performs a [git log](https://git-scm.com/docs/git-log){:target=\_blank .external-link}.

\* [\*\*Pull\*\*](#pull) from remote repository: Performs a [git pull](https://git-scm.com/docs/git-pull){:target=\_blank .external-link}.

\* [\*\*Push\*\*](#push) to remote repository: Performs a [git push](https://git-scm.com/docs/git-push){:target=\_blank .external-link}.

\* [\*\*Push Tags\*\*](#push-tags) to remote repository: Performs a [git push --tags](https://git-scm.com/docs/git-push#Documentation/git-push.txt---tags){:target=\_blank .external-link}.

\* Return [\*\*Status\*\*](#status) of current repository: Performs a [git status](https://git-scm.com/docs/git-status){:target=\_blank .external-link}.

\* Create a new [\*\*Tag\*\*](#tag): Performs a [git tag](https://git-scm.com/docs/git-tag){:target=\_blank .external-link}.

\* [\*\*User Setup\*\*](#user-setup): Set the user.

Refer to the sections below for more details on the parameters and options for each operation.

## Add

Configure this operation with these parameters:

\* \*\*Repository Path\*\*: Enter the local path of the git repository.

\* \*\*Paths to Add\*\*: Enter a comma-separated list of paths of files or folders to add in this field. You can use absolute paths or relative paths from the \*\*Repository Path\*\*.

<!--Vale doesn't like "Config"-->

<!-- vale off -->

## Add Config

Configure this operation with these parameters:

\* \*\*Repository Path\*\*: Enter the local path of the git repository.

\* \*\*Key\*\*: Enter the name of the key to set.

\* \*\*Value\*\*: Enter the value of the key to set.

### Add Config options

The add config operation adds the \*\*Mode\*\* option. Choose whether to \*\*Set\*\* or \*\*Append\*\* the setting in the local config.

<!-- vale on -->

## Clone

Configure this operation with these parameters:

\* \*\*Repository Path\*\*: Enter the local path of the git repository.

\* \*\*Authentication\*\*: Select \*\*Authenticate\*\* to pass credentials in. Select \*\*None\*\* to not use authentication.

\* \*\*Credential for Git\*\*: If you select \*\*Authenticate\*\*, you must select or create credentials for the node to use. Refer to [Git credential](/integrations/builtin/credentials/git.md) for more information.

\* \*\*New Repository Path\*\*: Enter the local path where you'd like to locate the cloned repository.

\* \*\*Source Repository\*\*: Enter the URL or path of the repository you want to clone.

## Commit

Configure this operation with these parameters:

\* \*\*Repository Path\*\*: Enter the local path of the git repository.

\* \*\*Message\*\*: Enter the commit message to use in this field.

### Commit options

The commit operation adds the \*\*Paths to Add\*\* option. To commit all "added" files and folders, leave this field blank. To commit specific "added" files and folders, enter a comma-separated list of paths of files or folders in this field.

You can use absolute paths or relative paths from the \*\*Repository Path\*\*.

## Fetch

This operation only prompts you to enter the local path of the git repository in the \*\*Repository Path\*\* parameter.

<!--Vale doesn't like "Config"-->

<!-- vale off -->

## List Config

This operation only prompts you to enter the local path of the git repository in the \*\*Repository Path\*\* parameter.

<!-- vale on -->

## Log

Configure this operation with these parameters:

\* \*\*Repository Path\*\*: Enter the local path of the git repository.

\* \*\*Return All\*\*: When turned on, the node will return all results. When turned off, the node will return results up to the set \*\*Limit\*\*.

\* \*\*Limit\*\*: Only available when you turn off \*\*Return All\*\*. Enter the maximum number of results to return.

### Log options

The log operation adds the \*\*File\*\* option. Enter the path of a file or folder to get the history of in this field.

You can use absolute paths or relative paths from the \*\*Repository Path\*\*.

## Pull

This operation only prompts you to enter the local path of the git repository in the \*\*Repository Path\*\* parameter.

## Push

Configure this operation with these parameters:

\* \*\*Repository Path\*\*: Enter the local path of the git repository.

\* \*\*Authentication\*\*: Select \*\*Authenticate\*\* to pass credentials in or \*\*None\*\* to not use authentication.

\* If you select \*\*Authenticate\*\*, you must select or create \*\*Credential for Git\*\* for the node to use. Refer to [Git credential](/integrations/builtin/credentials/git.md) for more information.

### Push options

The push operation adds the \*\*Target Repository\*\* option. Enter the URL or path of the repository to push to in this field.

## Push Tags

This operation only prompts you to enter the local path of the git repository in the \*\*Repository Path\*\* parameter.

## Status

This operation only prompts you to enter the local path of the git repository in the \*\*Repository Path\*\* parameter.

## Tag

Configure this operation with these parameters:

\* \*\*Repository Path\*\*: Enter the local path of the git repository.

\* \*\*Name\*\*: Enter the name of the tag to create in this field.

## User Setup

This operation only prompts you to enter the local path of the git repository in the \*\*Repository Path\*\* parameter.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'git') ]]

## n8n-nodes-base.graphql.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GraphQL

description: Documentation for the GraphQL node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# GraphQL

[GraphQL](https://graphql.org/){:target=\_blank .external-link} is an open-source data query and manipulation language for APIs, and a runtime for fulfilling queries with existing data. Use the GraphQL node to query a GraphQL endpoint.

## Node parameters

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

### Authentication

Select the type of authentication to use.

If you select anything other than \*\*None\*\*, the \*\*Credential for <selected-auth-type>\*\* parameter appears for you to select an existing or create a new authentication credential for that authentication type.

### HTTP Request Method

Select the underlying HTTP Request method the node should use. Choose from:

\* \*\*GET\*\*

\* \*\*POST\*\*: If you select this method, you'll also need to select the \*\*Request Format\*\* the node should use for the query payload. Choose from:

\* \*\*GraphQL (Raw)\*\*

\* \*\*JSON\*\*

### Endpoint

Enter the GraphQL Endpoint you'd like to hit.

### Ignore SSL Issues

When you turn on this control, n8n ignores SSL certificate validation failure.

### Query

Enter the GraphQL query you want to execute.

Refer to [Related Resources](#related-resources) for information on writing your query.

### Response Format

Select the format you'd like to receive query results in. Choose between:

\* \*\*JSON\*\*

\* \*\*String\*\*: If you select this format, enter a \*\*Response Data Property Name\*\* to define the property the string is written to.

## Headers

Enter any \*\*Headers\*\* you want to pass as part of the query as \*\*Name\*\* / \*\*Value\*\* pairs.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'graphql') ]]

## Related resources

To use the GraphQL node, you need to understand GraphQL query language. GraphQL have their own [Introduction to GraphQL](https://graphql.org/learn/){:target=\_blank .external-link} tutorial.

## n8n-nodes-base.html.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HTML

description: Documentation for the HTML node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# HTML

The HTML node provides operations to help you work with HTML in n8n.

/// note | HTML Extract node

The HTML node replaces the HTML Extract node from version 0.213.0 on. If you're using an older version of n8n, you can still view the [HTML Extract node documentation](https://github.com/n8n-io/n8n-docs/blob/86fe33b681621e618e3adcab9a27e8605dbc23ad/docs/integrations/builtin/core-nodes/n8n-nodes-base.htmlextract.md){:target=\_blank .external-link}.

///

/// warning | Cross-site scripting

When using the HTML node to generate an HTML template you can introduce [XSS (cross-site scripting)](https://owasp.org/www-community/attacks/xss/){:target=\_blank .external-link}. This is a security risk. Be careful with un-trusted inputs.

///

## Operations

\* [\*\*Generate HTML template\*\*](#generate-html-template): Use this operation to create an HTML template. This allows you to take data from your workflow and output it as HTML.

\* [\*\*Extract HTML content\*\*](#extract-html-content): Extract contents from an HTML-formatted source. The source can be in JSON or a binary file (`.html`).

\* [\*\*Convert to HTML Table\*\*](#convert-to-html-table): Convert content to an HTML table.

The node parameters and options depend on the operation you select. Refer to the sections below for more details on configuring each operation.

## Generate HTML template

Create an HTML template. This allows you to take data from your workflow and output it as HTML.

You can include:

\* Standard HTML

\* CSS in `<style>` tags.

\* JavaScript in `<script>` tags. n8n doesn't execute the JavaScript.

\* Expressions, wrapped in `{{}}`.

You can use [Expressions](/code/expressions.md) in the template, including n8n's [Built-in methods and variables](/code/builtin/overview.md).

## Extract HTML Content

Extract contents from an HTML-formatted source. The source can be in JSON or a binary file (`.html`).

Use these parameters:

### Source Data

Select the source type for your HTML content. Choose between:

\* \*\*JSON\*\*: If you select this source data, enter the \*\*JSON Property\*\*: the name of the input containing the HTML you want to extract. The property can contain a string or an array of strings.

\* \*\*Binary\*\*: If you select this source data, enter the \*\*Input Binary Field\*\*: the name of the input containing the HTML you want to extract. The property can contain a string or an array of strings.

### Extraction Values

- \*\*Key\*\*: Enter the key to save the extracted value under.

- \*\*CSS Selector\*\*: Enter the CSS selector to search for.

- \*\*Return Value\*\*: Select the type of data to return. Choose from:

- \*\*Attribute\*\*: Return an attribute value like `class` from an element.

- If you select this option, enter the name of the \*\*Attribute\*\* to return the value of.

- \*\*HTML\*\*: Return the HTML that the element contains.

- \*\*Text\*\*: Return the text content of the element.

- If you choose this option, you can also enter a comma-separated list of selectors to skip in the \*\*Skip Selectors\*\*.

- \*\*Value\*\*: Return the value of an input, select, or text area.

- \*\*Return Array\*\*: Choose whether to return multiple extraction values as an array (turned on) or as a single string (turned off).

### Extract HTML Content options

You can also configure this operation with these options:

\* \*\*Trim Values\*\*: Controls whether to remove all spaces and newlines from the beginning and end of the values (turned on) or leaves them (turned off).

\* \*\*Clean Up Text\*\*: Controls whether to remove leading whitespaces, trailing whitespaces, and line breaks (newlines) and condense multiple consecutive whitespaces into a single space (turned on) or to leave them as-is (turned off).

## Convert to HTML Table

This operation expects data from another node. It has no parameters. It includes these options:

\* \*\*Capitalize Headers\*\*: Controls whether to capitalize the table's headers (turned on) or not (turned off).

\* \*\*Custom Styling\*\*: Controls whether to use custom styling (turned on) or not (turned off).

\* \*\*Caption\*\*: Enter a caption to add to the table.

\* \*\*Table Attributes\*\*: Enter any attributes to apply to the `<table>`, such as style attributes.

\* \*\*Header Attributes\*\*: Enter any attributes to apply to the table's headers `<th>`.

\* \*\*Row Attributes\*\*: Enter any attributes to apply to the table's rows `<tr>`.

\* \*\*Cell Attributes\*\*: Enter any attributes to apply to the table's cells `<td>`.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'html') ]]

## n8n-nodes-base.if.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: If

description: Documentation for the If node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

tags:

- if

- if node

- If

- If node

hide:

- tags

---

# If

Use the If node to split a workflow conditionally based on comparison operations.

## Add conditions

Create comparison \*\*Conditions\*\* for your If node.

- Use the data type dropdown to select the data type and comparison operation type for your condition. For example, to filter for dates after a particular date, select \*\*Date & Time > is after\*\*.

- The fields and values to enter into the condition change based on the data type and comparison you select. Refer to [Available data type comparisons](#available-data-type-comparisons) for a full list of all comparisons by data type.

Select \*\*Add condition\*\* to create more conditions.

### Combining conditions

You can choose to keep data:

\* When it meets all conditions: Create two or more conditions and select \*\*AND\*\* in the dropdown between them.

\* When it meets any of the conditions: Create two or more conditions and select \*\*OR\*\* in the dropdown between them.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'if') ]]

## Branch execution with If and Merge nodes

--8<-- "\_snippets/integrations/builtin/core-nodes/merge/if-merge-branch-execution.md"

## Related resources

Refer to [Splitting with conditionals](/flow-logic/splitting.md) for more information on using conditionals to create complex logic in n8n.

If you need more than two conditional outputs, use the [Switch node](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md).

--8<-- "\_snippets/integrations/builtin/core-nodes/data-types.md"

## n8n-nodes-base.jwt.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: JWT

description: Documentation for the JWT node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# JWT

Work with JSON web tokens in your n8n workflows.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/jwt.md).

///

## Operations

\* Decode

\* Sign

\* Verify

## Node parameters

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

\* \*\*Credential to connect with\*\*: Select or create a [JWT credential](/integrations/builtin/credentials/jwt.md) to connect with.

\* \*\*Token\*\*: Enter the token to \*\*Verify\*\* or \*\*Decode\*\*.

\* If you select the \*\*Sign\*\* operation, you'll also have this parameter:

\* \*\*Use JSON to Build Payload\*\*: When turned on, the node uses JSON to build the claims. The selection here influences what appears in the Payload Claims section.

## Payload Claims

The node only displays payload claims if you select the \*\*Sign\*\* operation. What you see depends on what you select for \*\*Use JSON to Build Payload\*\*:

\* If you select \*\*Use JSON to Build Payload\*\*, this section displays a JSON editor where you can construct the claims.

\* If you don't select \*\*Use JSON to Build Payload\*\*, this section prompts you to \*\*Add Claim\*\*.

You can add the following claims.

### Audience

The \*\*Audience\*\* or `aud` claim identifies the intended recipients of the JWT.

Refer to ["aud" (Audience) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.3){:target=\_blank .external-link} for more information.

### Expires In

The \*\*Expires In\*\* or `exp` claim identifies the time after which the JWT expires and must not be accepted for processing.

Refer to ["exp" (Expiration Time) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.4){:target=\_blank .external-link} for more information.

### Issuer

The \*\*Issuer\*\* or `iss` claim identifies the principal that issued the JWT.

Refer to ["iss" (Issuer) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.1){:target=\_blank .external-link} for more information.

### JWT ID

The \*\*JWT ID\*\* or `jti` claim provides a unique identifier for the JWT.

Refer to ["jti" (JWT ID) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.7){:target=\_blank .external-link} for more information.

### Not Before

The \*\*Not Before\*\* or `nbf` claim identifies the time before which the JWT must not be accepted for processing.

Refer to ["nbf" (Not Before) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.5){:target=\_blank .external-link} for more information.

### Subject

The \*\*Subject\*\* or `sub` claim identifies the principal that's the subject of the JWT.

Refer to ["sub" (Subject) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.2){:target=\_blank .external-link} for more information.

## Node options

### Decode node options

The \*\*Return Additional Info\*\* toggle controls how much information the node returns.

When turned on, the node returns the complete decoded token with information about the header and signature. When turned off, the node only returns the payload.

### Sign node options

Use the \*\*Override Algorithm\*\* control to select the algorithm to use for verifying the token. This algorithm will override the algorithm selected in the credentials.

### Verify node options

This operation includes several node options:

\* \*\*Return Additional Info\*\*: This toggle controls how much information the node returns. When turned on, the node returns the complete decoded token with information about the header and signature. When turned off, the node only returns the payload.

\* \*\*Ignore Expiration\*\*: This toggle controls whether the node should ignore the token's expiration time claim (`exp`). Refer to ["exp" (Expiration Time) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.4){:target=\_blank .external-link} for more information.

\* \*\*Ignore Not Before Claim\*\*: This toggle controls whether to ignore the token's not before claim (`nbf`). Refer to ["nbf" (Not Before) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.5){:target=\_blank .external-link} for more information.

\* \*\*Clock Tolerance\*\*: Enter the number of seconds to tolerate when checking the `nbf` and `exp` claims. This allows you to deal with small clock differences among different servers. Refer to ["exp" (Expiration Time) Claim](https://datatracker.ietf.org/doc/html/rfc7519#section-4.1.4){:target=\_blank .external-link} for more information.

\* \*\*Override Algorithm\*\*: The algorithm to use for verifying the token. This algorithm will override the algorithm selected in the credentials.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'jwt') ]]

## n8n-nodes-base.ldap.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LDAP

description: Documentation for the LDAP node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

---

# LDAP

This node allows you to interact with your LDAP servers to create, find, and update objects.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/ldap.md).

///

## Operations

\* [\*\*Compare\*\*](#compare) an attribute

\* [\*\*Create\*\*](#create) a new entry

\* [\*\*Delete\*\*](#delete) an entry

\* [\*\*Rename\*\*](#rename) the DN of an existing entry

\* [\*\*Search\*\*](#search) LDAP

\* [\*\*Update\*\*](#update) attributes

Refer to the sections below for details on configuring the node for each operation.

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

## Compare

Configure this operation using these parameters:

\* \*\*Credential to connect with\*\*: Select or create an [LDAP credential](/integrations/builtin/credentials/ldap.md) to connect with.

\* \*\*DN\*\*: Enter the Distinguished Name (DN) of the entry to compare.

\* \*\*Attribute ID\*\*: Enter the ID of the attribute to compare.

\* \*\*Value\*\*: Enter the value to compare.

## Create

Configure this operation using these parameters:

\* \*\*Credential to connect with\*\*: Select or create an [LDAP credential](/integrations/builtin/credentials/ldap.md) to connect with.

\* \*\*DN\*\*: Enter the Distinguished Name (DN) of the entry to create.

\* \*\*Attributes\*\*: Add the \*\*Attribute ID\*\*/\*\*Value\*\* pairs you'd like to create.

## Delete

Configure this operation using these parameters:

\* \*\*Credential to connect with\*\*: Select or create an [LDAP credential](/integrations/builtin/credentials/ldap.md) to connect with.

\* \*\*DN\*\*: Enter the Distinguished Name (DN) of the entry to be deleted.

## Rename

Configure this operation using these parameters:

\* \*\*Credential to connect with\*\*: Select or create an [LDAP credential](/integrations/builtin/credentials/ldap.md) to connect with.

\* \*\*DN\*\*: Enter the current Distinguished Name (DN) of the entry to rename.

\* \*\*New DN\*\*: Enter the new Distinguished Name (DN) for the entry in this field.

## Search

Configure this operation using these parameters:

\* \*\*Credential to connect with\*\*: Select or create an [LDAP credential](/integrations/builtin/credentials/ldap.md) to connect with.

\* \*\*Base DN\*\*: Enter the Distinguished Name (DN) of the subtree to search in.

\* \*\*Search For\*\*: Select the directory object class to search for.

\* \*\*Attribute\*\*: Select the attribute to search for.

\* \*\*Search Text\*\*: Enter the text to search for. Use `\*` for a wildcard.

\* \*\*Return All\*\*: When turned on, the node will return all results. When turned off, the node will return results up to the set \*\*Limit\*\*.

\* \*\*Limit\*\*: Only available when you turn off \*\*Return All\*\*. Enter the maximum number of results to return.

### Search options

You can also configure this operation using these options:

\* \*\*Attribute Names or IDs\*\*: Enter a comma-separated list of attributes to return. Choose from the list or specify IDs using an expression.

\* \*\*Page Size\*\*: Enter the maximum number of results to request at one time. Set to 0 to disable paging.

\* \*\*Scopes\*\*: The set of entries at or below the \*\*Base DN\*\* to search for potential matches. Select from:

\* \*\*Base Tree\*\*: Often referred to as subordinateSubtree or just "subordinates," selecting this option will search the subordinates of the \*\*Base DN\*\* entry but not the \*\*Base DN\*\* entry itself.

\* \*\*Single Level\*\*: Often referred to as "one," selecting this option will search only the immediate children of the \*\*Base DN\*\* entry.

\* \*\*Whole Subtree\*\*: Often referred to as "sub," selecting this option will search the \*\*Base DN\*\* entry and all its subordinates to any depth.

Refer to [The LDAP Search Operation](https://ldap.com/the-ldap-search-operation/){:target="\_blank" .external-link} for more information on search scopes.

## Update

Configure this operation using these parameters:

\* \*\*Credential to connect with\*\*: Select or create an [LDAP credential](/integrations/builtin/credentials/ldap.md) to connect with.

\* \*\*DN\*\*: Enter the Distinguished Name (DN) of the entry to update.

\* \*\*\*Update Attributes\*\*: Select whether to \*\*Add\*\* new, \*\*Remove\*\* existing, or \*\*Replace\*\* existing attribute.

\* Then enter the \*\*Attribute ID\*\*/\*\*Value\*\* pair you'd like to update.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'ldap') ]]

## n8n-nodes-base.limit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Limit

description: Documentation for the Limit node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Limit

Use the Limit node to remove items beyond a defined maximum number. You can choose whether n8n takes the items from the beginning or end of the input data.

## Node parameters

Configure this node using the following parameters.

### Max Items

Enter the maximum number of items that n8n should keep. If the input data contains more than this value, n8n removes the items.

### Keep

If the node has to remove items, select where it keeps the input items from:

\* \*\*First Items\*\*: Keeps the \*\*Max Items\*\* number of items from the beginning of the input data.

\* \*\*Last Items\*\*: Keeps the \*\*Max Items\*\* number of items from the end of the input data.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'limit') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/core-nodes/data-transformation-actions/data-section-link.md"

## n8n-nodes-base.localfiletrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Local File Trigger node documentation

description: Learn how to use the Local File Trigger node in n8n. Follow technical documentation to integrate Local File Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# Local File Trigger node

The Local File Trigger node starts a workflow when it detects changes on the file system. These changes involve a file or folder getting added, changed, or deleted.

/// note | Self-hosted n8n only

This node isn't available on n8n Cloud.

///

## Node parameters

You can choose what event to watch for using the \*\*Trigger On\*\* parameter.

## Changes to a Specific File

The node triggers when the specified file changes.

Enter the path for the file to watch in \*\*File to Watch\*\*.

## Changes Involving a Specific Folder

The node triggers when a change occurs in the selected folder.

Configure these parameters:

- \*\*Folder to Watch\*\*: Enter the path of the folder to watch.

- \*\*Watch for\*\*: Select the type of change to watch for.

## Node options

Use the node \*\*Options\*\* to include or exclude files and folders.

- \*\*Include Linked Files/Folders\*\*: also watch for changes to linked files or folders.

- \*\*Ignore\*\*: files or paths to ignore. n8n tests the whole path, not just the filename. Supports the [Anymatch](https://github.com/micromatch/anymatch){:target=\_blank .external-link} syntax.

- \*\*Max Folder Depth\*\*: how deep into the folder structure to watch for changes.

### Examples for Ignore

Ignore a single file:

```sh

\*\*/<fileName>.<suffix>

# For example, \*\*/myfile.txt

```

Ignore a sub-directory of a directory you're watching:

```sh

\*\*/<directoryName>/\*\*

# For example, \*\*/myDirectory/\*\*

```

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'local-file-trigger') ]]

## n8n-nodes-base.manualworkflowtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Manual Trigger node documentation

description: Learn how to use the Manual Trigger node in n8n. Follow technical documentation to integrate Manual Trigger node into your workflows.

contentType: [integration, reference]

priority: critical

---

# Manual Trigger node

Use this node if you want to start a workflow by selecting \*\*Test Workflow\*\* and don't want any option for the workflow to run automatically.

Workflows always need a trigger, or start point. Most workflows start with a trigger node firing in response to an external event or the [Schedule Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) firing on a set schedule.

The Manual Trigger node serves as the workflow trigger for workflows that don't have an automatic trigger.

Use this trigger:

\* To test your workflow before you add an automatic trigger of some kind.

\* When you don't want the workflow to run automatically.

## Common issues

Here are some common errors and issues with the Manual Trigger node and steps to resolve or troubleshoot them.

<!-- vale off -->

### Only one 'Manual Trigger' node is allowed in a workflow

<!-- vale on -->

This error displays if you try to add a Manual Trigger node to a workflow which already includes a Manual Trigger node.

Remove your existing Manual Trigger or edit your workflow to connect that trigger to a different node.

## n8n-nodes-base.markdown.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Markdown

description: Documentation for the Markdown node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# Markdown

The Markdown node converts between Markdown and HTML formats.

## Operations

This node's operations are \*\*Modes\*\*:

\* \*\*Markdown to HTML\*\*: Use this mode to convert from Markdown to HTML.

\* \*\*HTML to Markdown\*\*: Use this mode to convert from HTML to Markdown.

## Node parameters

\* \*\*HTML\*\* or \*\*Markdown\*\*: Enter the data you want to convert. The field name changes based on which \*\*Mode\*\* you select.

\* \*\*Destination Key\*\*: Enter the field you want to put the output in. Specify nested fields using dots, for example `level1.level2.newKey`.

## Node options

The node's \*\*Options\*\* depend on the \*\*Mode\*\* selected.

/// note | Test out the options

Some of the options depend on each other or can interact. We recommend testing out options to confirm the effects are what you want.

///

### Markdown to HTML options

| Option | Description | Default |

| ------ | ----------- | ------- |

| \*\*Add Blank To Links\*\* | Whether to open links a new window (enabled) or not (disabled). | Disabled |

| \*\*Automatic Linking To URLs\*\* | Whether to automatically link to URLs (enabled) or not (disabled). If enabled, n8n converts any string that it identifies as a URL to a link. | Disabled |

| \*\*Backslash Escapes HTML Tags\*\* | Whether to allow backslash escaping of HTML tags (enabled) or not (disabled). When enabled, n8n escapes any `<` or `>` prefaced with `\`. For example, `\<div\>` renders as `&lt;div&gt;`. | Disabled |

| \*\*Complete HTML Document\*\* | Whether to output a complete HTML document (enabled) or an HTML fragment (disabled). A complete HTML document includes the `<DOCTYPE HTML>` declaration, `<html>` and `<body>` tags, and the `<head>` element. | Disabled |

| \*\*Customized Header ID\*\* | Whether to support custom heading IDs (enabled) or not (disabled). When enabled, you can add custom heading IDs using `{header ID here}` after the heading text. | Disabled |

| \*\*Emoji Support\*\* | Whether to support emojis (enabled) or not (disabled). | Disabled. |

| \*\*Encode Emails\*\* | Whether to transform ASCII character emails into their equivalent decimal entities (enabled) or not (disabled). | Enabled |

| \*\*Exclude Trailing Punctuation From URLs\*\* | Whether to exclude trailing punctuation from automatically linked URLs (enabled) or not (disabled). For use with \*\*Automatic Linking To URLs\*\*. | Disabled |

| \*\*GitHub Code Blocks\*\* | Whether to enable GitHub Flavored Markdown code blocks (enabled) or not (disabled). | Enabled |

| \*\*GitHub Compatible Header IDs\*\* | Whether to generate GitHub Flavored Markdown heading IDs (enabled) or not (disabled). GitHub Flavored Markdown generates heading IDs with `-` in place of spaces and removes non-alphanumeric characters. | Disabled |

| \*\*GitHub Mention Link\*\* | Change the link used with \*\*GitHub Mentions\*\*. | Disabled |

| \*\*GitHub Mentions\*\* | Whether to support tagging GitHub users with `@` (enabled) or not (disabled). When enabled, n8n replaces `@name` with `https://github.com/name`. | Disabled |

| \*\*GitHub Task Lists\*\* | Whether to support GitHub Flavored Markdown task lists (enabled) or not (disabled). | Disabled |

| \*\*Header Level Start\*\* | Number. Set the start level for headers. For example, changing this field to `2` causes n8n to treat `#` as `<h2>`, `##` as `<h3>`, and so on. | 1 |

| \*\*Mandatory Space Before Header\*\* | Whether to make a space between `#` and heading text required (enabled) or not (disabled). When enabled, n8n renders a heading written as `##Some header text` literally (it doesn't turn it into a heading element) | Disabled |

| \*\*Middle Word Asterisks\*\* | Whether n8n should treat asterisks in words as Markdown (disabled) or render them as literal asterisks (enabled). | Disabled |

| \*\*Middle Word Underscores\*\* | Whether n8n should treat underscores in words as Markdown (disabled) or render them as literal underscores (enabled). | Disabled |

| \*\*No Header ID\*\* | Disable automatic generation of header IDs (enabled). | Disabled |

| \*\*Parse Image Dimensions\*\* | Support setting maximum image dimensions in Markdown syntax (enabled). | Disabled |

| \*\*Prefix Header ID\*\* | Define a prefix to add to header IDs. | None |

| \*\*Raw Header ID\*\* | Whether to remove spaces, `'`, and `"` from header IDs, including prefixes, replacing them with `-` (enabled) or not (disabled). | Disabled |

| \*\*Raw Prefix Header ID\*\* | Whether to prevent n8n from modifying header prefixes (enabled) or not (disabled) | Disabled |

| \*\*Simple Line Breaks\*\* | Whether to create line breaks without a double space at the end of a line (enabled) or not (disabled). | Disabled |

| \*\*Smart Indentation Fix\*\* | Whether to try to smartly fix indentation problems related to ES6 template strings in indented code blocks (enabled) or not (disabled). | Disabled |

| \*\*Spaces Indented Sublists\*\* | Whether to remove the requirement to indent sublists four spaces (enabled) or not (disabled). | Disabled |

| \*\*Split Adjacent Blockquotes\*\* | Whether to split adjacent blockquote blocks (enabled) or not (disabled). If you don't enable this, n8n treats quotes (indicated by `>` at the start of the line) on separate lines as a single blockquote, even when separated by an empty line. | Disabled |

| \*\*Strikethrough\*\* | Whether to support strikethrough syntax (enabled) or not (disabled). When enabled, you can add a ~~strikethrough~~ effect using `~~` around the word or phrase. | Disabled |

| \*\*Tables Header ID\*\* | Whether to add an ID to table header tags (enabled) or not (disabled). | Disabled |

| \*\*Tables Support\*\* | Whether to support tables (enabled) or not (disabled). | Disabled |

### HTML to Markdown options

| Option | Description | Default |

| ------ | ----------- | ------- |

| \*\*Bullet Marker\*\* | Specify the character to use for unordered lists. | \* |

| \*\*Code Block Fence\*\* | Specify the characters to use for code blocks. | ``` |

| \*\*Emphasis Delimiter\*\* | Specify the character `<em>`. | \_ |

| \*\*Global Escape Pattern\*\* | Overrides the default character escape settings. You may want to use Text Replacement Pattern instead. | None |

| \*\*Ignored Elements\*\* | Ignore given HTML elements, and their children. | None |

| \*\*Keep Images With Data\*\* | Whether to keep images with data (enabled) or not (disabled). Support files up to 1MB. | Disabled |

| \*\*Line Start Escape Pattern\*\* | Overrides the default character escape settings. You may want to use Text Replacement Pattern instead. | None |

| \*\*Max Consecutive New Lines\*\* | Number. Specify the maximum number of consecutive new lines allowed. | 3 |

| \*\*Place URLs At The Bottom\*\* | Whether to place URLs at the bottom of the page and format using link reference definitions (enabled) or not (disabled). | Disabled |

| \*\*Strong Delimiter\*\* | Specify the characters for `<strong>`. | \*\* |

| \*\*Style For Code Block\*\* | Specify the styling for code blocks. Options are \*\*Fence\*\* and \*\*Indented\*\*. | Fence |

| \*\*Text Replacement Pattern\*\* | Define a text replacement pattern using regex. | None |

| \*\*Treat As Blocks\*\* | Specify HTML elements to treat as blocks (surround with blank lines) | None |

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'markdown') ]]

## Parsers

n8n uses the following parsers:

\* To convert from HTML to Markdown: [node-html-markdown](https://www.npmjs.com/package/node-html-markdown){:target=\_blank .external-link}.

\* To convert from Markdown to HTML: [Showdown](https://www.npmjs.com/package/showdown){:target=\_blank .external-link}. Some options allow you to extend your Markdown with [GitHub Flavored Markdown](https://github.github.com/gfm/){:target=\_blank .external-link}.

## n8n-nodes-base.merge.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Merge

description: Documentation for the Merge node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Merge

Use the Merge node to combine data from multiple streams, once data of all streams is available.

/// note | Major changes in 0.194.0

The n8n team overhauled this node in n8n 0.194.0. This document reflects the latest version of the node. If you're using an older version of n8n, you can find the previous version of this document [here](https://github.com/n8n-io/n8n-docs/blob/4ff688642cc9ee7ca7d00987847bf4e4515da59d/docs/integrations/builtin/core-nodes/n8n-nodes-base.merge.md){:target=\_blank .external-link}.

///

/// note | Minor changes in 1.49.0

n8n version 1.49.0 introduced the option to add more than two inputs. Older versions only support up to two inputs. If you're running an older version and want to combine multiple inputs in these versions, use the [Code node](https://deploy-preview-2225--n8n-docs.netlify.app/code/code-node/).

The \*\*Mode > SQL Query\*\* feature was also added in n8n version 1.49.0 and isn't available in older versions.

///

## Node parameters

You can specify how the Merge node should combine data from different data streams by choosing a \*\*Mode\*\*:

### Append

Keep data from all inputs. Choose a \*\*Number of Inputs\*\* to output items of each input, one after another. The node waits for the execution of all connected inputs.

<figure markdown="span">

![Sample Append mode inputs and output. Two separate data sources are on the left, one with items A, B, C and one with items D, E, F. The final data source combines both and lists A, B, C, D, E, F.](/\_images/integrations/builtin/core-nodes/merge/append-diagram.png)

<figcaption>Append mode inputs and output</figcaption>

</figure>

### Combine

Combine data from two inputs. Select an option in \*\*Combine By\*\* to determine how you want to merge the input data.

#### Matching Fields

Compare items by field values. Enter the fields you want to compare in \*\*Fields to Match\*\*.

n8n's default behavior is to keep matching items. You can change this using the \*\*Output Type\*\* setting:

\* \*\*Keep Matches\*\*: Merge items that match. This is like an inner join.

\* \*\*Keep Non-Matches\*\*: Merge items that don't match.

\* \*\*Keep Everything\*\*: Merge items together that do match and include items that don't match. This is like an outer join.

\* \*\*Enrich Input 1\*\*: Keep all data from Input 1, and add matching data from Input 2. This is like a left join.

\* \*\*Enrich Input 2\*\*: Keep all data from Input 2, and add matching data from Input 1. This is like a right join.

<figure markdown="span">

![Sample Combine mode inputs and output. Two separate data sources are on the left. The final data source combines these data sources by matching fields.](/\_images/integrations/builtin/core-nodes/merge/merge-by-field-diagram.png)

<figcaption>Combine by Matching Fields mode inputs and output</figcaption>

</figure>

#### Position

Combine items based on their order. The item at index 0 in Input 1 merges with the item at index 0 in Input 2, and so on.

<figure markdown="span">

![Sample Combine mode inputs and output. Two separate data sources are on the left. The final data source combines these data sources by index position.](/\_images/integrations/builtin/core-nodes/merge/merge-by-position-diagram.png)

<figcaption>Combine by Position mode inputs and output</figcaption>

</figure>

#### All Possible Combinations

Output all possible item combinations, while merging fields with the same name.

<figure markdown="span">

![Sample Combine mode inputs and output. Two separate data sources are on the left. The final data source combines these data sources by all possible combinations.](/\_images/integrations/builtin/core-nodes/merge/multiplex-diagram.png)

<figcaption>Combine by All Possible Combinations mode inputs and output</figcaption>

</figure>

#### Combine mode options

When merging data by \*\*Mode > Combine\*\*, you can set these \*\*Options\*\*:

\* \*\*Clash Handling\*\*: Choose how to merge when data streams clash, or when there are sub-fields. Refer to [Clash handling](#clash-handling) for details.

\* \*\*Fuzzy Compare\*\*: Whether to tolerate type differences when comparing fields (enabled), or not (disabled, default). For example, when you enable this, n8n treats `"3"` and `3` as the same.

\* \*\*Disable Dot Notation\*\*: This prevents accessing child fields using `parent.child` in the field name.

\* \*\*Multiple Matches\*\*: Choose how n8n handles multiple matches when comparing data streams.

\* \*\*Include All Matches\*\*: Output multiple items if there are multiple matches, one for each match.

\* \*\*Include First Match Only\*\*: Keep the first item per match and discard the remaining multiple matches.

\* \*\*Include Any Unpaired Items\*\*: Choose whether to keep or discard unpaired items when merging by position. The default behavior is to leave out the items without a match.

##### Clash Handling

--8<-- "\_snippets/integrations/builtin/core-nodes/merge/field-value-clash.md"

### SQL Query

Write a custom SQL Query to merge the data.

Example:

```sql

SELECT \* FROM input1 LEFT JOIN input2 ON input1.name = input2.id

```

Data from previous nodes are available as tables and you can use them in the SQL query as input1, input2, input3, and so on, based on their order. Refer to [AlaSQL GitHub page](https://github.com/alasql/alasql/wiki/Supported-SQL-statements){:target=\_blank .external-link} for a full list of supported SQL statements.

### Choose Branch

Choose which input to keep. This option always waits until the data from both inputs is available. You can choose to \*\*Output\*\*:

\* The \*\*Input 1 Data\*\*

\* The \*\*Input 2 Data\*\*

\* \*\*A Single, Empty Item\*\*

The node outputs the data from the chosen input, without changing it.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'merge') ]]

## Merging data streams with uneven numbers of items

The items passed into Input 1 of the Merge node will take precedence. For example, if the Merge node receives five items in Input 1 and 10 items in Input 2, it only processes five items. The remaining five items from Input 2 aren't processed.

## Branch execution with If and Merge nodes

--8<-- "\_snippets/integrations/builtin/core-nodes/merge/if-merge-branch-execution.md"

## Try it out: A step by step example

Create a workflow with some example input data to try out the Merge node.

### Set up sample data using the Code nodes

1. Add a Code node to the canvas and connect it to the Start node.

2. Paste the following JavaScript code snippet in the \*\*JavaScript Code\*\* field:

```js

return [

{

json: {

name: 'Stefan',

language: 'de',

}

},

{

json: {

name: 'Jim',

language: 'en',

}

},

{

json: {

name: 'Hans',

language: 'de',

}

}

];

```

3. Add a second Code node, and connect it to the Start node.

4. Paste the following JavaScript code snippet in the \*\*JavaScript Code\*\* field:

```js

return [

{

json: {

greeting: 'Hello',

language: 'en',

}

},

{

json: {

greeting: 'Hallo',

language: 'de',

}

}

];

```

### Try out different merge modes

Add the Merge node. Connect the first Code node to \*\*Input 1\*\*, and the second Code node to \*\*Input 2\*\*. Run the workflow to load data into the Merge node.

The final workflow should look like this:

[[ workflowDemo("https://api.n8n.io/workflows/templates/655") ]]

Now try different options in \*\*Mode\*\* to see how it affects the output data.

#### Append

Select \*\*Mode\*\* > \*\*Append\*\*, then select \*\*Execute step\*\*.

Your output in table view should look like this:

<!-- vale off -->

| \*\*name\*\* | \*\*language\*\* | \*\*greeting\*\* |

| --- | --- | --- |

| Stefan | de | |

| Jim | en | |

| Hans | de | |

| | en | Hello |

| | de | Hallo |

<!-- vale on -->

#### Combine by Matching Fields

You can merge these two data inputs so that each person gets the correct greeting for their language.

1. Select \*\*Mode\*\* > \*\*Combine\*\*.

2. Select \*\*Combine by\*\* > \*\*Matching Fields\*\*.

3. In both \*\*Input 1 Field\*\* and \*\*Input 2 Field\*\*, enter `language`. This tells n8n to combine the data by matching the values in the `language` field in each data set.

4. Select \*\*Execute step\*\*.

Your output in table view should look like this:

<!-- vale off -->

| \*\*name\*\* | \*\*language\*\* | \*\*greeting\*\* |

| --- | --- | --- |

| Stefan | de | Hallo |

| Jim | en | Hello |

| Hans | de | Hallo |

<!-- vale on -->

#### Combine by Position

Select \*\*Mode\*\* > \*\*Combine\*\*, \*\*Combine by\*\* > \*\*Position\*\*, then select \*\*Execute step\*\*.

Your output in table view should look like this:

<!-- vale off -->

| \*\*name\*\* | \*\*language\*\* | \*\*greeting\*\* |

| --- | --- | --- |

| Stefan | en | Hello |

| Jim | de | Hallo |

<!-- vale on -->

##### Keep unpaired items

If you want to keep all items, select \*\*Add Option\*\* > \*\*Include Any Unpaired Items\*\*, then turn on \*\*Include Any Unpaired Items\*\*.

Your output in table view should look like this:

<!-- vale off -->

| \*\*name\*\* | \*\*language\*\* | \*\*greeting\*\* |

| --- | --- | --- |

| Stefan | en | Hello |

| Jim | de | Hallo |

| Hans | de | |

<!-- vale on -->

#### Combine by All Possible Combinations

Select \*\*Mode\*\* > \*\*Combine\*\*, \*\*Combine by\*\* > \*\*All Possible Combinations\*\*, then select \*\*Execute step\*\*.

Your output in table view should look like this:

<!-- vale off -->

| \*\*name\*\* | \*\*language\*\* | \*\*greeting\*\* |

| --- | --- | --- |

| Stefan | en | Hello |

| Stefan | de | Hallo |

| Jim | en | Hello |

| Jim | de | Hallo |

| Hans | en | Hello |

| Hans | de | Hallo |

<!-- vale on -->

## n8n-nodes-base.n8n.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n

description: Documentation for the n8n node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# n8n

A node to integrate with n8n itself. This node allows you to consume the [n8n API](/api/index.md) in your workflows.

Refer to the [n8n REST API documentation](/api/index.md) for more information on using the n8n API. Refer to [API endpoint reference](/api/api-reference.md) for working with the API endpoints directly.

/// note | Credentials

You can find authentication information for this node in the [API authentication](/api/authentication.md) documentation.

///

/// warning | SSL

This node doesn't support SSL. If your server requires an SSL connection, use the [HTTP Request node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) to call the [n8n API](/api/index.md).

The HTTP Request node has options to [provide the SSL certificate](/integrations/builtin/credentials/httprequest.md#provide-an-ssl-certificate).

///

## Operations

\* Audit

\* [\*\*Generate\*\* a security audit](#generate-audit)

\* Credential

\* [\*\*Create\*\* a credential](#create-credential)

\* [\*\*Delete\*\* a credential](#delete-credential)

\* [\*\*Get Schema\*\*](#get-credential-schema): Use this operation to get credential data schema for type

\* Execution

\* [\*\*Get\*\* an execution](#get-execution)

\* [\*\*Get Many\*\* executions](#get-many-executions)

\* [\*\*Delete\*\* an execution](#delete-execution)

\* Workflow

\* [\*\*Activate\*\* a workflow](#activate-deactivate-delete-and-get-workflow)

\* [\*\*Create\*\* a workflow](#create-workflow)

\* [\*\*Deactivate\*\* a workflow](#activate-deactivate-delete-and-get-workflow)

\* [\*\*Delete\*\* a workflow](#activate-deactivate-delete-and-get-workflow)

\* [\*\*Get\*\* a workflow](#activate-deactivate-delete-and-get-workflow)

\* [\*\*Get Many\*\* workflows](#get-many-workflows)

\* [\*\*Update\*\* a workflow](#update-workflow)

## Generate audit

This operation has no parameters. Configure it with these options:

\* \*\*Categories\*\*: Select the risk categories you want the audit to include. Options include:

\* \*\*Credentials\*\*

\* \*\*Database\*\*

\* \*\*Filesystem\*\*

\* \*\*Instance\*\*

\* \*\*Nodes\*\*

\* \*\*Days Abandoned Workflow\*\*: Use this option to set the number of days without execution after which a workflow should be considered abandoned. Enter a number of days. The default is `90`.

## Create credential

Configure this operation with these parameters:

\* \*\*Name\*\*: Enter the name of the credential you'd like to create.

\* \*\*Credential Type\*\*: Enter the credential's type. The available types depend on nodes installed on the n8n instance. Some built-in types include `githubApi`, `notionApi`, and `slackApi`.

\* \*\*Data\*\*: Enter a valid JSON object with the required properties for this \*\*Credential Type\*\*. To see the expected format, use the \*\*Get Schema\*\* operation.

## Delete credential

Configure this operation with this parameter:

\* \*\*Credential ID\*\*: Enter the ID of the credential you want to delete.

## Get credential schema

Configure this operation with this parameter:

\* \*\*Credential Type\*\*: Enter the credential's type. The available types depend on nodes installed on the n8n instance. Some built-in types include `githubApi`, `notionApi`, and `slackApi`.

## Get execution

Configure this operation with this parameter:

\* \*\*Execution ID\*\*: Enter the ID of the execution you want to retrieve.

### Get execution option

You can further configure this operation with this \*\*Option\*\*:

\* \*\*Include Execution Details\*\*: Use this control to set whether to include the detailed execution data (turned on) or not (turned off).

## Get many executions

Configure this operation with these parameters:

\* \*\*Return All\*\*: Set whether to return all results (turned on) or whether to limit the results to the entered \*\*Limit\*\* (turned on).

\* \*\*Limit\*\*: Set the number of results to return if the \*\*Return All\*\* control is turned off.

### Get many executions filters

You can further configure this operation with these \*\*Filters\*\*:

\* \*\*Workflow\*\*: Filter the executions by workflow. Options include:

\* \*\*From list\*\*: Select a workflow to use as a filter.

\* \*\*By URL\*\*: Enter a workflow URL to use as a filter.

\* \*\*By ID\*\*: Enter a workflow ID to use as a filter.

\* \*\*Status\*\*: Filter the executions by status. Options include:

\* \*\*Error\*\*

\* \*\*Success\*\*

\* \*\*Waiting\*\*

### Get many execution options

You can further configure this operation with this \*\*Option\*\*:

\* \*\*Include Execution Details\*\*: Use this control to set whether to include the detailed execution data (turned on) or not (turned off).

## Delete execution

Configure this operation with this parameter:

\* \*\*Execution ID\*\*: Enter the ID of the execution you want to delete.

## Activate, deactivate, delete, and get workflow

The \*\*Activate\*\*, \*\*Deactivate\*\*, \*\*Delete\*\*, and \*\*Get\*\* workflow operations all include the same parameter for you to select the \*\*Workflow\*\* you want to perform the operation on. Options include:

\* \*\*From list\*\*: Select the workflow from the list.

\* \*\*By URL\*\*: Enter the URL of the workflow.

\* \*\*By ID\*\*: Enter the ID of the workflow.

## Create workflow

Configure this operation with this parameter:

\* \*\*Workflow Object\*\*: Enter a valid JSON object with the new workflow's details. The object requires these fields:

\* `name`

\* `nodes`

\* `connections`

\* `settings`

Refer to the [n8n API | Create a workflow documentation](/api/api-reference.md/#tag/Workflow/paths/~1workflows/post) for more information.

## Get many workflows

Configure this operation with these parameters:

\* \*\*Return All\*\*: Set whether to return all results (turned on) or whether to limit the results to the entered \*\*Limit\*\* (turned on).

\* \*\*Limit\*\*: Set the number of results to return if the \*\*Return All\*\* control is turned off.

### Get many workflows filters

You can further configure this operation with these \*\*Filters\*\*:

\* \*\*Return Only Active Workflows\*\*: Select whether to return only active workflows (turned on) or active and inactive workflows (turned off).

\* \*\*Tags\*\*: Enter a comma-separated list of tags the returned workflows must have.

## Update workflow

Configure this operation with these parameters:

\* \*\*Workflow\*\*: Select the workflow you want to update. Options include:

\* \*\*From list\*\*: Select the workflow from the list.

\* \*\*By URL\*\*: Enter the URL of the workflow.

\* \*\*By ID\*\*: Enter the ID of the workflow.

\* \*\*Workflow Object\*\*: Enter a valid JSON object to update the workflow with. The object requires these fields:

\* `name`

\* `nodes`

\* `connections`

\* `settings`

Refer to the [n8n API | Update a workflow documentation](https://docs.n8n.io/api/api-reference/#tag/Workflow/paths/~1workflows~1%7Bid%7D/put) for more information.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'n8n') ]]

## n8n-nodes-base.n8ntrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Trigger node documentation

description: Learn how to use the n8n Trigger node in n8n. Follow technical documentation to integrate n8n Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# n8n Trigger node

The n8n Trigger node triggers when the current workflow updates or activates, or when the n8n instance starts or restarts. You can use the n8n Trigger node to notify when these events occur.

## Node parameters

The node includes a single parameter to identify the \*\*Events\*\* that should trigger it. Choose from these events:

- \*\*Active Workflow Updated\*\*: If you select this event, the node triggers when this workflow is updated.

- \*\*Instance started\*\*: If you select this event, the node triggers when the n8n instance starts or restarts.

- \*\*Workflow Activated\*\*: If you select this event, the node triggers when this workflow is activated.

You can select one or more of these events.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'n8n-trigger') ]]

## n8n-nodes-base.noop.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: No Operation, do nothing

description: Documentation for the No Operation, do nothing node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# No Operation, do nothing

Use the No Operation, do nothing node when you don't want to perform any operations. The purpose of this node is to make the workflow easier to read and understand where the flow of data stops. This can help others visually get a better understanding of the workflow.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'no-operation-do-nothing') ]]

## n8n-nodes-base.readwritefile.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Read/Write Files from Disk

description: Documentation for the Read/Write Files from Disk node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Read/Write Files from Disk

Use the Read/Write Files from Disk node to read and write files from/to the machine where n8n is running.

/// note | Self-hosted n8n only

This node isn't available on n8n Cloud.

///

## Operations

- [\*\*Read File(s) From Disk\*\*](#read-files-from-disk): Use this operation to retrieve one or more files from the computer that runs n8n.

- [\*\*Write File to Disk\*\*](#write-file-to-disk): Use this operation to create a binary file on the computer that runs n8n.

Refer to the sections below for more information on configuring the node for each operation.

## Read File(s) From Disk

Configure this operation with these parameters:

\* \*\*File(s) Selector\*\*: Enter the path of the file you want to read.

- To enter multiple files, enter a page path pattern. You can use these characters to define a path pattern:

- `\*`: Matches any character zero or more times, excluding path separators.

- `\*\*`: Matches any character zero or more times, include path separators.

- `?`: Matches any character except for path separators one time.

- `[]`: Matches any characters inside the brackets. For example, `[abc]` would match the characters `a`, `b`, or `c`, and nothing else.

Refer to [Picomatch's Basic globbing](https://github.com/micromatch/picomatch#basic-globbing){:target=\_blank .external-link} documentation for more information on these characters and their expected behavior.

### Read File(s) From Disk options

You can also configure this operation with these \*\*Options\*\*:

\* \*\*File Extension\*\*: Enter the extension for the file in the node output.

\* \*\*File Name\*\*: Enter the name for the file in the node output.

\* \*\*MIME Type\*\*: Enter the file's MIME type in the node output. Refer to [Common MIME types](https://developer.mozilla.org/en-US/docs/Web/HTTP/Basics\_of\_HTTP/MIME\_types/Common\_types){:target=\_blank .external-link} for a list of file extensions and their MIME types.

\* \*\*Put Output File in Field\*\*: Enter the name of the field in the output data to contain the file.

## Write File to Disk

Configure this operation with these parameters:

\* \*\*File Path and Name\*\*: Enter the destination for the file, the file's name, and the file's extension.

\* \*\*Input Binary Field\*\*: Enter the name of the field in the node input data that will contain the binary file.

### Write File to Disk options

You can also configure this operation with these \*\*Options\*\*:

This operation includes a single option, whether to \*\*Append\*\* data to an existing file instead of creating a new one (turned on) or to create a new file instead of appending to existing (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'readwrite-files-from-disk') ]]

## File locations

If you run n8n in Docker, your command runs in the n8n container and not the Docker host.

This node looks for files relative to the n8n install path. n8n recommends using absolute file paths to prevent any errors.

## n8n-nodes-base.renamekeys.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Rename Keys

description: Documentation for the Rename Keys node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# Rename Keys

Use the Rename Keys node to rename the keys of a key-value pair in n8n.

## Node parameters

You can rename one or multiple keys using the Rename Keys node. Select the \*\*Add new key\*\* button to rename a key.

For each key, enter the:

- \*\*Current Key Name\*\*: The current name of the key you want to rename.

- \*\*New Key Name\*\*: The new name you want to assign to the key.

## Node options

Choose whether to use a \*\*Regex\*\* regular expression to identify keys to rename. To use this option, you must also enter:

\* The \*\*Regular Expression\*\* you'd like to use.

\* \*\*Replace With\*\*: Enter the new name you want to assign to the key(s) that match the \*\*Regular Expression\*\*.

\* You can also choose these Regex-specific options:

\* \*\*Case Insensitive\*\*: Set whether the regular expression should match case (turned off) or be case insensitive (turned on).

\* \*\*Max Depth\*\*: Enter the maximum depth to replace keys, using `-1` for unlimited and `0` for top-level only.

/// warning | Regex impacts

Using a regular expression can affect any keys that match the expression, including keys you've already renamed.

///

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'rename-keys') ]]

## n8n-nodes-base.respondtowebhook.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Respond to Webhook

description: Documentation for the Respond to Webhook node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Respond to Webhook

Use the Respond to Webhook node to control the response to incoming webhooks. This node works with the [Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) node.

/// note | Runs once for the first data item

The Respond to Webhook node runs once, using the first incoming data item. Refer to [Return more than one data item](#return-more-than-one-data-item-deprecated) for more information.

///

## How to use Respond to Webhook

To use the Respond to Webhook node:

1. Add a [Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) node as the trigger node for the workflow.

1. In the Webhook node, set \*\*Respond\*\* to \*\*Using 'Respond to Webhook' node\*\*.

1. Add the Respond to Webhook node anywhere in your workflow. If you want it to return data from other nodes, place it after those nodes.

## Node parameters

Configure the node behavior using these parameters.

### Respond With

Choose what data to send in the webhook response.

- \*\*All Incoming Items\*\*: Respond with all the JSON items from the input.

- \*\*Binary File\*\*: Respond with a binary file defined in \*\*Response Data Source\*\*.

- \*\*First Incoming Item\*\*: Respond with the first incoming item's JSON.

- \*\*JSON\*\*: Respond with a JSON object defined in \*\*Response Body\*\*.

- \*\*JWT Token\*\*: Respond with a JSON Web Token (JWT).

- \*\*No Data\*\*: No response payload.

- \*\*Redirect\*\*: Redirect to a URL set in \*\*Redirect URL\*\*.

- \*\*Text\*\*: Respond with text set in \*\*Response Body\*\*. This sends HTML by default (`Content-Type: text/html`).

## Node options

Select \*\*Add Option\*\* to view and set the options.

- \*\*Response Code\*\*: Set the [response code](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status) to use.

- \*\*Response Headers\*\*: Define the response headers to send.

- \*\*Put Response in Field\*\*: Available when you respond with \*\*All Incoming Items\*\* or \*\*First Incoming Item\*\*. Set the field name for the field containing the response data.

## How n8n secures HTML responses

Starting with [n8n version 1.103.0](/release-notes.md#n8n11030), n8n automatically wraps HTML responses to webhooks in `<iframe>` tags. This is a security mechanism to protect the instance users.

This has the following implications:

- HTML renders in a sandboxed iframe instead of directly in the parent document.

- JavaScript code that attempts to access the top-level window or local storage will fail.

- Authentication headers aren't available in the sandboxed iframe (for example, basic auth). You need to use an alternative approach, like embedding a short-lived access token within the HTML.

- Relative URLs (for example, `<form action="/">`) won't work. Use absolute URLs instead.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'respond-to-webhook') ]]

## Workflow behavior

When using the Respond to Webhook node, workflows behave as follows:

- The workflow finishes without executing the Respond to Webhook node: it returns a standard message with a 200 status.

- The workflow errors before the first Respond to Webhook node executes: the workflow returns an error message with a 500 status.

- A second Respond to Webhook node executes after the first one: the workflow ignores it.

- A Respond to Webhook node executes but there was no webhook: the workflow ignores the Respond to Webhook node.

## Output the response sent to the webhook

By default, the Respond to Webhook node has a single output branch that contains the node's input data.

You can optionally enable a second output branch containing the response sent to the webhook. To enable this secondary output, open the Respond to Webhook node on the canvas and select the \*\*Settings\*\* tab. Activate the \*\*Enable Response Output Branch\*\* option.

The node will now have two outputs:

\* \*\*Input Data\*\*: The original output, passing on the node's input.

\* \*\*Response\*\*: The response object sent to the webhook.

## Return more than one data item (deprecated)

/// note | Deprecated in 1.22.0

n8n 1.22.0 added support for returning all data items using the \*\*All Incoming Items\*\* option. n8n recommends upgrading to the latest version of n8n, instead of using the workarounds described in this section.

///

The Respond to Webhook node runs once, using the first incoming data item. This includes when using [expressions](/code/expressions.md). You can't force looping using the Loop node: the workflow will run, but the webhook response will still only contain the results of the first execution.

If you need to return more than one data item, choose one of these options:

- Instead of using the Respond to Webhook node, use the \*\*When Last Node Finishes\*\* option in \*\*Respond\*\* in the Webhook node. Use this when you want to return the final data that the workflow outputs.

- Use the [Aggregate](/integrations/builtin/core-nodes/n8n-nodes-base.aggregate.md) node to turn multiple items into a single item before passing the data to the Respond to Webhook node. Set \*\*Aggregate\*\* to \*\*All Item Data (Into a Single List)\*\*.

## n8n-nodes-base.rssfeedread.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RSS Read

description: Documentation for the RSS Read node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# RSS Read

Use the RSS Read node to read data from RSS feeds published on the internet.

## Node parameters

- \*\*URL\*\*: Enter the URL for the RSS publication you want to read.

## Node options

\* \*\*Ignore SSL Issues\*\*: Choose whether n8n should ignore SSL/TLS verification (turned on) or not (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'rss-read') ]]

## Related resources

n8n provides a trigger node for RSS Read. You can find the trigger node docs [here](/integrations/builtin/core-nodes/n8n-nodes-base.rssfeedreadtrigger.md).

## n8n-nodes-base.rssfeedreadtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RSS Feed Trigger node documentation

description: Learn how to use the RSS Feed Trigger node in n8n. Follow technical documentation to integrate RSS Feed Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# RSS Feed Trigger node

The RSS Feed Trigger node allows you to start an n8n workflow when a new RSS feed item has been published.

On this page, you'll find a list of operations the RSS Feed Trigger node supports, and links to more resources.

## Node parameters

\* \*\*Poll Times\*\*: Select a poll \*\*Mode\*\* to set how often to trigger the poll. Your \*\*Mode\*\* selection will add or remove relevant fields. Refer to the sections below to configure the parameters for each mode type.

\* \*\*Feed URL\*\*: Enter the URL of the RSS feed to poll.

--8<-- "\_snippets/integrations/builtin/poll-modes.md"

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'rss-feed-trigger') ]]

## Related resources

n8n provides an app node for RSS Feeds. You can find the node docs [here](/integrations/builtin/core-nodes/n8n-nodes-base.rssfeedread.md).

## n8n-nodes-base.sendemail.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Send Email

description: Documentation for the Send Email node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Send Email

The Send Email node sends emails using an SMTP email server.

/// note | Credential

You can find authentication information for this node [here](/integrations/builtin/credentials/sendemail/index.md).

///

## Node parameters

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

Configure this node using the following parameters.

### Credential to connect with

Select or create an [SMTP account credential](/integrations/builtin/credentials/sendemail/index.md) for the node to use.

### Operation

The Send Email node supports the following operations:

\* \*\*Send\*\*: Send an email.

\* \*\*Send and Wait for Response\*\*: Send an email and wait for a response from the receiver. This operation pauses the workflow execution until the user submits a response.

Choosing \*\*Send and Wait for Response\*\* will activate parameters and options as discussed in [waiting for a response](#waiting-for-a-response).

### From Email

Enter the email address you want to send the email from. You can also include a name using this format: `Name Name <email@sample.com>`, for example: `Nathan Doe <nate@n8n.io>`.

### To Email

Enter the email address you want to send the email to. You can also include a name using this format: `Name Name <email@sample.com>`, for example: `Nathan Doe <nate@n8n.io>`. Use a comma to separate multiple email addresses: `first@sample.com, "Name" <second@sample.com>`.

/// note | Email Format

This email format also applies to the CC and BCC fields.

///

### Subject

Enter the subject line for the email.

### Email Format

Select the format to send the email in. This parameter is available when using the \*\*Send\*\* operation. Choose from:

\* \*\*Text\*\*: Send the email in plain-text format.

\* \*\*HTML\*\*: Send the email in HTML format.

\* \*\*Both\*\*: Send the email in both formats. If you choose this option, the email recipient's client will set which format to display.

## Node options

Use these \*\*Options\*\* to further refine the node's behavior.

### Append n8n Attribution

Set whether to include the phrase `This email was sent automatically with n8n` at the end of the email (turned on) or not (turned off).

### Attachments

Enter the name of the binary properties that contain data to add as an attachment. Some tips on using this option:

\* Use the [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node or the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node to upload the file to your workflow.

\* Add multiple attachments by entering a comma-separated list of binary properties.

\* Reference embedded images or other content within the body of an email message, for example `<img src="cid:image\_1">`.

### CC Email

Enter an email address for the `cc:` field.

### BCC Email

Enter an email address for the `bcc:` field.

### Ignore SSL Issues

Set whether n8n should ignore failures with TLS/SSL certificate validation (turned on) or enforce them (turned off).

### Reply To

Enter an email address for the Reply To field.

## Waiting for a response

By choosing the \*\*Send and Wait for a Response\*\* operation, you can send an email message and pause the workflow execution until a person confirms the action or provides more information.

### Response Type

You can choose between the following types of waiting and approval actions:

\* \*\*Approval\*\*: Users can approve or disapprove from within the message.

\* \*\*Free Text\*\*: Users can submit a response with a form.

\* \*\*Custom Form\*\*: Users can submit a response with a custom form.

Different options are available depending on which type you choose.

### Approval parameters and options

When using the Approval response type, the following options are available:

\* \*\*Type of Approval\*\*: Whether to present only an approval button or both an approval and disapproval buttons.

\* \*\*Button Label\*\*: The label for the approval or disapproval button. The default choice is `Approve` and `Decline` for approval and disapproval actions respectively.

\* \*\*Button Style\*\*: The style (primary or secondary) for the button.

This mode also offers the following options:

\* \*\*Limit Wait Time\*\*: Whether the workflow will automatically resume execution after a specified time limit. This can be an interval or a specific wall time.

\* \*\*Append n8n Attribution\*\*: Set whether to include the phrase `This email was sent automatically with n8n` at the end of the email (turned on) or not (turned off).

### Free Text parameters and options

When using the Free Text response type, the following options are available:

\* \*\*Message Button Label\*\*: The label to use for message button. The default choice is `Respond`.

\* \*\*Response Form Title\*\*: The title of the form where users provide their response.

\* \*\*Response Form Description\*\*: A description for the form where users provide their response.

\* \*\*Response Form Button Label\*\*: The label for the button on the form to submit their response. The default choice is `Submit`.

\* \*\*Limit Wait Time\*\*: Whether the workflow will automatically resume execution after a specified time limit. This can be an interval or a specific wall time.

\* \*\*Append n8n Attribution\*\*: Set whether to include the phrase `This email was sent automatically with n8n` at the end of the email (turned on) or not (turned off).

### Custom Form parameters and options

When using the Custom Form response type, you build a form using the fields and options you want.

You can customize each form element with the settings outlined in the [n8n Form trigger's form elements](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md#form-elements). To add more fields, select the \*\*Add Form Element\*\* button.

The following options are also available:

\* \*\*Message Button Label\*\*: The label to use for message button. The default choice is `Respond`.

\* \*\*Response Form Title\*\*: The title of the form where users provide their response.

\* \*\*Response Form Description\*\*: A description for the form where users provide their response.

\* \*\*Response Form Button Label\*\*: The label for the button on the form to submit their response. The default choice is `Submit`.

\* \*\*Limit Wait Time\*\*: Whether the workflow will automatically resume execution after a specified time limit. This can be an interval or a specific wall time.

\* \*\*Append n8n Attribution\*\*: Set whether to include the phrase `This email was sent automatically with n8n` at the end of the email (turned on) or not (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'send-email') ]]

## n8n-nodes-base.set.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Edit Fields (Set)

description: Documentation for the Edit Fields node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Edit Fields (Set)

Use the Edit Fields node to set workflow data. This node can set new data as well as overwrite data that already exists. This node is crucial in workflows which expect incoming data from previous nodes, such as when inserting values to Google Sheets or databases.

## Node parameters

These are the settings and options available in the Edit Fields node.

### Mode

You can either use \*\*Manual Mapping\*\* to edit fields using the GUI or \*\*JSON Output\*\* to write JSON that n8n adds to the input data.

### Fields to Set

If you select \*\*Mode\*\* > \*\*Manual Mapping\*\*, you can configure the fields by dragging and dropping values from \*\*INPUT\*\*.

The default behavior when you drag a value is:

\* n8n sets the value's name as the field name.

\* The field value contains an expression which accesses the value.

If you don't want to use expressions:

1. Hover over a field. n8n displays the \*\*Fixed | Expressions\*\* toggle.

1. Select \*\*Fixed\*\*.

You can do this for both the name and value of the field.

![A gif showing the drag and drop action, as well as changing a field to fixed](/\_images/integrations/builtin/core-nodes/set/drag-drop-fixed-toggle.gif)

### Keep Only Set Fields

Enable this to discard any input data that you don't use in \*\*Fields to Set\*\*.

### Include in Output

Choose which input data to include in the node's output data.

## Node options

Use these options to customize the behavior of the node.

### Include Binary Data

If the input data includes binary data, choose whether to include it in the Edit Fields node's output data.

### Ignore Type Conversion Errors

Manual Mapping only.

Enabling this allows n8n to ignore some data type errors when mapping fields.

### Support Dot Notation

By default, n8n supports dot notation.

For example, when using manual mapping, the node follows the dot notation for the \*\*Name\*\* field. That means if you set the name in the \*\*Name\*\* field as `number.one` and the value in the \*\*Value\*\* field as `20`, the resulting JSON is:

```json

{ "number": { "one": 20} }

```

You can prevent this behavior by selecting \*\*Add Option\*\* > \*\*Support Dot Notation\*\*, and setting the \*\*Dot Notion\*\* field to off. Now the resulting JSON is:

```json

{ "number.one": 20 }

```

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'set') ]]

## Arrays and expressions in JSON Output mode

You can use arrays and expressions when creating your JSON Output.

For example, given this input data generated by the Customer Datastore node:

```json

[

{

"id": "23423532",

"name": "Jay Gatsby",

"email": "gatsby@west-egg.com",

"notes": "Keeps asking about a green light??",

"country": "US",

"created": "1925-04-10"

},

{

"id": "23423533",

"name": "José Arcadio Buendía",

"email": "jab@macondo.co",

"notes": "Lots of people named after him. Very confusing",

"country": "CO",

"created": "1967-05-05"

},

{

"id": "23423534",

"name": "Max Sendak",

"email": "info@in-and-out-of-weeks.org",

"notes": "Keeps rolling his terrible eyes",

"country": "US",

"created": "1963-04-09"

},

{

"id": "23423535",

"name": "Zaphod Beeblebrox",

"email": "captain@heartofgold.com",

"notes": "Felt like I was talking to more than one person",

"country": null,

"created": "1979-10-12"

},

{

"id": "23423536",

"name": "Edmund Pevensie",

"email": "edmund@narnia.gov",

"notes": "Passionate sailor",

"country": "UK",

"created": "1950-10-16"

}

]

```

Add the following JSON in the \*\*JSON Output\*\* field, with \*\*Include in Output\*\* set to \*\*All Input Fields\*\*:

```json

{

"newKey": "new value",

"array": [{{ $json.id }},"{{ $json.name }}"],

"object": {

"innerKey1": "new value",

"innerKey2": "{{ $json.id }}",

"innerKey3": "{{ $json.name }}",

}

}

```

You get this output:

```json

[

{

"id": "23423532",

"name": "Jay Gatsby",

"email": "gatsby@west-egg.com",

"notes": "Keeps asking about a green light??",

"country": "US",

"created": "1925-04-10",

"newKey": "new value",

"array": [

23423532,

"Jay Gatsby"

],

"object": {

"innerKey1": "new value",

"innerKey2": "23423532",

"innerKey3": "Jay Gatsby"

}

},

{

"id": "23423533",

"name": "José Arcadio Buendía",

"email": "jab@macondo.co",

"notes": "Lots of people named after him. Very confusing",

"country": "CO",

"created": "1967-05-05",

"newKey": "new value",

"array": [

23423533,

"José Arcadio Buendía"

],

"object": {

"innerKey1": "new value",

"innerKey2": "23423533",

"innerKey3": "José Arcadio Buendía"

}

},

{

"id": "23423534",

"name": "Max Sendak",

"email": "info@in-and-out-of-weeks.org",

"notes": "Keeps rolling his terrible eyes",

"country": "US",

"created": "1963-04-09",

"newKey": "new value",

"array": [

23423534,

"Max Sendak"

],

"object": {

"innerKey1": "new value",

"innerKey2": "23423534",

"innerKey3": "Max Sendak"

}

},

{

"id": "23423535",

"name": "Zaphod Beeblebrox",

"email": "captain@heartofgold.com",

"notes": "Felt like I was talking to more than one person",

"country": null,

"created": "1979-10-12",

"newKey": "new value",

"array": [

23423535,

"Zaphod Beeblebrox"

],

"object": {

"innerKey1": "new value",

"innerKey2": "23423535",

"innerKey3": "Zaphod Beeblebrox"

}

},

{

"id": "23423536",

"name": "Edmund Pevensie",

"email": "edmund@narnia.gov",

"notes": "Passionate sailor",

"country": "UK",

"created": "1950-10-16",

"newKey": "new value",

"array": [

23423536,

"Edmund Pevensie"

],

"object": {

"innerKey1": "new value",

"innerKey2": "23423536",

"innerKey3": "Edmund Pevensie"

}

}

]

```

## n8n-nodes-base.sort.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sort

description: Documentation for the Sort node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# Sort

Use the Sort node to organize lists of items in a desired ordering, or generate a random selection.

/// note | Array sort behavior

The Sort operation uses the default JavaScript operation where the elements to be sorted are converted into strings and their values compared. Refer to [Mozilla's guide to Array sort](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global\_Objects/Array/sort){:target=\_blank .external-link} to learn more.

///

## Node parameters

Configure this node using the \*\*Type\*\* parameter.

Use the dropdown to select how you want to input the sorting from these options.

### Simple

Performs an ascending or descending sort using the selected fields.

When you select this \*\*Type\*\*:

\* Use the \*\*Add Field To Sort By\*\* button to input the \*\*Field Name\*\*.

\* Select whether to use \*\*Ascending\*\* or \*\*Descending\*\* order.

#### Simple options

When you select \*\*Simple\*\* as the \*\*Type\*\*, you have the option to \*\*Disable Dot Notation\*\*. By default, n8n enables dot notation to reference child fields in the format `parent.child`. Use this option to disable dot notation (turned on) or to continue using dot (turned off).

### Random

Creates a random order in the list.

### Code

Input custom JavaScript code to perform the sort operation. This is a good option if a simple sort won't meet your needs.

Enter your custom JavaScript code in the \*\*Code\*\* input field.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'sort') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/core-nodes/data-transformation-actions/data-section-link.md"

## n8n-nodes-base.splitinbatches.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Loop Over Items (Split in Batches)

description: Documentation for the Loop Over Items node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Loop Over Items

The Loop Over Items node helps you loop through data when needed.

The node saves the original incoming data, and with each iteration, returns a predefined amount of data through the \*\*loop\*\* output.

When the node execution completes, it combines all of the processed data and returns it through the \*\*done\*\* output.

## When to use the Loop Over Items node

By default, n8n nodes are designed to process a list of input items (with some exceptions, detailed below). Depending on what you're trying to achieve, you often don't need the Loop Over Items node in your workflow. You can learn more about how n8n processes multiple items on the [looping in n8n](/flow-logic/looping.md) page.

These links highlight some of the cases where the Loop Over Items node can be useful:

\* [Loop until all items are processed](/flow-logic/looping.md#loop-until-all-items-are-processed): describes how the Loop Over Items node differs from normal item processing and when you might want to incorporate this node.

\* [Node exceptions](/flow-logic/looping.md#node-exceptions): outlines specific cases and nodes where you may need to use the Loop Over Items node to manually build looping logic.

\* [Avoiding rate limiting](/integrations/builtin/rate-limits.md): demonstrates how to batch API requests to avoid rate limits from other services.

## Node parameters

### Batch Size

Enter the number of items to return with each call.

## Node options

### Reset

If turned on, the node will reset with the current input-data newly initialized with each loop. Use this when you want the Loop Over Items node to treat incoming data as a new set of data instead of a continuation of previous items.

For example, you can use the Loop Over Items node with the reset option and an [If node](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) to query a paginated service when you don't know how many pages you need in advance. The loop queries pages one at a time, performs any processing, and increments the page number. The loop reset ensures the loop recognizes each iteration as a new set of data. The If node evaluates an exit condition to decide whether to perform another iteration or not.

/// warning | Include a valid termination condition

For workflows like the example described above, it's critical to include a valid termination condition for the loop. If your termination condition never matches, your workflow execution will get stuck in an infinite loop.

///

When enabled, you can adjust the reset conditions by switching the parameter representation from \*\*Fixed\*\* to \*\*Expression\*\*. The results of your expression evaluation determine when the node will reset item processing.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'split-in-batches') ]]

### Read RSS feed from two different sources

This workflow allows you to read an RSS feed from two different sources using the Loop Over Items node. You need the Loop Over Items node in the workflow as the RSS Feed Read node only processes the first item it receives. You can also find the [workflow](https://n8n.io/workflows/687-read-rss-feed-from-two-different-sources/){:target=\_blank .external-link} on n8n.io.

The example walks through building the workflow, but assumes you are already familiar with n8n. To build your first workflow, including learning how to add nodes to a workflow, refer to [Try it out](/try-it-out/index.md).

The final workflow looks like this:

[[ workflowDemo("file:///integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches/rss-feed-example.json") ]]

Copy the workflow file above and paste into your instance, or manually build it by following these steps:

1. Add the manual trigger.

2. Add the Code node.

3. Copy this code into the Code node:

```js

return [

{

json: {

url: 'https://medium.com/feed/n8n-io',

}

},

{

json: {

url: 'https://dev.to/feed/n8n',

}

}

];

```

4. Add the Loop Over Items node.

5. Configure Loop Over Items: set the batch size to `1` in the \*\*Batch Size\*\* field.

6. Add the RSS Feed Read node.

7. Select \*\*Test Workflow\*\*. This runs the workflow to load data into the RSS Feed Read node.

8. Configure RSS Feed Read: map `url` from the input to the \*\*URL\*\* field. You can do this by dragging and dropping from the \*\*INPUT\*\* panel, or using this expression: `{{ $json.url }}`.

9. Select \*\*Test Workflow\*\* to run the workflow and see the resulting data.

### Check that the node has processed all items

To check if the node still has items to process, use the following expression: `{{$node["Loop Over Items"].context["noItemsLeft"]}}`. This expression returns a boolean value. If the node still has data to process, the expression returns `false`, otherwise it returns `true`.

### Get the current running index of the node

To get the current running index of the node, use the following expression: `{{$node["Loop Over Items"].context["currentRunIndex"];}}`.

## n8n-nodes-base.splitout.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Split Out

description: Documentation for the Split Out node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Split Out

Use the Split Out node to separate a single data item containing a list into multiple items. For example, a list of customers, and you want to split them so that you have an item for each customer.

## Node parameters

Configure this node using the following parameters.

### Field to Split Out

Enter the field containing the list you want to separate out into individual items.

If you're working with binary data inputs, use `$binary` in an expression to set the field to split out.

### Include

Select whether and how you want n8n to keep any other fields from the input data with each new individual item.

You can select:

\* \*\*No Other Fields\*\*: No other fields will be included.

\* \*\*All Other Fields\*\*: All other fields will be included.

\* \*\*Selected Other Fields\*\*: Only the selected fields will be included.

\* \*\*Fields to Include\*\*: Enter a comma separated list of the fields you want to include.

## Node options

### Disable Dot Notation

By default, n8n enables dot notation to reference child fields in the format `parent.child`. Use this option to disable dot notation (turned on) or to continue using dot (turned off).

### Destination Field Name

Enter the field in the output where the split field contents should go.

### Include Binary

Choose whether to include binary data from the input in the new output (turned on) or not (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'split-out') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/core-nodes/data-transformation-actions/data-section-link.md"

## n8n-nodes-base.ssetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SSE Trigger node documentation

description: Learn how to use the SSE Trigger node in n8n. Follow technical documentation to integrate SSE Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# SSE Trigger node

Server-Sent Events (SSE) is a server push technology enabling a client to receive automatic updates from a server using HTTP connection. The SSE Trigger node is used to receive server-sent events.

## Node parameters

The SSE Trigger node has one parameter, the \*\*URL\*\*. Enter the URL from which to receive the server-sent events (SSE).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'sse-trigger') ]]

## n8n-nodes-base.ssh.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SSH

description: Documentation for the SSH node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# SSH

The SSH node is useful for executing commands using the Secure Shell Protocol.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/ssh.md).

///

## Operations

- [\*\*Execute\*\* a command](#execute-command)

- [\*\*Download\*\* a file](#download-file)

- [\*\*Upload\*\* a file](#upload-file)

/// note | Uploading files

To attach a file for upload, you will need to use an extra node such as the [Read/Write Files from Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node or the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node to pass the file as a data property.

///

### Execute Command

Configure this operation with these parameters:

- \*\*Credential to connect with\*\*: Select an existing or create a new [SSH credential](/integrations/builtin/credentials/ssh.md) to connect with.

- \*\*Command\*\*: Enter the command to execute on the remote device.

- \*\*Working Directory\*\*: Enter the directory where n8n should execute the command.

### Download File

- \*\*Credential to connect with\*\*: Select an existing or create a new [SSH credential](/integrations/builtin/credentials/ssh.md) to connect with.

- \*\*Path\*\*: Enter the path for the file you want to download. This path must include the file name. The downloaded file will use this file name. To use a different name, use the \*\*File Name\*\* option. Refer to [Download File options](#download-file-options) for more information.

- \*\*File Property\*\*: Enter the name of the object property that holds the binary data you want to download.

#### Download File options

You can further configure this operation with the \*\*File Name\*\* option. Use this option to override the binary data file name to a name of your choice.

### Upload File

- \*\*Credential to connect with\*\*: Select an existing or create a new [SSH credential](/integrations/builtin/credentials/ssh.md) to connect with.

- \*\*Input Binary Field\*\*: Enter the name of the input binary field that contains the file you want to upload.

- \*\*Target Directory\*\*: The directory to upload the file to. The name of the file is taken from the binary data file name. To enter a different name, use the \*\*File Name\*\* option. Refer to [Upload File options](#upload-file-options) for more information.

#### Upload File options

You can further configure this operation with the \*\*File Name\*\* option. Use this option to override the binary data file name to a name of your choice.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'ssh') ]]

## n8n-nodes-base.stopanderror.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Stop And Error

description: Documentation for the Stop And Error node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Stop And Error

Use the Stop And Error node to display custom error messages, cause executions to fail under certain conditions, and send custom error information to error workflows.

## Operations

\* Error Message

\* Error Object

## Node parameters

Both operations include one node parameter, the \*\*Error Type\*\*. Use this parameter to select the type of error to throw. Choose between the two operations: \*\*Error Message\*\* and \*\*Error Object\*\*.

The other parameters depend on which operation you select.

### Error Message parameters

The Error Message Error Type adds one parameter, the \*\*Error Message\*\* field. Enter the message you'd like to throw.

### Error Object parameters

The Error Object Error Type adds one parameter, the \*\*Error Object\*\*. Enter a JSON object that contains the error properties you'd like to throw.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'stop-and-error') ]]

## Related resources

You can use the Stop And Error node with the [Error trigger](/integrations/builtin/core-nodes/n8n-nodes-base.errortrigger.md) node.

Read more about [Error workflows](/flow-logic/error-handling.md) in n8n workflows.

## n8n-nodes-base.summarize.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Summarize

description: Documentation for the Summarize node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Summarize

Use the Summarize node to aggregate items together, in a manner similar to Excel pivot tables.

## Node parameters

### Fields to Summarize

Use these fields to define how you want to summarize your input data.

\* \*\*Aggregation\*\*: Select the aggregation method to use on a given field. Options include:

\* \*\*Append\*\*: Append

\* If you select this option, decide whether you want to \*\*Include Empty Values\*\* or not.

\* \*\*Average\*\*: Calculate the numeric average of your input data.

\* \*\*Concatenate\*\*: Combine together values in your input data.

\* If you select this option, decide whether you want to \*\*Include Empty Values\*\* or not.

\* \*\*Separator\*\*: Select the separator you want to insert between concatenated values.

\* \*\*Count\*\*: Count the total number of values in your input data.

\* \*\*Count Unique\*\*: Count the number of unique values in your input data.

\* \*\*Max\*\*: Find the highest numeric value in your input data.

\* \*\*Min\*\*: Find the lowest numeric value in your input data.

\* \*\*Sum\*\*: Add together the numeric values in your input data.

\* \*\*Field\*\*: Enter the name of the field you want to perform the aggregation on.

### Fields to Split By

Enter the name of the input fields that you want to split the summary by (similar to a group by statement). This allows you to get separate summaries based on values in other fields.

For example, if our input data contains columns for `Sales Rep` and `Deal Amount` and we're performing a \*\*Sum\*\* on the `Deal Amount` field, we could split by `Sales Rep` to get a \*\*Sum\*\* total for each Sales Rep.

To enter multiple fields to split by, enter a comma-separated list.

## Node options

### Continue if Field Not Found

By default, if a \*\*Field to Summarize\*\* isn't in any items, the node throws an error. Use this option to continue and return a single empty item (turned on) instead or keep the default error behavior (turned off).

### Disable Dot Notation

By default, n8n enables dot notation to reference child fields in the format `parent.child`. Use this option to disable dot notation (turned on) or to continue using dot (turned off).

### Output Format

Select the format for your output format. This option is recommended if you're using \*\*Fields to Split By\*\*

\* \*\*Each Split in a Separate Item\*\*: Use this option to generate a separate output item for each split out field.

\* \*\*All Splits in a Single Item\*\*: Use this option to generate a single item that lists the split out fields.

## Ignore items without valid fields to group by

Set whether to ignore input items that don't contain the \*\*Fields to Split By\*\* (turned on) or not (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'summarize') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/core-nodes/data-transformation-actions/data-section-link.md"

## n8n-nodes-base.switch.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Switch

description: Documentation for the Switch node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Switch

Use the Switch node to route a workflow conditionally based on comparison operations. It's similar to the [IF](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) node, but supports multiple output routes.

## Node parameters

Select the \*\*Mode\*\* the node should use:

\* \*\*Rules\*\*: Select this mode to build a matching rule for each output.

\* \*\*Expression\*\*: Select this mode to write an expression to return the output index programmatically.

Node configuration depends on the \*\*Mode\*\* you select.

### Rules

To configure the node with this operation, use these parameters:

\* Create \*\*Routing Rules\*\* to define comparison conditions.

\* Use the data type dropdown to select the data type and comparison operation type for your condition. For example, to create a rules for dates after a particular date, select \*\*Date & Time > is after\*\*.

\* The fields and values to enter into the condition change based on the data type and comparison you select. Refer to [Available data type comparisons](#available-data-type-comparisons) for a full list of all comparisons by data type.

\* \*\*Rename Output\*\*: Turn this control on to rename the output field to put matching data into. Enter your desired \*\*Output Name\*\*.

Select \*\*Add Routing Rule\*\* to add more rules.

#### Rule options

You can further configure the node with this operation using these \*\*Options\*\*:

- \*\*Fallback Output\*\*: Choose how to route the workflow when an item doesn't match any of the rules or conditions.

- \*\*None\*\*: Ignore the item. This is the default behavior.

- \*\*Extra Output\*\*: Send items to an extra, separate output.

- \*\*Output 0\*\*: Send items to the same output as those matching the first rule.

- \*\*Ignore Case\*\*: Set whether to ignore letter case when evaluating conditions (turned on) or enforce letter case (turned off).

- \*\*Less Strict Type Validation\*\*: Set whether you want n8n to attempt to convert value types based on the operator you choose (turned on) or not (turned off).

- \*\*Send data to all matching outputs\*\*: Set whether to send data to all outputs meeting conditions (turned on) or whether to send the data to the first output matching the conditions (turned off).

### Expression

To configure the node with this operation, use these parameters:

- \*\*Number of Outputs\*\*: Set how many outputs the node should have.

- \*\*Output Index\*\*: Create an expression to calculate which input item should be routed to which output. The expression must return a number.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'switch') ]]

## Related resources

Refer to [Splitting with conditionals](/flow-logic/splitting.md) for more information on using conditionals to create complex logic in n8n.

--8<-- "\_snippets/integrations/builtin/core-nodes/data-types.md"

## n8n-nodes-base.totp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TOTP

description: Documentation for the TOTP node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

---

# TOTP

The TOTP node provides a way to generate a TOTP (time-based one-time password).

/// note | Credentials

Refer to [TOTP credentials](/integrations/builtin/credentials/totp.md) for guidance on setting up authentication.

///

## Node parameters

--8<-- "\_snippets/integrations/builtin/app-nodes/ai-tools.md"

Configure this node with these parameters.

### Credential to connect with

Select or create a [TOTP credential](/integrations/builtin/credentials/totp.md) for the node to use.

### Operation

\*\*Generate Secret\*\* is the only operation currently supported.

## Node options

Use these \*\*Options\*\* to further configure the node.

### Algorithm

Select the HMAC hashing algorithm to use. Default is SHA1.

### Digits

Enter the number of digits in the generated code. Default is `6`.

### Period

Enter how many seconds the TOTP is valid for. Default is `30`.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'totp') ]]

## n8n-nodes-base.wait.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wait

description: Documentation for the Wait node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

---

# Wait

Use the Wait node pause your workflow's execution. When the workflow pauses it offloads the execution data to the database. When the resume condition is met, the workflow reloads the data and the execution continues.

## Operations

The Wait node can \*\*Resume\*\* on the following conditions:

\* [\*\*After Time Interval\*\*](#after-time-interval): The node waits for a certain amount of time.

\* [\*\*At Specified Time\*\*](#at-specified-time): The node waits until a specific time.

\* [\*\*On Webhook Call\*\*](#on-webhook-call): The node waits until it receives an HTTP call.

\* [\*\*On Form Submitted\*\*](#on-form-submitted): The node waits until it receives a form submission.

Refer to the more detailed sections below for more detailed instructions.

### After Time Interval

Wait for a certain amount of time.

This parameter includes two more fields:

\* \*\*Wait Amount\*\*: Enter the amount of time to wait.

\* \*\*Wait Unit\*\*: Select the unit of measure for the \*\*Wait Amount\*\*. Choose from:

\* \*\*Seconds\*\*

\* \*\*Minutes\*\*

\* \*\*Hours\*\*

\* \*\*Days\*\*

Refer to [Time-based operations](#time-based-operations) for more detail on how these intervals work and the timezone used.

### At Specified Time

Wait until a specific date and time to continue. Use the date and time picker to set the \*\*Date and Time\*\*.

Refer to [Time-based operations](#time-based-operations) for more detail on the timezone used.

### On Webhook Call

This parameter enables your workflows to resume when the Wait node receives an HTTP call.

The webhook URL that resumes the execution when called is generated at runtime. The Wait node provides the `$execution.resumeUrl` variable so that you can reference and send the yet-to-be-generated URL wherever needed, for example to a third-party service or in an email.

When the workflow executes, the Wait node generates the resume URL and the webhook(s) in your workflow using the `$execution.resumeUrl`. This generated URL is unique to each execution, so your workflow can contain multiple Wait nodes and as the webhook URL is called it will resume each Wait node sequentially.

For this \*\*Resume\*\* style, set more parameters listed below.

#### Authentication

Select if and how incoming resume-webhook-requests to `$execution.resumeUrl` should be authenticated. Options include:

\* \*\*Basic Auth\*\*: Use basic authentication. Select or enter a new \*\*Credential for Basic Auth\*\* to use.

\* \*\*Header Auth\*\*: Use header authentication. Select or enter a new \*\*Credential for Header Auth\*\* to use.

\* \*\*JWT Auth\*\*: Use JWT authentication. Select or enter a new \*\*Credential for JWT Auth\*\* to use.

\* \*\*None\*\*: Don't use authentication.

/// note | Auth reference

Refer to the [Webhook node | Authentication documentation](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md#supported-authentication-methods) for more information on each auth type.

///

#### HTTP Method

Select the HTTP method the webhook should use. Refer to the [Webhook node | HTTP Method documentation](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md#http-method) for more information.

#### Response Code

Enter the Response Code the webhook should return. You can use common codes or enter a custom code.

#### Respond

Set when and how to respond to the webhook from these options:

\* \*\*Immediately\*\*: Respond as soon as the node executes.

\* \*\*When Last Node Finishes\*\*: Return the response code and the data output from the last node executed in the workflow. If you select this option, also set:

\* \*\*Response Data\*\*: Select what data should be returned and what format to use. Options include:

\* \*\*All Entries\*\*: Returns all the entries of the last node in an array.

\* \*\*First Entry JSON\*\*: Return the JSON data of the first entry of the last node in a JSON object.

\* \*\*First Entry Binary\*\*: Return the binary data of the first entry of the last node in a binary file.

\* \*\*No Response Body\*\*: Return with no body.

\* \*\*Using 'Respond to Webhook' Node\*\*: Respond as defined in the [Respond to Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.respondtowebhook.md) node.

#### Limit Wait Time

Set whether the workflow will automatically resume execution after a specific limit type (turned on) or not (turned off). If turned on, also set:

\* \*\*Limit Type\*\*: Select what type of limit to enforce from these options:

\* \*\*After Time Interval\*\*: Wait for a certain amount of time.

\* Enter the limit's \*\*Amount\*\* of time.

\* Select the limit's \*\*Unit\*\* of time.

\* \*\*At Specified Time\*\*: Wait until a specific date and time to resume.

\* \*\*Max Date and Time\*\*: Use the date and time picker to set the specified time the node should resume.

#### On Webhook Call options

\* \*\*Binary Property\*\*: Enter the name of the binary property to write the data of the received file to. This option's only relevant if binary data is received.

\* \*\*Ignore Bots\*\*: Set whether to ignore requests from bots like link previewers and web crawlers (turned on) or not (turned off).

\* \*\*IP(s) Whitelist\*\*: Enter IP addresses here to limit who (or what) can invoke the webhook URL. Enter a comma-separated list of allowed IP addresses. Access from IPs outside the whitelist throws a 403 error. If left blank, all IP addresses can invoke the webhook URL.

\* \*\*No Response Body\*\*: Set whether n8n should send a body in the response (turned off) or prevent n8n from sending a body in the response (turned on).

\* \*\*Raw Body\*\*: Set whether to return the body in a raw format like JSON or XML (turned on) or not (turned off).

\* \*\*Response Data\*\*: Enter any custom data you want to send in the response.

\* \*\*Response Headers\*\*: Send more headers in the webhook response. Refer to [MDN Web Docs | Response header](https://developer.mozilla.org/en-US/docs/Glossary/Response\_header){:target=\_blank .external-link} to learn more about response headers.

\* \*\*Webhook Suffix\*\*: Enter a suffix to append to the resume URL. This is useful for creating unique webhook URLs for each Wait node when a workflow contains multiple Wait nodes. Note that the generated `$resumeWebhookUrl` won't automatically include this suffix, you must manually append it to the webhook URL before exposing it.

#### On Webhook Call limitations

There are some limitations to keep in mind when using On Webhook Call:

\* Partial executions of your workflow changes the `$resumeWebhookUrl`, so be sure that the node sending this URL to your desired third-party runs in the same execution as the Wait node.

### On Form Submitted

Wait for a form submission before continuing. Set up these parameters:

#### Form Title

Enter the title to display at the top of the form.

#### Form Description

Enter a form description to display beneath the title. This description can help prompt the user on how to complete the form.

#### Form Fields

Set up each field you want to appear on your form using these parameters:

\* \*\*Field Label\*\*: Enter the field label you want to appear in the form.

\* \*\*Field Type\*\*: Select the type of field to display in the form. Choose from:

\* \*\*Date\*\*

\* \*\*Dropdown List\*\*: Enter each dropdown options in the \*\*Field Options\*\*.

\* \*\*Multiple Choice\*\*: Select whether the user can select a single dropdown option (turned off) or multiple dropdown options (turned on)

\* \*\*Number\*\*

\* \*\*Password\*\*

\* \*\*Text\*\*

\* \*\*Textarea\*\*

\* \*\*Required Field\*\*: Set whether the user must complete this field in order to submit the form (turned on) or if the user can submit the form without completing it (turned off).

#### Respond When

Set when to respond to the form submission. Choose from:

\* \*\*Form Is Submitted\*\*: Respond as soon as this node receives the form submission.

\* \*\*Workflow Finishes\*\*: Respond when the last node of this workflow finishes.

\* \*\*Using 'Respond to Webhook' Node\*\*: Respond when the [Respond to Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.respondtowebhook.md) node executes.

#### Limit Wait Time

Set whether the workflow will automatically resume execution after a specific limit type (turned on) or not (turned off).

If turned on, also set:

\* \*\*Limit Type\*\*: Select what type of limit to enforce from these options:

\* \*\*After Time Interval\*\*: Wait for a certain amount of time.

\* Enter the limit's \*\*Amount\*\* of time.

\* Select the limit's \*\*Unit\*\* of time.

\* \*\*At Specified Time\*\*: Wait until a specific date and time to resume.

\* \*\*Max Date and Time\*\*: Use the date and time picker to set the specified time the node should resume.

#### On Form Response options

\* \*\*Form Response\*\*: Choose how and what you want the form to \*\*Respond With\*\* from these options:

\* \*\*Form Submitted Text\*\*: The form displays whatever text is entered in \*\*Text to Show\*\* after a user fills out the form. Use this option if you want to display a confirmation message.

\* \*\*Redirect URL\*\*: The form will redirect the user to the \*\*URL to Redirect to\*\* after they fill out the form. This must be a valid URL.

\* \*\*Webhook Suffix\*\*: Enter a suffix to append to the resume URL. This is useful for creating unique webhook URLs for each Wait node when a workflow contains multiple Wait nodes. Note that the generated `$resumeWebhookUrl` won't automatically include this suffix, you must manually append it to the webhook URL before exposing it.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'wait') ]]

## Time-based operations

For the time-based resume operations, note that:

\* For wait times less than 65 seconds, the workflow doesn't offload execution data to the database. Instead, the process continues to run and the execution resumes after the specified interval passes.

\* The n8n server time is always used regardless of the timezone setting. Workflow timezone settings, and any changes made to them, don't affect the Wait node interval or specified time.

## n8n-nodes-base.workflowtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Workflow Trigger node documentation

description: Learn how to use the Workflow Trigger node in n8n. Follow technical documentation to integrate Workflow Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# Workflow Trigger node

The Workflow Trigger node gets triggered when a workflow is updated or activated.

/// warning | Deprecated

n8n has deprecated the Workflow Trigger node and moved its functionality to the [n8n Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.n8ntrigger.md).

///

/// note | Keep in mind

If you want to use the Workflow Trigger node for a workflow, add the node to the workflow. You don't have to create a separate workflow.

///

The Workflow Trigger node gets triggered for the workflow that it gets added to. You can use the Workflow Trigger node to trigger a workflow to notify the state of the workflow.

## Node parameters

The node includes a single parameter to identify the \*\*Events\*\* that should trigger it. Choose from these events:

- \*\*Active Workflow Updated\*\*: If you select this event, the node triggers when this workflow is updated.

- \*\*Workflow Activated\*\*: If you select this event, the node triggers when this workflow is activated.

You can select one or both of these events.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'workflow-trigger') ]]

## n8n-nodes-base.xml.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: XML

description: Documentation for the XML node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: medium

---

# XML

Use the XML node to convert data from and to XML.

/// note | Binary files

If your XML is within a binary file, use the [Extract from File](/integrations/builtin/core-nodes/n8n-nodes-base.extractfromfile.md) node to convert it to text first.

///

## Node parameters

- \*\*Mode\*\*: The format the data should be converted from and to.

- \*\*JSON to XML\*\*: Converts data from JSON to XML.

- \*\*XML to JSON\*\*: Converts data from XML to JSON.

- \*\*Property Name\*\*: Enter the name of the property which contains the data to convert.

## Node options

These options are available regardless of the \*\*Mode\*\* you select:

- \*\*Attribute Key\*\*: Enter the prefix used to access the attributes. Default is `$`.

- \*\*Character Key\*\*: Enter the prefix used to access the character content. Default is `\_`.

All other options depend on the selected \*\*Mode\*\*.

### JSON to XML options

These options only appear if you select \*\*JSON to XML\*\* as the \*\*Mode\*\*:

- \*\*Allow Surrogate Chars\*\*: Set whether to allow using characters from the Unicode surrogate blocks (turned on) or not (turned off).

- \*\*Cdata\*\*: Set whether to wrap text nodes in `<![CDATA[ ... ]]>` instead of escaping when it's required (turned on) or not (turned off).

\* Turning this option on doesn't add `<![CDATA[ ... ]]>` if it's not required.

- \*\*Headless\*\*: Set whether to omit the XML header (turned on) or include it (turned off).

- \*\*Root Name\*\*: Enter the root element name to use.

### XML to JSON options

These options only appear if you select \*\*XML to JSON\*\* as the \*\*Mode\*\*:

- \*\*Explicit Array\*\*: Set whether to put child nodes in an array (turned on) or create an array only if there's more than one child node (turned off).

- \*\*Explicit Root\*\*: Set whether to get the root node in the resulting object (turned on) or not (turned off).

- \*\*Ignore Attributes\*\*: Set whether to ignore all XML attributes and only create text nodes (turned on) or not (turned off).

- \*\*Merge Attributes\*\*: Set whether to merge attributes and child elements as properties of the parent (turned on) or key attributes off a child attribute object (turned off). This option is ignored if \*\*Ignore Attribute\*\* is turned on.

- \*\*Normalize\*\*: Set whether to trim whitespaces inside the text nodes (turned on) or not to trim them (turned off).

- \*\*Normalize Tags\*\*: Set whether to normalize all tag names to lowercase (turned on) or keep tag names as-is (turned off).

- \*\*Trim\*\*: Set whether to trim the whitespace at the beginning and end of text nodes (turned on) or to leave the whitespace as-is (turned off).

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'xml') ]]

## n8n-nodes-langchain.mcptrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MCP Server Trigger node documentation

description: Learn how to use the MCP Server Trigger node in n8n. Follow technical documentation to integrate the MCP Server Trigger node into your workflows.

contentType: [integration, reference]

---

# MCP Server Trigger node

Use the MCP Server Trigger node to allow n8n to act as a [Model Context Protocol (MCP)](https://modelcontextprotocol.io/introduction) server, making n8n tools and workflows available to MCP clients.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/httprequest.md).

///

## How the MCP Server Trigger node works

The MCP Server Trigger node acts as an entry point into n8n for MCP clients. It operates by exposing a URL that MCP clients can interact with to access n8n tools.

Unlike conventional [trigger nodes](/glossary.md#trigger-node-n8n), which respond to events and pass their output to the next [connected node](/workflows/components/connections.md), the MCP Server Trigger node only connects to and executes [tool](/advanced-ai/examples/understand-tools.md) nodes. Clients can list the available tools and call individual tools to perform work.

You can expose n8n workflows to clients by attaching them with the [Custom n8n Workflow Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md) node.

/// note | Server-Sent Events (SSE) and streamable HTTP support

The MCP Server Trigger node supports both [Server-Sent Events (SSE)](https://modelcontextprotocol.io/docs/concepts/transports#server-sent-events-sse), a long-lived transport built on top of HTTP, and [streamable HTTP](https://modelcontextprotocol.io/specification/2025-03-26/basic/transports#streamable-http) for connections between clients and the server. It currently doesn't support [standard input/output (stdio)](https://modelcontextprotocol.io/docs/concepts/transports#standard-input%2Foutput-stdio) transport.

///

## Node parameters

Use these parameters to configure your node.

### MCP URL

The MCP Server Trigger node has two \*\*MCP URLs\*\*: test and production. n8n displays the URLs at the top of the node panel.

Select \*\*Test URL\*\* or \*\*Production URL\*\* to toggle which URL n8n displays.

\* \*\*Test\*\*: n8n registers a test MCP URL when you select \*\*Listen for Test Event\*\* or \*\*Execute workflow\*\*, if the workflow isn't active. When you call the MCP URL, n8n displays the data in the workflow.

\* \*\*Production\*\*: n8n registers a production MCP URL when you activate the workflow. When using the production URL, n8n doesn't display the data in the workflow. You can still view workflow data for a production execution: select the \*\*Executions\*\* tab in the workflow, then select the workflow execution you want to view.

### Authentication

You can require authentication for clients connecting to your MCP URL. Choose from these authentication methods:

- Bearer auth

- Header auth

Refer to the [HTTP request credentials](/integrations/builtin/credentials/httprequest.md) for more information on setting up each credential type.

### Path

By default, this field contains a randomly generated MCP URL path, to avoid conflicts with other MCP Server Trigger nodes.

You can manually specify a URL path, including adding route parameters. For example, you may need to do this if you use n8n to prototype an API and want consistent endpoint URLs.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'mcp-server-trigger') ]]

### Integrating with Claude Desktop

You can connect to the MCP Server Trigger node from [Claude Desktop](https://claude.ai/download) by running a gateway to proxy SSE messages to stdio-based servers.

To do so, add the following to your Claude Desktop configuration:

```json

{

"mcpServers": {

"n8n": {

"command": "npx",

"args": [

"mcp-remote",

"<MCP\_URL>",

"--header",

"Authorization: Bearer ${AUTH\_TOKEN}"

],

"env": {

"AUTH\_TOKEN": "<MCP\_BEARER\_TOKEN>"

}

}

}

}

```

Be sure to replace the `<MCP\_URL>` and `<MCP\_BEARER\_TOKEN>` placeholders with the values from your MCP Server Trigger node parameters and credentials.

## Limitations

### Configuring the MCP Server Trigger node with webhook replicas

The MCP Server Trigger node relies on Server-Sent Events (SSE) or streamable HTTP, which require the same server instance to handle persistent connections. This can cause problems when running n8n in [queue mode](/hosting/scaling/queue-mode.md) depending on your [webhook processor](/hosting/scaling/queue-mode.md#webhook-processors) configuration:

\* If you use queue mode with a \*\*single webhook replica\*\*, the MCP Server Trigger node works as expected.

\* If you run \*\*multiple webhook replicas\*\*, you need to route all `/mcp\*` requests to a single, dedicated webhook replica. Create a separate replica set with one webhook container for MCP requests. Afterward, update your ingress or load balancer configuration to direct all `/mcp\*` traffic to that instance.

/// warning | Caution when running with multiple webhook replicas

If you run an MCP Server Trigger node with multiple webhook replicas and don't route all `/mcp\*` requests to a single, dedicated webhook replica, your SSE and streamable HTTP connections will frequently break or fail to reliably deliver events.

///

## Related resources

n8n also provides an [MCP Client Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolmcp.md) node that allows you to connect your n8n AI agents to external tools.

Refer to the [MCP documentation](https://modelcontextprotocol.io/introduction) and [MCP specification](https://modelcontextprotocol.io/specification/) for more details about the protocol, servers, and clients.

## Common issues

Here are some common errors and issues with the MCP Server Trigger node and steps to resolve or troubleshoot them.

### Running the MCP Server Trigger node with a reverse proxy

When running n8n behind a reverse proxy like nginx, you may experience problems if the MCP endpoint isn't configured for SSE or streamable HTTP.

Specifically, you need to disable proxy buffering for the endpoint. Other items you might want to adjust include disabling gzip compression (n8n handles this itself), disabling chunked transfer encoding, and setting the `Connection` to an empty string to remove it from the forwarded headers. Explicitly disabling these in the MCP endpoint ensures they're not inherited from other places in your nginx configuration.

An example nginx location block for serving MCP traffic with these settings may look like this:

```

location /mcp/ {

proxy\_http\_version 1.1;

proxy\_buffering off;

gzip off;

chunked\_transfer\_encoding off;

proxy\_set\_header Connection '';

# The rest of your proxy headers and settings

# . . .

}

```

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Code node common issues

description: Documentation for common issues and questions in the Code node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Code node common issues

Here are some common errors and issues with the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) and steps to resolve or troubleshoot them.

<!-- vale off -->

## Code doesn't return items properly

<!-- vale on -->

This error occurs when the code in your Code node doesn't return data in the expected format.

In n8n, all data passed between nodes is an array of objects. Each of these objects wraps another object with the `json` key:

```javascript

[

{

"json": {

// your data goes here

}

}

]

```

To troubleshoot this error, check the following:

\* Read the [data structure](/data/data-structure.md) to understand the data you receive in the Code node and the requirements for outputting data from the node.

\* Understand how data items work and how to connect data items from previous nodes with [item linking](/data/data-mapping/data-item-linking/index.md).

<!-- vale off -->

## A 'json' property isn't an object

<!-- vale on -->

This error occurs when the Code node returns data where the `json` key isn't pointing to an object.

This may happen if you set `json` to a different data structure, like an array:

```javascript

[

{

"json": [

// Setting `json` to an array like this will produce an error

]

}

]

```

To resolve this, ensure that the `json` key references an object in your return data:

```javascript

[

{

"json": {

// Setting `json` to an object as expected

}

}

]

```

## Code doesn't return an object

This error may occur when your Code node doesn't return anything or if it returns an unexpected result.

To resolve this, ensure that your Code node returns the [expected data structure](/data/data-structure.md):

```javascript

[

{

"json": {

// your data goes here

}

}

]

```

This error may also occur if the code you provided returns `'undefined'` instead of the expected result. In that case, ensure that the data you are referencing in your Code node exists in each execution and that it has the structure your code expects.

## 'import' and 'export' may only appear at the top level

This error occurs if you try to use `import` or `export` in the Code node. These aren't supported by n8n's JavaScript sandbox. Instead, use the `require` function to load modules.

To resolve this issue, try changing your `import` statements to use `require`:

```javascript

// Original code:

// import express from "express";

// New code:

const express = require("express");

```

<!-- vale off -->

## Cannot find module '&lt;module&gt;'

<!-- vale on -->

This error occurs if you try to use `require` in the Code node and n8n can't find the module.

/// warning | Only for self-hosted

n8n doesn't support importing modules in the [Cloud](/manage-cloud/overview.md) version.

///

If you're [self-hosting](/hosting/index.md) n8n, follow these steps:

\* Install the module into your n8n environment.

\* If you are running n8n with [npm](/hosting/installation/npm.md), install the module in the same environment as n8n.

\* If you are running n8n with [Docker](/hosting/installation/docker.md), you need to extend the official n8n image with a [custom image](https://docs.docker.com/build/building/base-images/){:target=\_blank .external-link} that includes your module.

\* Set the `NODE\_FUNCTION\_ALLOW\_BUILTIN` and `NODE\_FUNCTION\_ALLOW\_EXTERNAL` [environment variables](/hosting/configuration/configuration-examples/modules-in-code-node.md) to allow importing modules.

## Using global variables

Sometimes you may wish to set and retrieve simple global data related to a workflow across and within executions. For example, you may wish to include the date of the previous report when compiling a report with a list of project updates.

To set, update, and retrieve data directly to a workflow, use the [static data](/code/cookbook/builtin/get-workflow-static-data.md) functions within your code. You can manage data either globally or tied to specific nodes.

/// info | Use Remove Duplicates when possible

If you're interested in using variables to avoid processing the same data items more than once, consider using the [Remove Duplicates node](/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates/index.md) instead. The Remove Duplicates node can save information across executions to avoid processing the same items multiple times.

///

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Code node documentation

description: Documentation for the Code node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: critical

tags:

- code node

- code

hide:

- tags

search:

boost: 1.5

---

# Code node

--8<-- "\_snippets/integrations/builtin/core-nodes/code-node.md"

## Common issues

For common questions or issues and suggested solutions, refer to [Common Issues](/integrations/builtin/core-nodes/n8n-nodes-base.code/common-issues.md).

## keyboard-shortcuts.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

title: Code editor keyboard shortcuts

description: A list of the keyboard shortcuts, for multiple platforms, which are supported by the Code node editor.

priority: high

---

# Keyboard shortcuts when using the Code editor

The Code node editing environment supports a range of keyboard shortcuts to speed up and enhance your experience. Select the appropriate tab to see the relevant shortcuts for your operating system.

## Cursor Movement

=== "Windows"

| Action | Shortcut |

|---------------------------|----------------------------------|

| Move cursor left | ++left++ |

| Move cursor right | ++right++ |

| Move cursor up | ++up++ |

| Move cursor down | ++down++ |

| Move cursor by word left | ++control+left++ |

| Move cursor by word right | ++control+right++ |

| Move to line start | ++home++ \*\*or\*\* ++control+left++ |

| Move to line end | ++end++ or ++control+right++ |

| Move to document start | ++control+home++ |

| Move to document end | ++control+end++ |

| Move page up | ++page-up++ |

| Move page down | ++page-down++ |

=== "macOS"

| Action | Shortcut |

|---------------------------|----------------------------------------|

| Move cursor left | ++left++ \*\*or\*\* ++control+b++ |

| Move cursor right | ++right++ \*\*or\*\* ++control+f++ |

| Move cursor up | ++up++ \*\*or\*\* ++control+p++ |

| Move cursor down | ++down++ \*\*or\*\* ++control+n++ |

| Move cursor by word left | ++option+left++ |

| Move cursor by word right | ++option+right++ |

| Move to line start | ++command+left++ \*\*or\*\* ++control+a++ |

| Move to line end | ++command+right++ \*\*or\*\* ++control+e++ |

| Move to document start | ++command+up++ |

| Move to document end | ++command+down++ |

| Move page up | ++page-up++ \*\*or\*\* ++option+v++ |

| Move page down | ++page-down++ \*\*or\*\* ++control+v++ |

=== "Linux"

| Action | Shortcut |

|---------------------------|----------------------------------|

| Move cursor left | ++left++ |

| Move cursor right | ++right++ |

| Move cursor up | ++up++ |

| Move cursor down | ++down++ |

| Move cursor by word left | ++control+left++ |

| Move cursor by word right | ++control+right++ |

| Move to line start | ++home++ \*\*or\*\* ++control+left++ |

| Move to line end | ++end++ or ++control+right++ |

| Move to document start | ++control+home++ |

| Move to document end | ++control+end++ |

| Move page up | ++page-up++ |

| Move page down | ++page-down++ |

## Selection

=== "Windows"

| Action | Shortcut |

|---------------------------------|-----------------------------|

| Selection with any movement key | ++shift++ + [Movement Key] |

| Select all | ++control+a++ |

| Select line | ++control+l++ |

| Select next occurrence | ++control+d++ |

| Select all occurrences | ++shift+control+l++ |

| Go to matching bracket | ++shift+control+backslash++ |

=== "macOS"

| Action | Shortcut |

|---------------------------------|-----------------------------|

| Selection with any movement key | ++shift++ + [Movement Key] |

| Select all | ++command+a++ |

| Select line | ++command+l++ |

| Select next occurrence | ++command+d++ |

| Go to matching bracket | ++shift+command+backslash++ |

=== "Linux"

| Action | Shortcut |

|---------------------------------|-----------------------------|

| Selection with any movement key | ++shift++ + [Movement Key] |

| Select all | ++control+a++ |

| Select line | ++control+l++ |

| Select next occurrence | ++control+d++ |

| Select all occurrences | ++shift+control+l++ |

| Go to matching bracket | ++shift+control+backslash++ |

## Basic Operations

=== "Windows"

| Action | Shortcut |

|---------------------------|------------------------------------------|

| New line with indentation | ++enter++ |

| Undo | ++control+z++ |

| Redo | ++control+y++ \*\*or\*\* ++control+shift+z++ |

| Undo selection | ++control+u++ |

| Copy | ++control+c++ |

| Cut | ++control+x++ |

| Paste | ++control+v++ |

=== "macOS"

| Action | Shortcut |

|---------------------------|------------------------------------------|

| New line with indentation | ++enter++ |

| Undo | ++command+z++ |

| Redo | ++command+y++ \*\*or\*\* ++command+shift+z++ |

| Undo selection | ++command+u++ |

| Copy | ++command+c++ |

| Cut | ++command+x++ |

| Paste | ++command+v++ |

=== "Linux"

| Action | Shortcut |

|---------------------------|------------------------------------------|

| New line with indentation | ++enter++ |

| Undo | ++control+z++ |

| Redo | ++control+y++ \*\*or\*\* ++control+shift+z++ |

| Undo selection | ++control+u++ |

| Copy | ++control+c++ |

| Cut | ++control+x++ |

| Paste | ++control+v++ |

## Delete Operations

=== "Windows"

| Action | Shortcut |

|------------------------|-----------------------|

| Delete character left | ++backspace++ |

| Delete character right | ++delete++ |

| Delete word left | ++control+backspace++ |

| Delete word right | ++control+delete++ |

| Delete line | ++shift+control+k++ |

=== "macOS"

| Action | Shortcut |

|------------------------|---------------------------------------------------------|

| Delete character left | ++backspace++ |

| Delete character right | ++delete++ |

| Delete word left | ++option+backspace++ \*\*or\*\* ++control+command+h++ |

| Delete word right | ++option+delete++ \*\*or\*\* ++function+option+backspace++ |

| Delete line | ++shift+command+k++ |

| Delete to line start | ++command+backspace++ |

| Delete to line end | ++command+delete++ \*\*or\*\* ++control+k++ |

=== "Linux"

| Action | Shortcut |

|------------------------|-----------------------|

| Delete character left | ++backspace++ |

| Delete character right | ++delete++ |

| Delete word left | ++control+backspace++ |

| Delete word right | ++control+delete++ |

| Delete line | ++shift+control+k++ |

## Line Operations

=== "Windows"

| Action | Shortcut |

|----------------------|--------------------------------------|

| Move line up | ++alt+up++ |

| Move line down | ++alt+down++ |

| Copy line up | ++shift+alt+up++ |

| Copy line down | ++shift+alt+down++ |

| Toggle line comment | ++control+slash++ |

| Add line comment | ++control+k++ \*\*then\*\* ++control+c++ |

| Remove line comment | ++control+k++ \*\*then\*\* ++control+u++ |

| Toggle block comment | ++shift+alt+a++ |

=== "macOS"

| Action | Shortcut |

|----------------------|--------------------------------------|

| Move line up | ++option+up++ |

| Move line down | ++option+down++ |

| Copy line up | ++shift+option+up++ |

| Copy line down | ++shift+option+down++ |

| Toggle line comment | ++command+slash++ |

| Add line comment | ++command+k++ \*\*then\*\* ++command+c++ |

| Remove line comment | ++command+k++ \*\*then\*\* ++command+u++ |

| Toggle block comment | ++shift+option+a++ |

| Split line | ++control+o++ |

| Transpose characters | ++control+t++ |

=== "Linux"

| Action | Shortcut |

|----------------------|--------------------------------------|

| Move line up | ++alt+up++ |

| Move line down | ++alt+down++ |

| Copy line up | ++shift+alt+up++ |

| Copy line down | ++shift+alt+down++ |

| Toggle line comment | ++control+slash++ |

| Add line comment | ++control+k++ \*\*then\*\* ++control+c++ |

| Remove line comment | ++control+k++ \*\*then\*\* ++control+c++ |

| Toggle block comment | ++shift+alt+a++ |

## Autocomplete

=== "Windows"

| Action | Shortcut |

|-----------------------------|--------------------------|

| Start completion | ++control+space++ |

| Accept completion | ++enter++ \*\*or\*\* ++tab++ |

| Close completion | ++escape++ |

| Navigate completion options | ++up++ \*\*or\*\* ++down++ |

=== "macOS"

| Action | Shortcut |

|-----------------------------|--------------------------|

| Start completion | ++control+space++ |

| Accept completion | ++enter++ \*\*or\*\* ++tab++ |

| Close completion | ++escape++ |

| Navigate completion options | ++up++ \*\*or\*\* ++down++ |

=== "Linux"

| Action | Shortcut |

|-----------------------------|--------------------------|

| Start completion | ++control+space++ |

| Accept completion | ++enter++ \*\*or\*\* ++tab++ |

| Close completion | ++escape++ |

| Navigate completion options | ++up++ \*\*or\*\* ++down++ |

## Indentation

=== "Windows"

| Action | Shortcut |

|-------------|-----------------------------------------------|

| Indent more | ++tab++ \*\*or\*\* ++control+bracket-right++ |

| Indent less | ++shift+tab++ \*\*or\*\* ++control+bracket-left++ |

=== "macOS"

| Action | Shortcut |

|-------------|---------------------------|

| Indent more | ++command+bracket-right++ |

| Indent less | ++command+bracket-left++ |

=== "Linux"

| Action | Shortcut |

|-------------|-----------------------------------------------|

| Indent more | ++tab++ \*\*or\*\* ++control+bracket-right++ |

| Indent less | ++shift+tab++ \*\*or\*\* ++control+bracket-left++ |

## Code Folding

=== "Windows"

| Action | Shortcut |

|-------------|--------------------------------------|

| Fold code | ++control+shift+bracket-left++ |

| Unfold code | ++control+shift+bracket-right++ |

| Fold all | ++control+k++ \*\*then\*\* ++control+0++ |

| Unfold all | ++control+k++ \*\*then\*\* ++control+j++ |

=== "macOS"

| Action | Shortcut |

|-------------|--------------------------------------|

| Fold code | ++command+option+bracket-left++ |

| Unfold code | ++command+option+bracket-right++ |

| Fold all | ++command+k++ \*\*then\*\* ++command+0++ |

| Unfold all | ++command+k++ \*\*then\*\* ++command+j++ |

=== "Linux"

| Action | Shortcut |

|-------------|--------------------------------------|

| Fold code | ++control+shift+bracket-left++ |

| Unfold code | ++control+shift+bracket-right++ |

| Fold all | ++control+k++ \*\*then\*\* ++control+0++ |

| Unfold all | ++control+k++ \*\*then\*\* ++control+j++ |

## Multi-cursor

=== "Windows"

| Action | Shortcut |

|------------------------------|----------------------|

| Add cursor at click position | ++alt+left-button++ |

| Add cursor above | ++control+alt+up++ |

| Add cursor below | ++control+alt+down++ |

| Add cursors to line ends | ++shift+alt+i++ |

| Clear multiple cursors | ++escape++ |

=== "macOS"

| Action | Shortcut |

|------------------------------|-------------------------|

| Add cursor at click position | ++option+left-button++ |

| Add cursor above | ++control+option+up++ |

| Add cursor below | ++control+option+down++ |

| Add cursors to line ends | ++shift+option+i++ |

| Clear multiple cursors | ++escape++ |

=== "Linux"

| Action | Shortcut |

|------------------------------|---------------------|

| Add cursor at click position | ++alt+left-button++ |

| Add cursor above | ++shift+alt+up++ |

| Add cursor below | ++shift+alt+down++ |

| Add cursors to line ends | ++shift+alt+i++ |

| Clear multiple cursors | ++escape++ |

## Formatting

=== "Windows"

| Action | Shortcut |

|-----------------|----------------------------------------------|

| Format document | ++shift+alt+f++ |

=== "macOS"

| Action | Shortcut |

|-----------------|----------------------------------------------|

| Format document | ++shift+command+f++ |

=== "Linux"

| Action | Shortcut |

|-----------------|-----------------------------------------------|

| Format document | ++control+shift+i++ |

## Search & Navigation

=== "Windows"

| Action | Shortcut |

|-----------------|-----------------------|

| Open Search | ++control+f++ |

| Select All | ++alt+enter++ |

| Replace All | ++control+alt+enter++ |

| Go To Line | ++control+g++ |

| Next Diagnostic | ++f8++ |

| Previous Diag. | ++shift+f8++ |

| Open Lint Panel | ++control+shift+m++ |

=== "macOS"

| Action | Shortcut |

|-----------------|-----------------------|

| Open Search | ++command+f++ |

| Select All | ++command+enter++ |

| Replace All | ++command+option+enter++ |

| Go To Line | ++command+g++ |

| Next Diagnostic | ++f8++ |

| Previous Diag. | ++shift+f8++ |

| Open Lint Panel | ++command+shift+m++ |

=== "Linux"

| Action | Shortcut |

|-----------------|-----------------------|

| Open Search | ++control+f++ |

| Select All | ++alt+enter++ |

| Replace All | ++control+alt+enter++ |

| Go To Line | ++control+g++ |

| Next Diagnostic | ++f8++ |

| Previous Diag. | ++shift+f8++ |

| Open Lint Panel | ++control+shift+m++ |

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Execute Command node common issues

description: Documentation for common issues and questions in the Execute Command node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Execute Command node common issues

Here are some common errors and issues with the [Execute Command node](/integrations/builtin/core-nodes/n8n-nodes-base.executecommand/index.md) and steps to resolve or troubleshoot them.

<!-- vale off -->

## Command failed: &lt;command&gt; /bin/sh: &lt;command&gt;: not found

<!-- vale on -->

This error occurs when the shell environment can't find one of the commands in the \*\*Command\*\* parameter.

To fix this error, review the following:

\* Check that the command and its arguments don't have typos in the \*\*Command\*\* parameter.

\* Check that the command is in the `PATH` of the user running n8n.

\* If you are running n8n with Docker, check if the command is available within the container by trying to run it manually. If your command isn't included in the container, you might have to extend the official n8n image with a [custom image](https://docs.docker.com/build/building/base-images/){:target=\_blank .external-link} that includes your command.

\* If n8n is already running:

```sh

# Find n8n's container ID, it will be the first column

docker ps | grep n8n

# Try to execute the command within the running container

docker container exec <container\_ID> <command\_to\_run>

```

\* If n8n isn't running:

```sh

# Start up a new container that runs the command instead of n8n

# Use the same image and tag that you use to run n8n normally

docker run -it --rm --entrypoint /bin/sh docker.n8n.io/n8nio/n8n -c <command\_to\_run>

```

<!-- vale off -->

## Error: stdout maxBuffer length exceeded

<!-- vale on -->

This error happens when your command returns more output than the Execute Command node is able to process at one time.

To avoid this error, reduce output your command produces. Check your command's manual page or documentation to see if there are flags to limit or filter output. If not, you may need to pipe the output to another command to remove unneeded info.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Execute Command

description: Documentation for the Execute Command node in n8n, a workflow automation platform. Includes guidance on usage, and links to examples.

contentType: [integration, reference]

priority: high

---

# Execute Command

The Execute Command node runs shell commands on the host machine that runs n8n.

/// note | Which shell runs the command?

This node executes the command in the default shell of the host machine. For example, `cmd` on Windows and `zsh` on macOS.

If you run n8n with Docker, your command will run in the n8n container and not the Docker host.

///

/// note | Not available on Cloud

This node isn't available on n8n Cloud.

///

## Node parameters

Configure the node using the following parameters.

### Execute Once

Choose whether you want the node to execute only once (turned on) or once for every item it receives as input (turned off).

### Command

Enter the command to execute on the host machine. Refer to sections below for examples of running [multiple commands](#run-multiple-commands) and [cURL commands](#run-curl-command).

#### Run multiple commands

Use one of two methods to run multiple commands in one Execute Command node:

\* Enter each command on one line separated by `&&`. For example, you can combine the change directory (cd) command with the list (ls) command using `&&`.

```bash

cd bin && ls

```

\* Enter each command on a separate line. For example, you can write the list (ls) command on a new line after the change directory (cd) command.

```bash

cd bin

ls

```

#### Run cURL command

You can also use the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node to make a cURL request.

If you want to run the curl command in the Execute Command node, you will have to build a Docker image based on the existing n8n image. The default n8n Docker image uses Alpine Linux. You will have to install the curl package.

1. Create a file named `Dockerfile`.

2. Add the below code snippet to the Dockerfile.

```shell

FROM docker.n8n.io/n8nio/n8n

USER root

RUN apk --update add curl

USER node

```

3. In the same folder, execute the command below to build the Docker image.

```shell

docker build -t n8n-curl

```

4. Replace the Docker image you used before. For example, replace `docker.n8n.io/n8nio/n8n` with `n8n-curl`.

5. Run the newly created Docker image. You'll now be able to execute ssh using the Execute Command Node.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'execute-command') ]]

## Common issues

For common questions or issues and suggested solutions, refer to [Common Issues](/integrations/builtin/core-nodes/n8n-nodes-base.executecommand/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HTTP Request node common issues

description: Documentation for common issues and questions in the HTTP Request node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# HTTP Request node common issues

Here are some common errors and issues with the [HTTP Request node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) and steps to resolve or troubleshoot them.

## Bad request - please check your parameters

This error displays when the node receives a 400 error indicating a bad request. This error most often occurs because:

\* You're using an invalid name or value in a \*\*Query Parameter\*\*.

\* You're passing array values in a \*\*Query Parameter\*\* but the array isn't formatted correctly. Try using the [\*\*Array Format in Query Parameters\*\*](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md#array-format-in-query-parameters) option.

Review the API documentation for your service to format your query parameters.

<!-- vale off -->

## The resource you are requesting could not be found

<!-- vale on -->

This error displays when the endpoint \*\*URL\*\* you entered is invalid.

This may be due to a typo in the URL or a deprecated API. Refer to your service's API documentation to verify you have a valid endpoint.

## JSON parameter need to be an valid JSON

This error displays when you've passed a parameter as JSON and it's not formatted as valid JSON.

To resolve, review the JSON you've entered for these issues:

\* Test your JSON in a JSON checker or syntax parser to find errors like missing quotation marks, extra or missing commas, incorrectly formatted arrays, extra or missing square brackets or curly brackets, and so on.

\* If you've used an \*\*Expression\*\* in the node, be sure you've wrapped the entire JSON in double curly brackets, for example:

```

{{

{

"myjson":

{

"name1": "value1",

"name2": "value2",

"array1":

["value1","value2"]

}

}

}}

```

## Forbidden - perhaps check your credentials

This error displays when the node receives a 403 error indicating authentication failed.

To resolve, review the selected credentials and make sure you can authenticate with them. You may need to:

\* Update permissions or scopes so that your API key or account can perform the operation you've selected.

\* Format your generic credential in a different way.

\* Generate a new API key or token with the appropriate permissions or scopes.

## 429 - The service is receiving too many requests from you

This error displays when the node receives a [429 error](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status/429){:target=\_blank .external-link} from the service that you're calling. This often means that you have hit the rate limits of that service. You can find out more on the [Handling API rate limits](/integrations/builtin/rate-limits.md) page.

To resolve the error, you can use one of the built-in options of the HTTP request node:

### Batching

Use this option to send requests in batches and introduce a delay between them.

1. In the HTTP Request node, select \*\*Add Option > Batching\*\*.

1. Set \*\*Items per Batch\*\* to the number of input items to include in each request.

1. Set \*\*Batch Interval (ms)\*\* to introduce a delay between requests in milliseconds. For example, to send one request to an API per second, set \*\*Batch Interval (ms)\*\* to `1000`.

### Retry on Fail

Use this option to retry the node after a failed attempt.

1. In the HTTP Request node, go to \*\*Settings\*\* and enable \*\*Retry on Fail\*\*.

1. Set \*\*Max Tries\*\* to the maximum number of times n8n should retry the node.

1. Set \*\*Wait Between Tries (ms)\*\* to the desired delay in milliseconds between retries. For example, to wait one second before retrying the request again, set \*\*Wait Between Tries (ms)\*\* to `1000`.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HTTP Request node documentation

description: Learn how to use the HTTP Request node in n8n. Follow technical documentation to integrate HTTP Request node into your workflows.

contentType: [integration, reference]

priority: critical

---

# HTTP Request node

The HTTP Request node is one of the most versatile nodes in n8n. It allows you to make HTTP requests to query data from any app or service with a REST API. You can use the HTTP Request node a regular node or attached to an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/tools-agent.md) to use as a [tool](/advanced-ai/examples/understand-tools.md){ data-preview }.

When using this node, you're creating a REST API call. You need some understanding of basic API terminology and concepts.

There are two ways to create an HTTP request: configure the [node parameters](#node-parameters) or [import a curl command](#import-curl-command).

/// note | Credentials

Refer to [HTTP Request credentials](/integrations/builtin/credentials/httprequest.md) for guidance on setting up authentication.

///

## Node parameters

### Method

Select the method to use for the request:

- DELETE

- GET

- HEAD

- OPTIONS

- PATCH

- POST

- PUT

### URL

Enter the endpoint you want to use.

### Authentication

n8n recommends using the \*\*Predefined Credential Type\*\* option when it's available. It offers an easier way to set up and manage credentials, compared to configuring generic credentials.

#### Predefined credentials

Credentials for integrations supported by n8n, including both built-in and community nodes. Use \*\*Predefined Credential Type\*\* for custom operations without extra setup. Refer to [Custom API operations](/integrations/custom-operations.md) for more information.

#### Generic credentials

Credentials for integrations not supported by n8n. You'll need to manually configure the authentication process, including specifying the required API endpoints, necessary parameters, and the authentication method.

You can select one of the following methods:

\* Basic auth

\* Custom auth

\* Digest auth

\* Header auth

\* OAuth1 API

\* OAuth2 API

\* Query auth

Refer to [HTTP request credentials](/integrations/builtin/credentials/httprequest.md) for more information on setting up each credential type.

### Send Query Parameters

Query parameters act as filters on HTTP requests. If the API you're interacting with supports them and the request you're making needs a filter, turn this option on.

\*\*Specify your query parameters\*\* using one of the available options:

\* \*\*Using Fields Below\*\*: Enter \*\*Name\*\*/\*\*Value\*\* pairs of \*\*Query Parameters\*\*. To enter more query parameter name/value pairs, select \*\*Add Parameter\*\*. The name is the name of the field you're filtering on, and the value is the filter value.

\* \*\*Using JSON\*\*: Enter \*\*JSON\*\* to define your query parameters.

Refer to your service's API documentation for detailed guidance.

### Send Headers

Use this parameter to send headers with your request. Headers contain metadata or context about your request.

\*\*Specify Headers\*\* using one of the available options:

\* \*\*Using Fields Below\*\*: Enter \*\*Name\*\*/\*\*Value\*\* pairs of \*\*Header Parameters\*\*. To enter more header parameter name/value pairs, select \*\*Add Parameter\*\*. The name is the header you wish to set, and the value is the value you want to pass for that header.

\* \*\*Using JSON\*\*: Enter \*\*JSON\*\* to define your header parameters.

Refer to your service's API documentation for detailed guidance.

### Send Body

If you need to send a body with your API request, turn this option on.

Then select the \*\*Body Content Type\*\* that best matches the format for the body content you wish to send.

<!-- vale Vale.Spelling = NO -->

#### Form URLencoded

<!-- vale Vale.Spelling = YES -->

Use this option to send your body as `application/x-www-form-urlencoded`.

\*\*Specify Body\*\* using one of the available options:

\* \*\*Using Fields Below\*\*: Enter \*\*Name\*\*/\*\*Value\*\* pairs of \*\*Body Parameters\*\*. To enter more body parameter name/value pairs, select \*\*Add Parameter\*\*. The name should be the form field name, and the value is what you wish to set that field to.

\* \*\*Using Single Field\*\*: Enter your name/value pairs in a single \*\*Body\*\* parameter with format `fieldname1=value1&fieldname2=value2`.

Refer to your service's API documentation for detailed guidance.

#### Form-Data

Use this option to send your body as `multipart/form-data`.

Configure your \*\*Body Parameters\*\* by selecting the \*\*Parameter Type\*\*:

\* Choose \*\*Form Data\*\* to enter \*\*Name\*\*/\*\*Value\*\* pairs.

\* Choose \*\*n8n Binary File\*\* to pull the body from a file the node has access to.

\* \*\*Name\*\*: Enter the ID of the field to set.

\* \*\*Input Data Field Name\*\*: Enter the name of the incoming field containing the binary file data you want to process.

Select \*\*Add Parameter\*\* to enter more parameters.

Refer to your service's API documentation for detailed guidance.

#### JSON

Use this option to send your body as JSON.

\*\*Specify Body\*\* using one of the available options:

\* \*\*Using Fields Below\*\*: Enter \*\*Name\*\*/\*\*Value\*\* pairs of \*\*Body Parameters\*\*. To enter more body parameter name/value pairs, select \*\*Add Parameter\*\*.

\* \*\*Using JSON\*\*: Enter \*\*JSON\*\* to define your body.

Refer to your service's API documentation for detailed guidance.

#### n8n Binary File

Use this option to send the contents of a file stored in n8n as the body.

Enter the name of the incoming field that contains the file as the \*\*Input Data Field Name\*\*.

Refer to your service's API documentation for detailed guidance on how to format the file.

#### Raw

Use this option to send raw data in the body.

\* \*\*Content Type\*\*: Enter the `Content-Type` header to use for the raw body content. Refer to the IANA [Media types](https://www.iana.org/assignments/media-types/media-types.xhtml){:target=\_blank .external-link} documentation for a full list of MIME content types.

\* \*\*Body\*\*: Enter the raw body content to send.

Refer to your service's API documentation for detailed guidance.

## Node options

Select \*\*Add Option\*\* to view and select these options. Options are available to all parameters unless otherwise noted.

### Array Format in Query Parameters

/// note | Option availability

This option is only available when you turn on \*\*Send Query Parameters\*\*.

///

Use this option to control the format for arrays included in query parameters. Choose from these options:

\* \*\*No Brackets\*\*: Arrays will format as the name=value for each item in the array, for example: `foo=bar&foo=qux`.

\* \*\*Brackets Only\*\*: The node adds square brackets after each array name, for example: `foo[]=bar&foo[]=qux`.

\* \*\*Brackets with Indices\*\*: The node adds square brackets with an index value after each array name, for example: `foo[0]=bar&foo[1]=qux`.

Refer to your service's API documentation for guidance on which option to use.

### Batching

Control how to batch large numbers of input items:

\* \*\*Items per Batch\*\*: Enter the number of input items to include in each batch.

\* \*\*Batch Interval\*\*: Enter the time to wait between each batch of requests in milliseconds. Enter 0 for no batch interval.

### Ignore SSL Issues

By default, n8n only downloads the response if SSL certificate validation succeeds. If you'd like to download the response even if SSL certificate validation fails, turn this option on.

### Lowercase Headers

Choose whether to lowercase header names (turned on, default) or not (turned off).

### Redirects

Choose whether to follow redirects (turned on by default) or not (turned off). If turned on, enter the maximum number of redirects the request should follow in \*\*Max Redirects\*\*.

### Response

Use this option to set some details about the expected API response, including:

\* \*\*Include Response Headers and Status\*\*: By default, the node returns only the body. Turn this option on to return the full response (headers and response status code) as well as the body.

\* \*\*Never Error\*\*: By default, the node returns success only when the response returns with a 2xx code. Turn this option on to return success regardless of the code returned.

\* \*\*Response Format\*\*: Select the format in which the data gets returned. Choose from:

\* \*\*Autodetect\*\* (default): The node detects and formats the response based on the data returned.

\* \*\*File\*\*: Select this option to put the response into a file. Enter the field name where you want the file returned in \*\*Put Output in Field\*\*.

\* \*\*JSON\*\*: Select this option to format the response as JSON.

\* \*\*Text\*\*: Select this option to format the response as plain text. Enter the field name where you want the file returned in \*\*Put Output in Field\*\*.

### Pagination

Use this option to paginate results, useful for handling query results that are too big for the API to return in a single call.

/// note | Inspect the API data first

Some options for pagination require knowledge of the data returned by the API you're using. Before setting up pagination, either check the API documentation, or do an API call without pagination, to see the data it returns.

///

??? Details "Understand pagination"

Pagination means splitting a large set of data into multiple pages. The amount of data on each page depends on the limit you set.

For example, you make an API call to an endpoint called `/users`. The API wants to send back information on 300 users, but this is too much data for the API to send in one response.

If the API supports pagination, you can incrementally fetch the data. To do this, you call `/users` with a pagination limit, and a page number or URL to tell the API which page to send. In this example, say you use a limit of 10, and start from page 0. The API sends the first 10 users in its response. You then call the API again, increasing the page number by 1, to get the next 10 results.

Configure the pagination settings:

\* \*\*Pagination Mode\*\*:

\* \*\*Off\*\*: Turn off pagination.

\* \*\*Update a Parameter in Each Request\*\*: Use this when you need to dynamically set parameters for each request.

\* \*\*Response Contains Next URL\*\*: Use this when the API response includes the URL of the next page. Use an expression to set \*\*Next URL\*\*.

For example setups, refer to [HTTP Request node cookbook | Pagination](/code/cookbook/http-node/pagination.md).

n8n provides built-in variables for working with HTTP node requests and responses when using pagination:

--8<-- "\_snippets/integrations/builtin/core-nodes/http/pagination-variables.md"

--8<-- "\_snippets/integrations/builtin/core-nodes/http/pagination-api-differences.md"

### Proxy

Use this option if you need to specify an HTTP proxy.

Enter the \*\*Proxy\*\* the request should use.

### Timeout

Use this option to set how long the node should wait for the server to send response headers (and start the response body). The node aborts requests that exceed this value for the initial response.

Enter the \*\*Timeout\*\* time to wait in milliseconds.

## Tool-only options

The following options are only available when attached to an [AI agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/tools-agent.md) as a [tool](/advanced-ai/examples/understand-tools.md){ data-preview }.

### Optimize Response

Whether to optimize the tool response to reduce the amount of data passed to the LLM. Optimizing the response can reduce costs and can help the LLM ignore unimportant details, often leading to better results.

When optimizing responses, you select an expected response type, which determines other options you can configure. The supported response types are:

#### JSON

When expecting a \*\*JSON\*\* response, you can configure which parts of the JSON data to use as a response with the following choices:

\* \*\*Field Containing Data\*\*: This field identifies a specific part of the JSON object that contains your relevant data. You can leave this blank to use the entire response.

\* \*\*Include Fields\*\*: This is how you choose which fields you want in your response object. There are three choices:

\* \*\*All\*\*: Include all fields in the response object.

\* \*\*Selected\*\*: Include only the fields specified below.

\* \*\*Fields\*\*: A comma-separated list of fields to include in the response. You can use dot notation to specify nested fields. You can drag fields from the Input panel to add them to the field list.

\* \*\*Exclude\*\*: Include all fields \*except\* the fields specified below.

\* \*\*Fields\*\*: A comma-separated list of fields to exclude from the response. You can use dot notation to specify nested fields. You can drag fields from the Input panel to add them to the field list.

#### HTML

When expecting \*\*HTML\*\*, you can identify the part of an HTML document relevant to the LLM and optimize the response with the following options:

\* \*\*Selector (CSS)\*\*: A specific element or element type to include in the response HTML. Uses the `body` element by default.

\* \*\*Return Only Content\*\*: Whether to strip HTML tags and attributes from the response, leaving only the actual content. This uses fewer tokens and may be easier for the model to understand.

\* \*\*Elements To Omit\*\*: A comma-separated list of CSS selectors to exclude when extracting content.

\* \*\*Truncate Response\*\*: Whether to limit the response size to save tokens.

\* \*\*Max Response Characters\*\*: The maximum number of characters to include in the HTML response. The default value is 1000.

#### Text

When expecting a generic \*\*Text\*\* response, you can optimize the results with the following options:

\* \*\*Truncate Response\*\*: Whether to limit the response size to save tokens.

\* \*\*Max Response Characters\*\*: The maximum number of characters to include in the HTML response. The default value is 1000.

## Import curl command

[curl](https://curl.se/){:target=\_blank .external-link} is a command line tool and library for transferring data with URLs.

You can use curl to call REST APIs. If the API documentation of the service you want to use provides curl examples, you can copy them out of the documentation and into n8n to configure the HTTP Request node.

Import a curl command:

1. From the HTTP Request node's \*\*Parameters\*\* tab, select \*\*Import cURL\*\*. The \*\*Import cURL command\*\* modal opens.

2. Paste your curl command into the text box.

3. Select \*\*Import\*\*. n8n loads the request configuration into the node fields. This overwrites any existing configuration.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'http-request') ]]

## Common issues

For common questions or issues and suggested solutions, refer to [Common Issues](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/common-issues.md).

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Remove Duplicates node documentation

description: Documentation for the Remove Duplicates node in n8n, a workflow automation platform. Includes guidance on usage and links to examples.

contentType: [integration, reference]

priority: medium

---

# Remove Duplicates node

Use the Remove Duplicates node to identify and delete items that are:

\* identical across all fields or a subset of fields in a single execution

\* identical to or surpassed by items seen in previous executions

This is helpful in situations where you can end up with duplicate data, such as a user creating multiple accounts, or a customer submitting the same order multiple times. When working with large datasets it becomes more difficult to spot and remove these items.

By comparing against data from previous executions, the Remove Duplicates node can delete items seen in earlier executions. It can also ensure that new items have a later date or a higher value than previous values.

/// note | Major changes in 1.64.0

The n8n team overhauled this node in n8n 1.64.0. This document reflects the latest version of the node. If you're using an older version of n8n, you can find the previous version of this document [here](https://github.com/n8n-io/n8n-docs/blob/7a66308290e6e5b104fcb82a3beafa0d6987df36/docs/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates.md){:target=\_blank .external-link}.

///

## Operation modes

The remove duplication node works differently depending on the value of the \*\*operation\*\* parameter:

\* \*\*[Remove Items Repeated Within Current Input](#remove-items-repeated-within-current-input)\*\*: Identify and remove duplicate items in the current input across all fields or a subset of fields.

\* \*\*[Remove Items Processed in Previous Executions](#remove-items-processed-in-previous-executions)\*\*: Compare items in the current input to items from previous executions and remove duplicates.

\* \*\*[Clear Deduplication History](#clear-deduplication-history)\*\*: Wipe the memory of items from previous executions.

### Remove Items Repeated Within Current Input

When you set the "Operations" field to \*\*Remove Items Repeated Within Current Input\*\*, the Remove Duplicate node identifies and removes duplicate items in the current input. It can do this across all fields, or within a subset of fields.

#### Remove Items Repeated Within Current Input parameters

When using the \*\*Remove Items Repeated Within Current Input\*\* operation, the following parameter is available:

\* \*\*Compare\*\*: Select which fields of the input data n8n should compare to check if they're the same. The following options are available:

\* \*\*All Fields\*\*: Compares all fields of the input data.

\* \*\*All Fields Except\*\*: Enter which input data fields n8n should exclude from the comparison. You can provide multiple values separated by commas.

\* \*\*Selected Fields\*\*: Enter which input data fields n8n should include in the comparison. You can provide multiple values separated by commas.

#### Remove Items Repeated Within Current Input options

If you choose \*\*All Fields Except\*\* or \*\*Selected Fields\*\* as your compare type, you can add these options:

\* \*\*Disable Dot Notation\*\*: Set whether to use dot notation to reference child fields in the format `parent.child` (turned off) or not (turn on).

\* \*\*Remove Other Fields\*\*: Set whether to remove any fields that aren't used in the comparison (turned on) or not (turned off).

### Remove Items Processed in Previous Executions

When you set the "Operation" field to \*\*Remove Items Processed in Previous Executions\*\*, the Remove Duplicate node compares items in the current input to items from previous executions.

#### Remove Items Processed in Previous Executions parameters

When using the \*\*Remove Items Processed in Previous Executions\*\* operation, the following parameters are available:

\* \*\*Keep Items Where\*\*: Select how n8n decides which items to keep. The following options are available:

\* \*\*Value Is New\*\*: n8n removes items if their value matches items from earlier executions.

\* \*\*Value Is Higher than Any Previous Value\*\*: n8n removes items if the current value isn't higher than previous values.

\* \*\*Value Is a Date Later than Any Previous Date\*\*: n8n removes date items if the current date isn't later than previous dates.

\* \*\*Value to Dedupe On\*\*: The input field or fields to compare. The option you select for the \*\*Keep Items Where\*\* parameter determines the exact format you need:

\* When using \*\*Value Is New\*\*, this must be an input field or combination of fields with a unique ID.

\* When using \*\*Value Is Higher than Any Previous Value\*\*, this must be an input field or combination of fields that has an incremental value.

\* When using \*\*Value Is a Date Later than Any Previous Date\*\*, this must be an input field that has a date value in ISO format.

#### Remove Items Processed in Previous Executions options

When using the \*\*Remove Items Processed in Previous Executions\*\* operation, the following option is available:

\* \*\*Scope\*\*: Sets how n8n stores and uses the deduplication data for comparisons. The following options are available:

\* \*\*Node\*\*: (default) Stores the data for this node independently from other Remove Duplicates instances in the workflow. When you use this scope, you can [clear the duplication history](#clear-deduplication-history) for this node instance without affecting other nodes.

\* \*\*Workflow\*\*: Stores the duplication data at the workflow level. This shares duplication data with any other Remove Duplicate nodes set to use "workflow" scope. n8n will still manage the duplication data for other Remove Duplicate nodes set to "node" scope independently.

When you select \*\*Value Is New\*\* as your \*\*Keep Items Where\*\* choice, this option is also available:

\* \*\*History Size\*\*: The number of items for n8n to store to track duplicates across executions. The value of the \*\*Scope\*\* option determines whether this history size is specific to this individual Remove Duplicate node instance or shared with other instances in the workflow. By default, n8n stores 10,000 items.

### Clear Deduplication History

When you set the "Operation" field to \*\*Clear Deduplication History\*\*, the Remove Duplicates node manages and clears the stored items from previous executions. This operation doesn't affect any items in the current input. Instead, it manages the database of items that the "Remove Items Processed in Previous Executions" operation uses.

#### Clear Deduplication History parameters

When using the \*\*Clear Deduplication History\*\* operation, the following parameter is available:

\* \*\*Mode\*\*: How you want to manage the key / value items stored in the database. The following option is available:

\* \*\*Clean Database\*\*: Deletes all duplication data stored in the database. This resets the duplication database to its original state.

#### Clear Deduplication History options

When using the \*\*Clear Deduplication History\*\* operation, the following option is available:

\* \*\*Scope\*\*: Sets the scope n8n uses when managing the duplication database.

\* \*\*Node\*\*: (default) Manages the duplication database specific to this Remove Duplicates node instance.

\* \*\*Workflow\*\*: Manages the duplication database shared by all Remove Duplicate node instances that use workflow scope.

## Templates and examples

For templates using the Remove Duplicates node and examples of how to use it, refer to [Templates and examples](/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates/templates-and-examples.md).

## Related resources

--8<-- "\_snippets/integrations/builtin/core-nodes/data-transformation-actions/data-section-link.md"

## templates-and-examples.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Remove Duplicates node templates and Examples

description: Documentation for templates and examples in the Remove Duplicates node in n8n, a workflow automation platform. Includes templates using the node and examples of how to use it.

contentType: [integration, reference]

priority: medium

---

# Templates and examples

Here are some templates and examples for the [Remove Duplicates node](/integrations/builtin/core-nodes/n8n-nodes-base.removeduplicates/index.md).

/// note | Continuous examples

The examples included in this section are a sequence. Follow from one to another to avoid unexpected results.

///

## Templates

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'remove-duplicates') ]]

## Set up sample data using the Code node

Create a workflow with some example input data to try out the Remove Duplicates node.

1. Add a Code node to the canvas and connect it to the Manual Trigger node.

2. In the Code node, set \*\*Mode\*\* to \*\*Run Once for Each Item\*\* and \*\*Language\*\* to \*\*JavaScript\*\*.

3. Paste the following JavaScript code snippet in the \*\*JavaScript\*\* field:

```js

let data =[];

return {

data: [

{ id: 1, name: 'Taylor Swift', job: 'Pop star', last\_updated: '2024-09-20T10:12:43.493Z' },

{ id: 2, name: 'Ed Sheeran', job: 'Singer-songwriter', last\_updated: '2024-10-05T08:30:59.493Z' },

{ id: 3, name: 'Adele', job: 'Singer-songwriter', last\_updated: '2024-10-07T14:15:59.493Z' },

{ id: 4, name: 'Bruno Mars', job: 'Singer-songwriter', last\_updated: '2024-08-25T17:45:12.493Z' },

{ id: 1, name: 'Taylor Swift', job: 'Pop star', last\_updated: '2024-09-20T10:12:43.493Z' }, // duplicate

{ id: 5, name: 'Billie Eilish', job: 'Singer-songwriter', last\_updated: '2024-09-10T09:30:12.493Z' },

{ id: 6, name: 'Katy Perry', job: 'Pop star', last\_updated: '2024-10-08T12:30:45.493Z' },

{ id: 2, name: 'Ed Sheeran', job: 'Singer-songwriter', last\_updated: '2024-10-05T08:30:59.493Z' }, // duplicate

{ id: 7, name: 'Lady Gaga', job: 'Pop star', last\_updated: '2024-09-15T14:45:30.493Z' },

{ id: 8, name: 'Rihanna', job: 'Pop star', last\_updated: '2024-10-01T11:50:22.493Z' },

{ id: 3, name: 'Adele', job: 'Singer-songwriter', last\_updated: '2024-10-07T14:15:59.493Z' }, // duplicate

//{ id: 9, name: 'Tom Hanks', job: 'Actor', last\_updated: '2024-10-17T13:58:31.493Z' },

//{ id: 0, name: 'Madonna', job: 'Pop star', last\_updated: '2024-10-17T17:11:38.493Z' },

//{ id: 15, name: 'Bob Dylan', job: 'Folk singer', last\_updated: '2024-09-24T08:03:16.493Z'},

//{ id: 10, name: 'Harry Nilsson', job: 'Singer-songwriter', last\_updated: '2020-10-17T17:11:38.493Z' },

//{ id: 11, name: 'Kylie Minogue', job: 'Pop star', last\_updated: '2024-10-24T08:03:16.493Z'},

]

}

```

4. Add a Split Out node to the canvas and connect it to the Code node.

5. In the Split Out node, enter `data` in the \*\*Fields To Split Out\*\* field.

## Removing duplicates from the current input

1. Add a Remove Duplicates node to the canvas and connect it to the Split Out node. Choose \*\*Remove items repeated within current input\*\* as the \*\*Action\*\* to start.

2. Open the Remove Duplicates node and ensure that the \*\*Operation\*\* is set to \*\*Remove Items Repeated Within Current Input\*\*.

3. Choose \*\*All fields\*\* in the \*\*Compare\*\* field.

4. Select \*\*Execute step\*\* to run the Remove Duplicates node, removing duplicated data in the current input.

n8n removes the items that have the same data across all fields. Your output in table view should look like this:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 4 | Bruno Mars | Singer-songwriter | 2024-08-25T17:45:12.493Z |

| 5 | Billie Eilish | Singer-songwriter | 2024-09-10T09:30:12.493Z |

| 6 | Katy Perry | Pop star | 2024-10-08T12:30:45.493Z |

| 7 | Lady Gaga | Pop star | 2024-09-15T14:45:30.493Z |

| 8 | Rihanna | Pop star | 2024-10-01T11:50:22.493Z |

<!-- vale on -->

5. Open the Remove Duplicates node again and change the \*\*Compare\*\* parameter to \*\*Selected Fields\*\*.

6. In the \*\*Fields To Compare\*\* field, enter `job`.

7. Select \*\*Execute step\*\* to run the Remove Duplicates node, removing duplicated data in the current input.

n8n removes the items in the current input that have the same `job` data. Your output in table view should look like this:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

<!-- vale on -->

## Keep items where the value is new

1. Open the Remove Duplicates node and set the \*\*Operation\*\* to \*\*Remove Items Processed in Previous Executions\*\*.

2. Set the \*\*Keep Items Where\*\* parameter to \*\*Value Is New\*\*.

3. Set the \*\*Value to Dedupe On\*\* parameter to `{{ $json.name }}`.

4. On the canvas, select \*\*Execute workflow\*\* to run the workflow. Open the Remove Duplicates node to examine the results.

n8n compares the current input data to the items stored from previous executions. Since this is the first time running the Remove Duplicates node with this operation, n8n processes all data items and places them into the \*\*Kept\*\* output tab. The order of the items may be different than the order in the input data:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 4 | Bruno Mars | Singer-songwriter | 2024-08-25T17:45:12.493Z |

| 5 | Billie Eilish | Singer-songwriter | 2024-09-10T09:30:12.493Z |

| 6 | Katy Perry | Pop star | 2024-10-08T12:30:45.493Z |

| 7 | Lady Gaga | Pop star | 2024-09-15T14:45:30.493Z |

| 8 | Rihanna | Pop star | 2024-10-01T11:50:22.493Z |

<!-- vale on -->

/// note | Items are only compared against previous executions

The current input items are only compared against the stored items from previous executions. This means that items repeated within the current input aren't removed in this mode of operation. If you need to remove duplicate items within the current input \*and\* across executions, connect two Remove Duplicate nodes together sequentially. Set the first to use the \*\*Remove Items Repated Within Current Input\*\* operation and the second to use the \*\*Remove Items Processed in Previous Executions\*\* operation.

///

5. Open the Code node and uncomment (remove the `//` from) the line for "Tom Hanks."

6. On the canvas, select \*\*Execute workflow\*\* again. Open the Remove Duplicates node again to examine the results.

n8n compares the current input data to the items stored from previous executions. This time, the \*\*Kept\*\* tab contains the one new record from the Code node:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|-----------|---------|--------------------------|

| 9 | Tom Hanks | Actor | 2024-10-17T13:58:31.493Z |

<!-- vale on -->

The \*\*Discarded\*\* tab contains the items processed by the previous execution:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 4 | Bruno Mars | Singer-songwriter | 2024-08-25T17:45:12.493Z |

| 5 | Billie Eilish | Singer-songwriter | 2024-09-10T09:30:12.493Z |

| 6 | Katy Perry | Pop star | 2024-10-08T12:30:45.493Z |

| 7 | Lady Gaga | Pop star | 2024-09-15T14:45:30.493Z |

| 8 | Rihanna | Pop star | 2024-10-01T11:50:22.493Z |

<!-- vale on -->

Before continuing, clear the duplication history to get ready for the next example:

7. Open the Remove Duplicates node and set the \*\*Operation\*\* to \*\*Clear Deduplication History\*\*.

8. Select \*\*Execute step\*\* to clear the current duplication history.

## Keep items where the value is higher than any previous value

1. Open the Remove Duplicates node and set the \*\*Operation\*\* to \*\*Remove Items Processed in Previous Executions\*\*.

2. Set the \*\*Keep Items Where\*\* parameter to \*\*Value Is Higher than Any Previous Value\*\*.

3. Set the \*\*Value to Dedupe On\*\* parameter to `{{ $json.id }}`.

4. On the canvas, select \*\*Execute workflow\*\* to run the workflow. Open the Remove Duplicates node to examine the results.

n8n compares the current input data to the items stored from previous executions. Since this is the first time running the Remove Duplicates node after clearing the history, n8n processes all data items and places them into the \*\*Kept\*\* output tab. The order of the items may be different than the order in the input data:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 4 | Bruno Mars | Singer-songwriter | 2024-08-25T17:45:12.493Z |

| 5 | Billie Eilish | Singer-songwriter | 2024-09-10T09:30:12.493Z |

| 6 | Katy Perry | Pop star | 2024-10-08T12:30:45.493Z |

| 7 | Lady Gaga | Pop star | 2024-09-15T14:45:30.493Z |

| 8 | Rihanna | Pop star | 2024-10-01T11:50:22.493Z |

| 9 | Tom Hanks | Actor | 2024-10-17T13:58:31.493Z |

<!-- vale on -->

5. Open the Code node and uncomment (remove the `//` from) the lines for "Madonna" and "Bob Dylan."

6. On the canvas, select \*\*Execute workflow\*\* again. Open the Remove Duplicates node again to examine the results.

n8n compares the current input data to the items stored from previous executions. This time, the \*\*Kept\*\* tab contains a single entry for "Bob Dylan." n8n keeps this item because its `id` column value (15) is higher than any previous values (the previous maximum value was 9):

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|-----------|-------------|--------------------------|

| 15 | Bob Dylan | Folk singer | 2024-09-24T08:03:16.493Z |

<!-- vale on -->

The \*\*Discarded\*\* tab contains the 13 items with an `id` column value equal to or less than the previous maximum value (9). Even though it's new, this table includes the entry for "Madonna" because its `id` value isn't larger than the previous maximum value:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 0 | Madonna | Pop star | 2024-10-17T17:11:38.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 4 | Bruno Mars | Singer-songwriter | 2024-08-25T17:45:12.493Z |

| 5 | Billie Eilish | Singer-songwriter | 2024-09-10T09:30:12.493Z |

| 6 | Katy Perry | Pop star | 2024-10-08T12:30:45.493Z |

| 7 | Lady Gaga | Pop star | 2024-09-15T14:45:30.493Z |

| 8 | Rihanna | Pop star | 2024-10-01T11:50:22.493Z |

| 9 | Tom Hanks | Actor | 2024-10-17T13:58:31.493Z |

<!-- vale on -->

Before continuing, clear the duplication history to get ready for the next example:

7. Open the Remove Duplicates node and set the \*\*Operation\*\* to \*\*Clear Deduplication History\*\*.

8. Select \*\*Execute step\*\* to clear the current duplication history.

## Keep items where the value is a date later than any previous date

1. Open the Remove Duplicates node and set the \*\*Operation\*\* to \*\*Remove Items Processed in Previous Executions\*\*.

2. Set the \*\*Keep Items Where\*\* parameter to \*\*Value Is a Date Later than Any Previous Date\*\*.

3. Set the \*\*Value to Dedupe On\*\* parameter to `{{ $json.last\_updated }}`.

4. On the canvas, select \*\*Execute workflow\*\* to run the workflow. Open the Remove Duplicates node to examine the results.

n8n compares the current input data to the items stored from previous executions. Since this is the first time running the Remove Duplicates node after clearing the history, n8n processes all data items and places them into the \*\*Kept\*\* output tab. The order of the items may be different than the order in the input data:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 0 | Madonna | Pop star | 2024-10-17T17:11:38.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 4 | Bruno Mars | Singer-songwriter | 2024-08-25T17:45:12.493Z |

| 5 | Billie Eilish | Singer-songwriter | 2024-09-10T09:30:12.493Z |

| 6 | Katy Perry | Pop star | 2024-10-08T12:30:45.493Z |

| 7 | Lady Gaga | Pop star | 2024-09-15T14:45:30.493Z |

| 8 | Rihanna | Pop star | 2024-10-01T11:50:22.493Z |

| 9 | Tom Hanks | Actor | 2024-10-17T13:58:31.493Z |

| 15 | Bob Dylan | Folk singer | 2024-09-24T08:03:16.493Z |

<!-- vale on -->

<!-- vale off -->

5. Open the Code node and uncomment (remove the `//` from) the lines for "Harry Nilsson" and "Kylie Minogue."

<!-- vale on -->

6. On the canvas, select \*\*Execute workflow\*\* again. Open the Remove Duplicates node again to examine the results.

<!-- vale off -->

n8n compares the current input data to the items stored from previous executions. This time, the \*\*Kept\*\* tab contains a single entry for "Kylie Minogue." n8n keeps this item because its `last\_updated` column value (`2024-10-24T08:03:16.493Z`) is later than any previous values (the previous latest date was `2024-10-17T17:11:38.493Z`):

<!-- vale on -->

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 11 | Kylie Minogue | Pop star | 2024-10-24T08:03:16.493Z |

<!-- vale on -->

The \*\*Discarded\*\* tab contains the 15 items with a `last\_updated` column value equal to or earlier than the previous latest date (`2024-10-17T17:11:38.493Z`). Even though it's new, this table includes the entry for "Harry Nilsson" because its `last\_updated` value isn't later than the previous maximum value:

<!-- vale off -->

| \*\*id\*\* | \*\*name\*\* | \*\*job\*\* | \*\*last\_updated\*\* |

|--------|---------------|-------------------|--------------------------|

| 10 | Harry Nilsson | Singer-songwriter | 2020-10-17T17:11:38.493Z |

| 0 | Madonna | Pop star | 2024-10-17T17:11:38.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 1 | Taylor Swift | Pop star | 2024-09-20T10:12:43.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 2 | Ed Sheeran | Singer-songwriter | 2024-10-05T08:30:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 3 | Adele | Singer-songwriter | 2024-10-07T14:15:59.493Z |

| 4 | Bruno Mars | Singer-songwriter | 2024-08-25T17:45:12.493Z |

| 5 | Billie Eilish | Singer-songwriter | 2024-09-10T09:30:12.493Z |

| 6 | Katy Perry | Pop star | 2024-10-08T12:30:45.493Z |

| 7 | Lady Gaga | Pop star | 2024-09-15T14:45:30.493Z |

| 8 | Rihanna | Pop star | 2024-10-01T11:50:22.493Z |

| 9 | Tom Hanks | Actor | 2024-10-17T13:58:31.493Z |

| 15 | Bob Dylan | Folk singer | 2024-09-24T08:03:16.493Z |

<!-- vale on -->

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Schedule Trigger node common issues

description: Documentation for common issues and questions in the Schedule Trigger node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# Schedule Trigger node common issues

Here are some common errors and issues with the [Schedule Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) and steps to resolve or troubleshoot them.

## Invalid cron expression

This error occurs when you set \*\*Trigger Interval\*\* to \*\*Custom (Cron)\*\* and n8n doesn't understand your cron expression. This may mean that there is a mistake in your cron expression or that you're using an incompatible syntax.

To debug, check that the following:

\* That your cron expression follows the syntax used in the [cron examples](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md#custom-cron-interval)

\* That your cron expression (after removing the [seconds column](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md#why-there-are-six-asterisks-in-the-cron-expression)) validates on [crontab guru](https://crontab.guru/)

## Scheduled workflows run at the wrong time

If the Schedule Trigger node runs at the wrong time, it may mean that you need to adjust the time zone n8n uses.

### Adjust the timezone globally

If you're using [n8n Cloud](/manage-cloud/overview.md), follow the instructions on the [set the Cloud instance timezone](/manage-cloud/set-cloud-timezone.md) page to ensure that n8n executes in sync with your local time.

If you're [self hosting](/hosting/index.md), set your global timezone using the [`GENERIC\_TIMEZONE` environment variable](/hosting/configuration/environment-variables/timezone-localization.md).

### Adjust the timezone for an individual workflow

To set the timezone for an individual workflow:

1. Open the workflow on the canvas.

1. Select the <span class="inline-image">![three dots menu](/\_images/common-icons/three-dots-horizontal.png)</span> \*\*Three dots icon\*\* in the upper-right corner.

1. Select \*\*Settings\*\*.

1. Change the \*\*Timezone\*\* setting.

1. Select \*\*Save\*\*.

### Variables not working as expected

While variables can be used in the scheduled trigger, their values only get evaluated when the workflow is activated. After activating the worfklow, you can alter a variable's value in the settings but it won't change how often the workflow runs. To work around this, you must stop and then re-activate the workflow to apply the updated variable value.

### Changing the trigger interval

You can update the scheduled trigger interval at any time but it only gets updated when the workflow is activated. If you change the trigger interval after the workflow is active, the changes won't take effect until you stop and then re-activate the workflow.

Also, the schedule begins from the time when you activate the workflow. For example, if you had originally set a schedule of every 1 hour and it should execute at 12:00, if you changed it to a 2 hour schedule and re-activated the workflow at 11:30, the next execution will be at 13:30, 2 hours from when you activated it.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Schedule Trigger node documentation

description: Learn how to use the Schedule Trigger node in n8n. Follow technical documentation to integrate Schedule Trigger node into your workflows.

contentType: [integration, reference]

priority: critical

---

# Schedule Trigger node

Use the Schedule Trigger node to run workflows at fixed intervals and times. This works in a similar way to the Cron software utility in Unix-like systems.

/// note | You must activate the workflow

If a workflow uses the Schedule node as a trigger, make sure that you save and activate the workflow.

///

--8<-- "\_snippets/integrations/builtin/core-nodes/schedule/timezone-settings.md"

## Node parameters

Add \*\*Trigger Rules\*\* to determine when the trigger should run.

Use the \*\*Trigger Interval\*\* to select the time interval unit of measure to schedule the trigger for. All other parameters depend on the interval you select. Choose from:

- [Seconds trigger interval](#seconds-trigger-interval)

- [Minutes trigger interval](#minutes-trigger-interval)

- [Hours trigger interval](#hours-trigger-interval)

- [Days trigger interval](#days-trigger-interval)

- [Weeks trigger interval](#weeks-trigger-interval)

- [Months trigger interval](#months-trigger-interval)

- [Custom (Cron) interval](#custom-cron-interval)

You can add multiple \*\*Trigger Rules\*\* to run the node on different schedules.

Refer to the sections below for more detail on configuring each \*\*Trigger Interval\*\*. Refer to [Templates and examples](#templates-and-examples) for further examples.

### Seconds trigger interval

\* \*\*Seconds Between Triggers\*\*: Enter the number of seconds between each workflow trigger. For example, if you enter `30` here, the trigger will run every 30 seconds.

### Minutes trigger interval

\* \*\*Minutes Between Triggers\*\*: Enter the number of minutes between each workflow trigger. For example, if you enter `5` here, the trigger will run every 5 minutes.

### Hours trigger interval

\* \*\*Hours Between Triggers\*\*: Enter the number of hours between each workflow trigger.

\* \*\*Trigger at Minute\*\*: Enter the minute past the hour to trigger the node when it runs, from `0` to `59`.

For example, if you enter `6` \*\*Hours Between Triggers\*\* and `30` \*\*Trigger at Minute\*\*, the node will run every six hours at 30 minutes past the hour.

### Days trigger interval

\* \*\*Days Between Triggers\*\*: Enter the number of days between each workflow trigger.

\* \*\*Trigger at Hour\*\*: Select the hour of the day to trigger the node.

\* \*\*Trigger at Minute\*\*: Enter the minute past the hour to trigger the node when it runs, from `0` to `59`.

<!-- vale from-microsoft.AMPM = NO -->

For example, if you enter `2` \*\*Days Between Triggers\*\*, \*\*9am\*\* for \*\*Trigger at Hour\*\*, and `15` \*\*Trigger at Minute\*\*, the node will run every two days at 9:15am.

<!-- vale from-microsoft.AMPM = YES -->

### Weeks trigger interval

\* \*\*Weeks Between Triggers\*\*: Enter the number of weeks between each workflow trigger.

\* \*\*Trigger on Weekdays\*\*: Select the day(s) of the week you want to trigger the node.

\* \*\*Trigger at Hour\*\*: Select the hour of the day to trigger the node.

\* \*\*Trigger at Minute\*\*: Enter the minute past the hour to trigger the node when it runs, from `0` to `59`.

For example, if you enter `2` \*\*Weeks Between Triggers\*\*, \*\*Monday\*\* for \*\*Trigger on Weekdays\*\*, \*\*3pm\*\* for \*\*Trigger at Hour\*\*, and `30` \*\*Trigger at Minute\*\*, the node will run every two weeks on Monday at 3:30 PM.

### Months trigger interval

\* \*\*Months Between Triggers\*\*: Enter the number of months between each workflow trigger.

\* \*\*Trigger at Day of Month\*\*: Enter the day of the month the day should trigger at, from `1` to `31`. If a month doesn't have this day, the node won't trigger. For example, if you enter `30` here, the node won't trigger in February.

\* \*\*Trigger at Hour\*\*: Select the hour of the day to trigger the node.

\* \*\*Trigger at Minute\*\*: Enter the minute past the hour to trigger the node when it runs, from `0` to `59`.

For example, if you enter `3` \*\*Months Between Triggers\*\*, `28` \*\*Trigger at Day of Month\*\*, \*\*9am\*\* for \*\*Trigger at Hour\*\*, and `0` \*\*Trigger at Minute\*\*, the node will run each quarter on the 28th day of the month at 9:00 AM.

### Custom (Cron) interval

Enter a custom cron \*\*Expression\*\* to set the schedule for the trigger.

To generate a Cron expression, you can use [crontab guru](https://crontab.guru){:target=\_blank .external-link}. Paste the Cron expression that you generated using crontab guru in the \*\*Expression\*\* field in n8n.

#### Examples

<!-- vale from-write-good.Weasel = NO -->

|Type|Cron Expression|Description|

|---|---|---|

|Every X Seconds|`\*/10 \* \* \* \* \*`|Every 10 seconds.|

|Every X Minutes|`\*/5 \* \* \* \*`|Every 5 minutes.|

|Hourly|`0 \* \* \* \*`|Every hour on the hour.|

|Daily|`0 6 \* \* \*`|At 6:00 AM every day.|

|Weekly|`0 12 \* \* 1`|At noon every Monday.|

|Monthly|`0 0 1 \* \*`|At midnight on the 1st of every month.|

|Every X Days|`0 0 \*/3 \* \*`|At midnight every 3rd day.|

|Only Weekdays|`0 9 \* \* 1-5`|At 9:00 AM Monday through Friday.|

|Custom Hourly Range|`0 9-17 \* \* \*`|Every hour from 9:00 AM to 5:00 PM every day.|

|Quarterly|`0 0 1 1,4,7,10 \*`|At midnight on the 1st of January, April, July, and October.|

<!-- vale from-write-good.Weasel = YES -->

/// warning | Using variables in the Cron expression

While variables can be used in the scheduled trigger, their values only get evaluated when the workflow is activated. If you alter a variable's value in the settings after a workflow is activated, the changes won't alter the cron schedule. To re-evaluate the variable, set the workflow to \*\*Inactive\*\* and then back to \*\*Active\*\* again

///

#### Why there are six asterisks in the Cron expression

The sixth asterisk in the Cron expression represents seconds. Setting this is optional. The node will execute even if you don't set the value for seconds.

| (\*) | \* | \* | \* | \* | \* |

|:--:|:--:|:--:|:--:|:--:|:--:|

|(second)|minute|hour|day of month|month|day of week(Sun-Sat)|

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'schedule-trigger') ]]

## Common issues

For common questions or issues and suggested solutions, refer to [Common Issues](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/common-issues.md).

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webhook node common issues

description: Documentation for common issues and questions in the Webhook node in n8n, a workflow automation platform. Includes details of the issues and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# Common issues and questions

Here are some common issues and questions for the [Webhook node](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) and suggested solutions.

## Listen for multiple HTTP methods

By default, the Webhook node accepts calls that use a single method. For example, it can accept GET or POST requests, but not both. If you want to accept calls using multiple methods:

1. Open the node \*\*Settings\*\*.

1. Turn on \*\*Allow Multiple HTTP Methods\*\*.

1. Return to \*\*Parameters\*\*. By default, the node now accepts GET and POST calls. You can add other methods in the \*\*HTTP Methods\*\* field.

The Webhook node has an output for each method, so you can perform different actions depending on the method.

## Use the HTTP Request node to trigger the Webhook node

The [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node makes HTTP requests to the URL you specify.

1. Create a new workflow.

2. Add the HTTP Request node to the workflow.

3. Select a method from the \*\*Request Method\*\* dropdown list. For example, if you select GET as the \*\*HTTP method\*\* in your Webhook node, select GET as the request method in the HTTP Request node.

4. Copy the URL from the Webhook node, and paste it in the \*\*URL\*\* field in the HTTP Request node.

5. If using the test URL for the webhook node: execute the workflow with the Webhook node.

6. Execute the HTTP Request node.

## Use curl to trigger the Webhook node

You can use [curl](https://curl.se/){:target=\_blank .external-link} to make HTTP requests that trigger the Webhook node.

/// note

In the examples, replace `<https://your-n8n.url/webhook/path>` with your webhook URL.

The examples make GET requests. You can use whichever HTTP method you set in \*\*HTTP Method\*\*.

///

Make an HTTP request without any parameters:

```sh

curl --request GET <https://your-n8n.url/webhook/path>

```

Make an HTTP request with a body parameter:

```sh

curl --request GET <https://your-n8n.url/webhook/path> --data 'key=value'

```

Make an HTTP request with header parameter:

```sh

curl --request GET <https://your-n8n.url/webhook/path> --header 'key=value'

```

Make an HTTP request to send a file:

```sh

curl --request GET <https://your-n8n.url/webhook/path> --from 'key=@/path/to/file'

```

Replace `/path/to/file` with the path of the file you want to send.

## Send a response of type string

By default, the response format is JSON or an array. To send a response of type string:

1. Select \*\*Response Mode\*\* > \*\*When Last Node Finishes\*\*.

2. Select \*\*Response Data\*\* > \*\*First Entry JSON\*\*.

3. Select \*\*Add Option\*\* > \*\*Property Name\*\*.

4. Enter the name of the property that contains the response. This defaults to `data`.

5. Connect an [Edit Fields node](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) to the Webhook node.

6. In the Edit Fields node, select \*\*Add Value\*\* > \*\*String\*\*.

7. Enter the name of the property in the \*\*Name\*\* field. The name should match the property name from step 4.

8. Enter the string value in the \*\*Value\*\* field.

9. Toggle \*\*Keep Only Set\*\* to on (green).

When you call the Webhook, it sends the string response from the Edit Fields node.

## Test URL versus Production URL

n8n generates two \*\*Webhook URLs\*\* for each Webhook node: a \*\*Test URL\*\* and a \*\*Production URL\*\*.

While building or testing a workflow, use the \*\*Test URL\*\*. Once you're ready to use your Webhook URL in production, use the \*\*Production URL\*\*.

| \*\*URL type\*\* | \*\*How to trigger\*\* | \*\*Listening duration\*\* | \*\*Data shown in editor UI?\*\* |

| :--- | --- | --- | :---: |

| Test URL | Select \*\*Listen for test event\*\* and trigger a test event from the source. | 120 seconds | :white\_check\_mark: |

| Production URL | Activate the workflow | Until workflow deactivated | :x: |

Refer to [Workflow development](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/workflow-development.md) for more information.

## IP addresses in whitelist are failing to connect

If you're unable to connect from IP addresses in your IP whitelist, check if you are running n8n behind a reverse proxy.

If so, set the `N8N\_PROXY\_HOPS` [environment variable](/hosting/configuration/environment-variables/index.md) to the number of reverse-proxies n8n is running behind.

## Only one webhook per path and method

n8n only permits registering one webhook for each path and HTTP method combination (for example, a `GET` request for `/my-request`). This avoids ambiguity over which webhook should receive requests.

If you receive a message that the path and method you chose are already in use, you can either:

\* Deactivate the workflow with the conflicting webhook.

\* Change the webhook path and/or method for one of the conflicting webhooks.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webhook node documentation

description: Learn how to use the Webhook node in n8n. Follow technical documentation to integrate Webhook node into your workflows.

priority: critical

contentType: [integration, reference]

tags:

- "webhook set route parameters"

- "get webhook URL"

- "call workflow externally"

hide:

- tags

---

# Webhook node

Use the Webhook node to create [webhooks](https://en.wikipedia.org/wiki/Webhook){:target=\_blank .external-link}, which can receive data from apps and services when an event occurs. It's a trigger node, which means it can start an n8n workflow. This allows services to connect to n8n and run a workflow.

You can use the Webhook node as a trigger for a workflow when you want to receive data and run a workflow based on the data. The Webhook node also supports returning the data generated at the end of a workflow. This makes it useful for building a workflow to process data and return the results, like an API endpoint.

The webhook allows you to trigger workflows from services that don't have a dedicated app trigger node.

## Workflow development process

n8n provides different \*\*Webhook URL\*\*s for testing and production. The testing URL includes an option to \*\*Listen for test event\*\*. Refer to [Workflow development](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/workflow-development.md) for more information on building, testing, and shifting your Webhook node to production.

## Node parameters

Use these parameters to configure your node.

### Webhook URLs

The Webhook node has two \*\*Webhook URLs\*\*: test and production. n8n displays the URLs at the top of the node panel.

Select \*\*Test URL\*\* or \*\*Production URL\*\* to toggle which URL n8n displays.

<figure markdown="span">

![Sample Webhook URLs in the Webhook node's Parameters tab display a Test URL and Production URL](/\_images/integrations/builtin/core-nodes/webhook/webhook-urls.png)

<figcaption>Sample Webhook URLs in the Webhook node's Parameters tab</figcaption>

</figure>

\* \*\*Test\*\*: n8n registers a test webhook when you select \*\*Listen for Test Event\*\* or \*\*Execute workflow\*\*, if the workflow isn't active. When you call the webhook URL, n8n displays the data in the workflow.

\* \*\*Production\*\*: n8n registers a production webhook when you activate the workflow. When using the production URL, n8n doesn't display the data in the workflow. You can still view workflow data for a production execution: select the \*\*Executions\*\* tab in the workflow, then select the workflow execution you want to view.

### HTTP Method

The Webhook node supports standard [HTTP Request Methods](https://developer.mozilla.org/en-US/docs/Web/HTTP/Methods){:target=\_blank .external-link}:

\* DELETE

\* GET

\* HEAD

\* PATCH

\* POST

\* PUT

/// note | Webhook max payload

The webhook maximum payload size is 16MB.

If you're self-hosting n8n, you can change this using the [endpoint environment variable](/hosting/configuration/environment-variables/endpoints.md) `N8N\_PAYLOAD\_SIZE\_MAX`.

///

### Path

By default, this field contains a randomly generated webhook URL path, to avoid conflicts with other webhook nodes.

You can manually specify a URL path, including adding route parameters. For example, you may need to do this if you use n8n to prototype an API and want consistent endpoint URLs.

The \*\*Path\*\* field can take the following formats:

- `/:variable`

- `/path/:variable`

- `/:variable/path`

- `/:variable1/path/:variable2`

- `/:variable1/:variable2`

### Supported authentication methods

You can require authentication for any service calling your webhook URL. Choose from these authentication methods:

- Basic auth

- Header auth

- JWT auth

- None

Refer to [Webhook credentials](/integrations/builtin/credentials/webhook.md) for more information on setting up each credential type.

### Respond

\* \*\*Immediately\*\*: The Webhook node returns the response code and the message \*\*Workflow got started\*\*.

\* \*\*When Last Node Finishes\*\*: The Webhook node returns the response code and the data output from the last node executed in the workflow.

\* \*\*Using 'Respond to Webhook' Node\*\*: The Webhook node responds as defined in the [Respond to Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.respondtowebhook.md) node.

### Response Code

Customize the [HTTP response code](https://developer.mozilla.org/en-US/docs/Web/HTTP/Status){:target=\_blank .external-link} that the Webhook node returns upon successful execution. Select from common response codes or create a custom code.

### Response Data

Choose what data to include in the response body:

\* \*\*All Entries\*\*: The Webhook returns all the entries of the last node in an array.

\* \*\*First Entry JSON\*\*: The Webhook returns the JSON data of the first entry of the last node in a JSON object.

\* \*\*First Entry Binary\*\*: The Webhook returns the binary data of the first entry of the last node in a binary file.

\* \*\*No Response Body\*\*: The Webhook returns without a body.

Applies only to \*\*Respond > When Last Node Finishes\*\*.

## Node options

Select \*\*Add Option\*\* to view more configuration options. The available options depend on your node parameters. Refer to the table for option availability.

\* \*\*Allowed Origins (CORS)\*\*: Set the permitted cross-origin domains. Enter a comma-separated list of URLs allowed for cross-origin non-preflight requests. Use `\*` (default) to allow all origins.

\* \*\*Binary Property\*\*: Enabling this setting allows the Webhook node to receive binary data, such as an image or audio file. Enter the name of the binary property to write the data of the received file to.

\* \*\*Ignore Bots\*\*: Ignore requests from bots like link previewers and web crawlers.

\* \*\*IP(s) Whitelist\*\*: Enable this to limit who (or what) can invoke a Webhook trigger URL. Enter a comma-separated list of allowed IP addresses. Access from IP addresses outside the whitelist throws a 403 error. If left blank, all IP addresses can invoke the webhook trigger URL.

\* \*\*No Response Body\*\*: Enable this to prevent n8n sending a body with the response.

\* \*\*Raw Body\*\*: Specify that the Webhook node will receive data in a raw format, such as JSON or XML.

\* \*\*Response Content-Type\*\*: Choose the format for the webhook body.

\* \*\*Response Data\*\*: Send custom data with the response.

\* \*\*Response Headers\*\*: Send extra headers in the Webhook response. Refer to [MDN Web Docs | Response header](https://developer.mozilla.org/en-US/docs/Glossary/Response\_header){:target=\_blank .external-link} to learn more about response headers.

\* \*\*Property Name\*\*: by default, n8n returns all available data. You can choose to return a specific JSON key, so that n8n returns the value.

| Option | Required node configuration |

| ------ | --------------------------- |

| Allowed Origins (CORS) | Any |

| Binary Property | Either: <br />HTTP Method > POST <br /> HTTP Method > PATCH <br /> HTTP Method > PUT |

| Ignore Bots | Any |

| IP(s) Whitelist | Any |

| Property Name | Both: <br /> Respond > When Last Node Finishes <br /> Response Data > First Entry JSON |

| No Response Body | Respond > Immediately |

| Raw Body | Any |

| Response Code | Any except Respond > Using 'Respond to Webhook' Node |

| Response Content-Type | Both: <br /> Respond > When Last Node Finishes <br /> Response Data > First Entry JSON |

| Response Data | Respond > Immediately |

| Response Headers | Any |

## How n8n secures HTML responses

Starting with [n8n version 1.103.0](/release-notes.md#n8n11030), n8n automatically wraps HTML responses to webhooks in `<iframe>` tags. This is a security mechanism to protect the instance users.

This has the following implications:

- HTML renders in a sandboxed iframe instead of directly in the parent document.

- JavaScript code that attempts to access the top-level window or local storage will fail.

- Authentication headers aren't available in the sandboxed iframe (for example, basic auth). You need to use an alternative approach, like embedding a short-lived access token within the HTML.

- Relative URLs (for example, `<form action="/">`) won't work. Use absolute URLs instead.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'webhook') ]]

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/common-issues.md).

## workflow-development.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webhook node workflow development documentation

description: Learn how to build, test, and use the Webhook node in your workflows in n8n.

priority: critical

contentType: howto

---

# Workflow development

The [Webhook node](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) works a bit differently from other core nodes. n8n recommends following these processes for building, testing, and using your Webhook node in production.

n8n generates two \*\*Webhook URLs\*\* for each Webhook node: a \*\*Test URL\*\* and a \*\*Production URL\*\*.

## Build and test workflows

While building or testing a workflow, use the \*\*Test\*\* webhook URL.

Using a test webhook ensures that you can view the incoming data in the editor UI, which is useful for debugging. Select \*\*Listen for test event\*\* to register the webhook before sending the data to the test webhook. The test webhook stays active for 120 seconds.

When using the Webhook node on localhost on a [self-hosted](/hosting/index.md) n8n instance, run n8n in tunnel mode:

\* [npm with tunnel](/hosting/installation/npm.md#n8n-with-tunnel)

\* [Docker with tunnel](/hosting/installation/docker.md#n8n-with-tunnel)

<video src="/\_video/integrations/builtin/core-nodes/webhook/webhook-node-intro.mp4" controls width="100%"></video>

## Production workflows

When your workflow is ready, switch to using the \*\*Production\*\* webhook URL. You can then activate your workflow, and n8n runs it automatically when an external service calls the webhook URL.

When working with a Production webhook, ensure that you have saved and activated the workflow. Data flowing through the webhook isn't visible in the editor UI with the production webhook.

Refer to [Create a workflow](/workflows/create.md) for more information on activating workflows.

## common-issues.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Chat Trigger node common issues

description: Documentation for common issues and questions in the Chat Trigger node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Chat Trigger node common issues

Here are some common errors and issues with the [Chat Trigger node](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md) and steps to resolve or troubleshoot them.

## Pass data from a website to an embedded Chat Trigger node

When [embedding](https://www.npmjs.com/package/@n8n/chat) the Chat Trigger node in a website, you might want to pass extra information to the Chat Trigger. For example, passing a user ID stored in a site cookie.

To do this, use the `metadata` field in the JSON object you pass to the `createChat` function in your embedded chat window:

```javascript

createChat({

webhookUrl: 'YOUR\_PRODUCTION\_WEBHOOK\_URL',

metadata: {

'YOUR\_KEY': 'YOUR\_DATA'

};

});

```

The `metadata` field can contain arbitrary data that will appear in the Chat Trigger output alongside other output data. From there, you can query and process the data from downstream nodes as usual using n8n's [data processing features](/data/index.md).

## Chat Trigger node doesn't fetch previous messages

When you configure a Chat Trigger node, you might experience problems fetching previous messages if you aren't careful about how you configure session loading. This often manifests as a `workflow could not be started!` error.

In Chat Triggers, the \*\*Load Previous Session\*\* option retrieves previous chat messages for a session using the `sessionID`. When you set the \*\*Load Previous Session\*\* option to \*\*From memory\*\*, it's almost always best to [connect the same memory node](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md#load-previous-session) to both the Chat Trigger and the Agent in your workflow:

1. In your \*\*Chat Trigger\*\* node, set the \*\*Load Previous Session\*\* option to \*\*From Memory\*\*. This is only visible if you've made the chat publicly available.

2. Attach a \*\*Simple Memory\*\* node to the \*\*Memory\*\* connector.

3. Attach the same \*\*Simple Memory\*\* node to \*\*Memory\*\* connector of your \*\*Agent\*\*.

4. In the \*\*Simple Memory\*\* node, set \*\*Session ID\*\* to \*\*Connected Chat Trigger Node\*\*.

One instance where you may want to attach separate memory nodes to your Chat Trigger and the Agent is if you want to set the \*\*Session ID\*\* in your memory node to \*\*Define below\*\*.

If you're retrieving the session ID from an expression, the same expression must work for each of the nodes attached to it. If the expression isn't compatible with each of the nodes that need memory, you might need to use separate memory nodes so you can customize the expression for the session ID on a per-node basis.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Chat Trigger node documentation

description: Learn how to use the Chat Trigger node in n8n. Follow technical documentation to integrate Chat Trigger node into your workflows.

priority: critical

---

# Chat Trigger node

Use the Chat Trigger node when building AI workflows for chatbots and other chat interfaces. You can configure how users access the chat, using one of n8n's provided interfaces, or your own. You can add authentication.

You must connect either an agent or chain [root node](/integrations/builtin/cluster-nodes/root-nodes/index.md).

/// warning | Workflow execution usage

Every message to the Chat Trigger executes your workflow. This means that one conversation where a user sends 10 messages uses 10 executions from your execution allowance. Check your payment plan for details of your allowance.

///

/// note | Manual Chat trigger

This node replaces the Manual Chat Trigger node from version 1.24.0.

///

## Node parameters

### Make Chat Publicly Available

Set whether the chat should be publicly available (turned on) or only available through the manual chat interface (turned off).

Leave this turned off while you're building the workflow. Turn it on when you're ready to activate the workflow and allow users to access the chat.

### Mode

Choose how users access the chat. Select from:

\* \*\*Hosted Chat\*\*: Use n8n's hosted chat interface. Recommended for most users because you can configure the interface using the [node options](#node-options) and don't have to do any other setup.

\* \*\*Embedded Chat\*\*: This option requires you to create your own chat interface. You can use n8n's [chat widget](https://www.npmjs.com/package/@n8n/chat){:target=\_blank .external-link} or build your own. Your chat interface must call the webhook URL shown in \*\*Chat URL\*\* in the node.

### Authentication

Choose whether and how to restrict access to the chat. Select from:

\* \*\*None\*\*: The chat doesn't use authentication. Anyone can use the chat.

\* \*\*Basic Auth\*\*: The chat uses basic authentication.

\* Select or create a \*\*Credential for Basic Auth\*\* with a username and password. All users must use the same username and password.

\* \*\*n8n User Auth\*\*: Only users logged in to an n8n account can use the chat.

### Initial Message(s)

This parameter's only available if you're using \*\*Hosted Chat\*\*. Use it to configure the message the n8n chat interface displays when the user arrives on the page.

## Node options

Available options depend on the chat mode.

### Hosted chat options

#### Allowed Origin (CORS)

Set the origins that can access the chat URL. Enter a comma-separated list of URLs allowed for cross-origin non-preflight requests.

Use `\*` (default) to allow all origins.

#### Input Placeholder, Title, and Subtitle

Enter the text for these elements in the chat interface.

??? Details "View screenshot"

![Customizable text elements](/\_images/integrations/builtin/core-nodes/chat-trigger/hosted-text-elements.png)

#### Load Previous Session

Select whether to load chat messages from a previous chat session.

If you select any option other than \*\*Off\*\*, you must connect the Chat trigger and the Agent you're using to a memory sub-node. The memory connector on the Chat trigger appears when you set \*\*Load Previous Session\*\* to \*\*From Memory\*\*. n8n recommends connecting both the Chat trigger and Agent to the same memory sub-node, as this ensures a single source of truth for both nodes.

??? Details "View screenshot"

![Connect nodes to memory](/\_images/integrations/builtin/core-nodes/chat-trigger/connect-memory.png)

#### Response Mode

Use this option when building a workflow with steps after the agent or chain that's handling the chat. Choose from:

\* \*\*When Last Node Finishes\*\*: The Chat Trigger node returns the response code and the data output from the last node executed in the workflow.

\* \*\*Using 'Respond to Webhook' Node\*\*: The Chat Trigger node responds as defined in the [Respond to Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.respondtowebhook.md) node.

#### Require Button Click to Start Chat

Set whether to display a \*\*New Conversation\*\* button on the chat interface (turned on) or not (turned off).

??? Details "View screenshot"

![New Conversation button](/\_images/integrations/builtin/core-nodes/chat-trigger/new-conversation-button.png)

### Embedded chat options

#### Allowed Origin (CORS)

Set the origins that can access the chat URL. Enter a comma-separated list of URLs allowed for cross-origin non-preflight requests.

Use `\*` (default) to allow all origins.

#### Load Previous Session

Select whether to load chat messages from a previous chat session.

If you select any option other than \*\*Off\*\*, you must connect the Chat trigger and the Agent you're using to a memory sub-node. The memory connector on the Chat trigger appears when you set \*\*Load Previous Session\*\* to \*\*From Memory\*\*. n8n recommends connecting both the Chat trigger and Agent to the same memory sub-node, as this ensures a single source of truth for both nodes.

??? Details "View screenshot"

![Connect nodes to memory](/\_images/integrations/builtin/core-nodes/chat-trigger/connect-memory.png)

#### Response Mode

Use this option when building a workflow with steps after the agent or chain that's handling the chat. Choose from:

\* \*\*When Last Node Finishes\*\*: The Chat Trigger node returns the response code and the data output from the last node executed in the workflow.

\* \*\*Using 'Respond to Webhook' Node\*\*: The Chat Trigger node responds as defined in the [Respond to Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.respondtowebhook.md) node.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'chat-trigger') ]]

## Related resources

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Set the chat response manually

You need to manually set the chat response when you don't want to directly send the output of an Agent or Chain node to the user. Instead, you want to take the output of an Agent or Chain node and modify it or do something else with it before sending it back to the user.

In a basic workflow, the Agent and Chain nodes output a parameter named either `output` or `text`, and the Chat trigger sends the value of this parameter to the user as the chat response.

If you need to manually create the response sent to the user, you must create a parameter named either `text` or `output`. If you use a different parameter name, the Chat trigger sends the entire object as its response, not just the value.

## Common issues

For common questions or issues and suggested solutions, refer to [Common Issues](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/common-issues.md).

## actionnetwork.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Action Network credentials

description: Documentation for Action Network credentials. Use these credentials to authenticate Action Network in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Action Network credentials

You can use these credentials to authenticate the following nodes:

- [Action Network](/integrations/builtin/app-nodes/n8n-nodes-base.actionnetwork.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Action Network's API documentation](https://actionnetwork.org/docs/){:target=\_blank .external-link} for more information about working with the service.

## Using API key

To configure this credential, you'll need an [Action Network](https://actionnetwork.org/){:target=\_blank .external-link} account with [API key access enabled](#request-api-access) and:

- An \*\*API Key\*\*

To get an API key:

1. Log in to your Action Network account.

2. From the \*\*Start Organizing\*\* menu, select \*\*Details >\*\* [\*\*API & Sync\*\*](https://actionnetwork.org/apis){:target=\_blank .external-link}.

3. Select the list you want to generate an API key for.

4. Generate an API key for that list.

5. Copy the \*\*API Key\*\* and enter it in your n8n credential.

Refer to the [Action Network API Authentication instructions](https://actionnetwork.org/docs/v2/#auth){:target=\_blank .external-link} for more information.

## Request API access

Each user account and group on the Action Network has a separate API key to access that user or group's data.

You must explicitly request API access from Action Network, which you can do in one of two ways:

1. If you're already a paying customer, [contact them](https://actionnetwork.org/contact) to request partner access. Partner access includes API key access.

2. If you're a developer, [request a developer account](https://actionnetwork.org/developers){:target=\_blank .external-link}. Once your account request is granted, you'll have API key access.

## activecampaign.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ActiveCampaign credentials

description: Documentation for ActiveCampaign credentials. Use these credentials to authenticate ActiveCampaign in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# ActiveCampaign credentials

You can use these credentials to authenticate the following nodes:

- [ActiveCampaign](/integrations/builtin/app-nodes/n8n-nodes-base.activecampaign.md)

- [Active Campaign Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.activecampaigntrigger.md)

## Supported authentication methods

\* API key

## Related resources

Refer to [ActiveCampaign's API documentation](https://help.activecampaign.com/hc/en-us/sections/360005740979-ActiveCampaign-API-Resources){:target=\_blank .external-link} for more information about working with the service.

## Using API key

To configure this credential, you'll need an [ActiveCampaign](https://www.activecampaign.com/){:target=\_blank .external-link} account and:

- An \*\*API URL\*\*

- An \*\*API Key\*\*

To get both and set up the credential:

1. In ActiveCampaign, select \*\*Settings\*\* (the gear cog icon) from the left menu.

2. Select \*\*Developer\*\*.

3. Copy the \*\*API URL\*\* and enter it in your n8n credential.

4. Copy the \*\*API Key\*\* and enter it in your n8n credential.

Refer to [How to obtain your ActiveCampaign API URL and Key](https://help.activecampaign.com/hc/en-us/articles/207317590-Getting-started-with-the-API#h\_01HJ6REM2YQW19KYPB189726ST){:target=\_blank .external-link} for more information or for instructions on resetting your API key.

## acuityscheduling.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Acuity Scheduling credentials

description: Documentation for Acuity Scheduling credentials. Use these credentials to authenticate Acuity Scheduling in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Acuity Scheduling credentials

You can use these credentials to authenticate the following nodes:

- [Acuity Scheduling Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.acuityschedulingtrigger.md)

## Prerequisites

Create an [Acuity Scheduling](https://acuityscheduling.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

- OAuth2

## Related resources

Refer to [Acuity's API documentation](https://developers.acuityscheduling.com/reference/quick-start){:target=\_blank .external-link} for more information about working with the service.

## Using API key

To configure this credential, you'll need:

- A numeric \*\*User ID\*\*

- An \*\*API Key\*\*

Refer to the [Acuity API Quick Start authentication instructions](https://developers.acuityscheduling.com/reference/quick-start#authentication){:target=\_blank .external-link} to generate an API key and view your User ID.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to set this up from scratch, complete the [Acuity OAuth2 Account Registration page](https://acuityscheduling.com/oauth2/register){:target=\_blank .external-link}. Use the \*\*Client ID\*\* and \*\*Client Secret\*\* provided from that registration.

## adalo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Adalo credentials

description: Documentation for Adalo credentials. Use these credentials to authenticate Adalo in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Adalo credentials

You can use these credentials to authenticate the following nodes:

- [Adalo](/integrations/builtin/app-nodes/n8n-nodes-base.adalo.md)

/// note | API access

You need a Team or Business plan to use the Adalo APIs.

///

## Supported authentication methods

- API key

## Related resources

Refer to [Adalo's API collections documentation](https://help.adalo.com/integrations/the-adalo-api/collections){:target=\_blank .external-link} for more information about working with the service.

## Using API key

To configure this credential, you'll need an [Adalo](https://www.adalo.com/){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*

- An \*\*App ID\*\*

To get these, create an Adalo app:

1. From the app dropdown in the top navigation, select \*\*CREATE NEW APP\*\*.

1. Select the App Layout type that makes sense for you and select \*\*Next\*\*.

- If you're new to using the product, Adalo recommend using \*\*Mobile Only\*\*.

1. Select a template to get started with or select \*\*Blank\*\*, then select \*\*Next\*\*.

1. Enter an \*\*App Name\*\*, like `n8n integration`.

1. If applicable, select the \*\*Team\*\* for the app.

1. Select branding colors.

1. Select \*\*Create\*\*. The app editor opens.

1. In the left menu, select \*\*Settings\*\* (the gear cog icon).

1. Select \*\*App Access\*\*.

1. In the \*\*API Key\*\* section, select \*\*Generate Key\*\*.

- If you don't have the correct plan level, you'll see a prompt to upgrade instead.

1. Copy the key and enter it as the \*\*API Key\*\* in your n8n credential.

1. The URL includes the \*\*App ID\*\* after `https://app.adalo.com/apps/`. For example, if the URL for your app is `https://app.adalo.com/apps/b78bdfcf-48dc-4550-a474-dd52c19fc371/app-settings`, `b78bdfcf-48dc-4550-a474-dd52c19fc371` is the App ID. Copy this value and enter it in your n8n credential.

Refer to [Creating an app](https://help.adalo.com/design/designing-your-app/creating-an-app){:target=\_blank .external-link} for more information on creating apps in Adalo. Refer to [The Adalo API](https://help.adalo.com/integrations/the-adalo-api){:target=\_blank .external-link} for more information on generating API keys.

## affinity.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Affinity credentials

description: Documentation for the Affinity credentials. Use these credentials to authenticate Affinity in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Affinity credentials

You can use these credentials to authenticate the following nodes:

- [Affinity](/integrations/builtin/app-nodes/n8n-nodes-base.affinity.md)

- [Affinity Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.affinitytrigger.md)

## Prerequisites

Create an [Affinity](https://www.affinity.co/){:target=\_blank .external-link} account at the Scale, Advanced, or Enterprise subscription tiers.

## Supported authentication methods

- API key

## Related resources

Refer to [Affinity's API documentation](https://support.affinity.co/hc/en-us/sections/360010294532-External-API){:target=\_blank .external-link} for more information about working with the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to [How to obtain your Affinity API key documentation](https://support.affinity.co/hc/en-us/articles/360032633992-How-to-obtain-your-Affinity-API-key){:target=\_blank .external-link} to get your API key.

## agilecrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Agile CRM credentials

description: Documentation for Agile CRM credentials. Use these credentials to authenticate Agile CRM in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Agile CRM credentials

You can use these credentials to authenticate the following nodes:

- [Agile CRM](/integrations/builtin/app-nodes/n8n-nodes-base.agilecrm.md)

## Prerequisites

Create an [Agile CRM](https://www.agilecrm.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Agile CRM's API documentation](https://www.agilecrm.com/api){:target=\_blank .external-link} for more information about working with the service.

## Using API key

To configure this credential, you'll need:

- An \*\*Email Address\*\* registered with AgileCRM

- A REST \*\*API Key\*\*: Access your Agile CRM API key through \*\*Admin Settings > Developers & API >\*\* [\*\*REST API key\*\*](https://github.com/agilecrm/rest-api?tab=readme-ov-file#api-key){:target=\_blank .external-link}.

- An Agile CRM \*\*Subdomain\*\* (for example, `n8n`)

## airtable.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Airtable credentials

description: Documentation for Airtable credentials. Use these credentials to authenticate Airtable in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Airtable credentials

You can use these credentials to authenticate the following nodes:

- [Airtable](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md)

- [Airtable Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.airtabletrigger.md)

## Prerequisites

Create an [Airtable](https://airtable.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- Personal Access Token (PAT)

- OAuth2

/// note | API Key deprecation

n8n used to offer an API key authentication method with Airtable. Airtable [fully deprecated these keys](https://support.airtable.com/v1/docs/airtable-api-deprecation-guidelines){:target=\_blank .external-link} as of February 2024. If you were using an Airtable API credential, replace it with an Airtable Personal Access Token or Airtable OAuth2 credential. n8n recommends using Personal Access Token instead.

///

## Related resources

Refer to [Airtable's API documentation](https://airtable.com/developers/web/api/authentication){:target=\_blank .external-link} for more information about the service.

## Using personal access token

To configure this credential, you'll need:

- A Personal \*\*Access Token\*\* (PAT)

To create your PAT:

1. Go to the Airtable Builder Hub [Personal access tokens](https://airtable.com/create/tokens){:target=\_blank .external-link} page.

1. Select \*\*+ Create new token\*\*. Airtable opens the \*\*Create personal access token\*\* page.

1. Enter a \*\*Name\*\* for your token, like `n8n credential`.

1. Add \*\*Scopes\*\* to your token. Refer to Airtable's [Scopes](https://airtable.com/developers/web/api/scopes){:target=\_blank .external-link} guide for more information. n8n recommends using these scopes:

- `data.records:read`

- `data.records:write`

- `schema.bases:read`

1. Select the \*\*Access\*\* for your token. Choose from a single base, multiple bases (even bases from different workspaces), all of the current and future bases in a workspace you own, or all of the bases from any workspace that you own including bases/workspace added in the future.

1. Select \*\*Create token\*\*.

1. Airtable opens a modal with your token displayed. Copy this token and enter it in your n8n credential as the \*\*Access Token\*\*.

Refer to Airtable's [Find/create PATs documentation](https://support.airtable.com/v1/docs/creating-personal-access-tokens){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need:

- An \*\*OAuth Redirect URL\*\*

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To generate all this information, register a new Airtable integration:

1. Open your Airtable Builder Hub [\*\*OAuth integrations\*\*](https://airtable.com/create/oauth){:target=\_blank .external-link} page.

2. Select the \*\*Register new OAuth integration\*\* button.

3. Enter a name for your OAuth integration.

4. Copy the \*\*OAuth Redirect URL\*\* from your n8n credential.

5. Paste that redirect URL in Airtable as the \*\*OAuth redirect URL\*\*.

6. Select \*\*Register integration\*\*.

7. On the following page, copy the \*\*Client ID\*\* from Airtable and paste it into the \*\*Client ID\*\* in your n8n credential.

8. In Airtable, select \*\*Generate client secret\*\*.

9. Copy the client secret and paste it into the \*\*Client Secret\*\* in your n8n credential.

10. Select the following scopes in Airtable:

- `data.records:read`

- `data.records:write`

- `schema.bases:read`

11. Select \*\*Save changes\*\* in Airtable.

12. In your n8n credential, select the \*\*Connect my account\*\*. A \*\*Grant access\*\* modal opens.

13. Follow the instructions and select the base you want to work on (or all bases).

14. Select \*\*Grant access\*\* to complete the connection.

Refer to the [Airtable Register a new integration documentation](https://airtable.com/developers/web/guides/oauth-integrations){:target=\_blank .external-link} for steps on registering a new Oauth integration.

## airtop.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Airtop credentials

description: Documentation for the Airtop credentials. Use these credentials to authenticate Airtop in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Airtop credentials

You can use these credentials to authenticate the following nodes:

- [Airtop](/integrations/builtin/app-nodes/n8n-nodes-base.airtop.md)

## Prerequisites

Create an [Airtop](https://portal.airtop.ai/sign-up) account.

## Supported authentication methods

\* API key

## Related resources

Refer to [Airtop's API documentation](https://docs.airtop.ai/api-reference/airtop-api) for more information about the service.

## Using API key

To configure this credential, you'll need an [Airtop](https://portal.airtop.ai/sign-up) account and an \*\*API key\*\*. To generate a new key:

1. Log in to the [Airtop Portal](https://portal.airtop.ai).

2. Go to [API Keys](https://portal.airtop.ai/api-keys).

3. Select the \*\*+ Create new key\*\* button.

4. Enter a name for the API key.

5. Select the generated key to copy the key.

6. Enter this as the \*\*API Key\*\* in your n8n credential.

Refer to [Airtop's Support](https://docs.airtop.ai/guides/misc/support) for assistance if you have any issues creating your API key.

## alienvault.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AlienVault credentials

description: Documentation for the AlienVault credentials. Use these credentials to authenticate AlienVault in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# AlienVault credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create an [AlienVault](https://otx.alienvault.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [AlienVault's documentation](https://otx.alienvault.com/api){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/alienvault/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*OTX Key\*\*: Once you have an AlienVault account, the \*\*OTX Key\*\* displays in your \*\*Settings\*\*.

## amqp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AMQP credentials

description: Documentation for AMQP credentials. Use these credentials to authenticate AMQP in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# AMQP credentials

You can use these credentials to authenticate the following nodes:

- [AMQP Sender](/integrations/builtin/app-nodes/n8n-nodes-base.amqp.md)

- [AMQP Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.amqptrigger.md)

## Prerequisites

Install an AMQP 1.0-compatible message broker like [ActiveMQ](https://activemq.apache.org/){:target=\_blank .external-link}. Refer to [AMQP Products](https://www.amqp.org/about/examples){:target=\_blank .external-link} for a list of options.

## Supported authentication methods

- AMQP connection

## Related resources

Advanced Message Queuing Protocol (AMQP) is an open standard application layer protocol for message-oriented middleware. The defining features of AMQP are message orientation, queuing, routing, reliability and security. Refer to the [OASIS AMQP Version 1.0 Standard](https://docs.oasis-open.org/amqp/core/v1.0/amqp-core-overview-v1.0.html){:target=\_blank .external-link} for more information.

Refer to your provider's documentation for more information about the service. Refer to [ActiveMQ's API documentation](https://activemq.apache.org/components/classic/documentation/rest){:target=\_blank .external-link} as one example.

## Using AMQP connection

To configure this credential, you'll need:

- A \*\*Hostname\*\*: Enter the hostname of your AMQP message broker.

- A \*\*Port\*\*: Enter the port number the connection should use.

- A \*\*User\*\*: Enter the name of the user to establish the connection as.

- For example, the default username in ActiveMQ is `admin`.

- A \*\*Password\*\*: Enter the user's password.

- For example, the default password in ActiveMQ is `admin`.

- \_Optional:\_ \*\*Transport Type\*\*: Enter either `tcp` or `tls`.

Refer to your provider's documentation for more detailed instructions.

## anthropic.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Anthropic credentials

description: Documentation for the Anthropic credentials. Use these credentials to authenticate Anthropic in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Anthropic credentials

You can use these credentials to authenticate the following nodes:

- [Anthropic Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatanthropic.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Anthropic's documentation](https://docs.anthropic.com/claude/reference/getting-started-with-the-api){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need an [Anthropic Console account](https://console.anthropic.com){:target=\_blank .external-link} with access to Claude.

Then:

1. In the Anthropic Console, open \*\*Settings >\*\* [\*\*API Keys\*\*](https://console.anthropic.com/settings/keys){:target=\_blank .external-link}.

2. Select \*\*+ Create Key\*\*.

3. Give your key a \*\*Name\*\*, like `n8n-integration`.

4. Select \*\*Copy Key\*\* to copy the key.

5. Enter this as the \*\*API Key\*\* in your n8n credential.

Refer to Anthropic's [Intro to Claude](https://docs.anthropic.com/en/docs/intro-to-claude){:target=\_blank .external-link} and [Quickstart](https://docs.anthropic.com/en/docs/quickstart){:target=\_blank .external-link} for more information.

## apitemplateio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: APITemplate.io credentials

description: Documentation for APITemplate.io credentials. Use these credentials to authenticate APITemplate.io in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# APITemplate.io credentials

You can use these credentials to authenticate the following nodes:

- [APITemplate.io](/integrations/builtin/app-nodes/n8n-nodes-base.apitemplateio.md)

## Prerequisites

Create an [APITemplate.io](https://apitemplate.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [APITemplate.io's API documentation](https://apitemplate.io/apiv2/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Once you've created an APITemplate.io account, go to \*\*API Integration\*\* to copy the \*\*API Key\*\*.

## asana.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Asana credentials

description: Documentation for Asana credentials. Use these credentials to authenticate Asana in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Asana credentials

You can use these credentials to authenticate the following nodes:

- [Asana](/integrations/builtin/app-nodes/n8n-nodes-base.asana.md)

- [Asana Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.asanatrigger.md)

## Supported authentication methods

- Access token

- OAuth2

## Related resources

Refer to [Asana's Developer Guides](https://developers.asana.com/docs/overview){:target=\_blank .external-link} for more information about working with the service.

## Using Access token

To configure this credential, you'll need an [Asana](https://asana.com/){:target=\_blank .external-link} account and:

- A Personal \*\*Access Token\*\* (PAT)

To get your PAT:

1. Open the Asana [developer console](https://app.asana.com/0/my-apps){:target=\_blank .external-link}.

2. In the \*\*Personal access tokens\*\* section, select \*\*Create new token\*\*.

3. Enter a \*\*Token name\*\*, like `n8n integration`.

4. Check the box to agree to the \*\*Asana API terms\*\*.

5. Select \*\*Create token\*\*.

6. Copy the token and enter it as the \*\*Access Token\*\* in your n8n credential.

Refer to the [Asana Quick start guide](https://developers.asana.com/docs/quick-start#setup){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need an [Asana](https://asana.com/){:target=\_blank .external-link} account.

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting](/hosting/index.md) n8n, you'll need to register an application to set up OAuth:

1. Open the Asana [developer console](https://app.asana.com/0/my-apps){:target=\_blank .external-link}.

2. In the \*\*My apps\*\* section, select \*\*Create new app\*\*.

3. Enter an \*\*App name\*\* for your application, like `n8n integration`.

4. Select a purpose for your app.

5. Check the box to agree to the \*\*Asana API terms\*\*.

6. Select \*\*Create app\*\*. The page opens to the app's \*\*Basic Information\*\*.

7. Select \*\*OAuth\*\* from the left menu.

8. In n8n, copy the \*\*OAuth Redirect URL\*\*.

9. In Asana, select \*\*Add redirect URL\*\* and enter the URL you copied from n8n.

7. Copy the \*\*Client ID\*\* from Asana and enter it in your n8n credential.

8. Copy the \*\*Client Secret\*\* from Asana and enter it in your n8n credential.

Refer to the [Asana OAuth register an application documentation](https://developers.asana.com/docs/oauth#register-an-application){:target=\_blank .external-link} for more information.

## auth0management.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Auth0 Management credentials

description: Documentation for the Auth0 Management credentials. Use these credentials to authenticate Auth0 Management in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Auth0 Management credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create an [Auth0](https://auth0.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API client secret

## Related resources

Refer to [Auth0 Management's documentation](https://auth0.com/docs/api/management/v2){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/auth0-management-api/){:target=\_blank .external-link} on n8n's website.

## Using API client secret

To configure this credential, you'll need:

- An Auth0 \*\*Domain\*\*

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

Refer to the [Auth0 Management API Get Access Tokens documentation](https://auth0.com/docs/secure/tokens/access-tokens/get-access-tokens){:target=\_blank .external-link} for instructions on obtaining the Client ID and Client Secret from the application's \*\*Settings\*\* tab.

## automizy.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Automizy credentials

description: Documentation for Automizy credentials. Use these credentials to authenticate Automizy in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Automizy credentials

You can use these credentials to authenticate the following nodes:

- [Automizy](/integrations/builtin/app-nodes/n8n-nodes-base.automizy.md)

## Prerequisites

Create an [Automizy](https://automizy.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

## Related resources

Refer to [Automizy's API documentation](https://developers.automizy.com/automizyrestapi/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*API Token\*\*: Create new or access existing API tokens from your [\*\*Automizy dashboard\*\*](https://app.automizy.com/dashboard){:target=\_blank .external-link} \*\*> Settings > API Token\*\*.

## autopilot.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Autopilot credentials

description: Documentation for Autopilot credentials. Use these credentials to authenticate Autopilot in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Autopilot credentials

You can use these credentials to authenticate the following nodes:

- [Autopilot](/integrations/builtin/app-nodes/n8n-nodes-base.autopilot.md)

- [Autopilot Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.autopilottrigger.md)

/// warning | Autopilot branding change

Autopilot has become Ortto. The Autopilot credentials and nodes are only compatible with Autopilot, not the new Ortto API.

///

## Prerequisites

Create an [Autopilot](https://app.autopilothq.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Autopilot's API documentation](https://autopilot.docs.apiary.io/#){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API key in \*\*Settings > Autopilot API\*\*. Refer to [Autopilot API authentication](https://autopilot.docs.apiary.io/#reference/authentication){:target=\_blank .external-link} for more information.

## aws.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS credentials

description: Documentation for AWS credentials. Use these credentials to authenticate AWS in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# AWS credentials

You can use these credentials to authenticate the following nodes:

- [AWS Bedrock Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatawsbedrock.md)

- [AWS Certificate Manager](/integrations/builtin/app-nodes/n8n-nodes-base.awscertificatemanager.md)

- [AWS Cognito](/integrations/builtin/app-nodes/n8n-nodes-base.awscognito.md)

- [AWS Comprehend](/integrations/builtin/app-nodes/n8n-nodes-base.awscomprehend.md)

- [AWS DynamoDB](/integrations/builtin/app-nodes/n8n-nodes-base.awsdynamodb.md)

- [AWS Elastic Load Balancing](/integrations/builtin/app-nodes/n8n-nodes-base.awselb.md)

- [AWS Lambda](/integrations/builtin/app-nodes/n8n-nodes-base.awslambda.md)

- [AWS Rekognition](/integrations/builtin/app-nodes/n8n-nodes-base.awsrekognition.md)

- [AWS S3](/integrations/builtin/app-nodes/n8n-nodes-base.awss3.md)

- [AWS SES](/integrations/builtin/app-nodes/n8n-nodes-base.awsses.md)

- [AWS SNS](/integrations/builtin/app-nodes/n8n-nodes-base.awssns.md)

- [AWS SNS Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.awssnstrigger.md)

- [AWS SQS](/integrations/builtin/app-nodes/n8n-nodes-base.awssqs.md)

- [AWS Textract](/integrations/builtin/app-nodes/n8n-nodes-base.awstextract.md)

- [AWS Transcribe](/integrations/builtin/app-nodes/n8n-nodes-base.awstranscribe.md)

- [Embeddings AWS Bedrock](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsawsbedrock.md)

## Supported authentication methods

- API access key

## Related resources

Refer to [AWS's Identity and Access Management documentation](https://docs.aws.amazon.com/IAM/latest/UserGuide/getting-started.html){:target=\_blank .external-link} for more information about the service.

## Using API access key

To configure this credential, you'll need an [AWS](https://aws.amazon.com/){:target=\_blank .external-link} account and:

- Your AWS \*\*Region\*\*

- The \*\*Access Key ID\*\*: Generated when you create an access key.

- The \*\*Secret Access Key\*\*: Generated when you create an access key.

To create an access key and set up the credential:

1. In your n8n credential, select your AWS \*\*Region\*\*.

1. Log in to the [IAM console](https://console.aws.amazon.com/iam){:target=\_blank .external-link}.

2. In the navigation bar on the upper right, select your user name and then select \*\*Security credentials\*\*.

3. In the \*\*Access keys\*\* section, select \*\*Create access key\*\*.

4. On the \*\*Access key best practices & alternatives page\*\*, choose your use case. If it doesn't prompt you to create an access key, select \*\*Other\*\*.

5. Select \*\*Next\*\*.

6. Set a \*\*description\*\* tag value for the access key to make it easier to identify, for example `n8n integration`.

7. Select \*\*Create access key\*\*.

8. Reveal the \*\*Access Key ID\*\* and \*\*Secret Access Key\*\* and enter them in n8n.

10. To use a \*\*Temporary security credential\*\*, turn that option on and add a \*\*Session token\*\*. Refer to the [AWS Temporary security credential documentation](https://docs.aws.amazon.com/IAM/latest/UserGuide/id\_credentials\_temp.html){:target=\_blank .external-link} for more information on working with temporary security credentials.

11. If you use [Amazon Virtual Private Cloud (VPC)](https://aws.amazon.com/vpc/){:target=\_blank .external-link} to host n8n, you can establish a connection between your VPC and some apps. Use \*\*Custom Endpoints\*\* to enter relevant custom endpoint(s) for this connection. This setup works with these apps:

- Rekognition

- Lambda

- SNS

- SES

- SQS

- S3

You can also generate access keys through the AWS CLI and AWS API. Refer to the [AWS Managing Access Keys documentation](https://docs.aws.amazon.com/IAM/latest/UserGuide/id\_credentials\_access-keys.html){:target=\_blank .external-link} for instructions on generating access keys using these methods.

## azurecosmosdb.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Azure Cosmos DB credentials

description: Documentation for the Azure Cosmos DB credentials. Use these credentials to authenticate Azure Cosmos DB in n8n, a workflow automation platform.

contentType: [integration, reference]

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# Azure Cosmos DB credentials

You can use these credentials to authenticate the following nodes:

\* [Azure Cosmos DB](/integrations/builtin/app-nodes/n8n-nodes-base.azurecosmosdb.md)

## Prerequisites

\* Create an [Azure](https://azure.microsoft.com) subscription.

\* Create an [Azure Cosmos DB account](https://learn.microsoft.com/en-us/azure/cosmos-db/how-to-manage-database-account).

## Supported authentication methods

\* API Key

## Related resources

<!-- vale Vale.Spelling = NO -->

Refer to [Azure Cosmos DB's API documentation](https://learn.microsoft.com/en-us/rest/api/cosmos-db/) for more information about the service.

<!-- vale Vale.Spelling = YES -->

## Using API Key

To configure this credential, you'll need:

\* An \*\*Account\*\*: The name of your Azure Cosmos DB account.

\* A \*\*Key\*\*: A key for your Azure Cosmos DB account. Select \*\*Overview\*\* > \*\*Keys\*\* in the Azure portal for your Azure Cosmos DB. You can use either of the two account keys for this purpose.

\* A \*\*Database\*\*: The name of the Azure Cosmos DB database to connect to.

Refer to [Get your primary key | Microsoft](https://learn.microsoft.com/en-us/previous-versions/azure/cosmos-db/how-to-obtain-keys?tabs=azure-portal) for more detailed steps.

## Common issues

Here are the known common errors and issues with Azure Cosmos DB credentials.

--8<-- "\_snippets/integrations/builtin/credentials/microsoft-need-admin-approval.md"

## azureopenai.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Azure OpenAI credentials

description: Documentation for Azure OpenAI credentials. Use these credentials to authenticate OpenAI in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Azure OpenAI credentials

You can use these credentials to authenticate the following nodes:

- [Chat Azure OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatazureopenai.md)

- [Embeddings Azure OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsazureopenai.md)

## Prerequisites

- Create an [Azure](https://azure.microsoft.com){:target=\_blank .external-link} subscription.

- Access to Azure OpenAI within that subscription. You may need to [request access](https://aka.ms/oai/access){:target=\_blank .external-link} if your organization doesn't yet have it.

## Supported authentication methods

- API key

- Azure Entra ID (OAuth2)

## Related resources

Refer to [Azure OpenAI's API documentation](https://learn.microsoft.com/en-us/azure/ai-services/openai/reference){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Resource Name\*\*: the \*\*Name\*\* you give the resource

- An \*\*API key\*\*: \*\*Key 1\*\* works well. This can be accessed before deployment in \*\*Keys and Endpoint\*\*.

- The \*\*API Version\*\* the credentials should use. See the [Azure OpenAI API preview lifecycle documentation](https://learn.microsoft.com/en-us/azure/ai-services/openai/api-version-deprecation){:target=\_blank .external-link} for more information about API versioning in Azure OpenAI.

To get the information above, [create and deploy an Azure OpenAI Service resource](https://learn.microsoft.com/en-us/azure/ai-services/openai/how-to/create-resource){:target=\_blank .external-link}.

/// note | Model name for Azure OpenAI nodes

Once you deploy the resource, use the \*\*Deployment name\*\* as the model name for the Azure OpenAI nodes where you're using this credential.

///

## Using Azure Entra ID (OAuth2)

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

For self-hosted users, there are two main steps to configure OAuth2 from scratch:

1. [Register an application](#register-an-application) with the Microsoft Identity Platform.

2. [Generate a client secret](#generate-a-client-secret) for that application.

Follow the detailed instructions for each step below. For more detail on the Microsoft OAuth2 web flow, refer to [Microsoft authentication and authorization basics](https://learn.microsoft.com/en-us/graph/auth/auth-concepts).

### Register an application

Register an application with the Microsoft Identity Platform:

1. Open the [Microsoft Application Registration Portal](https://aka.ms/appregistrations).

2. Select \*\*Register an application\*\*.

3. Enter a \*\*Name\*\* for your app.

4. In \*\*Supported account types\*\*, select \*\*Accounts in any organizational directory (Any Azure AD directory - Multi-tenant) and personal Microsoft accounts (for example, Skype, Xbox)\*\*.

5. In \*\*Register an application\*\*:

1. Copy the \*\*OAuth Callback URL\*\* from your n8n credential.

2. Paste it into the \*\*Redirect URI (optional)\*\* field.

3. Select \*\*Select a platform\*\* > \*\*Web\*\*.

6. Select \*\*Register\*\* to finish creating your application.

7. Copy the \*\*Application (client) ID\*\* and paste it into n8n as the \*\*Client ID\*\*.

Refer to [Register an application with the Microsoft Identity Platform](https://learn.microsoft.com/en-us/graph/auth-register-app-v2) for more information.

### Generate a client secret

With your application created, generate a client secret for it:

1. On your Microsoft application page, select \*\*Certificates & secrets\*\* in the left navigation.

1. In \*\*Client secrets\*\*, select \*\*+ New client secret\*\*.

1. Enter a \*\*Description\*\* for your client secret, such as `n8n credential`.

1. Select \*\*Add\*\*.

1. Copy the \*\*Secret\*\* in the \*\*Value\*\* column.

1. Paste it into n8n as the \*\*Client Secret\*\*.

1. Select \*\*Connect my account\*\* in n8n to finish setting up the connection.

1. Log in to your Microsoft account and allow the app to access your info.

Refer to Microsoft's [Add credentials](https://learn.microsoft.com/en-us/graph/auth-register-app-v2#add-credentials) for more information on adding a client secret.

## Setting custom scopes

Azure Entra ID credentials use the following scopes by default:

\* [`openid`](https://learn.microsoft.com/en-us/entra/identity-platform/scopes-oidc#the-openid-scope)

\* [`offline\_access`](https://learn.microsoft.com/en-us/entra/identity-platform/scopes-oidc#the-offline\_access-scope)

\* [`AccessReview.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#accessreviewreadwriteall)

\* [`Directory.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#directoryreadwriteall)

\* [`NetworkAccessPolicy.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#networkaccesspolicyreadwriteall)

\* [`DelegatedAdminRelationship.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#delegatedadminrelationshipreadwriteall)

\* [`EntitlementManagement.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#entitlementmanagementreadwriteall)

\* [`User.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#userreadwriteall)

\* [`Directory.AccessAsUser.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#directoryaccessasuserall)

\* [`Sites.FullControl.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#sitesfullcontrolall)

\* [`GroupMember.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#groupmemberreadwriteall)

To select different scopes for your credentials, enable the \*\*Custom Scopes\*\* slider and edit the \*\*Enabled Scopes\*\* list. Keep in mind that some features may not work as expected with more restrictive scopes.

## azurestorage.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Azure Storage credentials

description: Documentation for the Azure Storage credentials. Use these credentials to authenticate Azure Storage in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Azure Storage credentials

You can use these credentials to authenticate the following nodes:

\* [Azure Storage](/integrations/builtin/app-nodes/n8n-nodes-base.azurestorage.md)

## Prerequisites

\* Create an [Azure](https://azure.microsoft.com) subscription.

\* Create an [Azure storage account](https://learn.microsoft.com/en-us/azure/storage/common/storage-account-create).

## Supported authentication methods

\* OAuth2

\* Shared Key

## Related resources

Refer to [Azure Storage's API documentation](https://learn.microsoft.com/en-us/rest/api/storageservices/) for more information about the service.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

For self-hosted users, there are two main steps to configure OAuth2 from scratch:

1. [Register an application](#register-an-application) with the Microsoft Identity Platform.

2. [Generate a client secret](#generate-a-client-secret) for that application.

Follow the detailed instructions for each step below. For more detail on the Microsoft OAuth2 web flow, refer to [Microsoft authentication and authorization basics](https://learn.microsoft.com/en-us/graph/auth/auth-concepts).

### Register an application

Register an application with the Microsoft Identity Platform:

1. Open the [Microsoft Application Registration Portal](https://aka.ms/appregistrations).

2. Select \*\*Register an application\*\*.

3. Enter a \*\*Name\*\* for your app.

4. In \*\*Supported account types\*\*, select \*\*Accounts in any organizational directory (Any Azure AD directory - Multi-tenant) and personal Microsoft accounts (for example, Skype, Xbox)\*\*.

5. In \*\*Register an application\*\*:

1. Copy the \*\*OAuth Callback URL\*\* from your n8n credential.

2. Paste it into the \*\*Redirect URI (optional)\*\* field.

3. Select \*\*Select a platform\*\* > \*\*Web\*\*.

6. Select \*\*Register\*\* to finish creating your application.

7. Copy the \*\*Application (client) ID\*\* and paste it into n8n as the \*\*Client ID\*\*.

Refer to [Register an application with the Microsoft Identity Platform](https://learn.microsoft.com/en-us/graph/auth-register-app-v2) for more information.

### Generate a client secret

With your application created, generate a client secret for it:

1. On your Microsoft application page, select \*\*Certificates & secrets\*\* in the left navigation.

1. In \*\*Client secrets\*\*, select \*\*+ New client secret\*\*.

1. Enter a \*\*Description\*\* for your client secret, such as `n8n credential`.

1. Select \*\*Add\*\*.

1. Copy the \*\*Secret\*\* in the \*\*Value\*\* column.

1. Paste it into n8n as the \*\*Client Secret\*\*.

1. Select \*\*Connect my account\*\* in n8n to finish setting up the connection.

1. Log in to your Microsoft account and allow the app to access your info.

Refer to Microsoft's [Add credentials](https://learn.microsoft.com/en-us/graph/auth-register-app-v2#add-credentials) for more information on adding a client secret.

## Using Shared Key

To configure this credential, you'll need:

\* An \*\*Account\*\*: The name of your Azure Storage account.

\* A \*\*Key\*\*: A shared key for your Azure Storage account. Select \*\*Security + networking\*\* and then \*\*Access keys\*\*. You can use either of the two account keys for this purpose.

Refer to [Manage storage account access keys | Microsoft](https://learn.microsoft.com/en-us/azure/storage/common/storage-account-keys-manage) for more detailed steps.

## Common issues

Here are the known common errors and issues with Azure Storage credentials.

--8<-- "\_snippets/integrations/builtin/credentials/microsoft-need-admin-approval.md"

## bamboohr.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: BambooHR credentials

description: Documentation for BambooHR credentials. Use these credentials to authenticate BambooHR in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# BambooHR credentials

You can use these credentials to authenticate the following node:

- [BambooHR](/integrations/builtin/app-nodes/n8n-nodes-base.bamboohr.md)

## Prerequisites

Create a [BambooHR](https://www.bamboohr.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [BambooHR's API documentation](https://documentation.bamboohr.com/docs/getting-started){:target=\_blank .external-link} for more information about the service.

## Using API Key

To configure this credential, you'll need:

- Your BambooHR \*\*Subdomain\*\*: the part between `https://` and `.bamboohr.com`

- A BambooHR \*\*API Key\*\*: Refer to the [Authentication section of BambooHR's Getting Started API documentation](https://documentation.bamboohr.com/docs/getting-started#authentication){:target=\_blank .external-link} for instructions on generating an API key.

## bannerbear.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bannerbear credentials

description: Documentation for Bannerbear credentials. Use these credentials to authenticate Bannerbear in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Bannerbear credentials

You can use these credentials to authenticate the following nodes:

- [Bannerbear](/integrations/builtin/app-nodes/n8n-nodes-base.bannerbear.md)

## Prerequisites

Create a [Bannerbear](https://www.BannerBear.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Bannerbear's API documentation](https://developers.bannerbear.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Project API Key\*\*: To generate an API key, first create a Bannerbear project. Go to \*\*Settings > API Key\*\* to view the API key. Refer to the [Bannerbear API Authentication documentation](https://developers.bannerbear.com/#authentication){:target=\_blank .external-link} for more detailed steps.

## baserow.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Baserow credentials

description: Documentation for Baserow credentials. Use these credentials to authenticate Baserow in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Baserow credentials

You can use these credentials to authenticate the following node:

- [Baserow](/integrations/builtin/app-nodes/n8n-nodes-base.baserow.md)

## Prerequisites

Create a [Baserow](https://baserow.io/){:target=\_blank .external-link} account on any hosted Baserow instance or a self-hosted instance.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Baserow's documentation](https://baserow.io/docs/index){:target=\_blank .external-link} for more information about the service.

Refer to [Baserow's auto-generated API documentation](https://baserow.io/api-docs){:target=\_blank .external-link} for more information about the API specifically.

## Using basic auth

To configure this credential, you'll need:

- Your Baserow \*\*Host\*\*

- A \*\*Username\*\* and \*\*Password\*\* to log in with

Follow these steps:

1. Enter the \*\*Host\*\* for the Baserow instance:

- For a Baserow-hosted instance: leave as `https://api.baserow.io`.

- For a self-hosted instance: set to your self-hosted instance API URL.

2. Enter the \*\*Username\*\* for the user account n8n should use.

3. Enter the \*\*Password\*\* for that user account.

Refer to [Baserow's API Authentication documentation](https://baserow.io/docs/apis/rest-api#authentication) for information on creating user accounts.

## beeminder.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Beeminder credentials

description: Documentation for Beeminder credentials. Use these credentials to authenticate Beeminder in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Beeminder credentials

You can use these credentials to authenticate the following node:

- [Beeminder](/integrations/builtin/app-nodes/n8n-nodes-base.beeminder.md)

## Prerequisites

Create a [Beeminder](https://www.beeminder.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API user token

## Related resources

Refer to [Beeminder's API documentation](https://api.beeminder.com/#beeminder-api-reference){:target=\_blank .external-link} for more information about the service.

## Using API user token

To configure this credential, you'll need:

- A \*\*User\*\* name: Should match the user who the Auth Token is generated for.

- A personal \*\*Auth Token\*\* for that user. Generate this using either method below:

- In the GUI: From the [Apps & API](https://help.beeminder.com/article/110-apps-and-api#API-token){:target=\_blank .external-link} option within \*\*Account Settings\*\*

- In the API: From hitting the [`auth\_token` API endpoint](https://api.beeminder.com/#auth){:target=\_blank .external-link}

## bitbucket.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bitbucket credentials

description: Documentation for Bitbucket credentials. Use these credentials to authenticate Bitbucket in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Bitbucket credentials

You can use these credentials to authenticate the following nodes:

- [Bitbucket Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.bitbuckettrigger.md)

## Prerequisites

Create a [Bitbucket](https://www.bitbucket.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API username and app password

## Related resources

Refer to [Bitbucket's API documentation](https://developer.atlassian.com/cloud/bitbucket/rest/intro/#authentication){:target=\_blank .external-link} for more information about the service.

## Using API username/app password

To configure this credential, you'll need:

- A \*\*Username\*\*: Visible in your Bitbucket profile settings \*\*Personal settings > Account settings\*\*.

- An \*\*App Password\*\*: Refer to the Bitbucket instructions to [Create an app password](https://support.atlassian.com/bitbucket-cloud/docs/create-an-app-password/){:target=\_blank .external-link}.

## App password permissions

Bitbucket API credentials will only work if the user account you generated the app password for has the appropriate privilege scopes for the selected app password permissions. The n8n credentials dialog will throw an error if the user account lacks the appropriate permissions for the selected scope, like `Your credentials lack one or more required privilege scopes`.

See the [Bitbucket App password permissions documentation](https://support.atlassian.com/bitbucket-cloud/docs/app-password-permissions/){:target=\_blank .external-link} for more information on working with these permissions.

## bitly.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bitly credentials

description: Documentation for Bitly credentials. Use these credentials to authenticate Bitly in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Bitly credentials

You can use these credentials to authenticate the following node:

- [Bitly](/integrations/builtin/app-nodes/n8n-nodes-base.bitly.md)

## Prerequisites

Create a [Bitly](https://www.bitly.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

- OAuth2

## Related resources

Refer to [Bitly's API documentation](https://dev.bitly.com/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*Access Token\*\*: Once logged in, visit [Settings > Developer Settings > API](https://app.bitly.com/settings/api/){:target=\_blank .external-link} to generate an Access Token.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch or need more detail on what's happening in the OAuth web flow, refer to the [Bitly API Authentication documentation](https://dev.bitly.com/docs/getting-started/authentication/){:target=\_blank .external-link} for more information.

## bitwarden.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bitwarden credentials

description: Documentation for Bitwarden credentials. Use these credentials to authenticate Bitwarden in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Bitwarden credentials

You can use these credentials to authenticate the following node:

- [Bitwarden](/integrations/builtin/app-nodes/n8n-nodes-base.bitwarden.md)

## Prerequisites

Create a [Bitwarden](https://vault.bitwarden.com/#/register?org=teams){:target=\_blank .external-link} Teams organization or Enterprise organization account. (Bitwarden only makes the Bitwarden Public API available for these [organization](https://bitwarden.com/help/about-organizations/){:target=\_blank .external-link} plans.)

## Supported authentication methods

- API key

## Related resources

Refer to [Bitwarden's Public API documentation](https://bitwarden.com/help/public-api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Provided when you generate an API key

- A \*\*Client Secret\*\*: Provided when you generate an API key

- The \*\*Environment\*\*:

- Choose \*\*Cloud-hosted\*\* if you don't self-host Bitwarden. No further configuration required.

- Choose \*\*Self-hosted\*\* if you host Bitwarden on your own server. Enter your \*\*Self-hosted domain\*\* in the appropriate field.

The Client ID and Client Secret must be for an \*\*Organization API Key\*\*, not a Personal API Key. Refer to the [Bitwarden Public API Authentication documentation](https://bitwarden.com/help/public-api/#authentication){:target=\_blank .external-link} for instructions on generating an Organization API Key.

## box.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Box credentials

description: Documentation for Box credentials. Use these credentials to authenticate Box in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Box credentials

You can use these credentials to authenticate the following nodes:

- [Box](/integrations/builtin/app-nodes/n8n-nodes-base.box.md)

- [Box Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.boxtrigger.md)

## Prerequisites

Create a [Box](https://www.box.com/) account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Box's API documentation](https://developer.box.com/reference/){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch or need more detail on what's happening in the OAuth web flow, you'll need to create a Custom App. Refer to the [Box OAuth2 Setup documentation](https://developer.box.com/guides/authentication/oauth2/oauth2-setup/){:target=\_blank .external-link} for more information.

## brandfetch.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Brandfetch credentials

description: Documentation for Brandfetch credentials. Use these credentials to authenticate Brandfetch in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Brandfetch credentials

You can use these credentials to authenticate the following node:

- [Brandfetch](/integrations/builtin/app-nodes/n8n-nodes-base.brandfetch.md)

## Prerequisites

Create a [Brandfetch developer](https://docs.brandfetch.com/docs/apis#-create-an-account){:target=\_blank .external-link} developer account.

## Supported authentication methods

- API key

## Related resources

Refer to [Brandfetch's API documentation](https://docs.brandfetch.com/docs/apis){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Brandfetch Create an Account documentation](https://docs.brandfetch.com/docs/apis#-create-an-account){:target=\_blank .external-link} to generate an API key.

## brevo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Brevo credentials

description: Documentation for Brevo credentials. Use these credentials to authenticate Brevo in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Brevo credentials

You can use these credentials to authenticate the following nodes:

\* [Brevo node](/integrations/builtin/app-nodes/n8n-nodes-base.brevo.md)

\* [Brevo Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.brevotrigger.md)

## Prerequisites

Create a [Brevo](https://www.brevo.com/){:target=\_blank .external-link} developer account.

## Supported authentication methods

- API key

## Related resources

Refer to [Brevo's API documentation](https://developers.brevo.com/reference/getting-started-1){:target=\_blank .external-link} for more information about authenticating with the service.

## API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Brevo API Quick Start documentation](https://developers.brevo.com/docs/getting-started#quick-start){:target=\_blank .external-class} for instructions on creating a new API key.

## bubble.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bubble credentials

description: Documentation for Bubble credentials. Use these credentials to authenticate Bubble in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Bubble credentials

You can use these credentials to authenticate the following nodes:

- [Bubble](/integrations/builtin/app-nodes/n8n-nodes-base.bubble.md)

/// note | API access

You need a paid plan to access the Bubble APIs.

///

## Supported authentication methods

- API key

## Related resources

Refer to [Bubble's API documentation](https://manual.bubble.io/help-guides/integrations/api){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need a paid [Bubble](https://bubble.io){:target=\_blank .external-link} account and:

- An \*\*API Token\*\*

- An \*\*App Name\*\*

- Your \*\*Domain\*\*, if you're using a custom domain

To set it up, you'll need to create an app:

1. Go to the [\*\*Apps\*\*](https://bubble.io/home/apps){:target=\_blank .external-link} page in Bubble.

1. Select \*\*Create an app\*\*.

1. Enter a \*\*Name\*\* for your app, like `n8n-integration`.

1. Select \*\*Get started\*\*. The app's details open.

1. In the left navigation, select \*\*Settings\*\* (the gear cog icon).

1. Select the \*\*API\*\* tab.

1. In the \*\*Public API Endpoints\*\* section, check the box to \*\*Enable Data API\*\*.

1. The page displays the \*\*Data API root URL\*\*, for example: `https://n8n-integration.bubbleapps.io/version-test/api/1.1/obj`.

1. Copy the part of the URL after `https://` and before `.bubbleapps.io` and enter it in n8n as the \*\*App Name\*\*. In the above example, you'd enter `n8n-integration`.

1. Select \*\*Generate a new API token\*\*.

8. Enter an \*\*API Token Label\*\*, like `n8n integration`.

1. Copy the \*\*Private key\*\* and enter it as the \*\*API Token\*\* in your n8n credential.

- Refer to [Data API | Authentication](https://manual.bubble.io/core-resources/api/the-bubble-api/the-data-api/authentication){:target=\_blank .external-link} for more information on generating API tokens.

1. In n8n, select the \*\*Environment\*\* that best matches your app:

- Select \*\*Development\*\* for an app that you haven't deployed, accessed at `https://appname.bubbleapps.io/version-test` or `https://www.mydomain.com/version-test`.

- Select \*\*Live\*\* for an app that you've [deployed](https://manual.bubble.io/help-guides/getting-started/navigating-the-bubble-editor/deploying-your-app){:target=\_blank .external-link}, accessed at `https://appname.bubbleapps.io` or `https://www.mydomain.com`.

1. In n8n, select your \*\*Hosting\*\*:

- If you haven't set up a custom domain, select \*\*Bubble Hosting\*\*.

- If you've set up a [custom domain](https://manual.bubble.io/help-guides/getting-started/navigating-the-bubble-editor/tabs-and-sections/settings-tab/custom-domain-and-dns){:target=\_blank .external-link}, select \*\*Self Hosted\*\* and enter your custom \*\*Domain\*\*.

Refer to Bubble's [Creating and managing apps](https://manual.bubble.io/help-guides/getting-started/creating-and-managing-apps){:target=\_blank .external-link} documentation for more information.

## cal.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cal.com credentials

description: Documentation for Cal.com credentials. Use these credentials to authenticate Cal.com in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Cal.com credentials

You can use these credentials to authenticate the following nodes:

- [Cal.com Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.caltrigger.md)

## Prerequisites

Create a [Cal.com](https://www.cal.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Cal.com's API documentation](https://cal.com/docs/enterprise-features/api#api-server-specifications){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Cal API Quick Start documentation](https://cal.com/docs/enterprise-features/api/quick-start){:target=\_blank .external-link} for information on how to generate a new API key.

- A \*\*Host\*\*: If you're using the cloud version of Cal.com, leave the Host as `https://api.cal.com`. If you're self-hosting Cal.com, enter the \*\*Host\*\* for your Cal.com instance.

## calendly.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Calendly credentials

description: Documentation for Calendly credentials. Use these credentials to authenticate Calendly in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Calendly credentials

You can use these credentials to authenticate the following nodes:

- [Calendly Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.calendlytrigger.md)

/// warning | Supported Calendly plans

The Calendly Trigger node relies on Calendly webhooks. Calendly only offers access to webhooks in their paid plans.

///

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [Calendly's API documentation](https://developer.calendly.com/getting-started){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need a [Calendly](https://www.calendly.com/){:target=\_blank .external-link} account and:

- An API Key or \*\*Personal Access Token\*\*

To get your access token:

1. Go to the Calendly [\*\*Integrations & apps\*\*](https://calendly.com/integrations){:target=\_blank .external-link} page.

2. Select [\*\*API & Webhooks\*\*](https://calendly.com/integrations/api\_webhooks){:target=\_blank .external-link}.

3. In \*\*Your Personal Access Tokens\*\*, select \*\*Generate new token\*\*.

4. Enter a \*\*Name\*\* for your access token, like `n8n integration`.

5. Select \*\*Create token\*\*.

6. Select \*\*Copy token\*\* and enter it in your n8n credential.

Refer to [Calendly's API authentication documentation](https://developer.calendly.com/how-to-authenticate-with-personal-access-tokens){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need a [Calendly developer](https://developer.calendly.com){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To get both, create a new OAuth app in Calendly:

1. Log in to Calendly's developer portal and go to [\*\*My apps\*\*](https://developer.calendly.com/console/apps){:target=\_blank .external-link}.

1. Select \*\*Create new app\*\*.

1. Enter a \*\*Name of app\*\*, like `n8n integration`.

2. In \*\*Kind of app\*\*, select \*\*Web\*\*.

3. In \*\*Environment type\*\*, select the environment that corresponds to your usage, either \*\*Sandbox\*\* or \*\*Production\*\*.

- Calendly recommends starting with \*\*Sandbox\*\* for development and creating a second application for \*\*Production\*\* when you're ready to go live.

4. Copy the \*\*OAuth Redirect URL\*\* from n8n and enter it as a \*\*Redirect URI\*\* in the OAuth app.

5. Select \*\*Save & Continue\*\*. The app details display.

5. Copy the \*\*Client ID\*\* and enter this as your n8n \*\*Client ID\*\*.

6. Copy the \*\*Client secret\*\* and enter this as your n8n \*\*Client Secret\*\*.

1. Select \*\*Connect my account\*\* in n8n and follow the on-screen prompts to finish authorizing the credential.

Refer to [Registering your application with Calendly](https://developer.calendly.com/create-a-developer-account){:target=\_blank .external-link} for more information.

## carbonblack.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Carbon Black credentials

description: Documentation for the Carbon Black credentials. Use these credentials to authenticate Carbon Black in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Carbon Black credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

- Create a [Carbon Black subscription](https://www.vmware.com/products/carbon-black-cloud.html){:target=\_blank .external-link}.

- Create a [Carbon Black developer account](https://developer.carbonblack.com/){:target=\_blank .external-link}.

## Authentication methods

- API key

## Related resources

Refer to [Carbon Black's documentation](https://developer.carbonblack.com/reference/carbon-black-cloud/cb-defense/latest/rest-api/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/carbon-black/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- A \*\*URL\*\*: This URL is determined by the environment/product URL you use. You can find it by looking at the web address of your Carbon Black Cloud console. Refer to [Carbon Black's URL Parts documentation](https://developer.carbonblack.com/reference/carbon-black-cloud/authentication#the-url-parts){:target=\_blank .external-link} for more information.

- An \*\*Access Token\*\*: Refer to the [Carbon Black Create an API key documentation](https://developer.carbonblack.com/reference/carbon-black-cloud/authentication#carbon-black-cloud-manages-identities-and-roles){:target=\_blank .external-link} to create an API key. Add the \*\*API Secret Key\*\* as the \*\*Access Token\*\* in n8n.

## chargebee.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Chargebee credentials

description: Documentation for Chargebee credentials. Use these credentials to authenticate Chargebee in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Chargebee credentials

You can use these credentials to authenticate the following nodes:

- [Chargebee](/integrations/builtin/app-nodes/n8n-nodes-base.chargebee.md)

- [Chargebee Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.chargebeetrigger.md)

## Prerequisites

Create a [Chargebee](https://www.chargebee.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Chargebee's API documentation](https://apidocs.chargebee.com/docs/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*Account Name\*\*: This is your Chargebee Site Name or subdomain, for example if `https://n8n.chargebee.com` is the full site name, the Account Name is `n8n`.

- An \*\*API Key\*\*: Refer to the [Chargebee Creating an API key documentation](https://www.chargebee.com/docs/api\_keys.html#creating-an-api-key){:target=\_blank .external-link} for steps on how to generate an API key.

Refer to their more general [API authentication documentation](https://apidocs.chargebee.com/docs/api/auth?lang=curl){:target=\_blank .external-link} for further clarification.

## circleci.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: CircleCI credentials

description: Documentation for CircleCI credentials. Use these credentials to authenticate CircleCI in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# CircleCI credentials

You can use these credentials to authenticate the following nodes:

- [CircleCI](/integrations/builtin/app-nodes/n8n-nodes-base.circleci.md)

## Prerequisites

Create a [CircleCI](https://circleci.com/) account.

## Supported authentication methods

- Personal API token

## Related resources

Refer to [CircleCI's API documentation](https://circleci.com/docs/api/v2/index.html){:target=\_blank .external-link} for more information about the service.

## Using personal API token

To configure this credential, you'll need:

- A \*\*Personal API Token\*\*: Refer to the [CircleCI Creating a Personal API token documentation](https://circleci.com/docs/managing-api-tokens/#creating-a-personal-api-token){:target=\_blank .external-link} for instructions on creating your token.

## ciscomeraki.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cisco Meraki credentials

description: Documentation for the Cisco Meraki credentials. Use these credentials to authenticate Cisco Meraki in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Cisco Meraki credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

- Create a [Cisco DevNet developer account](https://developer.cisco.com){:target=\_blank .external-link}.

- Access to a [Cisco Meraki account](https://meraki.cisco.com/){:target=\_blank .external-link}.

## Authentication methods

- API key

## Related resources

Refer to [Cisco Meraki's API documentation](https://developer.cisco.com/meraki/api-v1/introduction/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/cisco-meraki/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Cisco Meraki Obtaining your Meraki API Key documentation](https://developer.cisco.com/meraki/api-v1/authorization/#obtaining-your-meraki-api-key){:target=\_blank .external-link} for instructions on getting your API Key.

## ciscosecureendpoint.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cisco Secure Endpoint credentials

description: Documentation for the Cisco Secure Endpoint credentials. Use these credentials to authenticate Cisco Secure Endpoint in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Cisco Secure Endpoint credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

- Create a [Cisco DevNet developer account](https://developer.cisco.com){:target=\_blank .external-link}.

- Access to a [Cisco Secure Endpoint license](https://www.cisco.com/site/us/en/products/security/endpoint-security/secure-endpoint/index.html){:target=\_blank .external-link}.

## Authentication methods

- OAuth2

## Related resources

Refer to [Cisco Secure Endpoint's documentation](https://developer.cisco.com/docs/secure-endpoint/introduction/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/cisco-secure-endpoint/){:target=\_blank .external-link} on n8n's website.

## Using OAuth2

To configure this credential, you'll need:

- The \*\*Region\*\* for your Cisco Secure Endpoint. Options are:

- Asia Pacific, Japan, and China

- Europe

- North America

- A \*\*Client ID\*\*: Provided when you register a SecureX API Client

- A \*\*Client Secret\*\*: Provided when you register a SecureX API Client

To get a Client ID and Client Secret, you'll need to Register a SecureX API Client. Refer to [Cisco Secure Endpoint's authentication documentation](https://developer.cisco.com/docs/secure-endpoint/authentication/#authentication){:target=\_blank .external-link} for detailed instructions. Use the SecureX \*\*Client Password\*\* as the \*\*Client Secret\*\* within the n8n credential.

## ciscoumbrella.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cisco Umbrella credentials

description: Documentation for the Cisco Umbrella credentials. Use these credentials to authenticate Cisco Umbrella in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Cisco Umbrella credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

- Create a [Cisco DevNet developer account](https://developer.cisco.com){:target=\_blank .external-link}.

- A [Cisco Umbrella user account](https://umbrella.cisco.com/){:target=\_blank .external-link} with \*\*Full Admin\*\* role.

## Authentication methods

- API key

## Related resources

Refer to [Cisco Umbrella's API documentation](https://developer.cisco.com/docs/cloud-security/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/cisco-umbrella/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

- A \*\*Secret\*\*: Provided when you generate an API key

Refer to the [Cisco Umbrella Manage API Keys documentation](https://developer.cisco.com/docs/cloud-security/authentication/#manage-api-keys){:target=\_blank .external-link} for instructions on creating an Umbrella API key.

## ciscowebex.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webex by Cisco credentials

description: Documentation for Webex by Cisco credentials. Use these credentials to authenticate Webex by Cisco in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Webex by Cisco credentials

You can use these credentials to authenticate the following nodes:

- [Webex by Cisco](/integrations/builtin/app-nodes/n8n-nodes-base.ciscowebex.md)

- [Webex by Cisco Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.ciscowebextrigger.md)

## Prerequisites

Create a [Webex by Cisco](https://www.webex.com/) account (this should automatically get you [developer account access](https://developer.webex.com){:target=\_blank .external-link}).

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Webex's API documentation](https://developer.webex.com/docs/getting-started){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

/// note | Note for n8n Cloud users

You'll only need to enter the Credentials Name and select the \*\*Connect my account\*\* button in the OAuth credential to connect your Webex by Cisco account to n8n.

///

Should you need to configure OAuth2 from scratch, you'll need to create an integration to use this credential. Refer to the instructions in the [Webex Registering your Integration documentation](https://developer.webex.com/docs/integrations#registering-your-integration){:target=\_blank .external-link} to begin.

n8n recommends using the following \*\*Scopes\*\* for your integration:

\* `spark:rooms\_read`

\* `spark:messages\_write`

\* `spark:messages\_read`

\* `spark:memberships\_read`

\* `spark:memberships\_write`

\* `meeting:recordings\_write`

\* `meeting:recordings\_read`

\* `meeting:preferences\_read`

\* `meeting:schedules\_write`

\* `meeting:schedules\_read`

## clearbit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Clearbit credentials

description: Documentation for Clearbit credentials. Use these credentials to authenticate Clearbit in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Clearbit credentials

You can use these credentials to authenticate the following node:

- [Clearbit](/integrations/builtin/app-nodes/n8n-nodes-base.clearbit.md)

## Prerequisites

Create a [Clearbit](https://www.clearbit.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Clearbit's API documentation](https://dashboard.clearbit.com/docs){:target=\_blank .external-link} for more information about authenticating with the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to [Clearbit's API Authentication documentation](https://dashboard.clearbit.com/docs#authentication) for more information on creating and viewing API keys.

## clickup.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ClickUp credentials

description: Documentation for ClickUp credentials. Use these credentials to authenticate ClickUp in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# ClickUp credentials

You can use these credentials to authenticate the following nodes:

- [ClickUp](/integrations/builtin/app-nodes/n8n-nodes-base.clickup.md)

- [ClickUp Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.clickuptrigger.md)

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [ClickUp's documentation](https://clickup.com/api/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need a [ClickUp](https://www.clickup.com/){:target=\_blank .external-link} account and:

- A Personal API \*\*Access Token\*\*

To get your personal API token:

1. If you're using ClickUp 2.0, select your avatar in the lower-left corner and select \*\*Apps\*\*. If you're using ClickUp 3.0, select your avatar in the upper-right corner, select \*\*Settings\*\*, and scroll down to select \*\*Apps\*\* in the sidebar.

2. Under \*\*API Token\*\*, select \*\*Generate\*\*.

3. Copy your \*\*Personal API token\*\* and enter it in your n8n credential as the \*\*Access Token\*\*.

Refer to [ClickUp's Personal Token documentation](https://clickup.com/api/developer-portal/authentication#personal-token){:target=\_blank .external-link} for more information.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting](/hosting/index.md) n8n, you'll need to create an OAuth app:

1. In ClickUp, select your avatar and select \*\*Integrations\*\*.

2. Select \*\*ClickUp API\*\*.

3. Select \*\*Create an App\*\*.

4. Enter a \*\*Name\*\* for your app.

5. In n8n, copy the \*\*OAuth Redirect URL\*\*. Enter this as your ClickUp app's \*\*Redirect URL\*\*.

6. Once you create your app, copy the \*\*client\_id\*\* and \*\*secret\*\* and enter them in your n8n credential.

7. Select \*\*Connect my account\*\* and follow the on-screen prompts to finish connecting the credential.

Refer to the [ClickUp Oauth flow documentation](https://clickup.com/api/developer-portal/authentication#oauth-flow){:target=\_blank .external-link} for more information.

## clockify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Clockify credentials

description: Documentation for Clockify credentials. Use these credentials to authenticate Clockify in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Clockify credentials

You can use these credentials to authenticate the following nodes:

- [Clockify](/integrations/builtin/app-nodes/n8n-nodes-base.clockify.md)

- [Clockify Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.clockifytrigger.md)

## Prerequisites

Create a [Clockify](https://www.clockify.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Clockify's API documentation](https://docs.developer.clockify.me/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Access your API key from your [Clockify Profile Settings](https://clockify.me/help/users/profile-settings){:target=\_blank .external-link}.

## cloudflare.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cloudflare credentials

description: Documentation for Cloudflare credentials. Use these credentials to authenticate Cloudflare in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Cloudflare credentials

You can use these credentials to authenticate the following nodes:

\* [Cloudflare node](/integrations/builtin/app-nodes/n8n-nodes-base.cloudflare.md)

## Prerequisites

- Create a [Cloudflare account](https://developers.cloudflare.com/fundamentals/setup/account/){:target=\_blank .external-link}.

- [Add a domain](https://developers.cloudflare.com/fundamentals/setup/manage-domains/add-site/){:target=\_blank .external-link}.

## Supported authentication methods

- API token

## Related resources

Refer to [Cloudflare's API documentation](https://developers.cloudflare.com/fundamentals/api/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*API token\*\*: Follow the [Cloudflare documentation to create an API token](https://developers.cloudflare.com/fundamentals/api/get-started/create-token/){:target=\_blank .external-link}.

## cockpit.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cockpit credentials

description: Documentation for Cockpit credentials. Use these credentials to authenticate Cockpit in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Cockpit credentials

You can use these credentials to authenticate the following nodes:

- [Cockpit](/integrations/builtin/app-nodes/n8n-nodes-base.cockpit.md)

## Prerequisites

- Create a [Cockpit](https://getcockpit.com/){:target=\_blank .external-link} account.

- Set up a [self-hosted instance of Cockpit](https://getcockpit.com/documentation/core/quickstart/installation){:target=\_blank .external-link}.

## Supported authentication methods

- API access token

## Related resources

Refer to [Cockpit's API documentation](https://getcockpit.com/documentation/core/api/introduction){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- Your \*\*Cockpit URL\*\*: The URL you use to access your Cockpit instance

- An \*\*Access Token\*\*: Refer to the [Cockpit Managing tokens documentation](https://getcockpit.com/documentation/core/api/authentication/#managing-tokens){:target=\_blank .external-link} for instructions on creating an API token. Use the \*\*API token\*\* as the n8n \*\*Access Token\*\*.

## coda.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Coda credentials

description: Documentation for Coda credentials. Use these credentials to authenticate Coda in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Coda credentials

You can use these credentials to authenticate the following nodes:

- [Coda](/integrations/builtin/app-nodes/n8n-nodes-base.coda.md)

## Prerequisites

Create a [Coda](https://www.coda.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [Coda's API documentation](https://coda.io/developers/apis/v1){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An API \*\*Access Token\*\*: Generate an API access token in your Coda [\*\*Account settings\*\*](https://coda.io/@oleg/getting-started-guide-coda-api/start-here-5#\_luxC4){:target=\_blank .external-link}.

## cohere.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cohere credentials

description: Documentation for the Cohere credentials. Use these credentials to authenticate Cohere in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Cohere credentials

You can use these credentials to authenticate the following nodes:

\* [Cohere](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmcohere.md)

\* [Cohere Chat](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatcohere.md)

\* [Reranker Cohere](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.rerankercohere.md)

\* [Embeddings Cohere](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingscohere.md)

## Prerequisites

Create a [Cohere account](https://cohere.com/).

You'll need an account with the following access:

- For the Trial API, you need User or Owner permissions.

- For Production API, you need Owner permissions.

Refer to [Cohere Teams and Roles documentation](https://docs.cohere.com/reference/teams-and-roles) for more information.

## Supported authentication methods

- API key

## Related resources

Refer to [Cohere's documentation](https://docs.cohere.com/reference/about) for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To generate a Cohere API key, go to the [API Keys section of your Cohere dashboard](https://dashboard.cohere.com/api-keys).

## contentful.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Contentful credentials

description: Documentation for Contentful credentials. Use these credentials to authenticate Contentful in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Contentful credentials

You can use these credentials to authenticate the following nodes:

- [Contentful](/integrations/builtin/app-nodes/n8n-nodes-base.contentful.md)

## Prerequisites

- Create a [Contentful](https://www.contentful.com/){:target=\_blank .external-link} account.

- Create a [Contentful space](https://www.contentful.com/help/contentful-101/#step-2-create-a-space){:target=\_blank .external-link}.

## Supported authentication methods

- API access token

## Related resources

Refer to [Contentful's API documentation](https://www.contentful.com/developers/docs/references/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- Your Contentful \*\*Space ID\*\*: The Space ID displays as you generate the tokens; You can also refer to the [Contentful Find space ID documentation](https://www.contentful.com/help/find-space-id/){:target=\_blank .external-link} to view the Space ID.

- A \*\*Content Delivery API Access Token\*\*: Required if you want to use the [Content Delivery API](https://www.contentful.com/developers/docs/references/content-delivery-api/){:target=\_blank .external-link}. Leave blank if you don't intend to use this API.

- A \*\*Content Preview API Access Token\*\*: Required if you want to use the [Content Preview API](https://www.contentful.com/developers/docs/references/content-preview-api/){:target=\_blank .external-link}. Leave blank if you don't intend to use this API.

View and generate access tokens in Contentful in \*\*Settings > API keys\*\*. Contentful generates tokens for both Content Delivery API and Content Preview API as part of a single key. Refer to [Contentful Creating and managing API keys](https://training.contentful.com/student/activity/1050378-creating-and-managing-api-keys){:target=\_blank .external-link} for detailed instructions.

## convertapi.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ConvertAPI credentials

description: Documentation for the ConvertAPI credentials. Use these credentials to authenticate ConvertAPI in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# ConvertAPI credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Supported authentication methods

\* API Token

## Related resources

Refer to [ConvertAPI's API documentation](https://docs.convertapi.com/docs/getting-started) for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/convertapi/) on n8n's website.

## Using API Token

To configure this credential, you'll need a [ConvertAPI](https://www.convertapi.com/a/signin) account and:

- An [\*\*API Token\*\*](https://docs.convertapi.com/docs/api-tokens) to authenticate requests to the service.

Refer to [ConvertAPI's API documentation](https://docs.convertapi.com/docs/authentication) for more information about authenticating to the service.

## convertkit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ConvertKit credentials

description: Documentation for ConvertKit credentials. Use these credentials to authenticate ConvertKit in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# ConvertKit credentials

You can use these credentials to authenticate the following nodes:

- [ConvertKit](/integrations/builtin/app-nodes/n8n-nodes-base.convertkit.md)

- [ConvertKit Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.convertkittrigger.md)

## Prerequisites

Create a [ConvertKit](https://convertkit.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [ConvertKit's API documentation](https://developers.convertkit.com/#overview){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Secret\*\*: Access your ConvertKit API key in [\*\*Account Settings > Advanced\*\*](https://app.convertkit.com/account\_settings/advanced\_settings){:target=\_blank .external-link}. Add this key as the \*\*API Secret\*\* in n8n.

## copper.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Copper credentials

description: Documentation for Copper credentials. Use these credentials to authenticate Copper in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Copper credentials

You can use these credentials to authenticate the following nodes:

- [Copper](/integrations/builtin/app-nodes/n8n-nodes-base.copper.md)

- [Copper Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.coppertrigger.md)

## Prerequisites

Create a [Copper](https://www.copper.com/) account at the \*\*Professional\*\* or \*\*Business\*\* plan level.

## Supported authentication methods

- API key

## Related resources

Refer to [Copper's API documentation](https://developer.copper.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Copper Generating an API key documentation](https://support.copper.com/en/articles/8823347-generating-an-api-key){:target=\_blank .external-link} for information on generating an API key.

- An \*\*Email\*\* address: Use the API key creator's email address

## cortex.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cortex credentials

description: Documentation for the Cortex credentials. Use these credentials to authenticate Cortex in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Cortex credentials

You can use these credentials to authenticate the following nodes:

- [Cortex](/integrations/builtin/app-nodes/n8n-nodes-base.cortex.md)

## Prerequisites

Install [Cortex](https://docs.strangebee.com/cortex/installation-and-configuration/){:target=\_blank .external-link} on your server.

## Supported authentication methods

- API key

## Related resources

Refer to [Cortex's API documentation](https://docs.strangebee.com/cortex/api/api-guide/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Cortex API Authentication documentation](https://docs.strangebee.com/cortex/api/api-guide/#authentication){:target=\_blank .external-link} for detailed instructions on generating API keys.

- The URL/Server Address for your \*\*Cortex Instance\*\* (defaults to `http://<your\_server\_address>:9001/`)

## cratedb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: CrateDB credentials

description: Documentation for CrateDB credentials. Use these credentials to authenticate CrateDB in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# CrateDB credentials

You can use these credentials to authenticate the following nodes:

- [CrateDB](/integrations/builtin/app-nodes/n8n-nodes-base.cratedb.md)

## Prerequisites

An available instance of CrateDB.

## Supported authentication methods

- account connection

## Related resources

Refer to [CrateDB's documentation](https://cratedb.com/docs/crate/reference/en/latest/){:target=\_blank .external-link} for more information about the service.

## Using account connection

To configure this credential, you'll need:

- Your \*\*Host\*\* name

- Your \*\*Database\*\* name

- A \*\*User\*\* name

- A user \*\*Password\*\*

- To set the \*\*SSL\*\* parameter. Refer to the [CrateDB Secured Communications (SSL/TLS) documentation](https://cratedb.com/docs/crate/reference/en/5.7/admin/ssl.html#admin-ssl){:target=\_blank .external-link} for more information. The options n8n supports are:

- Allow

- Disable

- Require

- A \*\*Port\*\* number

Refer to the [Connect to a CrateDB cluster documentation](https://cratedb.com/docs/crate/clients-tools/en/latest/connect/){:target=\_blank .external-link} for detailed instructions on these fields and their default values.

## crowddev.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: crowd.dev credentials

description: Documentation for the crowd.dev credentials. Use these credentials to authenticate crowd.dev in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# crowd.dev credentials

You can use these credentials to authenticate the following nodes:

\* [crowd.dev](/integrations/builtin/app-nodes/n8n-nodes-base.crowddev.md)

\* [crowd.dev Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.crowddevtrigger.md)

## Prerequisites

Create a working instance of [crowd.dev](https://www.crowd.dev/){:target=\_blank .external-link}.

## Supported authentication methods

- API key

## Related resources

Refer to [crowd.dev's documentation](https://docs.crowd.dev/docs){:target=\_blank .external-link} for more information about the service, and their [API documentation](https://api.crowd.dev/api-reference){:target=\_blank .external-link} for working with the API.

## Using API key

To configure this credential, you'll need:

- A \*\*URL\*\*:

- If your crowd.dev instance is hosted on crowd.dev, keep the default of `https://app.crowd.dev`.

- If your crowd.dev instance is [self-hosted](https://docs.crowd.dev/docs/technical-docs/self-hosting){:target=\_blank .external-link}, use the URL you use to access your crowd.dev instance.

- Your crowd.dev \*\*Tenant ID\*\*: Displayed in the \*\*Settings\*\* section of the crowd.dev app

- An API \*\*Token\*\*: Displayed in the \*\*Settings\*\* section of the crowd.dev app

Refer to the [crowd.dev API documentation](https://api.crowd.dev/api-reference){:target=\_blank .external-link} for more detailed instructions.

## crowdstrike.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: CrowdStrike credentials

description: Documentation for the CrowdStrike credentials. Use these credentials to authenticate CrowdStrike in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# CrowdStrike credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [CrowdStrike](https://www.crowdstrike.com/en-us/){:target=\_blank .external-link} account.

## Authentication methods

- OAuth2

## Related resources

Refer to CrowdStrike's documentation for more information about the service. Their documentation is behind a log in, so you must log in to your account on their website to access the API documentation.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/crowdstrike/){:target=\_blank .external-link} on n8n's website.

## Using OAuth2

To configure this credential, you'll need:

- The \*\*URL\*\* of your CrowdStrike instance

- A \*\*Client ID\*\*: Generated by creating a new API Client in Crowdstrike in \*\*Support > API Clients and Keys\*\*.

- A \*\*Client Secret\*\*: Generated by creating a new API Client in Crowdstrike in \*\*Support > API Clients and Keys\*\*.

A broad outline of the appropriate steps is available publicly at the CrowdStrike blog: [Getting Access to the CrowdStrike API](https://www.crowdstrike.com/blog/tech-center/get-access-falcon-apis/){:target=\_blank .external-link}. CrowdStrike's full documentation is behind a log in, so you must log in to your account to access the full API documentation.

## customerio.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Customer.io credentials

description: Documentation for Customer.io credentials. Use these credentials to authenticate Customer.io in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Customer.io credentials

You can use these credentials to authenticate the following nodes with Customer.io.

- [Customer.io](/integrations/builtin/app-nodes/n8n-nodes-base.customerio.md)

- [Customer.io Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.customeriotrigger.md)

## Prerequisites

Create a [Customer.io](https://customer.io/) account.

## Supported authentication methods

- API Key

## Related resources

Refer to [Customer.io's summary API documentation](https://customer.io/docs/api/?api=journeys){:target=\_blank .external-link} for more information about the service.

For detailed API reference documentation for each API, refer to the [Track API documentation](https://customer.io/docs/api/track/){:target=\_blank .external-link} and the [App API documentation](https://customer.io/docs/api/app/){:target=\_blank .external-link}.

## Using API key

To configure this credential, you'll need:

- A \*\*Tracking API Key\*\*: For use with the [Track API](https://customer.io/docs/api/track/){:target=\_blank .external-link} at `https://track.customer.io/api/v1/`. See the FAQs below for more details.

- Your \*\*Region\*\*: Customer.io uses different API subdomains depending on the region you select. Options include:

- \*\*Global region\*\*: Keeps the default URLs for both APIs; for use in all non-EU countries/regions.

- \*\*EU region\*\*: Adjusts the Track API subdomain to `track-eu` and the App API subdomain to `api-eu`; only use this if you are in the EU.

- A \*\*Tracking Site ID\*\*: Required with your \*\*Tracking API Key\*\*

- An \*\*App API Key\*\*: For use with the [App API](https://customer.io/docs/api/app/){:target=\_blank .external-link} at `https://api.customer.io/v1/api/`. See the FAQs below for more details.

Refer to the [Customer.io Finding and managing your API credentials documentation](https://customer.io/docs/accounts-and-workspaces/managing-credentials/){:target=\_blank .external-link} for instructions on creating both Tracking API and App API keys.

## Why you need a Tracking API Key and an App API Key

Customer.io has two different API endpoints and generates and stores the keys for each slightly differently:

- The [Track API](https://customer.io/docs/api/track/){:target=\_blank .external-link} at `https://track.customer.io/api/v1/`

- The [App API](https://customer.io/docs/api/app/){:target=\_blank .external-link} at `https://api.customer.io/v1/api/`

The Track API requires a Tracking Site ID; the App API doesn't.

Based on the operation you want to perform, n8n uses the correct API key and its corresponding endpoint.

## datadog.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Datadog credentials

description: Documentation for the Datadog credentials. Use these credentials to authenticate Datadog in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Datadog credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Datadog](https://app.datadoghq.eu/signup){:target=\_blank .external-link} account.

## Related resources

Refer to [Datadog's API documentation](https://docs.datadoghq.com/api/latest/){:target=\_blank .external-link} for more information about authenticating with the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/datadog/){:target=\_blank .external-link} on n8n's website.

## Using API Key

To configure this credential, you'll need:

- Your Datadog instance \*\*Host\*\*

- An \*\*API Key\*\*

- An \*\*App Key\*\*

Refer to [Authentication](https://docs.datadoghq.com/api/latest/authentication/){:target=\_blank .external-link} on Datadog's website for more information.

## deepl.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: DeepL credentials

description: Documentation for DeepL credentials. Use these credentials to authenticate DeepL in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# DeepL credentials

You can use these credentials to authenticate the following nodes:

- [DeepL](/integrations/builtin/app-nodes/n8n-nodes-base.deepl.md)

## Prerequisites

Create a [DeepL developer](https://www.deepl.com/pro-api){:target=\_blank .external-link} account. n8n works with both Free and Pro API Plans.

## Supported authentication methods

- API key

## Related resources

Refer to [DeepL's API documentation](https://developers.deepl.com/docs){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to [DeepL's Authentication documentation](https://developers.deepl.com/docs/getting-started/auth#authentication){:target=\_blank .external-link} for more information on getting your API key.

- To identify which \*\*API Plan\*\* you're on. DeepL has different API endpoints for each plan, so be sure you select the correct one:

- Pro Plan

- Free Plan

## deepseek.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: DeepSeek credentials

description: Documentation for DeepSeek credentials. Use these credentials to authenticate Deepseek in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# DeepSeek credentials

You can use these credentials to authenticate the following nodes:

- [Chat DeepSeek](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatdeepseek.md)

## Prerequisites

Create a [DeepSeek](https://platform.deepseek.com/sign\_up) account.

## Supported authentication methods

- API key

## Related resources

Refer to [DeepSeek's API documentation](https://api-docs.deepseek.com/api/deepseek-api) for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

To generate your API Key:

1. Login to your DeepSeek account or [create](https://platform.deepseek.com/sign\_up) an account.

2. Open your [API keys](https://platform.deepseek.com/api\_keys) page.

3. Select \*\*Create new secret key\*\* to create an API key, optionally naming the key.

4. Copy your key and add it as the \*\*API Key\*\* in n8n.

Refer to the [Your First API Call](https://api-docs.deepseek.com/) page for more information.

## demio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Demio credentials

description: Documentation for Demio credentials. Use these credentials to authenticate Demio in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Demio credentials

You can use these credentials to authenticate the following nodes:

- [Demio](/integrations/builtin/app-nodes/n8n-nodes-base.demio.md)

## Prerequisites

Create a [Demio](https://demio.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Demio's API documentation](https://publicdemioapi.docs.apiary.io/#){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

- An \*\*API Secret\*\*

You must have Owner status in Demio to generate API keys and secrets. To view and generate API keys and secrets, go to \*\*Account Settings > API\*\*. Refer to the [Demio Account Owner Settings documentation](https://help.demio.com/en/articles/6456716-account-owner-settings){:target=\_blank .external-link} for more detailed steps.

## dfiriris.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: DFIR-IRIS credentials

description: Documentation for the DFIR-IRIS credentials. Use these credentials to authenticate DFIR-IRIS in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# DFIR-IRIS credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

An accessible instance of [DFIR-IRIS](https://docs.dfir-iris.org/latest/getting\_started/){:target=\_blank .external-link}.

## Related resources

Refer to [DFIR-IRIS's API documentation](https://docs.dfir-iris.org/operations/api/){:target=\_blank .external-link} for more information about authenticating with the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/dfir-iris/){:target=\_blank .external-link} on n8n's website.

## Using API Key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to [DFIR-IRIS's API documentation](https://docs.dfir-iris.org/operations/api/){:target=\_blank .external-link} for instructions on getting your API key.

- The \*\*Base URL\*\* of your DFIR-IRIS instance.

## dhl.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: DHL credentials

description: Documentation for DHL credentials. Use these credentials to authenticate DHL in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# DHL credentials

You can use these credentials to authenticate the following nodes:

- [DHL](/integrations/builtin/app-nodes/n8n-nodes-base.dhl.md)

## Supported authentication methods

- API key

## Related resources

Refer to [DHL's Developer documentation](https://support-developer.dhl.com/support/home){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need a [DHL Developer](https://developer.dhl.com/user/register){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*

To get an API key, create an app:

1. In the DHL Developer portal, select the user icon to open your [User Apps](https://developer.dhl.com/user/apps){:target=\_blank .external-link}.

2. Select \*\*+ Create App\*\*.

3. Enter an \*\*App name\*\*, like `n8n integration`.

4. Enter a \*\*Machine name\*\*, like `n8n\_integration`.

4. In \*\*SELECT APIs\*\*, select \*\*Shipment Tracking - Unified\*\*. The API is added to the \*\*Add API to app\*\* section.

5. In the \*\*Add API to app\*\* section, select the \*\*+\*\* next to the \*\*Shipment Tracking - Unified\*\* API.

6. Select \*\*Create App\*\*. The \*\*Apps\*\* page opens, displaying the app you just created.

7. Select the app you just created to view its details.

8. Select \*\*Show key\*\* next to \*\*API Key\*\*.

9. Copy the \*\*API Key\*\* and enter it in your n8n credential.

Refer to [How to create an app?](https://support-developer.dhl.com/support/solutions/articles/47001177011-how-to-create-an-app-){:target=\_blank .external-link} for more information.

## discord.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Discord credentials

description: Documentation for Discord credentials. Use these credentials to authenticate Discord in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Discord credentials

You can use these credentials to authenticate the following nodes:

- [Discord](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md)

## Prerequisites

- Create a [Discord](https://www.discord.com/){:target=\_blank .external-link} account.

- For Bot and OAuth2 credentials:

- [Set up your local developer environment](https://discord.com/developers/docs/quick-start/getting-started#step-0-project-setup){:target=\_blank .external-link}.

- [Create an application and a bot user](https://discord.com/developers/docs/quick-start/getting-started#step-1-creating-an-app){:target=\_blank .external-link}.

- For webhook credentials, [create a webhook](https://support.discord.com/hc/en-us/articles/228383668-Intro-to-Webhooks){:target=\_blank .external-link}.

## Supported authentication methods

- Bot

- OAuth2

- Webhook

Not sure which method to use? Refer to [Choose an authentication method](#choose-an-authentication-method) for more guidance.

## Related resources

Refer to [Discord's Developer documentation](https://discord.com/developers/docs/intro){:target=\_blank .external-link} for more information about the service.

## Using bot

Use this method if you want to add the bot to your Discord server using a bot token rather than OAuth2.

To configure this credential, you'll need:

- A \*\*Bot Token\*\*: Generated once you create an application with a bot.

To create an application with a bot and generate the \*\*Bot Token\*\*:

1. If you don't have one already, create an app in the [developer portal](https://discord.com/developers/applications?new\_application=true){:target=\_blank .external-link}.

2. Enter a \*\*Name\*\* for your app.

3. Select \*\*Create\*\*.

4. Select \*\*Bot\*\* from the left menu.

5. Under \*\*Token\*\*, select \*\*Reset Token\*\* to generate a new bot token.

6. Copy the token and add it to your n8n credential.

7. In \*\*Bot > Privileged Gateway Intents\*\*, add any privileged intents you want your bot to have. Refer to [Configuring your bot](https://discord.com/developers/docs/quick-start/getting-started#configuring-your-bot){:target=\_blank .external-link} for more information on privileged intents.

- n8n recommends activating \*\*SERVER MEMBERS INTENT: Required for your bot to receive events listed under GUILD\_MEMBERS\*\*.

8. In \*\*Installation > Installation Contexts\*\*, select the installation contexts you want your bot to use:

- Select \*\*Guild Install\*\* for server-installed apps. (Most common for n8n users.)

- Select \*\*User Install\*\* for user-installed apps. (Less common for n8n users, but may be useful for testing.)

- Refer to Discord's [Choosing installation contexts](https://discord.com/developers/docs/quick-start/getting-started#choosing-installation-contexts){:target=\_blank .external-link} documentation for more information about these installation contexts.

9. In \*\*Installation > Install Link\*\*, select \*\*Discord Provided Link\*\* if it's not already selected.

10. Still on the \*\*Installation\*\* page, in the \*\*Default Install Settings\*\* section, select `applications.commands` and `bot` scopes. Refer to Discord's [Scopes](https://discord.com/developers/docs/topics/oauth2#shared-resources-oauth2-scopes){:target=\_blank .external-link} documentation for more information about these and other scopes.

11. Add permissions on the \*\*Bot > Bot Permissions\*\* page. Refer to Discord's [Permissions](https://discord.com/developers/docs/topics/permissions){:target=\_blank .external-link} documentation for more information. n8n recommends selecting these permissions for the [Discord](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md) node:

- Manage Roles

- Manage Channels

- Read Messages/View Channels

- Send Messages

- Create Public Threads

- Create Private Threads

- Send Messages in Threads

- Send TTS Messages

- Manage Messages

- Manage Threads

- Embed Links

- Attach Files

- Read Message History

- Add Reactions

12. Add the app to your server or test server:

1. Go to \*\*Installation > Install Link\*\* and copy the link listed there.

2. Paste the link in your browser and hit Enter.

1. Select \*\*Add to server\*\* in the installation prompt.

1. Once your app's added to your server, you'll see it in the member list.

These steps outline the basic functionality needed to set up your n8n credential. Refer to the [Discord Creating an App](https://discord.com/developers/docs/quick-start/getting-started#step-1-creating-an-app){:target=\_blank .external-link} guide for more information on creating an app, especially:

- [Fetching your credentials](https://discord.com/developers/docs/quick-start/getting-started#fetching-your-credentials){:target=\_blank .external-link} for getting your app's credentials into your local developer environment.

- [Handling interactivity](https://discord.com/developers/docs/quick-start/getting-started#step-3-handling-interactivity){:target=\_blank .external-link} for information on setting up public endpoints for interactive `/slash` commands.

## Using OAuth2

Use this method if you want to add the bot to Discord servers using the OAuth2 flow, which simplifies the process for those installing your app.

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

- Choose whether to send \*\*Authentication\*\* in the \*\*Header\*\* or \*\*Body\*\*

- A \*\*Bot Token\*\*

For details on creating an application with a bot and generating the token, follow the same steps as in [Using bot](#using-bot) above.

Then:

1. Copy the \*\*Bot Token\*\* you generate and add it into the n8n credential.

2. Open the \*\*OAuth2\*\* page in your Discord application to access your \*\*Client ID\*\* and generate a \*\*Client Secret\*\*. Add these to your n8n credential.

3. From n8n, copy the \*\*OAuth Redirect URL\*\* and add it into the Discord application in \*\*OAuth2 > Redirects\*\*. Be sure you save these changes.

## Using webhook

To configure this credential, you'll need:

- A \*\*Webhook URL\*\*: Generated once you create a webhook.

To get a Webhook URL, you create a webhook and copy the URL that gets generated:

1. Open your Discord \*\*Server Settings\*\* and open the \*\*Integrations\*\* tab.

2. Select \*\*Create Webhook\*\* to create a new webhook.

3. Give your webhook a \*\*Name\*\* that makes sense.

3. Select the \*\*avatar\*\* next to the \*\*Name\*\* to edit or upload a new avatar.

4. In the \*\*CHANNEL\*\* dropdown, select the channel the webhook should post to.

5. Select \*\*Copy Webhook URL\*\* to copy the Webhook URL. Enter this URL in your n8n credential.

Refer to the [Discord Making a Webhook documentation](https://support.discord.com/hc/en-us/articles/228383668-Intro-to-Webhooks){:target=\_blank .external-link} for more information.

## Choose an authentication method

The simplest installation is a \*\*webhook\*\*. You create and add webhooks to a single channel on a Discord server. Webhooks can post messages to a channel. They don't require a bot user or authentication. But they can't listen or respond to user requests or commands. If you need a straightforward way to send messages to a channel without the need for interaction or feedback, use a webhook.

A \*\*bot\*\* is an interactive step up from a webhook. You add bots to the Discord server (referred to as a `guild` in the Discord API documentation) or to user accounts. Bots added to the server can interact with users on all the server's channels. They can manage channels, send and retrieve messages, retrieve the list of all users, and change their roles. If you need to build an interactive, complex, or multi-step workflow, use a bot.

\*\*OAuth2\*\* is basically a \*\*bot\*\* that uses an OAuth2 flow rather than just the bot token. As with bots, you add these to the Discord server or to user accounts. These credentials offer the same functionalities as bots, but they can simplify the installation of the bot on your server.

## discourse.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Discourse credentials

description: Documentation for Discourse credentials. Use these credentials to authenticate Discourse in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Discourse credentials

You can use these credentials to authenticate the following nodes:

- [Discourse](/integrations/builtin/app-nodes/n8n-nodes-base.discourse.md)

## Prerequisites

- Host an instance of [Discourse](https://discourse.org/)

- Create an account on your hosted instance and make sure that you are an admin

## Supported authentication methods

- API key

## Related resources

Refer to [Discourse's API documentation](https://docs.discourse.org/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- The \*\*URL\*\* of your Discourse instance, for example `https://community.n8n.io`

- An \*\*API Key\*\*: Create an API key through the Discourse admin panel. Refer to the [Discourse create and configure an API key documentation](https://meta.discourse.org/t/create-and-configure-an-api-key/230124){:target=\_blank .external-link} for instructions on creating an API key and specifying a username.

- A \*\*Username\*\*: Use your own name, `system`, or another user.

Refer to the Authentication section of the [Discourse API documentation](https://docs.discourse.org/){:target=\_blank .external-link} for examples.

## disqus.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Disqus credentials

description: Documentation for Disqus credentials. Use these credentials to authenticate Disqus in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Disqus credentials

You can use these credentials to authenticate the following nodes:

- [Disqus](/integrations/builtin/app-nodes/n8n-nodes-base.disqus.md)

## Prerequisites

- Create a [Disqus](https://www.disqus.com/){:target=\_blank .external-link} account.

- Register an [API application](https://help.disqus.com/en/articles/1717083-how-to-create-an-api-application){:target=\_blank .external-link}.

## Supported authentication methods

- API access token

## Related resources

Refer to [Disqus's API documentation](https://disqus.com/api/docs/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An \*\*Access Token\*\*: Once you've registered an API application, copy the \*\*API Key\*\* and add it to n8n as the \*\*Access Token\*\*.

## drift.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Drift credentials

description: Documentation for Drift credentials. Use these credentials to authenticate Drift in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Drift credentials

You can use these credentials to authenticate the following nodes:

- [Drift](/integrations/builtin/app-nodes/n8n-nodes-base.drift.md)

## Prerequisites

- Create a [Drift](https://www.drift.com/){:target=\_blank .external-link} account.

- [Create a Drift app](https://devdocs.drift.com/docs/quick-start#3-install-it-to-your-drift-account-){:target=\_blank .external-link}.

## Supported authentication methods

- API personal access token

- OAuth2

## Related resources

Refer to [Drift's API documentation](https://devdocs.drift.com/docs/using-drift-apis){:target=\_blank .external-link} for more information about the service.

## Using API personal access token

To configure this credential, you'll need:

- A \*\*Personal Access Token\*\*: To get a token, [create a Drift app](https://devdocs.drift.com/docs/quick-start#3-install-it-to-your-drift-account-){:target=\_blank .external-link}. [Install the app](https://devdocs.drift.com/docs/quick-start#3-install-it-to-your-drift-account-){:target=\_blank .external-link} to generate an OAuth Access token. Add this to the n8n credential as your \*\*Personal Access Token\*\*.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch or need more detail on what's happening in the OAuth web flow, refer to the instructions in the [Drift Authentication and Scopes documentation](https://devdocs.drift.com/docs/authentication-and-scopes){:target=\_blank .external-link} to set up OAuth for your app.

## dropbox.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Dropbox credentials

description: Documentation for Dropbox credentials. Use these credentials to authenticate Dropbox in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Dropbox credentials

You can use these credentials to authenticate the following nodes:

- [Dropbox](/integrations/builtin/app-nodes/n8n-nodes-base.dropbox.md)

## Supported authentication methods

- API access token: Dropbox recommends this method for testing with your user account and granting a limited number of users access.

- OAuth2: Dropbox recommends this method for production or for testing with more than 50 users.

/// note | App reuse

You can transition an app from the API access token to OAuth2 by creating a new credential in n8n for OAuth2 using the same app.

///

## Related resources

Refer to [Dropbox's Developer documentation](https://www.dropbox.com/developers/documentation){:target=\_blank .external-link} for more information about the service.

## Using access token

To configure this credential, you'll need a [Dropbox](https://www.dropbox.com/developers){:target=\_blank .external-link} developer account and:

- An \*\*Access Token\*\*: Generated once you create a Dropbox app.

- An \*\*App Access Type\*\*

To set up the credential, create a Dropbox app:

1. Open the [App Console](https://www.dropbox.com/developers/apps){:target=\_blank .external-link} within the Dropbox developer portal.

2. Select \*\*Create app\*\*.

3. In \*\*Choose an API\*\*, select \*\*Scoped access\*\*.

4. In \*\*Choose the type of access you need\*\*, choose whichever option best fits your use of the [Dropbox](/integrations/builtin/app-nodes/n8n-nodes-base.dropbox.md) node:

- \*\*App Folder\*\* grants access to a single folder created specifically for your app.

- \*\*Full Dropbox\*\* grants access to all files and folders in your user's Dropbox.

- Refer to the [DBX Platform developer guide](https://www.dropbox.com/developers/reference/developer-guide){:target=\_blank .external-link} for more information.

5. In \*\*Name your app\*\*, enter a name for your app, like `n8n integration`.

6. Check the box to agree to the \*\*Dropbox API Terms and Conditions\*\*.

7. Select \*\*Create app\*\*. The app's \*\*Settings\*\* open.

8. In the \*\*OAuth 2\*\* section, in \*\*Generated access token\*\*, select \*\*Generate\*\*.

9. Copy the access token and enter it as the \*\*Access Token\*\* in your n8n credential.

10. In n8n, select the same \*\*App Access Type\*\* you selected for your app.

Refer to the [Dropbox App Console Settings documentation](https://www.dropbox.com/developers/reference/getting-started){:target=\_blank .external-link} for more information.

/// warning | User limits

On the \*\*Settings\*\* tab, you can add other users to your app, even with the access token method. Once your app links 50 Dropbox users, you will have two weeks to apply for and receive production status approval before Dropbox freezes your app from linking more users.

///

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

Cloud users need to select the \*\*App Access Type\*\*:

- \*\*App Folder\*\* grants access to a single folder created specifically for your app.

- \*\*Full Dropbox\*\* grants access to all files and folders in your user's Dropbox.

- Refer to the [DBX Platform developer guide](https://www.dropbox.com/developers/reference/developer-guide){:target=\_blank .external-link} for more information.

If you're [self-hosting](/hosting/index.md) n8n, you'll need to configure OAuth2 manually:

1. Open the [App Console](https://www.dropbox.com/developers/apps){:target=\_blank .external-link} within the Dropbox developer portal.

2. Select \*\*Create app\*\*.

3. In \*\*Choose an API\*\*, select \*\*Scoped access\*\*.

4. In \*\*Choose the type of access you need\*\*, choose whichever option best fits your use of the [Dropbox](/integrations/builtin/app-nodes/n8n-nodes-base.dropbox.md) node:

- \*\*App Folder\*\* grants access to a single folder created specifically for your app.

- \*\*Full Dropbox\*\* grants access to all files and folders in your user's Dropbox.

- Refer to the [DBX Platform developer guide](https://www.dropbox.com/developers/reference/developer-guide){:target=\_blank .external-link} for more information.

5. In \*\*Name your app\*\*, enter a name for your app, like `n8n integration`.

6. Check the box to agree to the \*\*Dropbox API Terms and Conditions\*\*.

7. Select \*\*Create app\*\*. The app's \*\*Settings\*\* open.

8. Copy the \*\*App key\*\* and enter it as the \*\*Client ID\*\* in your n8n credential.

9. Copy the \*\*Secret\*\* and enter it as the \*\*Client Secret\*\* in your n8n credential.

10. In n8n, copy the \*\*OAuth Redirect URL\*\* and enter it in the Dropbox \*\*Redirect URIs\*\*.

11. In n8n, select the same \*\*App Access Type\*\* you selected for your app.

Refer to the instructions in the [Dropbox Implementing OAuth documentation](https://developers.dropbox.com/oauth-guide#implementing-oauth){:target=\_blank .external-link} for more information.

For internal tools and limited usage, you can keep your app private. But if you'd like your app to be used by more than 50 users or you want to distribute it, you'll need to complete Dropbox's production approval process. Refer to \*\*Production Approval\*\* in the [DBX Platform developer guide](https://www.dropbox.com/developers/reference/developer-guide){:target=\_blank .external-link} for more information.

/// warning | User limits

On the \*\*Settings\*\* tab, you can add other users to your app. Once your app links 50 Dropbox users, you will have two weeks to apply for and receive production status approval before Dropbox freezes your app from linking more users.

///

## dropcontact.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Dropcontact credentials

description: Documentation for Dropcontact credentials. Use these credentials to authenticate Dropcontact in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Dropcontact credentials

You can use these credentials to authenticate the following nodes:

- [Dropcontact](/integrations/builtin/app-nodes/n8n-nodes-base.dropcontact.md)

## Prerequisites

Create a developer account in [Dropcontact](https://app.dropcontact.com/signup){:target=\_blank .external-link}.

## Supported authentication methods

- API key

## Related resources

Refer to [Dropcontact's API documentation](https://developer.dropcontact.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To view your API key in Dropcontact, go to [\*\*API\*\*](https://app.dropcontact.com/api){:target=\_blank .external-link}. Refer to the [Dropcontact API key documentation](https://support.dropcontact.com/article/237-how-to-use-the-dropcontact-api-key){:target=\_blank .external-link} for more information.

## dynatrace.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Dynatrace credentials

description: Documentation for the Dynatrace credentials. Use these credentials to authenticate Dynatrace in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Dynatrace credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Dynatrace](https://www.dynatrace.com/signup/){:target=\_blank .external-link} account.

## Related resources

Refer to [Dynatrace's API documentation](https://docs.dynatrace.com/docs/dynatrace-api){:target=\_blank .external-link} for more information about authenticating with the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/dynatrace-api/){:target=\_blank .external-link} on n8n's website.

## Using Access Token

To configure this credential, you'll need:

- An \*\*Access Token\*\*

Refer to [Access Tokens](https://docs.dynatrace.com/docs/manage/identity-access-management/access-tokens-and-oauth-clients/access-tokens){:target=\_blank .external-link} on Dynatrace's website for more information.

## egoi.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: E-goi credentials

description: Documentation for E-goi credentials. Use these credentials to authenticate E-goi in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# E-goi credentials

You can use these credentials to authenticate the following nodes:

- [E-goi](/integrations/builtin/app-nodes/n8n-nodes-base.egoi.md)

## Prerequisites

Create an [E-goi](https://www.e-goi.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [E-goi's API documentation](https://developers.e-goi.com/api/v3/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to [E-goi's API key documentation](https://helpdesk.e-goi.com/511369-Whats-E-gois-API-and-where-do-I-find-my-API-key){:target=\_blank .external-link} for instructions on generating and viewing an API key.

## elasticsearch.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Elasticsearch credentials

description: Documentation for Elasticsearch credentials. Use these credentials to authenticate Elasticsearch in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Elasticsearch credentials

You can use these credentials to authenticate the following nodes:

- [Elasticsearch](/integrations/builtin/app-nodes/n8n-nodes-base.elasticsearch.md)

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Elasticsearch's documentation](https://www.elastic.co/guide/en/elasticsearch/reference/current/index.html){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need an [Elasticsearch](https://www.elastic.co/){:target=\_blank .external-link} account with a [deployment](https://www.elastic.co/guide/en/cloud/current/ec-create-deployment.html){:target=\_blank .external-link} and:

- A \*\*Username\*\*

- A \*\*Password\*\*

- Your Elasticsearch application's \*\*Base URL\*\* (also known as the Elasticsearch application endpoint)

To set up the credential:

1. Enter your Elasticsearch \*\*Username\*\*.

2. Enter your Elasticsearch \*\*Password\*\*.

3. In Elasticsearch, go to \*\*Deployments\*\*.

4. Select your deployment.

5. Select \*\*Manage this deployment\*\*.

6. In the \*\*Applications\*\* section, copy the endpoint of the \*\*Elasticsearch\*\* application.

7. Enter this in n8n as the \*\*Base URL\*\*.

8. By default, n8n connects only if SSL certificate validation succeeds. If you'd like to connect even if SSL certificate validation fails, turn on \*\*Ignore SSL Issues\*\*.

/// note | Custom endpoint aliases

If you add a [custom endpoint alias](https://www.elastic.co/guide/en/cloud/current/ec-regional-deployment-aliases.html){:target=\_blank .external-link} to a deployment, update your n8n credential \*\*Base URL\*\* with the new endpoint.

///

## elasticsecurity.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Elastic Security credentials

description: Documentation for Elastic Security credentials. Use these credentials to authenticate Elastic Security in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Elastic Security credentials

You can use these credentials to authenticate the following nodes:

- [Elastic Security](/integrations/builtin/app-nodes/n8n-nodes-base.elasticsecurity.md)

## Prerequisites

- Create an [Elastic Security](https://www.elastic.co/security) account.

- [Deploy](https://www.elastic.co/guide/en/cloud/current/ec-create-deployment.html) an application.

## Supported authentication methods

- Basic auth

- API Key

## Related resources

Refer to [Elastic Security's documentation](https://www.elastic.co/guide/en/security/current/es-overview.html){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Username\*\*: For the user account you log into Elasticsearch with.

- A \*\*Password\*\*: For the user account you log into Elasticsearch with.

- Your Elasticsearch application's \*\*Base URL\*\* (also known as the Elasticsearch application endpoint):

1. In Elasticsearch, select the option to \*\*Manage this deployment\*\*.

2. In the \*\*Applications\*\* section, copy the endpoint of the \*\*Elasticsearch\*\* application.

3. Add this in n8n as the \*\*Base URL\*\*.

/// note | Custom endpoint aliases

If you add a [custom endpoint alias](https://www.elastic.co/guide/en/cloud/current/ec-regional-deployment-aliases.html){:target=\_blank .external-link} to a deployment, update your n8n credential \*\*Base URL\*\* with the new endpoint.

///

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: For the user account you log into Elasticsearch with. Refer to Elasticsearch's [Create API key documentation](https://www.elastic.co/guide/en/elasticsearch/reference/current/security-api-create-api-key.html){:target=\_blank .external-link} for more information.

- Your Elasticsearch application's \*\*Base URL\*\* (also known as the Elasticsearch application endpoint):

1. In Elasticsearch, select the option to \*\*Manage this deployment\*\*.

2. In the \*\*Applications\*\* section, copy the endpoint of the \*\*Elasticsearch\*\* application.

3. Add this in n8n as the \*\*Base URL\*\*.

## emelia.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Emelia credentials

description: Documentation for Emelia credentials. Use these credentials to authenticate Emelia in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Emelia credentials

You can use these credentials to authenticate the following nodes:

- [Emelia](/integrations/builtin/app-nodes/n8n-nodes-base.emelia.md)

- [Emelia Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.emeliatrigger.md)

## Prerequisites

Create an [Emelia](https://emelia.io) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Emelia's API documentation](https://docs.emelia.io/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To generate an API Key in Emelia, access your \*\*API Keys\*\* by selecting the avatar in the top right (your \*\*Settings\*\*). Refer to the Authentication section of [Emelia's API documentation](https://docs.emelia.io/){:target=\_blank .external-link} for more information.

## erpnext.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ERPNext credentials

description: Documentation for ERPNext credentials. Use these credentials to authenticate ERPNext in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# ERPNext credentials

You can use these credentials to authenticate the following nodes:

- [ERPNext](/integrations/builtin/app-nodes/n8n-nodes-base.erpnext.md)

## Prerequisites

- Create an [ERPNext](https://erpnext.com) account.

## Supported authentication methods

- API key

## Related resources

Refer to [ERPNext's documentation](https://docs.erpnext.com/docs/user/manual/en/introduction){:target=\_blank .external-link} for more information about the service.

Refer to [ERPNext's developer documentation](https://frappeframework.com/docs/user/en/introduction){:target=\_blank .external-link} for more information about working with the framework.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate this from your own ERPNext user account in \*\*Settings > My Settings > API Access\*\*.

- An \*\*API Secret\*\*: Generated with the API key.

- Your ERPNext \*\*Environment\*\*:

- For \*\*Cloud-hosted\*\*:

- Your ERPNext \*\*Subdomain\*\*: Refer to the [FAQs](#how-to-find-the-subdomain-of-an-erpnext-cloud-hosted-account)

- Your \*\*Domain\*\*: Choose between `erpnext.com` and `frappe.cloud`.

- For \*\*Self-hosted\*\*:

- The fully qualified \*\*Domain\*\* where you host ERPNext

- Choose whether to \*\*Ignore SSL Issues\*\*: When selected, n8n will connect even if SSL certificate validation is unavailable.

If you are an ERPNext System Manager, you can also generate API keys and secrets for other users. Refer to the [ERPNext Adding Users documentation](https://docs.erpnext.com/docs/user/manual/en/adding-users){:target=\_blank .external-link} for more information.

## How to find the subdomain of an ERPNext cloud-hosted account

You can find your ERPNext subdomain by reviewing the address bar of your browser. The string between `https://` and either `.erpnext.com` or `frappe.cloud` is your subdomain.

For example, if the URL in the address bar is `https://n8n.erpnext.com`, the subdomain is `n8n`.

## eventbrite.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Eventbrite credentials

description: Documentation for Eventbrite credentials. Use these credentials to authenticate Eventbrite in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Eventbrite credentials

You can use these credentials to authenticate the following nodes:

- [Eventbrite Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.eventbritetrigger.md)

## Prerequisites

Create an [Eventbrite](https://www.eventbrite.com/) account.

## Supported authentication methods

- API private key

- OAuth2

## Related resources

Refer to [Eventbrite's API documentation](https://www.eventbrite.com/platform/api){:target=\_blank .external-link} for more information about the service.

## Using API private key

To configure this credential, you'll need:

- A \*\*Private Key\*\*: Refer to the [Eventbrite API Authentication Get a Private Token documentation](https://www.eventbrite.com/platform/api#/introduction/authentication/1.-get-a-private-token){:target=\_blank .external-link} for detailed steps to generate a Private Token. Use this private token as the \*\*Private Key\*\* in the n8n credential.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch or need more detail on what's happening in the OAuth web flow, refer to the instructions in the [Eventbrite API authentication For App Partners documentation](https://www.eventbrite.com/platform/api#/introduction/authentication/2.-(for-app-partners)-authorize-your-users){:target=\_blank .external-link} to set up OAuth.

## f5bigip.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: F5 Big-IP credentials

description: Documentation for the F5 Big-IP credentials. Use these credentials to authenticate F5 Big-IP in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# F5 Big-IP credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create an [F5 Big-IP](https://www.f5.com/products/big-ip-services){:target=\_blank .external-link} account.

## Authentication methods

- Account login

## Related resources

Refer to [F5 Big-IP's API documentation](https://clouddocs.f5.com/products/big-iq/mgmt-api/v0.0/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/f5-big-ip/){:target=\_blank .external-link} on n8n's website.

## Using account login

To configure this credential, you'll need:

- A \*\*Username\*\*: Use the username you use to log in to F5 Big-IP.

- A \*\*Password\*\*: Use the user password you use to log in to F5 Big-IP.

## facebookapp.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook App credentials

description: Documentation for Facebook App credentials. Use these credentials to authenticate Facebook App in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Facebook App credentials

You can use these credentials to authenticate the following nodes:

- [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md)

/// note | Facebook Graph API credentials

If you want to create credentials for the [Facebook Graph API](/integrations/builtin/app-nodes/n8n-nodes-base.facebookgraphapi.md) node, follow the instructions in the [Facebook Graph API credentials](/integrations/builtin/credentials/facebookgraph.md) documentation.

///

## Supported authentication methods

- App access token

## Related resources

Refer to [Meta's Graph API documentation](https://developers.facebook.com/docs/graph-api/overview){:target=\_blank .external-link} for more information about the service.

## Using app access token

To configure this credential, you'll need a [Meta for Developers](https://developers.facebook.com/){:target=\_blank .external-link} account and:

- An app \*\*Access Token\*\*

- An optional \*\*App Secret\*\*: Used to verify the integrity and origin of the payload.

There are five steps in setting up your credential:

1. [Create a Meta app](#create-a-meta-app) with the Webhooks product.

2. [Generate an App Access Token](#generate-an-app-access-token) for that app.

3. [Configure the Facebook trigger](#configure-the-facebook-trigger).

4. Optional: [Add an app secret](#optional-add-an-app-secret).

5. [App Review](#app-review): Only required if your app's users don't have roles on the app itself. If you're creating the app for your own internal purposes, this isn't necessary.

Refer to the detailed instructions below for each step.

### Create a Meta app

To create a Meta app:

1. Go to the Meta Developer [App Dashboard](https://developers.facebook.com/apps){:target=\_blank .external-link} and select \*\*Create App\*\*.

2. If you have a business portfolio and you're ready to connect the app to it, select the business portfolio. If you don't have a business portfolio or you're not ready to connect the app to the portfolio, select \*\*I don’t want to connect a business portfolio yet\*\* and select \*\*Next\*\*. The \*\*Use cases\*\* page opens.

3. Select \*\*Other\*\*, then select \*\*Next\*\*.

4. Select \*\*Business\*\* and \*\*Next\*\*.

5. Complete the essential information:

\* Add an \*\*App name\*\*.

\* Add an \*\*App contact email\*\*.

\* Here again you can connect to a business portfolio or skip it.

1. Select \*\*Create app\*\*.

1. The \*\*Add products to your app\*\* page opens.

1. Select \*\*App settings > Basic\*\* from the left menu.

1. Enter a \*\*Privacy Policy URL\*\*. (Required to take the app "Live.")

1. Select \*\*Save changes\*\*.

1. At the top of the page, toggle the \*\*App Mode\*\* from \*\*Development\*\* to \*\*Live\*\*.

1. In the left menu, select \*\*Add Product\*\*.

6. The \*\*Add products to your app\*\* page appears. Select \*\*Webhooks\*\*.

7. The \*\*Webhooks\*\* product opens.

Refer to Meta's [Create an app](https://developers.facebook.com/docs/development/create-an-app){:target=\_blank .external-link} documentation for more information on creating an app, required fields like the Privacy Policy URL, and adding products.

For more information on the app modes and switching to \*\*Live\*\* mode, refer to [App Modes](https://developers.facebook.com/docs/development/build-and-test/app-modes){:target=\_blank .external-link} and [Publish | App Types](https://developers.facebook.com/docs/development/release#app-types){:target=\_blank .external-link}.

### Generate an App Access Token

Next, create an app access token to be used by your n8n credential and the Webhooks product:

1. In a separate tab or window, open the [Graph API explorer](https://developers.facebook.com/tools/explorer/){:target=\_blank .external-link}.

2. Select the \*\*Meta App\*\* you just created in the \*\*Access Token\*\* section.

3. In \*\*User or Page\*\*, select \*\*Get App Token\*\*.

4. Select \*\*Generate Access Token\*\*.

5. The page prompts you to log in and grant access. Follow the on-screen prompts.

/// warning | App unavailable

You may receive a warning that the app isn't available. Once you take an app live, there may be a few minutes' delay before you can generate an access token.

///

5. Copy the token and enter it in your n8n credential as the \*\*Access Token\*\*. Save this token somewhere else, too, since you'll need it for the Webhooks configuration.

6. Save your n8n credential.

Refer to the Meta instructions for [Your First Request](https://developers.facebook.com/docs/graph-api/get-started#get-started){:target=\_blank .external-link} for more information on generating the token.

### Configure the Facebook Trigger

Now that you have a token, you can configure the Facebook Trigger node:

1. In your Meta app, copy the \*\*App ID\*\* from the top navigation bar.

1. In n8n, open your Facebook Trigger node.

2. Paste the \*\*App ID\*\* into the \*\*APP ID\*\* field.

3. Select \*\*Execute step\*\* to shift the trigger into listening mode.

6. Return to the tab or window where your Meta app's \*\*Webhooks\*\* product configuration is open.

7. \*\*Subscribe\*\* to the objects you want to receive Facebook Trigger notifications about. For each subscription:

1. Copy the \*\*Webhook URL\*\* from n8n and enter it as the \*\*Callback URL\*\* in your Meta App.

1. Enter the \*\*Access Token\*\* you copied above as the \*\*Verify token\*\*.

1. Select \*\*Verify and save\*\*. (This step fails if you don't have your n8n trigger listening.)

1. Some webhook subscriptions, like \*\*User\*\*, prompt you to subscribe to individual events. Subscribe to the events you're interested in.

1. You can send some \*\*Test\*\* events from Meta to confirm things are working. If you send a test event, verify its receipt in n8n.

Refer to the [Facebook Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) documentation for more information.

### Optional: Add an App Secret

For added security, Meta recommends adding an \*\*App Secret\*\*. This signs all API calls with the `appsecret\_proof` parameter. The app secret proof is a sha256 hash of your access token, using your app secret as the key.

To generate an App Secret:

1. In Meta while viewing your app, select \*\*App settings > Basic\*\* from the left menu.

1. Select \*\*Show\*\* next to the \*\*App secret\*\* field.

1. The page prompts you to re-enter your Facebook account credentials. Once you do so, Meta shows the App Secret.

1. Highlight it to select it, copy it, and paste this into your n8n credential as the \*\*App Secret\*\*.

1. \*\*Save\*\* your n8n credential.

Refer to the [App Secret documentation](https://developers.facebook.com/docs/facebook-login/security#appsecret){:target=\_blank .external-link} for more information.

### App review

App Review requires Business Verification.

Your app must go through App Review if it will be used by someone who:

- Doesn't have a role on the app itself.

- Doesn't have a role in the Business that has claimed the app.

If your only app users are users who have a role on the app itself, App Review isn't required.

As part of the App Review process, you may need to request advanced access for your webhook subscriptions.

Refer to Meta's [App Review](https://developers.facebook.com/docs/resp-plat-initiatives/app-review){:target=\_blank .external-link} and [Advanced Access](https://developers.facebook.com/docs/graph-api/overview/access-levels#advanced-access){:target=\_blank .external-link} documentation for more information.

## Common issues

### Unverified apps limit

Facebook only lets you have a developer or administrator role on a maximum of 15 apps that aren't already linked to a Meta Verified Business Account.

Refer to [Limitations | Create an app](https://developers.facebook.com/docs/development/create-an-app#limitations){:target=\_blank .external-link} if you're over that limit.

## facebookgraph.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Graph API credentials

description: Documentation for Facebook Graph API credentials. Use these credentials to authenticate Facebook Graph API in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Facebook Graph API credentials

You can use these credentials to authenticate the following nodes:

- [Facebook Graph API](/integrations/builtin/app-nodes/n8n-nodes-base.facebookgraphapi.md)

/// note | Facebook Trigger credentials

If you want to create credentials for the [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) node, follow the instructions mentioned in the [Facebook App credentials](/integrations/builtin/credentials/facebookapp.md) documentation.

///

## Supported authentication methods

- App access token

## Related resources

Refer to [Meta's Graph API documentation](https://developers.facebook.com/docs/graph-api/overview){:target=\_blank .external-link} for more information about the service.

## Using app access token

To configure this credential, you'll need a [Meta for Developers](https://developers.facebook.com/){:target=\_blank .external-link} account and:

- An app \*\*Access Token\*\*

There are two steps in setting up your credential:

1. [Create a Meta app](#create-a-meta-app) with the products you need to access.

2. [Generate an App Access Token](#generate-an-app-access-token) for that app.

Refer to the detailed instructions below for each step.

### Create a Meta app

To create a Meta app:

1. Go to the Meta Developer [App Dashboard](https://developers.facebook.com/apps){:target=\_blank .external-link} and select \*\*Create App\*\*.

2. If you have a business portfolio and you're ready to connect the app to it, select the business portfolio. If you don't have a business portfolio or you're not ready to connect the app to the portfolio, select \*\*I don’t want to connect a business portfolio yet\*\* and select \*\*Next\*\*. The \*\*Use cases\*\* page opens.

3. Select the \*\*Use case\*\* that aligns with how you wish to use the Facebook Graph API. For example, for products in Meta's \*\*Business\*\* suite (like Messenger, Instagram, WhatsApp, Marketing API, App Events, Audience Network, Commerce API, Fundraisers, Jobs, Threat Exchange, and Webhooks), select \*\*Other\*\*, then select \*\*Next\*\*.

4. Select \*\*Business\*\* and \*\*Next\*\*.

5. Complete the essential information:

\* Add an \*\*App name\*\*.

\* Add an \*\*App contact email\*\*.

\* Here again you can connect to a business portfolio or skip it.

1. Select \*\*Create app\*\*.

1. The \*\*Add products to your app\*\* page opens.

1. Select \*\*App settings > Basic\*\* from the left menu.

1. Enter a \*\*Privacy Policy URL\*\*. (Required to take the app "Live.")

1. Select \*\*Save changes\*\*.

1. At the top of the page, toggle the \*\*App Mode\*\* from \*\*Development\*\* to \*\*Live\*\*.

1. In the left menu, select \*\*Add Product\*\*.

6. The \*\*Add products to your app\*\* page appears. Select the products that make sense for your app and configure them.

Refer to Meta's [Create an app](https://developers.facebook.com/docs/development/create-an-app){:target=\_blank .external-link} documentation for more information on creating an app, required fields like the Privacy Policy URL, and adding products.

For more information on the app modes and switching to \*\*Live\*\* mode, refer to [App Modes](https://developers.facebook.com/docs/development/build-and-test/app-modes){:target=\_blank .external-link} and [Publish | App Types](https://developers.facebook.com/docs/development/release#app-types){:target=\_blank .external-link}.

### Generate an App Access Token

Next, create an app access token to use with your n8n credential and the products you selected:

1. In a separate tab or window, open the [Graph API explorer](https://developers.facebook.com/tools/explorer/){:target=\_blank .external-link}.

2. Select the \*\*Meta App\*\* you just created in the \*\*Access Token\*\* section.

3. In \*\*User or Page\*\*, select \*\*Get App Token\*\*.

4. Select \*\*Generate Access Token\*\*.

5. The page prompts you to log in and grant access. Follow the on-screen prompts.

/// warning | App unavailable

You may receive a warning that the app isn't available. Once you take an app live, there may be a few minutes' delay before you can generate an access token.

///

5. Copy the token and enter it in your n8n credential as the \*\*Access Token\*\*.

Refer to the Meta instructions for [Your First Request](https://developers.facebook.com/docs/graph-api/get-started#get-started){:target=\_blank .external-link} for more information on generating the token.

## facebookleadads.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Lead Ads credentials

description: Documentation for the Facebook Lead Ads credentials. Use these credentials to authenticate Facebook Lead Ads in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Facebook Lead Ads credentials

You can use these credentials to authenticate the following nodes:

\* [Facebook Lead Ads trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebookleadadstrigger.md)

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Facebook Lead Ads' documentation](https://developers.facebook.com/docs/marketing-api/guides/lead-ads/){:target=\_blank .external-link} for more information about the service.

View [example workflows and related content](https://n8n.io/integrations/facebook-lead-ads-trigger/){:target=\_blank .external-link} on n8n's website.

## Using OAuth2

To configure this credential, you'll need a [Meta for Developers](https://developers.facebook.com/){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To get both, [create a Meta app](https://developers.facebook.com/docs/development/create-an-app){:target=\_blank .external-link} with either the Facebook Login product or the Facebook Login for Business product.

To create your app and set up the credential with \*\*Facebook Login for Business\*\*:

1. Go to the Meta Developer [App Dashboard](https://developers.facebook.com/apps){:target=\_blank .external-link} and select \*\*Create App\*\*.

2. If you have a business portfolio and you're ready to connect the app to it, select the business portfolio. If you don't have a business portfolio or you're not ready to connect the app to the portfolio, select \*\*I don’t want to connect a business portfolio yet\*\* and select \*\*Next\*\*. The \*\*Use cases\*\* page opens.

3. Select \*\*Other\*\*, then select \*\*Next\*\*.

4. Select \*\*Business\*\* and \*\*Next\*\*.

5. Complete the essential information:

\* Add an \*\*App name\*\*.

\* Add an \*\*App contact email\*\*.

\* Here again you can connect to a business portfolio or skip it.

1. Select \*\*Create app\*\*. The \*\*Add products to your app\*\* page opens.

1. Select \*\*Facebook Login for Business\*\*. The \*\*Settings\*\* page for this product opens.

1. Copy the \*\*OAuth Redirect URL\*\* from your n8n credential.

1. In your Meta app settings in \*\*Client OAuth settings\*\*, paste that URL as the \*\*Valid OAuth Redirect URIs\*\*.

1. Select \*\*App settings > Basic\*\* from the left menu.

1. Copy the \*\*App ID\*\* and enter it as the \*\*Client ID\*\* within your n8n credential.

1. Copy the \*\*App Secret\*\* and enter it as the \*\*Client Secret\*\* within your n8n credential.

Your credential should successfully connect now, but you'll need to go through the steps to take your Meta app live before you can use it with the [Facebook Lead Ads trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebookleadadstrigger.md). Here's a summary of what you'll need to do:

1. In your Meta app, select \*\*App settings > Basic\*\* from the left menu.

1. Enter a \*\*Privacy Policy URL\*\*. (Required to take the app "Live.")

1. Select \*\*Save changes\*\*.

1. At the top of the page, toggle the \*\*App Mode\*\* from \*\*Development\*\* to \*\*Live\*\*.

1. Facebook Login for Business requires Advanced Access for `public\_profile`. To add it, go to \*\*App Review > Permissions and Features\*\*.

1. Search for `public\_profile` and select \*\*Request advanced access\*\*.

1. Complete the steps for [business verification](https://www.facebook.com/business/tools/meta-verified-for-business/){:target=\_blank .external-link}.

1. Use the [Lead Ads Testing Tool](https://developers.facebook.com/tools/lead-ads-testing){:target=\_blank .external-link} to trigger some demo form submissions and test your workflow.

Refer to Meta's [Create an app](https://developers.facebook.com/docs/development/create-an-app){:target=\_blank .external-link} documentation for more information on creating an app, required fields like the Privacy Policy URL, and adding products.

For more information on the app modes and switching to \*\*Live\*\* mode, refer to [App Modes](https://developers.facebook.com/docs/development/build-and-test/app-modes){:target=\_blank .external-link} and [Publish | App Types](https://developers.facebook.com/docs/development/release#app-types){:target=\_blank .external-link}.

## figma.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Figma credentials

description: Documentation for Figma credentials. Use these credentials to authenticate Figma in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Figma credentials

You can use these credentials to authenticate the following nodes:

- [Figma Trigger (Beta)](/integrations/builtin/trigger-nodes/n8n-nodes-base.figmatrigger.md)

## Prerequisites

Create a [Figma](https://www.figma.com/){:target=\_blank .external-link} account. You need an admin or owner level account.

## Supported authentication methods

- API key

## Related resources

Refer to [Figma's API documentation](https://www.figma.com/developers/api){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A Personal \*\*Access Token\*\* (PAT): Refer to the [Figma API Access Tokens documentation](https://www.figma.com/developers/api#access-tokens){:target=\_blank .external-link} for instructions on generating a Personal \*\*Access Token\*\*.

## filemaker.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: FileMaker credentials

description: Documentation for FileMaker credentials. Use these credentials to authenticate FileMaker in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# FileMaker credentials

You can use these credentials to authenticate the following nodes:

- [FileMaker](/integrations/builtin/app-nodes/n8n-nodes-base.filemaker.md)

## Prerequisites

- Create a user account on a [FileMaker Server](https://www.claris.com/filemaker/){:target=\_blank .external-link} with the `fmrest` extended privilege to [Access the FileMaker Data API](https://help.claris.com/en/data-api-guide/content/enable-access.html){:target=\_blank .external-link}.

- Ensure the FileMaker Server can use the [FileMaker Data API](https://help.claris.com/en/data-api-guide/content/index.html){:target=\_blank .external-link}:

1. Prepare your database for FileMaker Data API access using FileMaker Pro. You can create a database or prepare an existing database.

- Refer to [Prepare databases for FileMaker Data API access](https://help.claris.com/en/data-api-guide/content/prepare-databases-for-access.html){:target=\_blank .external-link} for more information.

1. Write code that calls FileMaker Data API methods to find, create, edit, duplicate, and delete records in a hosted database.

- Refer to [Write FileMaker Data API calls](https://help.claris.com/en/data-api-guide/content/write-data-api-calls.html){:target=\_blank .external-link} for more information.

1. Host your solution with FileMaker Data API access enabled.

- Refer to [Host a FileMaker Data API solution](https://help.claris.com/en/data-api-guide/content/host-data-api-app.html){:target=\_blank .external-link} for more information.

1. Test that FileMaker Data API access is working.

- Refer to [Test the FileMaker Data API solution](https://help.claris.com/en/data-api-guide/content/test-data-api-app.html){:target=\_blank .external-link} for more information.

1. Monitor your hosted solution using Admin Console.

- Refer to [Monitor FileMaker Data API solutions](https://help.claris.com/en/data-api-guide/content/monitor-data-api-app.html){:target=\_blank .external-link} for more information.

## Supported authentication methods

- Database connection

## Related resources

Refer to [FileMaker's Data API Guide](https://help.claris.com/en/data-api-guide/content/index.html){:target=\_blank .external-link} for more information about the service.

## Using database connection

To configure this credential:

1. Enter the \*\*Host\*\* name or IP address of your FileMaker Server.

2. Enter the \*\*Database\*\* name. This should match the database name as it appears in the \*\*Databases\*\* list within FileMaker.

3. Enter the user account \*\*Login\*\* for the account with the `fmrest` extended privilege. Refer to the previous [Prerequisites](#prerequisites) section for more information.

4. Enter the \*\*Password\*\* for that user account.

## filescan.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Filescan credentials

description: Documentation for the Filescan credentials. Use these credentials to authenticate Filescan in n8n, a workflow automation platform.

contentType: [integration, reference]

---

<!-- vale off -->

<!-- Not adding "Filescan" as an exception generally. -->

# Filescan credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Filescan](https://www.filescan.io/auth/signup/){:target=\_blank .external-link} account.

## Related resources

Refer to [Filescan's API documentation](https://www.filescan.io/api/docs){:target=\_blank .external-link} for more information about authenticating with the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/filescan/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate your API key from your [\*\*profile settings\*\*](https://www.filescan.io/users/profile){:target=\_blank .external-link} \*\*> API Key\*\*. Refer to the [Filescan FAQ](https://www.filescan.io/help/faq){:target=\_blank .external-link} for more information.

<!-- vale on -->

## flow.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Flow credentials

description: Documentation for Flow credentials. Use these credentials to authenticate Flow in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Flow credentials

You can use these credentials to authenticate the following nodes:

- [Flow](/integrations/builtin/app-nodes/n8n-nodes-base.flow.md)

- [Flow Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.flowtrigger.md)

## Prerequisites

Create a [Flow](https://www.getflow.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Flow's API documentation](https://developer.getflow.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- Your numeric \*\*Organization ID\*\*

- An \*\*Access Token\*\*

Refer to the [Flow API Getting Started documentation](https://developer.getflow.com/#getting-started){:target=\_blank .external-link} for instructions on generating your Access Token and viewing your Organization ID.

## formiotrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Form.io Trigger credentials

description: Documentation for Form.io Trigger credentials. Use these credentials to authenticate Form.io Trigger in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Form.io Trigger credentials

You can use these credentials to authenticate the following nodes:

- [Form.io Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.formiotrigger.md)

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Form.io's API documentation](https://apidocs.form.io/){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need a [Form.io](https://www.form.io/) account and:

- Your \*\*Environment\*\*

- Your login \*\*Email address\*\*

- Your \*\*Password\*\*

To set up the credential:

1. Select your \*\*Environment\*\*:

- Choose \*\*Cloud hosted\*\* if you aren't hosting Form.io yourself.

- Choose \*\*Self-hosted\*\* if you're hosting Form.io yourself. Then add:

- Your \*\*Self-Hosted Domain\*\*. Use only the domain itself. For example, if you view a form at `https://yourserver.com/yourproject/manage/view`, the Self-Hosted Domain is `https://yourserver.com`.

2. Enter the \*\*Email address\*\* you use to log in to Form.io.

3. Enter the \*\*Password\*\* you use to log in to Form.io.

## formstacktrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Formstack Trigger credentials

description: Documentation for Formstack Trigger credentials. Use these credentials to authenticate Formstack Trigger in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Formstack Trigger credentials

You can use these credentials to authenticate the following nodes:

- [Formstack Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.formstacktrigger.md)

## Prerequisites

Create a [Formstack](https://www.formstack.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [Formstack's API documentation](https://developers.formstack.com/reference/api-overview){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An API \*\*Access Token\*\*: To generate an Access Token, [create a new application](https://www.formstack.com/admin/apiKey/main){:target=\_blank .external-link} in Formstack using the following details:

\* \*\*Redirect URI\*\*: For cloud n8n instances, enter `https://oauth.n8n.cloud/oauth2/callback`.

- For self-hosted n8n instances, enter the OAuth callback URL for your n8n instance in the format `https://<n8n\_url>/rest/oauth2-credential/callback`. For example `https://localhost:5678/rest/oauth2-credential/callback`.

\* \*\*Platform\*\*: Select \*\*Website\*\*.

Once you've created the application, copy the access token either from the applications list or by selecting the application to view its details.

Refer to [Formstack's API Authorization documentation](https://developers.formstack.com/reference/api-overview#obtaining-an-api-key-oauth2-access-token){:target=\_blank .external-link} for more detailed instructions.

/// note | Access token permissions

Formstack ties access tokens to a Formstack user. Access tokens follow Formstack (in-app) user permissions.

///

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To generate both of these, [create a new application](https://www.formstack.com/admin/apiKey/main){:target=\_blank .external-link} in Formstack using the following details:

- \*\*Redirect URI\*\*: Copy the \*\*OAuth Redirect URL\*\* from the n8n credential to enter here.

- For self-hosted n8n instances, enter the OAuth callback URL for your n8n instance in the format `https://<n8n\_url>/rest/oauth2-credential/callback`. For example `https://localhost:5678/rest/oauth2-credential/callback`.

- \*\*Platform\*\*: Select \*\*Website\*\*.

Once you've created the application, select it from the applications list to view the \*\*Application Details\*\*. Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* and add them to n8n. Once you've added both, select the \*\*Connect my account\*\* button to begin the OAuth2 flow and authorization process.

Refer to [Formstack's API Authorization documentation](https://developers.formstack.com/reference/api-overview#obtaining-an-api-key-oauth2-access-token){:target=\_blank .external-link} for more detailed instructions.

/// note | Access token permissions

Formstack ties access tokens to a Formstack user. Access tokens follow Formstack (in-app) user permissions.

///

## fortigate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Fortinet FortiGate credentials

description: Documentation for the Fortinet FortiGate credentials. Use these credentials to authenticate Fortinet FortiGate in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Fortinet FortiGate credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Fortinet FortiGate](https://www.fortinet.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [Fortinet FortiGate's API documentation](https://docs.fortinet.com/document/fortigate/7.4.3/administration-guide/940602/using-apis){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/fortinet-fortigate/){:target=\_blank .external-link} on n8n's website.

## Using API access token

To configure this credential, you'll need:

- An API \*\*Access Token\*\*: To generate an access token, create a [REST API administrator](https://docs.fortinet.com/document/fortigate/7.4.3/administration-guide/399023/rest-api-administrator){:target=\_blank .external-link}.

Refer to the [Fortinet FortiGate Using APIs documentation](https://docs.fortinet.com/document/fortigate/7.4.3/administration-guide/940602/using-apis){:target=\_blank .external-link} for more information about token-based authentication in FortiGate.

## freshdesk.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Freshdesk credentials

description: Documentation for Freshdesk credentials. Use these credentials to authenticate Freshdesk in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Freshdesk credentials

You can use these credentials to authenticate the following nodes:

- [Freshdesk](/integrations/builtin/app-nodes/n8n-nodes-base.freshdesk.md)

## Prerequisites

Create a [Freshdesk](https://freshdesk.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Freshdesk's API documentation](https://developers.freshdesk.com/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Freshdesk API authenticaton documentation](https://developers.freshdesk.com/api/#authentication){:target=\_blank .external-link} for detailed instructions on getting your API key.

- A Freshdesk \*\*Domain\*\*: Use the subdomain of your Freshdesk account. This is part of the URL, for example `https://<subdomain>.freshdesk.com`. So if you access Freshdesk through `https://n8n.freshdesk.com`, enter `n8n` as your \*\*Domain\*\*.

## freshservice.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Freshservice credentials

description: Documentation for Freshservice credentials. Use these credentials to authenticate Freshservice in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Freshservice credentials

You can use these credentials to authenticate the following nodes:

- [Freshservice](/integrations/builtin/app-nodes/n8n-nodes-base.freshservice.md)

## Prerequisites

Create a [Freshservice](https://freshservice.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Freshservice's API documentation](https://api.freshservice.com/v2/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Freshservice API authenticaton documentation](https://api.freshservice.com/v2/#authentication){:target=\_blank .external-link} for detailed instructions on getting your API key.

- Your Freshservice \*\*Domain\*\*: Use the subdomain of your Freshservice account. This is part of the URL, for example `https://<subdomain>.freshservice.com`. So if you access Freshservice through `https://n8n.freshservice.com`, enter `n8n` as your \*\*Domain\*\*.

## freshworkscrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Freshworks CRM credentials

description: Documentation for Freshworks CRM credentials. Use these credentials to authenticate Freshworks CRM in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Freshworks CRM credentials

You can use these credentials to authenticate the following nodes:

- [Freshworks CRM](/integrations/builtin/app-nodes/n8n-nodes-base.freshworkscrm.md)

## Prerequisites

Create a [Freshworks CRM](https://www.freshworks.com/freshsales-crm/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Freshworks CRM's API documentation](https://developers.freshworks.com/crm/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Freshworks CRM API authenticaton documentation](https://developers.freshworks.com/crm/api/#authentication){:target=\_blank .external-link} for detailed instructions on getting your API key.

- Your Freshworks CRM \*\*Domain\*\*: Use the subdomain of your Freshworks CRM account. This is part of the URL, for example `https://<subdomain>.myfreshworks.com`. So if you access Freshworks CRM through `https://n8n.myfreshworks.com`, enter `n8n` as your \*\*Domain\*\*.

## ftp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: FTP credentials

description: Documentation for FTP credentials. Use these credentials to authenticate FTP in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# FTP credentials

You can use these credentials to authenticate the following nodes:

- [FTP](/integrations/builtin/core-nodes/n8n-nodes-base.ftp.md)

## Prerequisites

Create an account on a File Transfer Protocol (FTP) server like [JSCAPE](https://mft.jscape.com/lp/ftp-server){:target=\_blank .external-link}, [OpenSSH](https://www.openssh.com/){:target=\_blank .external-link}, or [FileZilla Server](https://filezilla-project.org/){:target=\_blank .external-link}.

## Supported authentication methods

- \*\*FTP account\*\*: Use this method if your FTP server doesn't support SSH tunneling or encrypted connections.

- \*\*SFTP account\*\*: Use this method if your FTP server supports SSH tunneling and encrypted connections.

## Related resources

File Transfer Protocol (FTP) and Secure Shell File Transfer Protocol (SFTP) are protocols for transferring files directly between an FTP/SFTP client and server.

## Using FTP account

Use this method if your FTP server doesn't support SSH tunneling or encrypted connections.

To configure this credential, you'll need to:

1. Enter the name or IP address of your FTP server's \*\*Host\*\*.

2. Enter the \*\*Port\*\* number the connection should use.

3. Enter the \*\*Username\*\* the credential should connect as.

4. Enter the user's \*\*Password\*\*.

Review your FTP server provider's documentation for instructions on getting the information you need.

## Using SFTP account

Use this method if your FTP server supports SSH tunneling and encrypted connections.

To configure this credential, you'll need to:

1. Enter the name or IP address of your FTP server's \*\*Host\*\*.

2. Enter the \*\*Port\*\* number the connection should use.

3. Enter the \*\*Username\*\* the credential should connect as.

4. Enter the user's \*\*Password\*\*.

5. For the \*\*Private Key\*\*, enter a string for either key-based or host-based user authentication

- Enter your Private Key in OpenSSH format. This is most often generated using the ssh-keygen `-o` parameter, for example: `ssh-keygen -o -a 100 -t ed25519`.

6. If the \*\*Private Key\*\* is encrypted, enter the \*\*Passphrase\*\* used to decrypt it.

- If the \*\*Private Key\*\* doesn't use a passphrase, leave this field blank.

Review your FTP server provider's documentation for instructions on getting the information you need.

## getresponse.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GetResponse credentials

description: Documentation for GetResponse credentials. Use these credentials to authenticate GetResponse in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# GetResponse credentials

You can use these credentials to authenticate the following nodes:

- [GetResponse](/integrations/builtin/app-nodes/n8n-nodes-base.getresponse.md)

- [GetResponse Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.getresponsetrigger.md)

## Prerequisites

Create a [GetResponse](https://www.getresponse.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

- OAuth2

## Related resources

Refer to [GetResponse's API documentation](https://apidocs.getresponse.com/v3){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To view or generate an API key, go to \*\*Integrations and API > API\*\*. Refer to the [GetResponse Help Center](https://www.getresponse.com/help/where-do-i-find-the-api-key.html){:target=\_blank .external-link} for more detailed instructions.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you [register your application](https://apidocs.getresponse.com/v3/authentication/oauth2){:target=\_blank .external-link}.

- A \*\*Client Secret\*\*: Generated when you [register your application](https://apidocs.getresponse.com/v3/authentication/oauth2){:target=\_blank .external-link} as the \*\*Client Secret Key\*\*.

When you register your application, copy the \*\*OAuth Redirect URL\*\* from n8n and add it as the \*\*Redirect URL\*\* in GetResponse.

/// note | Redirect URL with localhost

The Redirect URL should be a URL in your domain, for example: `https://mytemplatemaker.example.com/gr\_callback`. GetResponse doesn't accept a localhost callback URL. Refer to the [FAQs](#configure-oauth2-credentials-for-a-local-environment) to configure the credentials for the local environment.

///

## Configure OAuth2 credentials for a local environment

GetResponse doesn't accept the localhost callback URL. Follow the steps below to configure the OAuth credentials for a local environment:

1. Use [ngrok](https://ngrok.com/){:target=\_blank .external-link} to expose the local server running on port `5678` to the internet. In your terminal, run the following command:

```sh

ngrok http 5678

```

2. Run the following command in a new terminal. Replace `<YOUR-NGROK-URL>` with the URL that you got from the previous step.

```sh

export WEBHOOK\_URL=<YOUR-NGROK-URL>

```

3. Follow the [Using OAuth2](#using-oauth2) instructions to configure your credentials, using this URL as your \*\*Redirect URL\*\*.

## ghost.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Ghost credentials

description: Documentation for Ghost credentials. Use these credentials to authenticate Ghost in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Ghost credentials

You can use these credentials to authenticate the following nodes:

- [Ghost](/integrations/builtin/app-nodes/n8n-nodes-base.ghost.md)

## Prerequisites

Create a [Ghost](https://ghost.org/){:target=\_blank .external-link} account.

## Supported authentication methods

- Admin API key

- Content API key

The keys are generated following the same steps, but the authorization flows and key format are different, so n8n stores the credentials separately. The Content API uses an API key; the Admin API uses an API key to generate a token for authentication.

## Related resources

Refer to Ghost's [Admin API documentation](https://ghost.org/docs/admin-api/){:target=\_blank .external-link} for more information about the Admin API service. Refer to Ghost's [Content API documentation](https://ghost.org/docs/content-api/){:target=\_blank .external-link} for more information about the Content API service.

## Using Admin API key

To configure this credential, you'll need:

- The \*\*URL\*\* of your Ghost admin domain. Your [admin domain](https://ghost.org/docs/admin-api/#base-url){:target=\_blank .external-link} can be different to your main domain and may include a subdirectory. All Ghost(Pro) blogs have a `\*.ghost.io` domain as their admin domain and require https.

- An \*\*API Key\*\*: To generate a new API key, create a new Custom Integration. Refer to the [Ghost Admin API Token Authentication Key documentation](https://ghost.org/docs/admin-api/#token-authentication){:target=\_blank .external-link} for more detailed instructions. Copy the \*\*Admin API Key\*\* and use this as the \*\*API Key\*\* in the Ghost Admin n8n credential.

## Using Content API key

To configure this credential, you'll need:

- The \*\*URL\*\* of your Ghost admin domain. Your [admin domain](https://ghost.org/docs/content-api/#url){:target=\_blank .external-link} can be different to your main domain and may include a subdirectory. All Ghost(Pro) blogs have a `\*.ghost.io` domain as their admin domain and require https.

- An \*\*API Key\*\*: To generate a new API key, create a new Custom Integration. Refer to the [Ghost Content API Key documentation](https://ghost.org/docs/content-api/#key){:target=\_blank .external-link} for more detailed instructions. Copy the \*\*Content API Key\*\* and use this as the \*\*API Key\*\* in the Ghost Content n8n credential.

## git.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Git credentials

description: Documentation for Git credentials. Use these credentials to authenticate Git in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Git credentials

You can use these credentials to authenticate the following nodes:

- [Git](/integrations/builtin/core-nodes/n8n-nodes-base.git.md)

## Prerequisites

Create an account on [GitHub](https://github.com){:target=\_blank .external-link}, [GitLab](https://about.gitlab.com/){:target=\_blank .external-link}, or similar platforms for use with [Git](https://git-scm.com){:target=\_blank .external-link}.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Git's documentation](https://git-scm.com/doc){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Username\*\* for GitHub, GitLab, or a similar platform

- A \*\*Password\*\* for GitHub, GitLab, or a similar platform

## github.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GitHub credentials

description: Documentation for GitHub credentials. Use these credentials to authenticate GitHub in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# GitHub credentials

You can use these credentials to authenticate the following nodes:

- [GitHub](/integrations/builtin/app-nodes/n8n-nodes-base.github.md)

- [GitHub Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.githubtrigger.md)

- [GitHub Document Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentgithubloader.md): this node doesn't support OAuth.

## Prerequisites

Create a [GitHub](https://github.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token: Use this method with any GitHub nodes.

- OAuth2: Use this method with [GitHub](/integrations/builtin/app-nodes/n8n-nodes-base.github.md) and [GitHub Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.githubtrigger.md) nodes only; don't use with [GitHub Document Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentgithubloader.md).

## Related resources

Refer to [GitHub's API documentation](https://docs.github.com/en/rest){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need a [GitHub](https://github.com/){:target=\_blank .external-link} account.

There are two steps to setting up this credential:

1. [Generate a GitHub personal access token](#generate-personal-access-token).

2. [Set up the credential](#set-up-the-credential).

Refer to the sections below for detailed instructions.

### Generate personal access token

/// note | Recommended access token type

n8n recommends using a personal access token (classic). GitHub's fine-grained personal access tokens are still in beta and can't access all endpoints.

///

To generate your personal access token:

1. If you haven't done so already, verify your email address with GitHub. Refer to [Verifying your email address](https://docs.github.com/en/account-and-profile/setting-up-and-managing-your-personal-account-on-github/managing-email-preferences/verifying-your-email-address){:target=\_blank .external-link} for more information.

2. Open your GitHub profile [Settings](https://github.com/settings/profile){:target=\_blank .external-link}.

3. In the left navigation, select [\*\*Developer settings\*\*](https://github.com/settings/apps){:target=\_blank .external-link}.

4. In the left navigation, under \*\*Personal access tokens\*\*, select \*\*Tokens (classic)\*\*.

5. Select \*\*Generate new token > Generate new token (classic)\*\*.

6. Enter a descriptive name for your token in the \*\*Note\*\* field, like `n8n integration`.

7. Select the \*\*Expiration\*\* you'd like for the token, or select \*\*No expiration\*\*.

8. Select \*\*Scopes\*\* for your token. For most of the n8n GitHub nodes, add the `repo` scope.

- A token without assigned scopes can only access public information.

- Refer to

9. Select \*\*Generate token\*\*.

10. Copy the token.

Refer to [Creating a personal access token (classic)](https://docs.github.com/en/authentication/keeping-your-account-and-data-secure/managing-your-personal-access-tokens#creating-a-personal-access-token-classic){:target=\_blank .external-link} for more information. Refer to [Scopes for OAuth apps](https://docs.github.com/en/apps/oauth-apps/building-oauth-apps/scopes-for-oauth-apps#available-scopes){:target=\_blank .external-link} for more information on GitHub scopes.

### Set up the credential

Then, in your n8n credential:

1. If you aren't using GitHub Enterprise Server, don't change the \*\*GitHub server\*\* URL.

- If you're using [GitHub Enterprise Server](https://docs.github.com/en/enterprise-server@3.9/admin/overview/about-github-enterprise-server){:target=\_blank .external-link}, update \*\*GitHub server\*\* to match the URL for your server.

2. Enter your \*\*User\*\* name as it appears in your GitHub profile.

3. Enter the \*\*Access Token\*\* you generated above.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting n8n](/hosting/index.md), create a new GitHub [OAuth app](https://docs.github.com/en/apps/oauth-apps){:target=\_blank .external-link}:

1. Open your GitHub profile [Settings](https://github.com/settings/profile){:target=\_blank .external-link}.

2. In the left navigation, select [\*\*Developer settings\*\*](https://github.com/settings/apps){:target=\_blank .external-link}.

3. In the left navigation, select \*\*OAuth apps\*\*.

4. Select \*\*New OAuth App\*\*.

- If you haven't created an app before, you may see \*\*Register a new application\*\* instead. Select it.

5. Enter an \*\*Application name\*\*, like `n8n integration`.

6. Enter the \*\*Homepage URL\*\* for your app's website.

7. If you'd like, add the optional \*\*Application description\*\*, which GitHub displays to end-users.

8. From n8n, copy the \*\*OAuth Redirect URL\*\* and paste it into the GitHub \*\*Authorization callback URL\*\*.

9. Select \*\*Register application\*\*.

10. Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* this generates and add them to your n8n credential.

Refer to the [GitHub Authorizing OAuth apps documentation](https://docs.github.com/en/apps/oauth-apps/using-oauth-apps/authorizing-oauth-apps){:target=\_blank .external-link} for more information on the authorization process.

## gitlab.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GitLab credentials

description: Documentation for GitLab credentials. Use these credentials to authenticate GitLab in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# GitLab credentials

You can use these credentials to authenticate the following nodes:

- [GitLab](/integrations/builtin/app-nodes/n8n-nodes-base.gitlab.md)

- [GitLab Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.gitlabtrigger.md)

## Supported authentication methods

- API access token

- OAuth2 (Recommended)

## Related resources

Refer to [GitLab's API documentation](https://docs.gitlab.com/ee/api/rest/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need a [GitLab](https://gitlab.com/){:target=\_blank .external-link} account and:

- The URL of your \*\*GitLab Server\*\*

- An \*\*Access Token\*\*

To set up the credential:

1. In GitLab, select your avatar, then select \*\*Edit profile\*\*.

2. In the left sidebar, select \*\*Access tokens\*\*.

3. Select \*\*Add new token\*\*.

4. Enter a \*\*Name\*\* for the token, like `n8n integration`.

5. Enter an \*\*expiry date\*\* for the token. If you don't enter an expiry date, GitLab automatically sets it to 365 days later than the current date.

- The token expires on that expiry date at midnight UTC.

6. Select the desired \*\*Scopes\*\*. For the [GitLab](/integrations/builtin/app-nodes/n8n-nodes-base.gitlab.md) node, use the `api` scope to easily grant access for all the node's functionality. Or refer to [Personal access token scopes](https://docs.gitlab.com/ee/user/profile/personal\_access\_tokens.html#personal-access-token-scopes){:target=\_blank .external-link} to select scopes for the functions you want to use.

7. Select \*\*Create personal access token\*\*.

8. Copy the access token this creates and enter it in your n8n credential as the \*\*Access Token\*\*.

9. Enter the URL of your \*\*GitLab Server\*\* in your n8n credential.

Refer to GitLab's [Create a personal access token documentation](https://docs.gitlab.com/ee/user/profile/personal\_access\_tokens.html#create-a-personal-access-token){:target=\_blank .external-link} for more information.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting](/hosting/index.md) n8n, you'll need a [GitLab](https://gitlab.com/){:target=\_blank .external-link} account. Then create a new GitLab application:

1. In GitLab, select your avatar, then select \*\*Edit profile\*\*.

2. In the left sidebar, select \*\*Applications\*\*.

3. Select \*\*Add new application\*\*.

4. Enter a \*\*Name\*\* for your application, like `n8n integration`.

5. In n8n, copy the \*\*OAuth Redirect URL\*\*. Enter it as the GitLab \*\*Redirect URI\*\*.

6. Select the desired \*\*Scopes\*\*. For the [GitLab](/integrations/builtin/app-nodes/n8n-nodes-base.gitlab.md) node, use the `api` scope to easily grant access for all the node's functionality. Or refer to [Personal access token scopes](https://docs.gitlab.com/ee/user/profile/personal\_access\_tokens.html#personal-access-token-scopes){:target=\_blank .external-link} to select scopes for the functions you want to use.

6. Select \*\*Save application\*\*.

7. Copy the \*\*Application ID\*\* and enter it as the \*\*Client ID\*\* in your n8n credential.

8. Copy the \*\*Secret\*\* and enter it as the \*\*Client Secret\*\* in your n8n credential.

Refer to GitLab's [Configure GitLab as an OAuth 2.0 authentication identity provider](https://docs.gitlab.com/ee/integration/oauth\_provider.html){:target=\_blank .external-link} documentation for more information. Refer to the [GitLab OAuth 2.0 identity provider API documentation](https://docs.gitlab.com/ee/api/oauth2.html){:target=\_blank .external-link} for more information on OAuth2 and GitLab.

## gong.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gong credentials

description: Documentation for the Gong credentials. Use these credentials to authenticate Gong in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Gong credentials

You can use these credentials to authenticate the following nodes:

\* [Gong](/integrations/builtin/app-nodes/n8n-nodes-base.gong.md)

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [Gong's API documentation](https://gong.app.gong.io/settings/api/documentation){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need a [Gong](https://app.gong.io/welcome/sign-in) account and:

- An \*\*Access Key\*\*

- An \*\*Access Key Secret\*\*

You can create both of these items on the [Gong API Page](https://app.gong.io/company/api) (you must be a technical administrator in Gong to access this resource).

Refer to [Gong's API documentation](https://gong.app.gong.io/settings/api/documentation){:target=\_blank .external-link} for more information about authenticating to the service.

## Using OAuth2

To configure this credential, you'll need a [Gong](https://app.gong.io/welcome/sign-in) account, a [Gong developer](https://gong.partnerfleet.app/application\_forms/become-a-gong-technology-partner/partner\_applications/new) account and:

\* A \*\*Client ID\*\*: Generated when you create an Oauth app for Gong.

\* A \*\*Client Secret\*\*: Generated when you create an Oauth app for Gong.

If you're [self-hosting](/hosting/index.md) n8n, you'll need to [create an app](https://help.gong.io/docs/create-an-app-for-gong) to configure OAuth2. Refer to [Gong's OAuth documentation](https://gong.app.gong.io/settings/api/documentation){:target=\_blank .external-link} for more information about setting up OAuth2.

## googleai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Gemini(PaLM) credentials

description: Documentation for the Google Gemini(PaLM) credentials. Use these credentials to authenticate Google Gemini and Google PaLM AI nodes in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Google Gemini(PaLM) credentials

You can use these credentials to authenticate the following nodes:

\* [Embeddings Google Gemini](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsgooglegemini.md)

\* [Google Gemini](/integrations/builtin/app-nodes/n8n-nodes-langchain.googlegemini.md)

\* [Google Gemini Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatgooglegemini.md)

\* [Embeddings Google PaLM](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsgooglepalm.md)

## Prerequisites

\* Create a [Google Cloud](https://cloud.google.com/) account.

\* Create a [Google Cloud Platform project](https://developers.google.com/workspace/marketplace/create-gcp-project).

## Supported authentication methods

- Gemini(PaLM) API key

## Related resources

Refer to [Google's Gemini API documentation](https://ai.google.dev/gemini-api/docs) for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using Gemini(PaLM) API key

To configure this credential, you'll need:

- The API \*\*Host\*\* URL: Both PaLM and Gemini use the default `https://generativelanguage.googleapis.com`.

- An \*\*API Key\*\*: Create a key in [Google AI Studio](https://makersuite.google.com/app/apikey).

/// warning | Custom hosts not supported

The related nodes don't yet support custom hosts or proxies for the API host and must use `https://generativelanguage.googleapis.com`.

///

To create an API key:

1. Go to the API Key page in Google AI Studio: [https://makersuite.google.com/app/apikey](https://makersuite.google.com/app/apikey).

2. Select \*\*Create API Key\*\*.

3. You can choose whether to \*\*Create API key in new project\*\* or search for an existing Google Cloud project to \*\*Create API key in existing project\*\*.

4. Copy the generated API key and add it to your n8n credential.

## gotify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gotify credentials

description: Documentation for Gotify credentials. Use these credentials to authenticate Gotify in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Gotify credentials

You can use these credentials to authenticate the following nodes:

- [Gotify](/integrations/builtin/app-nodes/n8n-nodes-base.gotify.md)

## Prerequisites

Install [Gotify](https://gotify.net/docs/install){:target=\_blank .external-link} on your server.

## Supported authentication methods

- API token

## Related resources

Refer to [Gotify's API documentation](https://gotify.net/api-docs){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*App API Token\*\*: Only required if you'll use this credential to create messages. To generate an App API token, create an application from the \*\*Apps\*\* menu. Refer to [Gotify's Push messages documentation](https://gotify.net/docs/pushmsg){:target=\_blank .external-link} for more information.

- A \*\*Client API Token\*\*: Required for all actions other than creating messages (such as deleting or retrieving messages). To generate a Client API token, create a client from the \*\*Clients\*\* menu.

- The \*\*URL\*\* of the Gotify host

## gotowebinar.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GoToWebinar credentials

description: Documentation for GoToWebinar credentials. Use these credentials to authenticate GoToWebinar in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# GoTo Webinar credentials

You can use these credentials to authenticate the following nodes:

- [GoToWebinar](/integrations/builtin/app-nodes/n8n-nodes-base.gotowebinar.md)

## Prerequisites

Create a [GoToWebinar](https://www.goto.com/webinar){:target=\_blank .external-link} account with [Developer Center](https://developer.goto.com/){:target=\_blank .external-link} access.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [GoToWebinar's API documentation](https://developer.goto.com/GoToWebinarV2){:target=\_blank .external-link} for more information about authenticating with the service.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Provided once you create an OAuth client

- A \*\*Client Secret\*\*: Provided once you create an OAuth client

Refer to the [Create an OAuth client documentation](https://developer.goto.com/guides/Get%20Started/02\_HOW\_createClient/){:target=\_blank .external-link} for detailed instructions on creating an OAuth client. Copy the \*\*OAuth Callback URL\*\* from n8n to use as the \*\*Redirect URI\*\* in your OAuth client. The Client ID and Client secret are provided once you've finished setting up your client.

## grafana.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Grafana credentials

description: Documentation for Grafana credentials. Use these credentials to authenticate Grafana in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Grafana credentials

You can use these credentials to authenticate the following nodes:

- [Grafana](/integrations/builtin/app-nodes/n8n-nodes-base.grafana.md)

## Prerequisites

- Create a [Grafana](https://grafana.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Grafana's API documentation](https://grafana.com/docs/grafana/latest/developers/http\_api/){:target=\_blank .external-link} for more information about authenticating with the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Create an API key documentation](https://grafana.com/docs/grafana/latest/administration/api-keys/#create-an-api-key){:target=\_blank .external-link} for detailed instructions on creating an API key.

- The \*\*Base URL\*\* for your Grafana instance, for example: `https://n8n.grafana.net`.

## grist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Grist credentials

description: Documentation for Grist credentials. Use these credentials to authenticate Grist in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Grist credentials

You can use these credentials to authenticate the following nodes:

\* [Grist](/integrations/builtin/app-nodes/n8n-nodes-base.grist.md)

## Prerequisites

Create a [Grist](https://getgrist.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Grist's API documentation](https://support.getgrist.com/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Grist API authentication documentation](https://support.getgrist.com/rest-api/#authentication){:target=\_blank .external-link} for instructions on creating an API key.

- To select your Grist \*\*Plan Type\*\*. Options include:

- Free

- Paid: If selected, provide your Grist \*\*Custom Subdomain\*\*. This is the portion that comes before `.getgrist.com`. For example, if our full Grist domain was `n8n.getgrist.com`, we'd enter `n8n` here.

- Self-Hosted: If selected, provide your Grist \*\*Self-Hosted URL\*\*. This should be the full URL.

## groq.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Groq credentials

description: Documentation for the Groq credentials. Use these credentials to authenticate Groq in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Groq credentials

You can use these credentials to authenticate the following nodes:

\* [Groq Chat Model](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatgroq.md)

## Prerequisites

Create a [Groq](https://groq.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Groq's documentation](https://console.groq.com/docs/quickstart){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

To get your API key:

1. Go to the [API Keys](https://console.groq.com/keys) page of your Groq console.

2. Select \*\*Create API Key\*\*.

3. Enter a \*\*display name\*\* for the key, like `n8n integration`, and select \*\*Submit\*\*.

4. Copy the key and paste it into your n8n credential.

Refer to [Groq's API Keys documentation](https://console.groq.com/docs/quickstart){:target=\_blank .external-link} for more information.

/// note | Groq API keys

Groq binds API keys to the organization, not the user.

///

## gumroad.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gumroad credentials

description: Documentation for Gumroad credentials. Use these credentials to authenticate Gumroad in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Gumroad credentials

You can use these credentials to authenticate the following nodes:

- [Gumroad Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.gumroadtrigger.md)

## Prerequisites

Create a [Gumroad](https://gumroad.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [Gumroad's API documentation](https://app.gumroad.com/api){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An API \*\*Access Token\*\*: Create an application to generate an access token. Refer to the [Gumroad Create an application for the API documentation](https://help.gumroad.com/article/280-create-application-api){:target=\_blank .external-link} for detailed instructions on creating a new application and generating an access token.

## halopsa.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HaloPSA credentials

description: Documentation for HaloPSA credentials. Use these credentials to authenticate HaloPSA in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# HaloPSA credentials

You can use these credentials to authenticate the following nodes:

- [HaloPSA](/integrations/builtin/app-nodes/n8n-nodes-base.halopsa.md)

## Prerequisites

Create a [HaloPSA](https://halopsa.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [HaloPSA's API documentation](https://halopsa.com/apidoc/info){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- To select your \*\*Hosting Type\*\*:

- \*\*On Premise Solution\*\*: Choose this option if you're hosting the Halo application on your own server

- \*\*Hosted Solution Of Halo\*\*: Choose this option if your application is hosted by Halo. If this option is selected, you'll need to provide your \*\*Tenant\*\*.

- The \*\*HaloPSA Authorisation Server URL\*\*: Your Authorisation Server URL is displayed within HaloPSA in \*\*Configuration > Integrations > Halo API\*\* in [API Details](https://halopsa.com/guides/article/?kbid=1737){:target=\_blank .external-link}.

- The \*\*Resource Server\*\* URL: Your Resource Server is displayed within HaloPSA in \*\*Configuration > Integrations > Halo API\*\* in [API Details](https://halopsa.com/guides/article/?kbid=1737){:target=\_blank .external-link}.

- A \*\*Client ID\*\*: Obtained by registering the application in the Halo API settings. Refer to [HaloPSA's Authorisation documentation](https://halopsa.com/apidoc/authorisation){:target=\_blank .external-link} for detailed instructions. n8n recommends using these settings:

- Choose `Client Credentials` as your \*\*Authentication Method\*\*.

- Use the `all` permission.

- A \*\*Client Secret\*\*: Obtained by registering the application in the Halo API settings.

- Your \*\*Tenant\*\* name: If \*\*Hosted Solution of Halo\*\* is selected as the \*\*Hosting Type\*\*, you must provide your tenant name. Your tenant name is displayed within HaloPSA in \*\*Configuration > Integrations > Halo API\*\* in [API Details](https://halopsa.com/guides/article/?kbid=1737){:target=\_blank .external-link}.

HaloPSA uses both the application permissions and the agent's permissions to determine API access.

## harvest.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Harvest credentials

description: Documentation for Harvest credentials. Use these credentials to authenticate Harvest in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Harvest credentials

You can use these credentials to authenticate the following nodes:

- [Harvest](/integrations/builtin/app-nodes/n8n-nodes-base.harvest.md)

## Prerequisites

Create a [Harvest](https://www.getharvest.com/) account.

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [Harvest's API documentation](https://help.getharvest.com/api-v2/){:target=\_blank .external-link} for more information about the service.

## Using API Access Token

To configure this credential, you'll need:

- A Personal \*\*Access Token\*\*: Refer to the [Harvest Personal Access Token Authentication documentation](https://help.getharvest.com/api-v2/authentication-api/authentication/authentication/#personal-access-tokens){:target=\_blank .external-link} for instructions on creating a personal access token.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch or need more detail on what's happening in the OAuth web flow, refer to the instructions in the [Harvest OAuth2 documentation](https://help.getharvest.com/api-v2/authentication-api/authentication/authentication/#oauth2-application){:target=\_blank .external-link} to set up OAuth.

## helpscout.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Help Scout credentials

description: Documentation for Help Scout credentials. Use these credentials to authenticate Help Scout in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Help Scout credentials

You can use these credentials to authenticate the following nodes:

- [Help Scout](/integrations/builtin/app-nodes/n8n-nodes-base.helpscout.md)

- [Help Scout Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.helpscouttrigger.md)

## Prerequisites

Create a [Help Scout](https://www.helpscout.com/) account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Help Scout's API documentation](https://developer.helpscout.com/){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch or need more detail on what's happening in the OAuth web flow, you'll need to create a Help Scout app. Refer to the instructions in the [Help Scout OAuth documentation](https://developer.helpscout.com/mailbox-api/overview/authentication/#oauth2-application){:target=\_blank .external-link} for more information.

## highlevel.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HighLevel credentials

description: Documentation for HighLevel credentials. Use these credentials to authenticate HighLevel in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# HighLevel credentials

You can use these credentials to authenticate the following nodes:

\* [HighLevel node](/integrations/builtin/app-nodes/n8n-nodes-base.highlevel.md)

## Prerequisites

Create a [HighLevel developer](https://marketplace.gohighlevel.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key: Use with API v1

- OAuth2: Use with API v2

/// note | API 1.0 deprecation

HighLevel deprecated API v1.0 and no longer maintains it. Use OAuth2 to set up new credentials.

///

## Related resources

Refer to [HighLevel's API 2.0 documentation](https://highlevel.stoplight.io/docs/integrations/0443d7d1a4bd0-overview){:target=\_blank .external-link} for more information about the service.

For existing integrations with the API v1.0, refer to [HighLevel's API 1.0 documentation](https://public-api.gohighlevel.com/){:target=\_blank .external-link}.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [HighLevel API 1.0 Welcome documentation](https://public-api.gohighlevel.com/){:target=\_blank .external-link} for instructions on getting your API key.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To generate both, create an app in \*\*My Apps > Create App\*\*. Use these settings:

1. Set \*\*Distribution Type\*\* to \*\*Sub-Account\*\*.

2. Add these \*\*Scopes\*\*:

- `locations.readonly`

- `contacts.readonly`

- `contacts.write`

- `opportunities.readonly`

- `opportunities.write`

- `users.readonly`

3. Copy the \*\*OAuth Redirect URL\*\* from n8n and add it as a \*\*Redirect URL\*\* in your HighLevel app.

4. Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* from HighLevel and add them to your n8n credential.

5. Add the same scopes added above to your n8n credential in a space-separated list. For example:

```locations.readonly contacts.readonly contacts.write opportunities.readonly opportunities.write users.readonly```

Refer to HighLevel's [API Authorization documentation](https://highlevel.stoplight.io/docs/integrations/a04191c0fabf9-authorization){:target=\_blank .external-link} for more details. Refer to HighLevel's [API Scopes documentation](https://highlevel.stoplight.io/docs/integrations/vcctp9t1w8hja-scopes){:target=\_blank .external-link} for more information about available scopes.

## homeassistant.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Home Assistant credentials

description: Documentation for Home Assistant credentials. Use these credentials to authenticate Home Assistant in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Home Assistant credentials

You can use these credentials to authenticate the following nodes:

- [Home Assistant](/integrations/builtin/app-nodes/n8n-nodes-base.homeassistant.md)

## Supported authentication methods

- API access token

## Related resources

Refer to [Home Assistant's API documentation](https://developers.home-assistant.io/docs/api/rest){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need to [Install](https://www.home-assistant.io/installation/) Home Assistant, create a [Home Assistant](https://www.home-assistant.io/getting-started/onboarding) account, and have:

- Your \*\*Host\*\*

- The \*\*Port\*\*

- A Long-Lived \*\*Access Token\*\*

To generate an access token and set up the credential:

1. To generate your \*\*Access Token\*\*, log in to Home Assistant and open your [User profile](https://my.home-assistant.io/redirect/profile){:target=\_blank .external-link}.

2. In the \*\*Long-Lived Access Tokens\*\* section, generate a new token.

3. Copy this token and enter it in n8n as your \*\*Access Token\*\*.

4. Enter the URL or IP address of your Home Assistant \*\*Host\*\*, without the `http://` or `https://` protocol, for example `your.awesome.home`.

5. For the \*\*Port\*\*, enter the appropriate port:

- If you've made no port changes and access Home Assistant at `http://`, keep the default of `8123`.

- If you've made no port changes and access Home Assistant at `https://`, enter `443`.

- If you've configured Home Assistant to use a specific port, enter that port.

6. If you've enabled SSL in Home Assistant in the [config.yml map key](https://developers.home-assistant.io/docs/add-ons/configuration/?\_highlight=ssl#add-on-configuration){:target=\_blank .external-link}, turn on the \*\*SSL\*\* toggle in n8n. If you're not sure, it's best to turn this setting on if you access your home assistant UI using `https://` instead of `http://`.

## httprequest.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HTTP Request credentials

description: Documentation for HTTP Request credentials. Use these credentials to authenticate HTTP Request in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# HTTP Request credentials

You can use these credentials to authenticate the following nodes:

- [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md)

- [HTTP Request Tool (legacy)](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolhttprequest.md)

## Prerequisites

You must use the authentication method required by the app or service you want to query.

If you need to secure the authentication with an SSL certificate, refer to [Provide an SSL certificate](#provide-an-ssl-certificate) for the information you'll need.

## Supported authentication methods

- Predefined credential type

- Basic auth (generic credential type)

- Custom auth (generic credential type)

- Digest auth (generic credential type)

- Header auth (generic credential type)

- Bearer auth (generic credential type)

- OAuth1 (generic credential type)

- OAuth2 (generic credential type)

- Query auth (generic credential type)

Refer to [HTTP authentication](https://developer.mozilla.org/en-US/docs/Web/HTTP/Authentication){:target=\_blank .external-link} for more information relating to generic credential types.

/// note | Predefined credential types

n8n recommends using predefined credential types whenever there's a credential type available for the service you want to connect to. It offers an easier way to set up and manage credentials, compared to configuring generic credentials.

You can use [Predefined credential types](/integrations/custom-operations.md#predefined-credential-types) to perform custom operations with some APIs where n8n has a node for the platform. For example, n8n has an Asana node, and supports using your Asana credentials in the HTTP Request node. Refer to [Custom operations](/integrations/custom-operations.md) for more information.

///

## Using predefined credential type

--8<-- "\_snippets/integrations/predefined-credential-type-how-to.md"

Refer to [Custom API operations](/integrations/custom-operations.md) for more information.

--8<-- "\_snippets/integrations/builtin/credentials/generic-auth/basic-auth.md"

--8<-- "\_snippets/integrations/builtin/credentials/generic-auth/digest-auth.md"

--8<-- "\_snippets/integrations/builtin/credentials/generic-auth/header-auth.md"

--8<-- "\_snippets/integrations/builtin/credentials/generic-auth/bearer-auth.md"

## Using OAuth1

Use this generic authentication if your app or service supports OAuth1 authentication.

To configure this credential, enter:

- An \*\*Authorization URL\*\*: Also known as the Resource Owner Authorization URI. This URL typically ends in `/oauth1/authorize`. The temporary credentials are sent here to prompt a user to complete authorization.

- An \*\*Access Token URL\*\*: This is the URI used for the initial request for temporary credentials. This URL typically ends in `/oauth1/request` or `/oauth1/token`.

- A \*\*Consumer Key\*\*: Also known as the client key, like a username. This specifies the `oauth\_consumer\_key` to use for the call.

- A \*\*Consumer Secret\*\*: Also known as the client secret, like a password.

- A \*\*Request Token URL\*\*: This is the URI used to switch from temporary credentials to long-lived credentials after authorization. This URL typically ends in `/oauth1/access`.

- Select the \*\*Signature Method\*\* the auth handshake uses. This specifies the `oauth\_signature\_method` to use for the call. Options include:

- \*\*HMAC-SHA1\*\*

- \*\*HMAC-SHA256\*\*

- \*\*HMAC-SHA512\*\*

For most OAuth1 integrations, you'll need to configure an app, service, or integration to generate the values for most of these fields. Use the \*\*OAuth Redirect URL\*\* in n8n as the redirect URL or redirect URI for such a service.

Read more about [OAuth1](https://oauth.net/1/){:target=\_blank .external-link} and the [OAuth1 authorization flow](https://oauth1.wp-api.org/docs/basics/Auth-Flow.html){:target=\_blank .external-link}.

## Using OAuth2

Use this generic authentication if your app or service supports OAuth2 authentication.

Requirements to configure this credential depend on the \*\*Grant Type\*\* selected. Refer to [OAuth Grant Types](https://oauth.net/2/grant-types/) for more information on each grant type.

For most OAuth2 integrations, you'll need to configure an app, service, or integration. Use the \*\*OAuth Redirect URL\*\* in n8n as the redirect URL or redirect URI for such a service.

Read more about [OAuth2](https://oauth.net/2/){:target=\_blank .external-link}.

### Authorization Code grant type

Use Authorization Code grant type to exchange an authorization code for an access token. The auth flow uses the redirect URL to return the user to the client. Then the application gets the authorization code from the URL and uses it to request an access token. Refer to [Authorization Code Request](https://www.oauth.com/oauth2-servers/access-tokens/authorization-code-request/){:target=\_blank .external-link} for more information.

To configure this credential, select \*\*Authorization Code\*\* as the \*\*Grant Type\*\*.

Then enter:

- An \*\*Authorization URL\*\*

- An \*\*Access Token URL\*\*

- A \*\*Client ID\*\*: The ID or username to log in with.

- A \*\*Client Secret\*\*: The secret or password used to log in with.

- \_Optional:\_ Enter one or more \*\*Scope\*\*s for the credential. If unspecified, the credential will request all scopes available to the client.

- \_Optional:\_ Some services require more query parameters. If your service does, add them as \*\*Auth URI Query Parameters\*\*.

- An \*\*Authentication\*\* type: Select the option that best suits your use case. Options include:

- \*\*Header\*\*: Send the credentials as a basic auth header.

- \*\*Body\*\*: Send the credentials in the body of the request.

- \_Optional:\_ Choose whether to \*\*Ignore SSL Issues\*\*. If turned on, n8n will connect even if SSL validation fails.

### Client Credentials grant type

Use the Client Credentials grant type when applications request an access token to access their own resources, not on behalf of a user. Refer to [Client Credentials](https://www.oauth.com/oauth2-servers/access-tokens/client-credentials/){:target=\_blank .external-link} for more information.

To configure this credential, select \*\*Client Credentials\*\* as the \*\*Grant Type\*\*.

Then enter:

- An \*\*Access Token URL\*\*: The URL to hit to begin the OAuth2 flow. Typically this URL ends in `/token`.

- A \*\*Client ID\*\*: The ID or username to use to log in to the client.

- A \*\*Client Secret\*\*: The secret or password used to log in to the client.

- \_Optional:\_ Enter one or more \*\*Scope\*\*s for the credential. Most services don't support scopes for Client Credentials grant types; only enter scopes here if yours does.

- An \*\*Authentication\*\* type: Select the option that best suits your use case. Options include:

- \*\*Header\*\*: Send the credentials as a basic auth header.

- \*\*Body\*\*: Send the credentials in the body of the request.

- \_Optional:\_ Choose whether to \*\*Ignore SSL Issues\*\*. If turned on, n8n will connect even if SSL validation fails.

### PKCE grant type

Proof Key for Code Exchange (PKCE) grant type is an extension to the Authorization Code flow to prevent CSRF and authorization code injection attacks.

To configure this credential, select \*\*PKCE\*\* as the \*\*Grant Type\*\*.

Then enter:

- An \*\*Authorization URL\*\*

- An \*\*Access Token URL\*\*

- A \*\*Client ID\*\*: The ID or username to log in with.

- A \*\*Client Secret\*\*: The secret or password used to log in with.

- \_Optional:\_ Enter one or more \*\*Scope\*\*s for the credential. If unspecified, the credential will request all scopes available to the client.

- \_Optional:\_ Some services require more query parameters. If your service does, add them as \*\*Auth URI Query Parameters\*\*.

- An \*\*Authentication\*\* type: Select the option that best suits your use case. Options include:

- \*\*Header\*\*: Send the credentials as a basic auth header.

- \*\*Body\*\*: Send the credentials in the body of the request.

- \_Optional:\_ Choose whether to \*\*Ignore SSL Issues\*\*. If turned on, n8n will connect even if SSL validation fails.

## Using query auth

Use this generic authentication if your app or service supports passing authentication as a single key/value query parameter. (For multiple query parameters, use [Custom Auth](#using-custom-auth).)

To configure this credential, enter:

- A query parameter key or \*\*Name\*\*

- A query parameter \*\*Value\*\*

## Using custom auth

Use this generic authentication if your app or service supports passing authentication as multiple key/value query parameters or you need more flexibility than the other generic auth options.

The \*\*Custom Auth\*\* credential expects JSON data to define your credential. You can use `headers`, `qs`, `body` or a mix. Review the examples below to get started.

### Sending two headers

```

{

"headers": {

"X-AUTH-USERNAME": "username",

"X-AUTH-PASSWORD": "password"

}

}

```

### Body

```

{

"body" : {

"user": "username",

"pass": "password"

}

}

```

### Query string

```

{

"qs": {

"appid": "123456",

"apikey": "my-api-key"

}

}

```

### Sending header and query string

```

{

"headers": {

"api-version": "202404"

},

"qs": {

"apikey": "my-api-key"

}

}

```

## Provide an SSL certificate

You can send an SSL certificate with your HTTP request. Create the SSL certificate as a separate credential for use by the node:

1. In the HTTP Request node \*\*Settings\*\*, turn on \*\*SSL Certificates\*\*.

2. On the \*\*Parameters\*\* tab, add an existing SSL Certificate credential to \*\*Credential for SSL Certificates\*\* or create a new one.

To configure your SSL Certificates credential, you'll need to add:

- The Certificate Authority \*\*CA\*\* bundle

- The \*\*Certificate\*\* (CRT): May also appear as a Public Key, depending on who your issuing CA was and how they format the cert

- The \*\*Private Key\*\* (KEY)

- \_Optional:\_ If the \*\*Private Key\*\* is encrypted, enter a \*\*Passphrase\*\* for the private key.

If your SSL certificate is in a single file (such as a `.pfx` file), you'll need to open the file to copy details from it to paste into the appropriate fields:

- Enter the Public Key/CRT as the \*\*Certificate\*\*

- Enter the \*\*Private Key\*\*/KEY in that field

## hubspot.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HubSpot credentials

description: Documentation for HubSpot credentials. Use these credentials to authenticate HubSpot in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# HubSpot credentials

You can use these credentials to authenticate the following nodes:

- [HubSpot](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md)

- [HubSpot Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.hubspottrigger.md)

## Supported authentication methods

- App token: Use with the [HubSpot](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) node.

- Developer API key: Use with the [HubSpot Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.hubspottrigger.md) node.

- OAuth2: Use with the [HubSpot](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) node.

/// warning | API key deprecated

HubSpot deprecated the regular \*\*API Key\*\* authentication method. The option still appears in n8n, but you should use the authentication methods listed above instead. If you have existing integrations using this API key method, refer to HubSpot's [Migrate an API key integration to a private app](https://developers.hubspot.com/docs/api/migrate-an-api-key-integration-to-a-private-app){:target=\_blank .external-link} guide and set up an app token.

///

## Related resources

Refer to [HubSpot's API documentation](https://developers.hubspot.com/docs/api/overview){:target=\_blank .external-link} for more information about the service. The [HubSpot Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.hubspottrigger.md) node uses the Webhooks API; refer to [HubSpot's Webhooks API documentation](https://developers.hubspot.com/docs/api/webhooks){:target=\_blank .external-link} for more information about that service.

## Using App token

To configure this credential, you'll need a [HubSpot](https://www.hubspot.com/){:target=\_blank .external-link} account or [HubSpot developer](https://developers.hubspot.com/){:target=\_blank .external-link} account and:

- An \*\*App Token\*\*

To generate an app token, create a private app in HubSpot:

1. In your HubSpot account, select the \*\*settings icon\*\* in the main navigation bar.

2. In the left sidebar menu, go to \*\*Integrations > Private Apps\*\*.

3. Select \*\*Create private app\*\*.

4. On the \*\*Basic Info\*\* tab, enter your app's \*\*Name\*\*.

5. Hover over the \*\*placeholder logo\*\* and select the upload icon to upload a square image that will serve as the logo for your app.

6. Enter a \*\*Description\*\* for your app.

7. Open the \*\*Scopes\*\* tab and add the appropriate scopes. Refer to [Required scopes for HubSpot node](#required-scopes-for-hubspot-node) for a complete list of scopes you should add.

8. Select \*\*Create app\*\* to finish the process.

9. In the modal, review the info about your app's access token, then select \*\*Continue creating\*\*.

10. Once your app's created, open the \*\*Access token card\*\* and select \*\*Show token\*\* to reveal the token.

11. Copy this token and enter it in your n8n credential.

Refer to the [HubSpot Private Apps documentation](https://developers.hubspot.com/docs/api/private-apps){:target=\_blank .external-link} for more information.

## Using Developer API key

To configure this credential, you'll need a [HubSpot developer](https://developers.hubspot.com/){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*: Generated once you create a public app.

- A \*\*Client Secret\*\*: Generated once you create a public app.

- A \*\*Developer API Key\*\*: Generated from your Developer Apps dashboard.

- An \*\*App ID\*\*: Generated once you create a public app.

To create the public app and set up the credential:

1. Log into your [HubSpot app developer account](https://developers.hubspot.com/){:target=\_blank .external-link}.

2. Select \*\*Apps\*\* from the main navigation bar.

3. Select \*\*Get HubSpot API key\*\*. You may need to select the option to \*\*Show key\*\*.

4. Copy the key and enter it in n8n as the \*\*Developer API Key\*\*.

3. Still on the HubSpot \*\*Apps\*\* page, select \*\*Create app\*\*.

4. On the \*\*App Info\*\* tab, add an \*\*App name\*\*, \*\*Description\*\*, \*\*Logo\*\*, and any support contact info you want to provide. Anyone encountering the app would see these.

5. Open the \*\*Auth\*\* tab.

6. Copy the \*\*App ID\*\* and enter it in n8n.

6. Copy the \*\*Client ID\*\* and enter it in n8n.

7. Copy the \*\*Client Secret\*\* and enter it in n8n.

8. In the \*\*Scopes\*\* section, select \*\*Add new scope\*\*.

9. Add all the scopes listed in [Required scopes for HubSpot Trigger node](#required-scopes-for-hubspot-trigger-node) to your app.

10. Select \*\*Update\*\*.

11. Copy the n8n \*\*OAuth Redirect URL\*\* and enter it as the \*\*Redirect URL\*\* in your HubSpot app.

12. Select \*\*Create app\*\* to finish creating the HubSpot app.

Refer to the [HubSpot Public Apps documentation](https://developers.hubspot.com/docs/api/creating-an-app){:target=\_blank .external-link} for more detailed instructions.

### Required scopes for HubSpot Trigger node

If you're creating an app for use with the [HubSpot Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.hubspottrigger.md) node, n8n recommends starting with these scopes:

| \*\*Element\*\* | \*\*Object\*\* | \*\*Permission\*\* | \*\*Scope name\*\* |

| --- | --- | --- | --- |

| n/a | n/a | n/a | `oauth` |

| CRM | Companies | Read | `crm.objects.companies.read` |

| CRM | Companies schemas | Read | `crm.schemas.companies.read` |

| CRM | Contacts | Read | `crm.objects.contacts.read` |

| CRM | Contacts schemas | Read | `crm.schemas.contacts.read` |

| CRM | Deals | Read | `crm.objects.deals.read` |

| CRM | Deals schemas| Read | `crm.schemas.deals.read` |

/// warning | HubSpot old accounts

Some HubSpot accounts don't have access to all the scopes. HubSpot is migrating accounts gradually. If you can't find all the scopes in your current HubSpot developer account, try creating a fresh developer account.

///

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting](/hosting/index.md) n8n, you'll need to configure OAuth2 from scratch by creating a new public app:

1. Log into your [HubSpot app developer account](https://developers.hubspot.com/){:target=\_blank .external-link}.

2. Select \*\*Apps\*\* from the main navigation bar.

3. Select \*\*Create app\*\*.

4. On the \*\*App Info\*\* tab, add an \*\*App name\*\*, \*\*Description\*\*, \*\*Logo\*\*, and any support contact info you want to provide. Anyone encountering the app would see these.

5. Open the \*\*Auth\*\* tab.

6. Copy the \*\*App ID\*\* and enter it in n8n.

6. Copy the \*\*Client ID\*\* and enter it in n8n.

7. Copy the \*\*Client Secret\*\* and enter it in n8n.

8. In the \*\*Scopes\*\* section, select \*\*Add new scope\*\*.

9. Add all the scopes listed in [Required scopes for HubSpot node](#required-scopes-for-hubspot-node) to your app.

10. Select \*\*Update\*\*.

11. Copy the n8n \*\*OAuth Redirect URL\*\* and enter it as the \*\*Redirect URL\*\* in your HubSpot app.

12. Select \*\*Create app\*\* to finish creating the HubSpot app.

Refer to the [HubSpot Public Apps documentation](https://developers.hubspot.com/docs/api/creating-an-app){:target=\_blank .external-link} for more detailed instructions. If you need more detail on what's happening in the OAuth web flow, refer to the [HubSpot Working with OAuth documentation](https://developers.hubspot.com/docs/api/working-with-oauth){:target=\_blank .external-link}.

## Required scopes for HubSpot node

If you're creating an app for use with the [HubSpot](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) node, n8n recommends starting with these scopes:

| \*\*Element\*\* | \*\*Object\*\* | \*\*Permission\*\* | \*\*Scope name(s)\*\* |

| --- | --- | --- | --- |

| n/a | n/a | n/a | `oauth` |

| n/a | n/a | n/a | `forms` |

| n/a | n/a | n/a | `tickets` |

| CRM | Companies | Read <br> Write | `crm.objects.companies.read` <br> `crm.objects.companies.write`|

| CRM | Companies schemas | Read | `crm.schemas.companies.read` |

| CRM | Contacts schemas | Read | `crm.schemas.contacts.read` |

| CRM | Contacts | Read <br> Write | `crm.objects.contacts.read` <br> `crm.objects.contacts.write`|

| CRM | Deals | Read <br> Write | `crm.objects.deals.read` <br> `crm.objects.deals.write`|

| CRM | Deals schemas | Read | `crm.schemas.deals.read` |

| CRM | Owners | Read | `crm.objects.owners.read` |

| CRM | Lists | Write | `crm.lists.write` |

/// warning | HubSpot old accounts

Some HubSpot accounts don't have access to all the scopes. HubSpot is migrating accounts gradually. If you can't find all the scopes in your current HubSpot developer account, try creating a fresh developer account.

///

## huggingface.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Hugging Face credentials

description: Documentation for the Hugging Face credentials. Use these credentials to authenticate Hugging Face in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Hugging Face credentials

You can use these credentials to authenticate the following nodes:

\* [Hugging Face Inference](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmopenhuggingfaceinference.md)

\* [Embeddings Hugging Face Inference](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingshuggingfaceinference.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Hugging Face's documentation](https://huggingface.co/docs/api-inference/quicktour){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need a [Hugging Face](https://huggingface.co/){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*: Hugging Face calls these API tokens.

To get your API token:

1. Open your Hugging Face profile and go to the [\*\*Tokens\*\*](https://huggingface.co/settings/tokens){:target=\_blank .external-link} section.

2. Copy the token listed there. It should begin with `hf\_`.

3. Enter this API token as your n8n credential \*\*API Key\*\*.

Refer to [Get your API token](https://huggingface.co/docs/api-inference/quicktour#get-your-api-token){:target=\_blank .external-link} for more information.

## humanticai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Humantic AI credentials

description: Documentation for Humantic AI credentials. Use these credentials to authenticate Humantic AI in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Humantic AI credentials

You can use these credentials to authenticate the following nodes:

- [Humantic AI](/integrations/builtin/app-nodes/n8n-nodes-base.humanticai.md)

## Prerequisites

Create a [Humantic AI](https://humantic.ai/){:target=\_blank .external-link} account.

You can also try out an API key as a free trial at the [Humantic AI API](https://api.humantic.ai/) page.

## Supported authentication methods

- API key

## Related resources

Refer to [Humantic AI's API documentation](https://api.humantic.ai){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Get an API key from the [Humantic AI API](https://api.humantic.ai/){:target=\_blank .external-link} page.

## hunter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Hunter credentials

description: Documentation for Hunter credentials. Use these credentials to authenticate Hunter in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Hunter credentials

You can use these credentials to authenticate the following nodes:

- [Hunter](/integrations/builtin/app-nodes/n8n-nodes-base.hunter.md)

## Prerequisites

Create a [Hunter](https://www.hunter.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Hunter's API documentation](https://hunter.io/api-documentation/v2){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API key from your profile in the [dashboard](https://hunter.io/api-keys){:target=\_blank .external-link}. Refer to the [Hunter API Authentication documentation](https://hunter.io/api-documentation/v2#authentication){:target=\_blank .external-link} for more information.

## hybridanalysis.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Hybrid Analysis credentials

description: Documentation for the Hybrid Analysis credentials. Use these credentials to authenticate Hybrid Analysis in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Hybrid Analysis credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Hybrid Analysis](https://www.hybrid-analysis.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Hybrid Analysis' API documentation](https://www.hybrid-analysis.com/docs/api/v2){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/hybrid-analysis/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the [Hybrid Analysis' API documentation](https://www.hybrid-analysis.com/docs/api/v2){:target=\_blank .external-link} for instructions on generating an API key.

## impervawaf.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Imperva WAF credentials

description: Documentation for the Imperva WAF credentials. Use these credentials to authenticate Imperva WAF in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Imperva WAF credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create an [Imperva WAF](https://www.imperva.com/products/web-application-firewall-waf/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Imperva WAF's documentation](https://docs.imperva.com/bundle/api-docs/page/api/authentication.htm){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/imperva-waf/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API ID\*\*

- An \*\*API Key\*\*

Refer to [Imperva WAF's API Key Management documentation](https://docs.imperva.com/bundle/cloud-application-security/page/settings/api-keys.htm){:target=\_blank .external-link} for instructions on generating and viewing API Keys and IDs.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Credentials library

This section contains step-by-step information about authenticating the different nodes in n8n.

To learn more about creating, managing, and sharing credentials, refer to [Manage credentials](/credentials/index.md).

## intercom.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Intercom credentials

description: Documentation for Intercom credentials. Use these credentials to authenticate Intercom in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Intercom credentials

You can use these credentials to authenticate the following nodes:

- [Intercom](/integrations/builtin/app-nodes/n8n-nodes-base.intercom.md)

## Prerequisites

- Create an [Intercom](https://www.intercom.com/) developer account.

- [Create an app](https://developers.intercom.com/docs/build-an-integration/learn-more/authentication/){:target=\_blank .external-link} in your developer hub.

## Supported authentication methods

- API key

## Related resources

Refer to [Intercom's API documentation](https://developers.intercom.com/docs/references/introduction/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Intercom automatically generates an \*\*Access Token\*\* when you [create an app](https://developers.intercom.com/docs/build-an-integration/learn-more/authentication/){:target=\_blank .external-link}. Use this \*\*Access Token\*\* as your n8n \*\*API Key\*\*. Refer to [How to get your Access Token](https://developers.intercom.com/docs/build-an-integration/learn-more/authentication/#how-to-get-your-access-token){:target=\_blank .external-link} for more detailed instructions.

## invoiceninja.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Invoice Ninja credentials

description: Documentation for Invoice Ninja credentials. Use these credentials to authenticate Invoice Ninja in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Invoice Ninja credentials

You can use these credentials to authenticate the following nodes:

- [Invoice Ninja](/integrations/builtin/app-nodes/n8n-nodes-base.invoiceninja.md)

- [Invoice Ninja Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.invoiceninjatrigger.md)

## Prerequisites

Create an [Invoice Ninja](https://www.invoiceninja.com/){:target=\_blank .external-link} account. Only the Pro and Enterprise plans support API integrations.

## Supported authentication methods

- API key

## Related resources

Refer to Invoice Ninja's [v4 API documentation](https://invoice-ninja.readthedocs.io/en/latest/api.html){:target=\_blank .external-link} and [v5 API documentation](https://api-docs.invoicing.co/){:target=\_blank .external-link} for more information about the APIs.

## Using API key

To configure this credential, you'll need:

- A \*\*URL\*\*: If Invoice Ninja hosts your installation, use either of the default URLs mentioned. If you're self-hosting your installation, use the URL of your Invoice Ninja instance.

- An \*\*API Token\*\*: Generate an API token in \*\*Settings > Account Management > API Tokens\*\*.

- An optional \*\*Secret\*\*, available only for v5 API users

## iterable.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Iterable credentials

description: Documentation for Iterable credentials. Use these credentials to authenticate Iterable in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Iterable credentials

You can use these credentials to authenticate the following nodes:

- [Iterable](/integrations/builtin/app-nodes/n8n-nodes-base.iterable.md)

## Prerequisites

Create an [Iterable](https://iterable.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to Iterable's API documentation for more information about the service:

- [US-based Iterable projects](https://api.iterable.com/api/docs){:target=\_blank .external-link}

- [Europe-based Iterable projects](https://api.eu.iterable.com/api/docs){:target=\_blank .external-link}

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to [Iterable's Creating API keys documentation](https://support.iterable.com/hc/en-us/articles/360043464871-API-Keys#creating-api-keys){:target=\_blank .external-link} for instructions on creating API keys.

## jenkins.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Jenkins credentials

description: Documentation for Jenkins credentials. Use these credentials to authenticate Jenkins in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Jenkins credentials

You can use these credentials to authenticate the following nodes:

- [Jenkins](/integrations/builtin/app-nodes/n8n-nodes-base.jenkins.md)

## Prerequisites

Create an account on a [Jenkins](https://www.jenkins.io/){:target=\_blank .external-link} instance.

## Supported authentication methods

- API token

## Related resources

Jenkins doesn't provide public API documentation; API documentation for each page is available from the user interface in the bottom right. Refer to those detailed pages for more information about the service. Refer to [Jenkins Remote Access API](https://www.jenkins.io/doc/book/using/remote-access-api/){:target=\_blank .external-link} for information on the API and API wrappers.

## Using API token

To configure this credential, you'll need:

- The \*\*Jenkins Username\*\*: For the user whom the token belongs to

- A \*\*Personal API Token\*\*: Generate this from the user's \*\*profile details > Configure > Add new token\*\*. Refer to [these Stack Overflow instructions](https://stackoverflow.com/questions/45466090/how-to-get-the-api-token-for-jenkins){:target=\_blank .external-link} for more detail.

- The \*\*Jenkins Instance URL\*\*

Jenkins rebuilt their API token setup in 2018. If you're working with an older Jenkins instance, be sure you're using a non-legacy API token. Refer to [Security Hardening: New API token system in Jenkins 2.129+](https://www.jenkins.io/blog/2018/07/02/new-api-token-system/){:target=\_blank .external-link} for more information.

## jinaai.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Jina AI credentials

description: Documentation for the Jina AI credentials. Use these credentials to authenticate Jina AI in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Jina AI credentials

You can use these credentials to authenticate the following nodes:

\* [Jina AI](/integrations/builtin/app-nodes/n8n-nodes-base.jinaai.md)

## Supported authentication methods

\* API key

## Related resources

Refer to [Jina AI's reader API documentation](https://r.jina.ai/docs) and [Jina AI's search API documentation](https://s.jina.ai/docs) for more information about the service.

## Using API key

To configure this credential, you'll need:

\* \*\*API key\*\*: A Jina AI API key. You can get your free API key without creating an account by doing the following:

1. Visit the [Jina AI website](https://jina.ai/).

2. Select \*\*API\*\* on the page.

3. Select \*\*API KEY & BILLING\*\* in the API app widget.

4. Copy the key labeled "This is your unique key. Store it securely!".

Jina AI API keys start with 10 million free tokens that you can use non-commercially. To top up your key or use commercially, scroll on the \*\*API KEY & BILLING\*\* tab of the \*\*API\*\* widget and select the top up option that best fits your needs.

## jira.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Jira credentials

description: Documentation for Jira credentials. Use these credentials to authenticate Jira in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Jira credentials

You can use these credentials to authenticate the following nodes:

- [Jira](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md)

- [Jira Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.jiratrigger.md)

## Prerequisites

Create a [Jira](https://www.atlassian.com/software/jira){:target=\_blank .external-link} Software Cloud or Server account.

## Supported authentication methods

- [SW Cloud API token](#using-sw-cloud-api-token): Use this method with [Jira Software Cloud](https://www.atlassian.com/software/jira){:target=\_blank .external-link}.

- [SW Server account](#using-sw-server-account): Use this method with [Jira Software Server](https://www.atlassian.com/software/jira/download.){:target=\_blank .external-link}.

## Related resources

Refer to [Jira's API documentation](https://developer.atlassian.com/cloud/jira/platform/rest/v2/intro/#about){:target=\_blank .external-link} for more information about the service.

## Using SW Cloud API token

To configure this credential, you'll need an account on [Jira Software Cloud](https://www.atlassian.com/software/jira){:target=\_blank .external-link}.

Then:

1. Log in to your Atlassian profile > \*\*Security > API tokens\*\* page, or jump straight there using this [link](https://id.atlassian.com/manage-profile/security/api-tokens){:target=\_blank .external-link}.

2. Select \*\*Create API Token\*\*.

3. Enter a good \*\*Label\*\* for your token, like `n8n integration`.

4. Select \*\*Create\*\*.

5. Copy the API token.

6. In n8n, enter the \*\*Email\*\* address associated with your Jira account.

7. Paste the API token you copied as your \*\*API Token\*\*.

8. Enter the \*\*Domain\*\* you access Jira on, for example `https://example.atlassian.net`.

Refer to [Manage API tokens for your Atlassian account](https://support.atlassian.com/atlassian-account/docs/manage-api-tokens-for-your-atlassian-account/){:target=\_blank .external-link} for more information.

/// note | New tokens

New tokens may take up to a minute before they work. If your credential verification fails the first time, wait a minute before retrying.

///

## Using SW Server account

To configure this credential, you'll need an account on [Jira Software Server](https://www.atlassian.com/software/jira/download.){:target=\_blank .external-link}.

Then:

1. Enter the \*\*Email\*\* address associated with your Jira account.

2. Enter your Jira account \*\*Password\*\*.

3. Enter the \*\*Domain\*\* you access Jira on.

## jotform.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: JotForm credentials

description: Documentation for JotForm credentials. Use these credentials to authenticate JotForm in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# JotForm credentials

You can use these credentials to authenticate the following nodes:

- [JotForm Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.jotformtrigger.md)

## Supported authentication methods

- API key

## Related resources

Refer to [JotForm's API documentation](https://api.jotform.com/docs/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need a [JotForm](https://www.jotform.com/){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*

- The \*\*API Domain\*\*

To set it up:

1. Go to \*\*Settings >\*\* [\*\*API\*\*](https://www.jotform.com/myaccount/api){:target=\_blank .external-link}.

2. Select \*\*Create New Key\*\*.

3. Select the \*\*Name\*\* in JotForm to update the API key name to something meaningful, like `n8n integration`.

4. Copy the \*\*API Key\*\* and enter it in your n8n credential.

5. In n8n, select the \*\*API Domain\*\* that applies to you based on the forms you're using:

- \*\*api.jotform.com\*\*: Use this unless the other form types apply to you.

- \*\*eu-api.jotform.com\*\*: Select this if you're using JotForm [EU Safe Forms](https://www.jotform.com/eu-safe-forms/){:target=\_blank .external-link}.

- \*\*hipaa-api.jotform.com\*\*: Select this if you're using JotForm [HIPAA forms](https://www.jotform.com/hipaa/){:target=\_blank .external-link}.

Refer to the [JotForm API documentation](https://api.jotform.com/docs/) for more information on creating keys and API domains.

## jwt.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: JWT credentials

description: Documentation for the JWT credentials. Use these credentials to authenticate JWT in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# JWT credentials

You can use these credentials to authenticate the following nodes:

- [JWT](/integrations/builtin/core-nodes/n8n-nodes-base.jwt.md)

- [Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md)

## Supported authentication methods

- Passphrase: Signed with a secret with HMAC algorithm

- Private key (PEM key): For use with [Private Key JWT](https://auth0.com/docs/get-started/authentication-and-authorization-flow/authenticate-with-private-key-jwt){:target=\_blank .external-link} with RSA or ECDSA algorithm

## Related resources

Refer to the [JSON Web Token spec](https://datatracker.ietf.org/doc/html/rfc7519){:target=\_blank .external-link} for more details.

For a more verbose introduction, refer to the [JWT website Introduction to JSON Web Tokens](https://jwt.io/introduction){:target=\_blank .external-link}. Refer to [JSON Web Token (JWT) Signing Algorithms Overview](https://auth0.com/blog/json-web-token-signing-algorithms-overview/){:target=\_blank .external-link} for more information on selecting between the two types and the algorithms involved.

## Using Passphrase

To configure this credential:

1. Select the \*\*Key Type\*\* of \*\*Passphrase\*\*.

2. Enter the Passphrase \*\*Secret\*\*

3. Select the \*\*Algorithm\*\* used to sign the assertion. Refer to [Available algorithms](#available-algorithms) below for a list of supported algorithms.

## Using private key (PEM key)

To configure this credential:

1. Select the \*\*Key Type\*\* of \*\*PEM Key\*\*.

2. A \*\*Private Key\*\*: Obtained from generating a Key Pair. Refer to [Generate RSA Key Pair](https://auth0.com/docs/secure/application-credentials/generate-rsa-key-pair){:target=\_blank .external-link} for an example.

3. A \*\*Public Key\*\*: Obtained from generating a Key Pair. Refer to [Generate RSA Key Pair](https://auth0.com/docs/secure/application-credentials/generate-rsa-key-pair){:target=\_blank .external-link} for an example.

4. Select the \*\*Algorithm\*\* used to sign the assertion. Refer to [Available algorithms](#available-algorithms) below for a list of supported algorithms.

## Available algorithms

This n8n credential supports the following algorithms:

- `HS256`

- `HS384`

- `HS512`

- `RS256`

- `RS384`

- `RS512`

- `ES256`

- `ES384`

- `ES512`

- `PS256`

- `PS384`

- `PS512`

- `none`

## kafka.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Kafka credentials

description: Documentation for Kafka credentials. Use these credentials to authenticate Kafka in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Kafka credentials

You can use these credentials to authenticate the following nodes:

- [Kafka](/integrations/builtin/app-nodes/n8n-nodes-base.kafka.md)

- [Kafka Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.kafkatrigger.md)

## Supported authentication methods

- Client ID

## Related resources

Refer to [Kafka's documentation](https://kafka.apache.org/documentation/){:target=\_blank .external-link} for more information about using the service.

If you're new to Kafka, refer to the [Apache Kafka Quickstart](https://kafka.apache.org/quickstart){:target=\_blank .external-link} for initial setup.

Refer to [Encryption and Authentication using SSL](https://kafka.apache.org/documentation/#security\_ssl){:target=\_blank .external-link} for working with SSL in Kafka.

## Using client ID

To configure this credential, you'll need a running Kafka environment and:

- A \*\*Client ID\*\*

- A list of relevant \*\*Brokers\*\*

- Username/password authentication details if your Kafka environment uses authentication

To set it up:

1. Enter the `CLIENT-ID` of the client or consumer group in the \*\*Client ID\*\* field in your credential.

2. Enter a comma-separated list of relevant \*\*Brokers\*\* for the credential to use in the format `<broker-service-name>:<port>`. Use the name you gave the broker when you defined it in the `services` list. For example, `kafka-1:9092,kafka-2:9092` would add the brokers `kafka-1` and `kafka-2` on port `9092`.

3. If your Kafka environment doesn't use SSL, turn off the \*\*SSL\*\* toggle.

4. If you've enabled authentication using SASL in your Kafka environment, turn on the \*\*Authentication\*\* toggle. Then add:

1. The \*\*Username\*\*

2. The \*\*Password\*\*

3. Select the broker's configured \*\*SASL Mechanism\*\*. Refer to [SASL configuration](https://kafka.apache.org/documentation/#security\_sasl\_config){:target=\_blank .external-link} for more information. Options include:

- `Plain`

- `scram-sha-256`

- `scram-sha-512`

## keap.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Keap credentials

description: Documentation for Keap credentials. Use these credentials to authenticate Keap in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Keap credentials

You can use these credentials to authenticate the following nodes:

- [Keap](/integrations/builtin/app-nodes/n8n-nodes-base.keap.md)

- [Keap Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.keaptrigger.md)

## Prerequisites

Create a [Keap](https://developer.keap.com/){:target=\_blank .external-link} developer account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to Keap's [REST API documentation](https://developer.keap.com/docs/restv2/){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch or need more detail on what's happening in the OAuth web flow, refer to the instructions in the [Getting Started with OAuth2 documentation](https://developer.keap.com/getting-started-oauth-keys/){:target=\_blank .external-link}.

## kibana.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Kibana credentials

description: Documentation for the Kibana credentials. Use these credentials to authenticate Kibana in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Kibana credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

- Create an [Elasticsearch](https://www.elastic.co/){:target=\_blank .external-link} account.

- If you're creating a new account to test with, load some sample data into Kibana. Refer to the [Kibana quick start](https://www.elastic.co/guide/en/kibana/current/get-started.html){:target=\_blank .external-link} for more information.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Kibana's API documentation](https://www.elastic.co/guide/en/kibana/current/api.html){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/kibana/){:target=\_blank .external-link} on n8n's website.

## Using basic auth

To configure this credential, you'll need:

- The \*\*URL\*\* you use to access Kibana, for example `http://localhost:5601`

- A \*\*Username\*\*: Use the same username that you use to log in to Elastic.

- A \*\*Password\*\*: Use the same password that you use to log in to Elastic.

## kitemaker.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Kitemaker credentials

description: Documentation for Kitemaker credentials. Use these credentials to authenticate Kitemaker in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Kitemaker credentials

You can use these credentials to authenticate the following nodes:

- [Kitemaker](/integrations/builtin/app-nodes/n8n-nodes-base.kitemaker.md)

## Prerequisites

Create a [Kitemaker](https://www.kitemaker.co/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [Kitemaker's API documentation](https://kitemakerhq.github.io/rest-docs/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- A \*\*Personal Access Token\*\*: Generate a personal access token from \*\*Manage > Developer settings\*\*. Refer to [API Authentication](https://kitemakerhq.github.io/rest-docs/#documentationauthentication){:target=\_blank .external-link} for more detailed instructions.

## kobotoolbox.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: KoboToolbox credentials

description: Documentation for KoboToolbox credentials. Use these credentials to authenticate KoboToolbox in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# KoboToolbox credentials

You can use these credentials to authenticate the following nodes:

\* [KoboToolbox trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.kobotoolboxtrigger.md)

\* [KoboToolbox](/integrations/builtin/app-nodes/n8n-nodes-base.kobotoolbox.md)

## Prerequisites

Create a [KoboToolbox](https://www.kobotoolbox.org/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

## Related resources

Refer to [KoboToolbox's API documentation](https://support.kobotoolbox.org/api.html){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*API Root URL\*\*: Enter the URL of the KoboToolbox server where you created your account. For the Global KoboToolbox Server, use `https://kf.kobotoolbox.org`. For the European Union KoboToolbox Server, use `https://eu.kobotoolbox.org`.

- An \*\*API Token\*\*: Displayed in your \*\*Account Settings\*\*. Refer to [Getting your API token](https://support.kobotoolbox.org/api.html#getting-your-api-token){:target=\_blank .external-link} for more information.

## ldap.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LDAP credentials

description: Documentation for the LDAP credentials. Use these credentials to authenticate LDAP in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# LDAP credentials

You can use these credentials to authenticate the following nodes:

\* [LDAP](/integrations/builtin/core-nodes/n8n-nodes-base.ldap.md)

## Prerequisites

Create a server directory using Lightweight Directory Access Protocol (LDAP).

Some common LDAP providers include:

\* [Jumpcloud](https://jumpcloud.com/blog/how-to-connect-your-application-to-ldap){:target=\_blank .external-link}

\* [Azure ADDS](https://learn.microsoft.com/en-us/azure/active-directory-domain-services/tutorial-configure-ldaps){:target=\_blank .external-link}

\* [Okta](https://help.okta.com/en-us/Content/Topics/Directory/LDAP-interface-connection-settings.htm){:target=\_blank .external-link}

## Supported authentication methods

- LDAP server details

## Related resources

Refer to your LDAP provider's own documentation for detailed information.

For general LDAP information, refer to [Basic LDAP concepts](https://ldap.com/basic-ldap-concepts/){:target=\_blank .external-link} for a basic overview and [The LDAP Bind Operation](https://ldap.com/the-ldap-bind-operation/){:target=\_blank .external-link} for information on how the bind operation and authentication work.

## Using LDAP server details

To configure this credential, you'll need:

- The \*\*LDAP Server Address\*\*: Use the IP address or domain of your LDAP server.

- The \*\*LDAP Server Port\*\*: Use the number of the port used to connect to the LDAP server.

- The \*\*Binding DN\*\*: Use the Binding Distinguished Name (Bind DN) for your LDAP server. This is the user account the credential should log in as. If you're using Active Directory, this may look something like `cn=administrator, cn=Users, dc=n8n, dc=io`. Refer to your LDAP provider's documentation for more information on identifying this DN and the related password.

- The \*\*Binding Password\*\*: Use the password for the \*\*Binding DN\*\* user.

- Select the \*\*Connection Security\*\*: Options include:

- `None`

- `TLS`

- `STARTTLS`

- \_Optional:\_ Enter a numeric value in seconds to set a \*\*Connection Timeout\*\*.

## lemlist.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Lemlist credentials

description: Documentation for Lemlist credentials. Use these credentials to authenticate Lemlist in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Lemlist credentials

You can use these credentials to authenticate the following nodes:

- [Lemlist](/integrations/builtin/app-nodes/n8n-nodes-base.lemlist.md)

- [Lemlist Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.lemlisttrigger.md)

## Prerequisites

Create an account on a [Lemlist](https://www.lemlist.com/){:target=\_blank .external-link} instance.

## Supported authentication methods

- API key

## Related resources

Refer to [Lemlist's API documentation](https://developer.lemlist.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Access your API key in \*\*Settings > Integrations\*\*. Refer to the [API Authentication documentation](https://developer.lemlist.com/#authentication){:target=\_blank .external-link} for more information.

## line.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Line credentials

description: Documentation for Line credentials. Use these credentials to authenticate the Line node in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Line credentials

<!-- vale off -->

/// warning | Deprecated: End of service

LINE Notify is discontinuing service as of April 1st 2025 and this node will no longer work after that date. View LINE Notify's [end of service announement](https://notify-bot.line.me/closing-announce){:target=\_blank .external-link} for more information.

///

<!-- vale on -->

You can use these credentials to authenticate the following nodes:

- [Line](/integrations/builtin/app-nodes/n8n-nodes-base.line.md)

## Supported authentication methods

- Notify OAuth2

## Related resources

Refer to [Line Notify's API documentation](https://notify-bot.line.me/doc/en/){:target=\_blank .external-link} for more information about the service.

## Using Notify OAuth2

To configure this credential, you'll need a [Line](https://line.me/en/){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To generate both, connect Line with [Line Notify](https://notify-bot.line.me/en/){:target=\_blank .external-link}. Then:

1. Open the Line Notify page to [add a new service](https://notify-bot.line.me/my/services/new){:target=\_blank .external-link}.

1. Enter a \*\*Service name\*\*. This name displays when someone tries to connect to the service.

1. Enter a \*\*Service description\*\*.

1. Enter a \*\*Service URL\*\*

1. Enter your \*\*Company/Enterprise\*\*.

1. Select your \*\*Country/region\*\*.

1. Enter your name or team name as the \*\*Representative\*\*.

1. Enter a valid \*\*Email address\*\*. Line will verify this email address before the service is fully registered. Use an email address you have ready access to.

1. Copy the \*\*OAuth Redirect URL\*\* from your n8n credential and enter it as the \*\*Callback URL\*\* in Line Notify.

1. Select \*\*Agree and continue\*\* to agree to the terms of service.

1. Verify the information you entered is correct and select \*\*Add\*\*.

1. Check your email and open the Line Notify Registration URL to verify your email address.

1. Once verification is complete, open [\*\*My services\*\*](https://notify-bot.line.me/my/services/){:target=\_blank .external-link}.

1. Select the service you just added.

1. Copy the \*\*Client ID\*\* and enter it in your n8n credential.

1. Select the option to \*\*Display\*\* the \*\*Client Secret\*\*. Copy the \*\*Client Secret\*\* and enter it in your n8n credential.

1. In n8n, select \*\*Connect my account\*\* and follow the on-screen prompts to finish the credential.

Refer to the Authentication section of [Line Notify's API documentation](https://notify-bot.line.me/doc/en/){:target=\_blank .external-link} for more information.

## linear.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Linear credentials

description: Documentation for Linear credentials. Use these credentials to authenticate Linear in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Linear credentials

You can use these credentials to authenticate the following nodes:

\* [Linear Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.lineartrigger.md)

\* [Linear](/integrations/builtin/app-nodes/n8n-nodes-base.linear.md)

## Prerequisites

Create a [Linear](https://linear.app/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

- OAuth2

## Related resources

Refer to [Linear's API documentation](https://developers.linear.app/docs/graphql/working-with-the-graphql-api){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A personal \*\*API Key\*\*: Create an API key in your [\*\*Settings > API\*\*](https://linear.app/n8n/settings/api){:target=\_blank .external-link}. Refer to the [Linear Personal API keys documentation](https://developers.linear.app/docs/graphql/working-with-the-graphql-api#personal-api-keys){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you create a new OAuth2 application.

- A \*\*Client Secret\*\*: Generated when you create a new OAuth2 application.

- Select the \*\*Actor\*\*: The actor defines how the OAuth2 application should create issues, comments and other changes. Options include:

- \*\*User\*\* (Linear's default): The application creates resources as the authorizing user. Use this option if you want each user to do their own authentication.

- \*\*Application\*\*: The application creates resources as itself. Use this option if you have only one user (like an admin) authorizing the application.

- To use this credential with the [Linear Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.lineartrigger.md) node, you must enable the \*\*Include Admin Scope\*\* toggle.

Refer to the [Linear OAuth2 Authentication documentation](https://developers.linear.app/docs/oauth/authentication){:target=\_blank .external-link} for more detailed instructions and explanations. Use the n8n \*\*OAuth Redirect URL\*\* as the \*\*Redirect callback URL\*\* in your Linear OAuth2 application.

## lingvanex.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LingvaNex credentials

description: Documentation for LingvaNex credentials. Use these credentials to authenticate LingvaNex in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# LingvaNex credentials

You can use these credentials to authenticate the following nodes:

- [LingvaNex](/integrations/builtin/app-nodes/n8n-nodes-base.lingvanex.md)

## Prerequisites

Create a [LingvaNex](https://lingvanex.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Lingvanex's Cloud API documentation](https://docs.lingvanex.com/reference/overview){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API key from your \*\*Account\*\* page. Refer to [Where can I get the authorization key?](https://docs.lingvanex.com/reference/translator-service-faq#where-can-i-get-the-authorization-key){:target=\_blank .external-link} for more detailed instructions.

## linkedin.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LinkedIn credentials

description: Documentation for LinkedIn credentials. Use these credentials to authenticate LinkedIn in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# LinkedIn credentials

You can use these credentials to authenticate the following nodes:

- [LinkedIn](/integrations/builtin/app-nodes/n8n-nodes-base.linkedin.md)

## Prerequisites

\* Create a [LinkedIn](https://www.linkedin.com/){:target=\_blank .external-link} account.

\* Create a LinkedIn [Company Page](https://www.linkedin.com/help/linkedin/answer/a543852){:target=\_blank .external-link}.

## Supported authentication methods

- \*\*Community Management OAuth2\*\*: Use this method if you're a new LinkedIn user or creating a new LinkedIn app.

- \*\*OAuth2\*\*: Use this method for older LinkedIn apps and user accounts.

## Related Resources

Refer to [LinkedIn's Community Management API documentation](https://learn.microsoft.com/en-us/linkedin/marketing/community-management/community-management-overview?view=li-lms-2024-04){:target=\_blank .external-link} for more information about the service.

This credential works with API version `202404`.

## Using Community Management OAuth2

Use this method if you're a new LinkedIn user or creating a new LinkedIn app.

To configure this credential, you'll need a [LinkedIn](https://www.linkedin.com/){:target=\_blank .external-link} account, a LinkedIn [Company Page](https://www.linkedin.com/help/linkedin/answer/a543852){:target=\_blank .external-link}, and:

- A \*\*Client ID\*\*: Generated after you create a new developer app.

- A \*\*Client Secret\*\*: Generated after you create a new developer app.

To create a new developer app and set up the credential:

1. Log into LinkedIn and select this link to [create a new developer app](https://www.linkedin.com/developers/apps/new){:target=\_blank .external-link}.

2. Enter an \*\*App name\*\* for your app, like `n8n integration`.

3. For the \*\*LinkedIn Page\*\*, enter a LinkedIn [Company Page](https://www.linkedin.com/help/linkedin/answer/a543852){:target=\_blank .external-link} or use the \*\*Create a new LinkedIn Page\*\* link to create one on-the-fly. Refer to [Associate an App with a LinkedIn Page](https://www.linkedin.com/help/linkedin/answer/a548360){:target=\_blank .external-link} for more information.

4. Add an \*\*App logo\*\*.

5. Check the box to agree to the \*\*Legal agreement\*\*.

6. Select \*\*Create app\*\*.

7. This should open the \*\*Products\*\* tab. Select the products/APIs you want to enable for your app. For the LinkedIn node to work properly, you must include:

- \*\*Share on LinkedIn\*\*

- \*\*Sign In with LinkedIn using OpenID Connect\*\*

8. Once you've requested access to the products you need, open the \*\*Auth\*\* tab.

9. Copy the \*\*Client ID\*\* and enter it in your n8n credential.

10. Select the icon to \*\*Copy\*\* the \*\*Primary Client Secret\*\*. Enter this in your n8n credential as the \*\*Client Secret\*\*.

/// note | Posting from organization accounts

To post as an organization, you need to put your app through LinkedIn's [Community Management App Review](https://learn.microsoft.com/en-us/linkedin/marketing/community-management-app-review){:target=\_blank .external-link} process.

///

Refer to [Getting Access to LinkedIn APIs](https://learn.microsoft.com/en-us/linkedin/shared/authentication/getting-access){:target=\_blank .external-link} for more information on scopes and permissions.

## Using OAuth2

Only use this method for older LinkedIn apps and user accounts.

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

All users must select:

- \*\*Organization Support\*\*: If turned on, the credential requests permission to post as an organization using the `w\_organization\_social` scope.

- To use this option, you must put your app through LinkedIn's [Community Management App Review](https://learn.microsoft.com/en-us/linkedin/marketing/community-management-app-review){:target=\_blank .external-link} process.

- \*\*Legacy\*\*: If turned on, the credential uses legacy scopes for `r\_liteprofile` and `r\_emailaddress` instead of the newer `profile` and `email` scopes.

If you're [self-hosting](/hosting/index.md) n8n, you'll need to configure OAuth2 from scratch by creating a new developer app:

1. Log into LinkedIn and select this link to [create a new developer app](https://www.linkedin.com/developers/apps/new){:target=\_blank .external-link}.

2. Enter an \*\*App name\*\* for your app, like `n8n integration`.

3. For the \*\*LinkedIn Page\*\*, enter a LinkedIn [Company Page](https://www.linkedin.com/help/linkedin/answer/a543852){:target=\_blank .external-link} or use the \*\*Create a new LinkedIn Page\*\* link to create one on-the-fly. Refer to [Associate an App with a LinkedIn Page](https://www.linkedin.com/help/linkedin/answer/a548360){:target=\_blank .external-link} for more information.

4. Add an \*\*App logo\*\*.

5. Check the box to agree to the \*\*Legal agreement\*\*.

6. Select \*\*Create app\*\*.

7. This should open the \*\*Products\*\* tab. Select the products/APIs you want to enable for your app. For the LinkedIn node to work properly, you must include:

- \*\*Share on LinkedIn\*\*

- \*\*Sign In with LinkedIn using OpenID Connect\*\*

8. Once you've requested access to the products you need, open the \*\*Auth\*\* tab.

9. Copy the \*\*Client ID\*\* and enter it in your n8n credential.

10. Select the icon to \*\*Copy\*\* the \*\*Primary Client Secret\*\*. Enter this in your n8n credential as the \*\*Client Secret\*\*.

/// note | Posting from organization accounts

To post as an organization, you need to put your app through LinkedIn's [Community Management App Review](https://learn.microsoft.com/en-us/linkedin/marketing/community-management-app-review){:target=\_blank .external-link} process.

///

Refer to [Getting Access to LinkedIn APIs](https://learn.microsoft.com/en-us/linkedin/shared/authentication/getting-access){:target=\_blank .external-link} for more information on scopes and permissions.

## lonescale.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LoneScale credentials

description: Documentation for LoneScale credentials. Use these credentials to authenticate LoneScale in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# LoneScale credentials

You can use these credentials to authenticate the following nodes:

- [LoneScale](/integrations/builtin/app-nodes/n8n-nodes-base.lonescale.md)

- [LoneScale Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.lonescaletrigger.md)

## Prerequisites

Create a [LoneScale](https://www.lonescale.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [LoneScale's API documentation](https://public-api.lonescale.com/api){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to [LoneScale's Generate an API key documentation](https://help-center.lonescale.com/en/articles/6454360-lonescale-public-api){:target=\_blank .external-link} to generate your key.

## magento2.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Magento 2 credentials

description: Documentation for Magento 2 credentials. Use these credentials to authenticate Magento 2 in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Magento 2 credentials

You can use these credentials to authenticate the following node:

- [Magento 2](/integrations/builtin/app-nodes/n8n-nodes-base.magento2.md)

## Prerequisites

- Create a [Magento](https://magento.com/){:target=\_blank .external-link} account.

- Set your store to \*\*Allow OAuth Access Tokens to be used as standalone Bearer tokens\*\*.

- Go to \*\*Admin > Stores > Configuration > Services > OAuth > Consumer Settings\*\*.

- Set the \*\*Allow OAuth Access Tokens to be used as standalone Bearer tokens\*\* option to \*\*Yes\*\*.

- You can also enable this setting from the CLI by running the following command:

```

bin/magento config:set oauth/consumer/enable\_integration\_as\_bearer 1

```

This step is necessary until n8n updates the Magento 2 credentials to use OAuth. Refer to [Integration Tokens](https://developer.adobe.com/commerce/webapi/get-started/authentication/gs-authentication-token/#integration-tokens){:target=\_blank .external-link} for more information.

## Supported authentication methods

- API access token

## Related resources

Refer to [Magento's API documentation](https://devdocs.magento.com/redoc/2.3/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- A \*\*Host\*\*: Enter the address of your Magento store.

- An \*\*Access Token\*\*: Get an access token from the [\*\*Admin Panel\*\*](https://docs.magento.com/user-guide/stores/admin.html){:target=\_blank .external-link}:

1. Go to \*\*System > Extensions > Integrations\*\*.

2. Add a new Integration.

3. Go to the \*\*API\*\* tab and select the Magento resources you'd like the n8n integration to access.

4. From the \*\*Integrations\*\* page, \*\*Activate\*\* the new integration.

5. Select \*\*Allow\*\* to display your access token so you can copy it and enter it in n8n.

## mailcheck.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailcheck credentials

description: Documentation for Mailcheck credentials. Use these credentials to authenticate Mailcheck in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Mailcheck credentials

You can use these credentials to authenticate the following nodes:

- [Mailcheck](/integrations/builtin/app-nodes/n8n-nodes-base.mailcheck.md)

## Prerequisites

Create a [Mailcheck](https://mailcheck.co/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Mailcheck's API documentation](https://app.mailcheck.co/docs?from=docs){:target=\_blank .external-link} for more information about the service.

## Using API Key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API Key in the API section of your dashboard. Refer to [Mailcheck's How to create an API key documentation](https://mailcheck.co/create-api-key){:target=\_blank .external-link} for detailed instructions.

## mailchimp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailchimp credentials

description: Documentation for Mailchimp credentials. Use these credentials to authenticate Mailchimp in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Mailchimp credentials

You can use these credentials to authenticate the following nodes:

- [Mailchimp](/integrations/builtin/app-nodes/n8n-nodes-base.mailchimp.md)

- [Mailchimp Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.mailchimptrigger.md)

## Prerequisites

Create a [Mailchimp](https://www.mailchimp.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

- OAuth2

Refer to [Selecting an authentication method](#selecting-an-authentication-method) for guidance on which method to use.

## Related resources

Refer to [Mailchimp's API documentation](https://mailchimp.com/developer/marketing/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API key in the [API keys section](https://us1.admin.mailchimp.com/account/api/){:target=\_blank .external-link} of your Mailchimp account. Refer to [Mailchimp's Generate your API key documentation](https://mailchimp.com/developer/marketing/guides/quick-start/#generate-your-api-key){:target=\_blank .external-link} for more detailed instructions.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch, [register an application](https://mailchimp.com/developer/marketing/guides/access-user-data-oauth-2/#register-your-application){:target=\_blank .external-link}. Refer to the [Mailchimp OAuth2 documentation](https://mailchimp.com/developer/marketing/guides/access-user-data-oauth-2/){:target=\_blank .external-link} for more information.

## Selecting an authentication method

Mailchimp suggests using an API key if you're only accessing your own Mailchimp account's data:

> Use an API key if you're writing code that tightly couples \_your\_ application's data to \_your\_ Mailchimp account's data. If you ever need to access \_someone else's\_ Mailchimp account's data, you should be using OAuth 2 ([source](https://mailchimp.com/developer/marketing/guides/access-user-data-oauth-2/#when-not-to-use-oauth-2){:target=\_blank .external-link})

## mailerlite.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MailerLite credentials

description: Documentation for MailerLite credentials. Use these credentials to authenticate MailerLite in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# MailerLite credentials

You can use these credentials to authenticate the following nodes:

- [MailerLite](/integrations/builtin/app-nodes/n8n-nodes-base.mailerlite.md)

- [MailerLite Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.mailerlitetrigger.md)

## Prerequisites

Create a [MailerLite](https://www.mailerlite.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [MailerLite's API documentation](https://developers.mailerlite.com/docs/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API key from the \*\*Integrations\*\* menu. Refer to the [API Authentication documentation](https://developers.mailerlite.com/docs/#authentication){:target=\_blank .external-link} for more detailed instructions.

Enable the \*\*Classic API\*\* toggle if the API key is for a MailerLite Classic account instead of the newer MailerLite experience.

/// note

Most new MailerLite accounts and all free accounts should disable the \*\*Classic API\*\* toggle. You can find out [which version of MailerLite you are using](https://www.mailerlite.com/help/which-version-of-mailerlite-am-i-using) and learn more about the differences between the two in the [MailerLite FAQ](https://www.mailerlite.com/help/new-mailerlite-faq).

///

## mailgun.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailgun credentials

description: Documentation for Mailgun credentials. Use these credentials to authenticate Mailgun in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Mailgun credentials

You can use these credentials to authenticate the following nodes:

- [Mailgun](/integrations/builtin/app-nodes/n8n-nodes-base.mailgun.md)

## Prerequisites

- Create a [Mailgun](https://www.mailgun.com/){:target=\_blank .external-link} account.

- [Add and verify a domain](https://help.mailgun.com/hc/en-us/articles/360026833053-Domain-Verification-Setup-Guide){:target=\_blank .external-link} in Mailgun or use the provided sandbox domain for testing.

## Supported authentication methods

- API key

## Related resources

Refer to [Mailgun's API documentation](https://documentation.mailgun.com/docs/mailgun/api-reference/intro/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Domain\*\*: If your Mailgun account is based in Europe, select \*\*api.eu.mailgun.net\*\*; otherwise, select \*\*api.mailgun.net\*\*. Refer to [Mailgun Base URLs](https://documentation.mailgun.com/docs/mailgun/api-reference/intro/#base-url){:target=\_blank .external-link} for more information.

- An \*\*Email Domain\*\*: Enter the email sending domain you're working with. If you have multiple sending domains, refer to [Working with multiple email domains](#working-with-multiple-email-domains) for more information.

- An \*\*API Key\*\*: View your API key in \*\*Settings > API Keys\*\*. Refer to [Mailgun's API Authentication documentation](https://documentation.mailgun.com/docs/mailgun/api-reference/authentication/){:target=\_blank .external-link} for more detailed instructions.

## Working with multiple email domains

If your Mailgun account includes multiple sending domains, create a separate credential for each email domain you're working with.

## mailjet.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailjet credentials

description: Documentation for Mailjet credentials. Use these credentials to authenticate Mailjet in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Mailjet credentials

You can use these credentials to authenticate the following nodes:

- [Mailjet](/integrations/builtin/app-nodes/n8n-nodes-base.mailjet.md)

- [Mailjet Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.mailjettrigger.md)

## Prerequisites

Create a [Mailjet](https://www.mailjet.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- Email API key: For use with Mailjet's Email API

- SMS token: For use with Mailjet's SMS API

## Related resources

Refer to [Mailjet's Email API documentation](https://dev.mailjet.com/email/guides/){:target=\_blank .external-link} and [Mailjet's SMS API documentation](https://dev.mailjet.com/sms/guides/){:target=\_blank .external-link} for more information about each service.

## Using Email API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: View and generate API keys in your Mailjet [API Key Management](https://app.mailjet.com/account/api\_keys){:target=\_blank .external-link} page.

- A \*\*Secret Key\*\*: View your API Secret Keys in your Mailjet [API Key Management](https://app.mailjet.com/account/api\_keys){:target=\_blank .external-link} page.

- \_Optional:\_ Select whether to use \*\*Sandbox Mode\*\* for calls made using this credential. When turned on, all API calls use Sandbox mode: the API will still validate the payloads but won't deliver the actual messages. This can be useful to troubleshoot any payload error messages without actually sending messages. Refer to Mailjet's [Sandbox Mode documentation](https://dev.mailjet.com/email/guides/send-api-v31/#sandbox-mode){:target=\_blank .external-link} for more information.

For this credential, you can use either:

- Mailjet's primary API key and secret key

- A subaccount API key and secret key

Refer to Mailjet's [How to create a subaccount (or additional API key) documentation](https://documentation.mailjet.com/hc/en-us/articles/360042561974-How-to-create-a-subaccount-or-additional-API-Key){:target=\_blank .external-link} for detailed instructions on creating more API keys. Refer to [What are subaccounts and how does it help me?](https://documentation.mailjet.com/hc/en-us/articles/360042561854-What-are-subaccounts-and-how-does-it-help-me){:target=\_blank .external-link} page for more information on Mailjet subaccounts and when you might want to use one.

## Using SMS Token

To configure this credential, you'll need:

- An access \*\*Token\*\*: Generate a new token from Mailjet's [SMS Dashboard](https://app.mailjet.com/sms){:target=\_blank .external-link}. Refer to the [SMS API Getting Started guide](https://dev.mailjet.com/sms/guides/getting-started/){:target=\_blank .external-link} for more detailed instructions.

## malcore.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Malcore credentials

description: Documentation for the Malcore credentials. Use these credentials to authenticate Malcore in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Malcore credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Malcore](https://app.malcore.io/register){:target=\_blank .external-link} account.

## Related resources

Refer to [Malcore's API documentation](https://malcore.readme.io/reference/){:target=\_blank .external-link} for more information about authenticating with the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/malcore/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Get an API Key from your \*\*Account > API\*\*.

Refer to [Using the Malcore API](https://support.malcore.io/hc/en-au/articles/17711707070617-Using-the-Malcore-API){:target=\_blank .external-link} for more information.

## mandrill.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mandrill credentials

description: Documentation for Mandrill credentials. Use these credentials to authenticate Mandrill in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Mandrill credentials

You can use these credentials to authenticate the following nodes:

- [Mandrill](/integrations/builtin/app-nodes/n8n-nodes-base.mandrill.md)

## Prerequisites

- Create a Mailchimp [Transactional email account](https://mailchimp.com/features/transactional-email-infrastructure/){:target=\_blank .external-link}

- Log in to [Mandrill](https://mandrillapp.com/login/){:target=\_blank .external-link} with your Mailchimp account.

If you already have a Mailchimp account with a Standard plan or higher, enable [Transactional Emails](https://mailchimp.com/help/add-or-remove-transactional-email){:target=\_blank .external-link} within that account to use Mandrill.

## Supported authentication methods

- API key

## Related resources

Refer to [Mailchimp's Transactional API documentation](https://mailchimp.com/developer/transactional/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API key from the Mandrill [Settings](https://mandrillapp.com/settings){:target=\_blank .external-link}. Refer to Mailchimp's [Generate your API key documentation](https://mailchimp.com/developer/transactional/guides/quick-start/#generate-your-api-key){:target=\_blank .external-link} for more detailed instructions.

## marketstack.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Marketstack credentials

description: Documentation for Marketstack credentials. Use these credentials to authenticate Marketstack in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Marketstack credentials

You can use these credentials to authenticate the following nodes:

- [Marketstack](/integrations/builtin/app-nodes/n8n-nodes-base.marketstack.md)

## Prerequisites

Create a [Marketstack](https://marketstack.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Marketstack's API documentation](https://marketstack.com/documentation){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: View and generate API keys in your Marketstack [account dashboard](https://marketstack.com/dashboard){:target=\_blank .external-link}.

- Select whether to \*\*Use HTTPS\*\*: Make this selection based on your Marketstack account plan level:

- Free plan: Turn off \*\*Use HTTPS\*\*

- All other plans: Turn on \*\*Use HTTPS\*\*

## matrix.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Matrix credentials

description: Documentation for Matrix credentials. Use these credentials to authenticate Matrix in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Matrix credentials

You can use these credentials to authenticate the following nodes:

- [Matrix](/integrations/builtin/app-nodes/n8n-nodes-base.matrix.md)

## Prerequisites

Create an account on a [Matrix](https://matrix.org/){:target=\_blank .external-link} server. Refer to [Creating an account](https://matrix.org/docs/chat\_basics/matrix-for-im/#creating-a-matrix-account){:target=\_blank .external-link} for more information.

## Supported authentication methods

- API access token

## Related resources

Refer to the [Matrix Specification](https://spec.matrix.org/latest/){:target=\_blank .external-link} for more information about the service.

Refer to the documentation for the specific client you're using to access the Matrix server.

## Using API access token

To configure this credential, you'll need:

- An \*\*Access Token\*\*: This token is tied to the account you use to log into Matrix with.

- A \*\*Homeserver URL\*\*: This is the URL of the [homeserver](https://matrix.org/docs/matrix-concepts/elements-of-matrix/#homeserver){:target=\_blank .external-link} you entered when you created your account. n8n prepopulates this with matrix.org's own server; adjust this if you're using a server hosted elsewhere.

Instructions for getting these details vary depending on the client you're using to access the server. Both the \*\*Access Token\*\* and the \*\*Homeserver URL\*\* can most commonly be found in \*\*Settings > Help & About > Advanced\*\*, but refer to your client's documentation for more details.

## mattermost.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mattermost credentials

description: Documentation for Mattermost credentials. Use these credentials to authenticate Mattermost in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Mattermost credentials

You can use these credentials to authenticate the following nodes:

- [Mattermost](/integrations/builtin/app-nodes/n8n-nodes-base.mattermost.md)

## Supported authentication methods

- API access token

## Related resources

Refer to [Mattermost's API documentation](https://api.mattermost.com/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need a [Mattermost](https://www.mattermost.com/){:target=\_blank .external-link} account and:

- A personal \*\*Access Token\*\*

- Your Mattermost \*\*Base URL\*\*.

To set it up:

1. In Mattermost, go to \*\*Profile > Security > Personal Access Tokens\*\*.

/// warning | No Personal Access Tokens option

If you don't see the Personal Access Tokens option, refer to the troubleshooting steps in [Enable personal access tokens](#enable-personal-access-tokens) below.

///

2. Select \*\*Create Token\*\*.

3. Enter a \*\*Token description\*\*, like `n8n integration`.

4. Select \*\*Save\*\*.

5. Copy the \*\*Token ID\*\* and enter it as the \*\*Access Token\*\* in your n8n credential.

6. Enter your Mattermost URL as the \*\*Base URL\*\*.

7. By default, n8n connects only if SSL certificate validation succeeds. To connect even if SSL certificate validation fails, turn on \*\*Ignore SSL Issues\*\*.

Refer to the Mattermost [Personal access tokens documentation](https://developers.mattermost.com/integrate/reference/personal-access-token/){:target=\_blank .external-link} for more information.

## Enable personal access tokens

Not seeing the \*\*Personal Access Tokens\*\* option has two possible causes:

- Mattermost doesn't have the personal access tokens integration enabled.

- You're trying to generate a personal access token as a non-admin user who doesn't have permission to generate personal access tokens.

To identify the root cause and resolve it:

1. Log in to Mattermost as an admin.

2. Go to \*\*System Console > Integrations > Integration Management\*\*.

3. Confirm that \*\*Enable personal access tokens\*\* is set to \*\*true\*\*. If it's not, change.

4. Go to \*\*System Console > User Management > Users\*\*.

5. Search for the user account you want to allow to generate personal access tokens.

6. Select the \*\*Actions\*\* dropdown for the user and select \*\*Manage roles\*\*.

7. Check the box for \*\*Allow this account to generate personal access tokens\*\* and \*\*Save\*\*.

Refer to the Mattermost [Personal access tokens documentation](https://developers.mattermost.com/integrate/reference/personal-access-token/){:target=\_blank .external-link} for more information.

## mautic.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mautic credentials

description: Documentation for Mautic credentials. Use these credentials to authenticate Mautic in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Mautic credentials

You can use these credentials to authenticate the following nodes:

- [Mautic](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md)

- [Mautic Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.mautictrigger.md)

## Supported authentication methods

- Basic auth

- OAuth2

## Related resources

Refer to [Mautic's API documentation](https://developer.mautic.org/#rest-api){:target=\_blank .external-link} for more information about the service.

## Using basic auth

/// note | API enabled

To set up this credential, your Mautic instance must have the API enabled. Refer to [Enable the API](#enable-the-api) for instructions.

///

To configure this credential, you'll need an account on a [Mautic](https://www.mautic.org/){:target=\_blank .external-link} instance and:

- Your \*\*URL\*\*

- A \*\*Username\*\*

- A \*\*Password\*\*

To set it up:

1. In Mautic, go to \*\*Configuration > API Settings\*\*.

2. If \*\*Enable HTTP basic auth?\*\* is set to \*\*No\*\*, change it to \*\*Yes\*\* and save. Refer to the [API Settings documentation](https://docs.mautic.org/en/5.x/configuration/settings.html#api-settings){:target=\_blank .external-link} for more information.

1. In n8n, enter the Base \*\*URL\*\* of your Mautic instance.

2. Enter your Mautic \*\*Username\*\*.

3. Enter your Mautic \*\*Password\*\*.

## Using OAuth2

/// note | API enabled

To set up this credential, your Mautic instance must have the API enabled. Refer to [Enable the API](#enable-the-api) for instructions.

///

To configure this credential, you'll need an account on a [Mautic](https://www.mautic.org/){:target=\_blank .external-link} instance and:

- A \*\*Client ID\*\*: Generated when you create new API credentials.

- A \*\*Client Secret\*\*: Generated when you create new API credentials.

- Your \*\*URL\*\*

To set it up:

1. In Mautic, go to \*\*Configuration > Settings\*\*.

2. Select \*\*API Credentials\*\*.

/// note | No API Credentials menu

If you don't see the \*\*API Credentials\*\* option under \*\*Configuration > Settings\*\*, be sure to [Enable the API](#enable-the-api). If you've enabled the API and you still don't see the option, try [manually clearing the cache](https://forum.mautic.org/t/cant-find-api-credentials-menu/10689){:target=\_blank .external-link}.

///

2. Select the option to \*\*Create new client\*\*.

3. Select \*\*OAuth 2\*\* as the \*\*Authorization Protocol\*\*.

4. Enter a \*\*Name\*\* for your credential, like `n8n integration`.

5. In n8n, copy the \*\*OAuth Callback URL\*\* and enter it as the \*\*Redirect URI\*\* in Mautic.

6. Select \*\*Apply\*\*.

7. Copy the \*\*Client ID\*\* from Mautic and enter it in your n8n credential.

8. Copy the \*\*Client Secret\*\* from Mautic and enter it in your n8n credential.

9. Enter the Base \*\*URL\*\* of your Mautic instance.

Refer to [What is Mautic's API?](https://kb.mautic.org/article/what-is-mautic-039%3bs-api.html#mcetoc\_1g7n1bgoo0){:target=\_blank .external-link} for more information.

## Enable the API

To enable the API in your Mautic instance:

1. Go to \*\*Settings > Configuration\*\*.

2. Select \*\*API Settings\*\*.

3. Set \*\*API enabled?\*\* to \*\*Yes\*\*.

4. \*\*Save\*\* your changes.

Refer to [How to use the Mautic API](https://kb.mautic.org/article/what-is-mautic-039;s-api.html){:target=\_blank .external-link} for more information.

## medium.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Medium credentials

description: Documentation for Medium credentials. Use these credentials to authenticate Medium in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Medium credentials

You can use these credentials to authenticate the following nodes:

- [Medium](/integrations/builtin/app-nodes/n8n-nodes-base.medium.md)

/// warning | Medium API no longer supported

Medium has stopped supporting the Medium API. These credentials still appear within n8n, but you can't configure new integrations using them.

///

## Prerequisites

- Create an account on [Medium](https://www.medium.com/){:target=\_blank .external-link}.

- For OAuth2, request access to credentials by emailing [yourfriends@medium.com](mailto:yourfriends@medium.com).

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [Medium's API documentation](https://github.com/Medium/medium-api-docs){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An API \*\*Access Token\*\*: Generate a token in \*\*Settings >\*\* [\*\*Security and apps\*\*](https://medium.com/me/settings/security){:target=\_blank .external-link} \*\*> Integration tokens\*\*. Use the integration token this generates as your n8n \*\*Access Token\*\*.

Refer to the Medium API [Self-issued access tokens documentation](https://github.com/Medium/medium-api-docs?tab=readme-ov-file#21-self-issued-access-tokens){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To generate a \*\*Client ID\*\* and \*\*Client Secret\*\*, you'll need access to the \*\*Developers\*\* menu. From there, create a new application to generate the Client ID and Secret.

Use these settings for your new application:

- Select \*\*OAuth 2\*\* as the \*\*Authorization Protocol\*\*

- Copy the \*\*OAuth Callback URL\*\* from n8n and use this as the \*\*Callback URL\*\* in Medium.

## messagebird.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MessageBird credentials

description: Documentation for MessageBird credentials. Use these credentials to authenticate MessageBird in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# MessageBird credentials

You can use these credentials to authenticate the following nodes:

- [MessageBird](/integrations/builtin/app-nodes/n8n-nodes-base.messagebird.md)

## Prerequisites

Create a [Bird](https://bird.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [MessageBird's API documentation](https://docs.bird.com/api){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To generate an appropriate key, visit the [Access keys](https://app.bird.com/settings/access-keys){:target=\_blank .external-link} page in MessageBird. Refer to the [API authorization documentation](https://docs.bird.com/api/api-access/api-authorization){:target=\_blank .external-link} for detailed instructions.

## metabase.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Metabase credentials

description: Documentation for Metabase credentials. Use these credentials to authenticate Metabase in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Metabase credentials

You can use these credentials to authenticate the following nodes:

- [Metabase node](/integrations/builtin/app-nodes/n8n-nodes-base.metabase.md)

## Prerequisites

Create a [Metabase](https://www.metabase.com/){:target=\_blank .external-link} account with access to a Metabase instance.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Metabase's API documentation](https://www.metabase.com/docs/latest/api-documentation){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*URL\*\*: Enter the base URL of your Metabase instance. If you're using a custom domain, use that URL.

- A \*\*Username\*\*: Enter your Metabase username.

- A \*\*Password\*\*: Enter your Metabase password.

## microsoft.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft credentials

description: Documentation for Microsoft credentials. Use these credentials to authenticate Microsoft in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Microsoft credentials

You can use these credentials to authenticate the following nodes:

- [Microsoft Dynamics CRM](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftdynamicscrm.md)

- [Microsoft Excel](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftexcel.md)

- [Microsoft Graph Security](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftgraphsecurity.md)

- [Microsoft OneDrive](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md)

- [Microsoft Outlook](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftoutlook.md)

- [Microsoft SharePoint](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftsharepoint.md)

- [Microsoft Teams](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftteams.md)

- [Microsoft Teams Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.microsoftteamstrigger.md)

- [Microsoft To Do](/integrations/builtin/app-nodes/n8n-nodes-base.microsofttodo.md)

## Prerequisites

- Create a [Microsoft Azure](https://azure.microsoft.com/) account.

- Create at least one user account with access to the appropriate service.

- If a corporate Microsoft Entra account manages the user account, the administrator account has enabled the option “User can consent to apps accessing company data on their behalf” for this user (see the [Microsoft Entra documentation](https://learn.microsoft.com/en-us/entra/identity/enterprise-apps/grant-admin-consent)).

## Supported authentication methods

- OAuth2

## Related resources

Refer to the linked Microsoft API documentation below for more information about each service's API:

- Dynamics CRM: [Web API](https://learn.microsoft.com/en-us/power-apps/developer/data-platform/webapi/overview)

- Excel: [Graph API](https://learn.microsoft.com/en-us/graph/api/resources/excel)

- Graph Security: [Graph API](https://learn.microsoft.com/en-us/graph/api/overview)

- OneDrive: [Graph API](https://learn.microsoft.com/en-us/onedrive/developer/rest-api/)

- Outlook: [Graph API](https://learn.microsoft.com/en-us/graph/api/resources/mail-api-overview) and [Outlook API](https://learn.microsoft.com/en-us/outlook/rest/reference)

- Teams: [Graph API](https://learn.microsoft.com/en-us/graph/api/resources/teams-api-overview)

- To Do: [Graph API](https://learn.microsoft.com/en-us/graph/todo-concept-overview)

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

Some Microsoft services require extra information for OAuth2. Refer to [Service-specific settings](#service-specific-settings) for more guidance on those services.

For self-hosted users, there are two main steps to configure OAuth2 from scratch:

1. [Register an application](#register-an-application) with the Microsoft Identity Platform.

2. [Generate a client secret](#generate-a-client-secret) for that application.

Follow the detailed instructions for each step below. For more detail on the Microsoft OAuth2 web flow, refer to [Microsoft authentication and authorization basics](https://learn.microsoft.com/en-us/graph/auth/auth-concepts).

### Register an application

Register an application with the Microsoft Identity Platform:

1. Open the [Microsoft Application Registration Portal](https://aka.ms/appregistrations).

2. Select \*\*Register an application\*\*.

3. Enter a \*\*Name\*\* for your app.

4. In \*\*Supported account types\*\*, select \*\*Accounts in any organizational directory (Any Azure AD directory - Multi-tenant) and personal Microsoft accounts (for example, Skype, Xbox)\*\*.

5. In \*\*Register an application\*\*:

1. Copy the \*\*OAuth Callback URL\*\* from your n8n credential.

2. Paste it into the \*\*Redirect URI (optional)\*\* field.

3. Select \*\*Select a platform\*\* > \*\*Web\*\*.

6. Select \*\*Register\*\* to finish creating your application.

7. Copy the \*\*Application (client) ID\*\* and paste it into n8n as the \*\*Client ID\*\*.

Refer to [Register an application with the Microsoft Identity Platform](https://learn.microsoft.com/en-us/graph/auth-register-app-v2) for more information.

### Generate a client secret

With your application created, generate a client secret for it:

1. On your Microsoft application page, select \*\*Certificates & secrets\*\* in the left navigation.

1. In \*\*Client secrets\*\*, select \*\*+ New client secret\*\*.

1. Enter a \*\*Description\*\* for your client secret, such as `n8n credential`.

1. Select \*\*Add\*\*.

1. Copy the \*\*Secret\*\* in the \*\*Value\*\* column.

1. Paste it into n8n as the \*\*Client Secret\*\*.

1. If you see other fields in the n8n credential, refer to [Service-specific settings](#service-specific-settings) below for guidance on completing those fields.

1. Select \*\*Connect my account\*\* in n8n to finish setting up the connection.

1. Log in to your Microsoft account and allow the app to access your info.

Refer to Microsoft's [Add credentials](https://learn.microsoft.com/en-us/graph/auth-register-app-v2#add-credentials) for more information on adding a client secret.

### Service-specific settings

The following services require extra information for OAuth2:

#### Dynamics

Dynamics OAuth2 requires information about your Dynamics domain and region. Follow these extra steps to complete the credential:

1. Enter your Dynamics \*\*Domain\*\*.

2. Select the Dynamics data center \*\*Region\*\* you're within.

Refer to the [Microsoft Datacenter regions documentation](https://learn.microsoft.com/en-us/power-platform/admin/new-datacenter-regions) for more information on the region options and corresponding URLs.

#### Microsoft (general)

The general Microsoft OAuth2 also requires you to provide a space-separated list of \*\*Scope\*\*s for this credential.

Refer to [Scopes and permissions in the Microsoft identity platform](https://learn.microsoft.com/en-us/entra/identity-platform/scopes-oidc) for a list of possible scopes.

#### Outlook

Outlook OAuth2 supports the credential accessing a user's primary email inbox or a shared inbox. By default, the credential will access a user's primary email inbox. To change this behavior:

1. Turn on \*\*Use Shared Inbox\*\*.

2. Enter the target user's UPN or ID as the \*\*User Principal Name\*\*.

#### SharePoint

SharePoint OAuth2 requires information about your SharePoint \*\*Subdomain\*\*.

To complete the credential, enter the \*\*Subdomain\*\* part of your SharePoint URL. For example, if your SharePoint URL is `https://tenant123.sharepoint.com`, the subdomain is `tenant123`.

SharePoint requires the following permissions:

Application permissions:

\* `Sites.Read.All`

\* `Sites.ReadWrite.All`

Delegated permissions:

\* `SearchConfiguration.Read.All`

\* `SearchConfiguration.ReadWrite.All`

## Common issues

Here are the known common errors and issues with Microsoft OAuth2 credentials.

--8<-- "\_snippets/integrations/builtin/credentials/microsoft-need-admin-approval.md"

## microsoftazuremonitor.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Azure Monitor credentials

description: Documentation for the Microsoft Azure Monitor credentials. Use these credentials to authenticate Microsoft Azure Monitor in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Microsoft Azure Monitor credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

\* Create a Microsoft Azure account or subscription

\* An app registered in Microsoft Entra ID

## Supported authentication methods

\* OAuth2

## Related resources

Refer to [Microsoft Azure Monitor's API documentation](https://learn.microsoft.com/en-us/azure/azure-monitor/azure-monitor-rest-api-index){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

To configure this credential, you'll need a Microsoft Azure account and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

- A \*\*Tenant ID\*\*

- The \*\*Resource\*\* you plan to access

Refer to [Microsoft Azure Monitor's API documentation](https://learn.microsoft.com/en-us/azure/azure-monitor/logs/api/access-api?tabs=rest#set-up-authentication){:target=\_blank .external-link} for more information about authenticating to the service.

## microsoftentra.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Entra ID credentials

description: Documentation for the Microsoft Entra ID credentials. Use these credentials to authenticate Microsoft Entra ID in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Microsoft Entra ID credentials

You can use these credentials to authenticate the following nodes:

\* [Microsoft Entra ID](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftentra.md)

## Prerequisites

- Create a Microsoft Entra ID account or subscription.

- If the user account is managed by a corporate Microsoft Entra account, the administrator account has enabled the option “User can consent to apps accessing company data on their behalf” for this user (see the [Microsoft Entra documentation](https://learn.microsoft.com/en-us/entra/identity/enterprise-apps/grant-admin-consent)).

Microsoft includes an Entra ID free plan when you create a [Microsoft Azure](https://azure.microsoft.com/) account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Microsoft Entra ID's documentation](https://www.microsoft.com/en-us/security/business/identity-access/azure-active-directory) for more information about the service.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

For self-hosted users, there are two main steps to configure OAuth2 from scratch:

1. [Register an application](#register-an-application) with the Microsoft Identity Platform.

2. [Generate a client secret](#generate-a-client-secret) for that application.

Follow the detailed instructions for each step below. For more detail on the Microsoft OAuth2 web flow, refer to [Microsoft authentication and authorization basics](https://learn.microsoft.com/en-us/graph/auth/auth-concepts).

### Register an application

Register an application with the Microsoft Identity Platform:

1. Open the [Microsoft Application Registration Portal](https://aka.ms/appregistrations).

2. Select \*\*Register an application\*\*.

3. Enter a \*\*Name\*\* for your app.

4. In \*\*Supported account types\*\*, select \*\*Accounts in any organizational directory (Any Azure AD directory - Multi-tenant) and personal Microsoft accounts (for example, Skype, Xbox)\*\*.

5. In \*\*Register an application\*\*:

1. Copy the \*\*OAuth Callback URL\*\* from your n8n credential.

2. Paste it into the \*\*Redirect URI (optional)\*\* field.

3. Select \*\*Select a platform\*\* > \*\*Web\*\*.

6. Select \*\*Register\*\* to finish creating your application.

7. Copy the \*\*Application (client) ID\*\* and paste it into n8n as the \*\*Client ID\*\*.

Refer to [Register an application with the Microsoft Identity Platform](https://learn.microsoft.com/en-us/graph/auth-register-app-v2) for more information.

### Generate a client secret

With your application created, generate a client secret for it:

1. On your Microsoft application page, select \*\*Certificates & secrets\*\* in the left navigation.

1. In \*\*Client secrets\*\*, select \*\*+ New client secret\*\*.

1. Enter a \*\*Description\*\* for your client secret, such as `n8n credential`.

1. Select \*\*Add\*\*.

1. Copy the \*\*Secret\*\* in the \*\*Value\*\* column.

1. Paste it into n8n as the \*\*Client Secret\*\*.

1. Select \*\*Connect my account\*\* in n8n to finish setting up the connection.

1. Log in to your Microsoft account and allow the app to access your info.

Refer to Microsoft's [Add credentials](https://learn.microsoft.com/en-us/graph/auth-register-app-v2#add-credentials) for more information on adding a client secret.

## Setting custom scopes

Microsoft Entra ID credentials use the following scopes by default:

\* [`openid`](https://learn.microsoft.com/en-us/entra/identity-platform/scopes-oidc#the-openid-scope)

\* [`offline\_access`](https://learn.microsoft.com/en-us/entra/identity-platform/scopes-oidc#the-offline\_access-scope)

\* [`AccessReview.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#accessreviewreadwriteall)

\* [`Directory.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#directoryreadwriteall)

\* [`NetworkAccessPolicy.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#networkaccesspolicyreadwriteall)

\* [`DelegatedAdminRelationship.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#delegatedadminrelationshipreadwriteall)

\* [`EntitlementManagement.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#entitlementmanagementreadwriteall)

\* [`User.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#userreadwriteall)

\* [`Directory.AccessAsUser.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#directoryaccessasuserall)

\* [`Sites.FullControl.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#sitesfullcontrolall)

\* [`GroupMember.ReadWrite.All`](https://learn.microsoft.com/en-us/graph/permissions-reference#groupmemberreadwriteall)

To select different scopes for your credentials, enable the \*\*Custom Scopes\*\* slider and edit the \*\*Enabled Scopes\*\* list. Keep in mind that some features may not work as expected with more restrictive scopes.

## Common issues

Here are the known common errors and issues with Microsoft Entra credentials.

--8<-- "\_snippets/integrations/builtin/credentials/microsoft-need-admin-approval.md"

## microsoftsql.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft SQL credentials

description: Documentation for Microsoft SQL credentials. Use these credentials to authenticate Microsoft SQL in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Microsoft SQL credentials

You can use these credentials to authenticate the following nodes:

- [Microsoft SQL](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftsql.md)

## Prerequisites

Create a user account on a [Microsoft SQL server](https://learn.microsoft.com/en-us/sql/sql-server/what-is-sql-server){:target=\_blank .external-link} database.

## Supported authentication methods

- SQL database connection

## Related resources

Refer to [Microsoft's Connect to SQL Server documentation](https://learn.microsoft.com/en-us/sql/sql-server/connect-to-database-engine?view=sql-server-ver16&tabs=sqldb#connect-to-sql-server){:target=\_blank .external-link} for more information about connecting to the service.

## Using SQL database connection

To configure this credential, you'll need:

- The \*\*Server\*\* name

- The \*\*Database\*\* name

- Your \*\*User\*\* account/ID

- Your \*\*Password\*\*

- The \*\*Port\*\* to use for the connection

- The \*\*Domain\*\* name

- Whether to use \*\*TLS\*\*

- Whether to \*\*Ignore SSL Issues\*\*

- The \*\*Connect Timeout\*\*

- The \*\*Request Timeout\*\*

- The \*\*TDS Version\*\* the connection should use

To set up the database connection:

1. Enter the SQL Server Host Name as the \*\*Server\*\*. In an existing SQL Server connection, the host name comes before the instance name in the format `HOSTNAME\INSTANCENAME`. Find the host name:

- In the \*\*Object Explorer\*\* pane as the top-level object for your database.

- In the footer of a query window.

- Viewing the current connection \*\*Properties\*\* and looking for \*\*Name\*\* or \*\*Display Name\*\*.

- Refer to [Find SQL Server Instance Name | When you're connected to SQL Server](https://learn.microsoft.com/en-us/sql/ssms/tutorials/ssms-tricks?view=sql-server-ver16#when-youre-connected-to-sql-server){:target=\_blank .external-link} for more information. You can also find the information in the [Error logs](https://learn.microsoft.com/en-us/sql/ssms/tutorials/ssms-tricks?view=sql-server-ver16#before-you-connect-to-sql-server){:target=\_blank .external-link}.

2. Enter the SQL Server Instance Name as the \*\*Database\*\* name. Find this name using the same steps listed above for finding the host name.

- If you don't see an instance name in any of these places, then your database uses the default `MSSQLSERVER` instance name.

3. Enter your \*\*User\*\* account name or ID.

4. Enter your \*\*Password\*\*.

5. For the \*\*Port\*\*:

- SQL Server defaults to `1433`.

- If you can't connect over port 1433, check the [Error logs](https://learn.microsoft.com/en-us/sql/ssms/tutorials/ssms-tricks?view=sql-server-ver16#before-you-connect-to-sql-server){:target=\_blank .external-link} for the phrase `Server is listening on` to identify the port number you should enter.

6. You only need to enter the \*\*Domain\*\* name if users in multiple domains access your database. Run this SQL query to get the domain name:

```sql

SELECT DEFAULT\_DOMAIN()[DomainName];

```

7. Select whether to use \*\*TLS\*\*.

8. Select whether to \*\*Ignore SSL Issues\*\*: If turned on, the credential will connect even if SSL certificate validation fails.

9. Enter the number of milliseconds n8n should attempt the initial connection to complete before disconnecting as the \*\*Connect Timeout\*\*. Refer to the [SqlConnection.ConnectionTimeout property documentation](https://learn.microsoft.com/en-us/dotnet/api/system.data.sqlclient.sqlconnection.connectiontimeout){:target=\_blank .external-link} for more information.

- SQL Server stores this timeout as seconds, while n8n stores it as milliseconds. If you're copying your SQL Server defaults, multiple by 100 before entering the number here.

10. Enter the number of milliseconds n8n should wait on a given request before timing out as the \*\*Request Timeout\*\*. This is basically a query timeout parameter. Refer to [Troubleshoot query time-out errors](https://learn.microsoft.com/en-us/troubleshoot/sql/database-engine/performance/troubleshoot-query-timeouts#explanation){:target=\_blank .external-link} for more information.

11. Select the Tabular Data Stream (TDS) protocol to use from the \*\*TDS Version\*\* dropdown. If the server doesn't support the version you select here, the connection uses a negotiated alternate version. Refer to [Appendix A: Product Behavior](https://learn.microsoft.com/en-us/openspecs/windows\_protocols/ms-tds/135d0ebe-5c4c-4a94-99bf-1811eccb9f4a){:target=\_blank .external-link} for a more detailed breakdown of the TDS versions' compatibility with different SQL Server versions and .NET frameworks. Options include:

- \*\*7\_4 (SQL Server 2012 ~ 2019)\*\*: TDS version 7.4.

- \*\*7\_3\_B (SQL Server 2008R2)\*\*: TDS version 7.3.B.

- \*\*7\_3\_A (SQL Server 2008)\*\*: TDS version 7.3.A.

- \*\*7\_2 (SQL Server 2005)\*\*: TDS version 7.2.

- \*\*7\_1 (SQL Server 2000)\*\*: TDS version 7.1.

## milvus.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Milvus credentials

description: Documentation for the Milvus credentials. Use these credentials to authenticate Milvus in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Milvus credentials

You can use these credentials to authenticate the following nodes:

\* [Milvus Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoremilvus.md)

## Prerequisites

Create and run an [Milvus](https://milvus.io/) instance. Refer to the [Install Milvus](https://milvus.io/docs/install-overview.md) for more information.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Milvus's Authentication documentation](https://milvus.io/docs/authenticate.md?tab=docker#Authenticate-User-Access) for more information about setting up authentication.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using basic auth

To configure this credential, you'll need:

\* \*\*Base URL\*\*: The base URL of your Milvus instance. The default is `http://localhost:19530`.

\* \*\*Username\*\*: The username to authenticate to your Milvus instance. The default value is `root`.

\* \*\*Password\*\*: The password to authenticate to your Milvus instance. The default value is `Milvus`.

## mindee.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mindee credentials

description: Documentation for Mindee credentials. Use these credentials to authenticate Mindee in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Mindee credentials

You can use these credentials to authenticate the following nodes:

- [Mindee](/integrations/builtin/app-nodes/n8n-nodes-base.mindee.md)

## Prerequisites

Create a [Mindee](https://mindee.com){:target=\_blank .external-link} account.

## Supported authentication methods

- Invoice API key: For use with the [Invoice OCR API](https://www.mindee.com/product/invoice-ocr-api){:target=\_blank .external-link}

- Receipt API key: For use with the [Receipt OCR API](https://www.mindee.com/product/receipt-ocr-api-copy){:target=\_blank .external-link}

## Related resources

Refer to [Mindee's Invoice OCR API documentation](https://developers.mindee.com/docs/invoice-ocr){:target=\_blank .external-link} and [Mindee's Receipt OCR API documentation](https://developers.mindee.com/docs/receipt-ocr){:target=\_blank .external-link} for more information about each service.

## Using invoice API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the Mindee [Create & Manage API Keys documentation](https://developers.mindee.com/docs/create-api-key){:target=\_blank .external-link} for instructions on creating API keys.

## Using receipt API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Refer to the Mindee [Create & Manage API Keys documentation](https://developers.mindee.com/docs/create-api-key){:target=\_blank .external-link} for instructions on creating API keys.

## miro.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Miro credentials

description: Documentation for the Miro credentials. Use these credentials to authenticate Miro in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Miro credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Miro](https://miro.com/) account.

## Supported authentication methods

\* OAuth2

## Related resources

Refer to [Miro's API documentation](https://developers.miro.com/reference/overview) for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/miro/) on n8n's website.

## Using OAuth2

To configure this credential, you'll need a [Miro](https://miro.com/login/) account and app, as well as:

- A \*\*Client ID\*\*: Generated when you create a new OAuth2 application.

- A \*\*Client Secret\*\*: Generated when you create a new OAuth2 application.

Refer to [Miro's API documentation](https://developers.miro.com/reference/overview) for more information about authenticating to the service.

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting](/hosting/index.md) n8n, you'll need to [create an app](https://developers.miro.com/docs/rest-api-build-your-first-hello-world-app) to configure OAuth2. Refer to [Miro's OAuth documentation](https://developers.miro.com/docs/getting-started-with-oauth){:target=\_blank .external-link} for more information about setting up OAuth2.

## misp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MISP credentials

description: Documentation for MISP credentials. Use these credentials to authenticate MISP in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# MISP credentials

You can use these credentials to authenticate the following nodes:

- [MISP](/integrations/builtin/app-nodes/n8n-nodes-base.misp.md)

## Prerequisites

Install and run a [MISP](https://misp.github.io/MISP/){:target=\_blank .external-link} instance.

## Supported authentication methods

- API key

## Related resources

Refer to [MISP's Automation API documentation](https://www.circl.lu/doc/misp/automation){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: In MISP, these are called Automation keys. Get an automation key from \*\*Event Actions > Automation\*\*. Refer to [MISP's automation keys documentation](https://www.circl.lu/doc/misp/automation/#automation-key){:target=\_blank .external-link} for instructions on generating more keys.

- A \*\*Base URL\*\*: Your MISP URL.

- Select whether to \*\*Allow Unauthorized Certificates\*\*: If turned on, the credential will connect even if SSL certificate validation fails.

## mist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mist credentials

description: Documentation for the Mist credentials. Use these credentials to authenticate Mist in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Mist credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Mist](https://www.mist.com/){:target=\_blank .external-link} account and organization. Refer to [Create a Mist account and Organization](https://www.mist.com/documentation/create-mist-org/){:target=\_blank .external-link} for detailed instructions.

## Supported authentication methods

- API token

## Related resources

Refer to [Mist's documentation](https://www.mist.com/documentation/mist-api-introduction/){:target=\_blank .external-link} for more information about the service. If you're logged in to your Mist account, go to [https://api.mist.com/api/v1/docs/Home](https://api.mist.com/api/v1/docs/Home){:target=\_blank .external-link} to view the full API documentation.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/mist/){:target=\_blank .external-link} on n8n's website.

## Using API token

To configure this credential, you'll need:

- An \*\*API Token\*\*: You can use either a User API token or an Org API token. Refer to [How to generate a user API token](https://www.mist.com/documentation/using-postman/){:target=\_blank .external-link} for instructions on generating a User API token. Refer to [Org API token](https://www.mist.com/documentation/org-api-token/){:target=\_blank .external-link} for instructions on generating an Org API token.

- Select the \*\*Region\*\* you're in. Options include:

- \*\*Europe\*\*: Select this option if your cloud environment is in any of the EMEA regions.

- \*\*Global\*\*: Select this option if your cloud environment is in any of the global regions.

## mistral.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mistral Cloud credentials

description: Documentation for the Mistral Cloud credentials. Use these credentials to authenticate Mistral Cloud in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Mistral Cloud credentials

You can use these credentials to authenticate the following nodes:

\* [Mistral AI](/integrations/builtin/app-nodes/n8n-nodes-base.mistralai.md)

\* [Mistral Cloud](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatmistralcloud.md)

\* [Embeddings Mistral Cloud](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsmistralcloud.md)

## Prerequisites

<!-- vale off -->

- Create a [Mistral](https://mistral.ai/) La Plateforme account.

- You must add payment information in \*\*Workspace >\*\* [\*\*Billing\*\*](https://admin.mistral.ai/organization/billing) and activate payments to enable API keys. Refer to [Account setup](https://docs.mistral.ai/getting-started/quickstart/#account-setup) for more information.

<!-- vale on -->

## Supported authentication methods

- API key

## Related resources

Refer to [Mistral's API documentation](https://docs.mistral.ai/api/) for more information about the APIs.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

Once you've added payment information to your Mistral Cloud account:

1. Sign in to your [Mistral account](https://console.mistral.ai/home).

2. Go to the \*\*API Keys\*\* page.

3. Select \*\*Create new key\*\*.

4. Copy the API key and enter it in your n8n credential.

Refer to [Account setup](https://docs.mistral.ai/getting-started/quickstart/#account-setup) for more information.

/// note | Paid account required

Mistral requires you to add payment information and activate payments to use API keys. Refer to the [Prerequisites](#prerequisites) section above for more information.

## mocean.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mocean credentials

description: Documentation for Mocean credentials. Use these credentials to authenticate Mocean in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Mocean credentials

You can use these credentials to authenticate the following nodes:

- [Mocean](/integrations/builtin/app-nodes/n8n-nodes-base.mocean.md)

## Prerequisites

Create a [Mocean](https://moceanapi.com/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Mocean's API documentation](https://moceanapi.com/docs/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

- An \*\*API Secret\*\*

Both the key and secret are accessible in your Mocean [Dashboard](https://dashboard.moceanapi.com/). Refer to [API Authentication](https://moceanapi.com/docs/#authentication){:target=\_blank .external-link} for more information.

## mondaycom.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: monday.com credentials

description: Documentation for monday.com credentials. Use these credentials to authenticate monday.com in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# monday.com credentials

You can use these credentials to authenticate the following nodes:

- [monday.com](/integrations/builtin/app-nodes/n8n-nodes-base.mondaycom.md)

/// info | Minimum required version

The monday.com node requires n8n version 1.22.6 or above.

///

## Supported authentication methods

- API token

- OAuth2

## Related resources

Refer to [monday.com's API documentation](https://developer.monday.com/api-reference/docs/basics){:target=\_blank .external-link} for more information about authenticating with the service.

## Using API token

To configure this credential, you'll need a [monday.com](https://monday.com/){:target=\_blank .external-link} account and:

- An API \*\*Token V2\*\*

To get your token:

1. In your monday.com account, select your profile picture in the top right corner.

2. Select \*\*Developers\*\*. The Developer Center opens in a new tab.

3. In the Developer Center, select \*\*My Access Tokens > Show\*\*.

4. Copy your personal token and enter it in your n8n credential as the \*\*Token V2\*\*.

Refer to [monday.com API Authentication](https://developer.monday.com/api-reference/docs/authentication){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need a [monday.com](https://monday.com/){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To generate both these fields, register a new monday.com application:

1. In your monday.com account, select your profile picture in the top right corner.

2. Select \*\*Developers\*\*. The Developer Center opens in a new tab.

3. In the Developer Center, select \*\*Build app\*\*. The app details open.

4. Enter a \*\*Name\*\* for your app, like `n8n integration`.

5. Copy the \*\*Client ID\*\* and enter it in your n8n credential.

6. \*\*Show\*\* the \*\*Client Secret\*\*, copy it, and enter it in your n8n credential.

7. In the left menu, select \*\*OAuth\*\*.

8. For \*\*Scopes\*\*, select `boards:write` and `boards:read`.

9. Select \*\*Save Scopes\*\*.

10. Select the \*\*Redirect URLs\*\* tab.

11. Copy the \*\*OAuth Redirect URL\*\* from n8n and enter it as the \*\*Redirect URL\*\*.

12. \*\*Save\*\* your changes in monday.com.

13. In n8n, select \*\*Connect my account\*\* to finish the setup.

Refer to [Create an app](https://developer.monday.com/apps/docs/create-an-app){:target=\_blank .external-link} for more information on creating apps.

Refer to [OAuth and permissions](https://developer.monday.com/apps/docs/oauth){:target=\_blank .external-link} for more information on the available scopes and setting up the Redirect URL.

## mongodb.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MongoDB credentials

description: Documentation for MongoDB credentials. Use these credentials to authenticate MongoDB in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# MongoDB credentials

You can use these credentials to authenticate the following nodes:

- [MongoDB](/integrations/builtin/app-nodes/n8n-nodes-base.mongodb.md)

- [MongoDB Atlas Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoremongodbatlas.md)

- [MongoDB Chat Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymongochat.md)

## Prerequisites

- Create a user account with the appropriate permissions on a [MongoDB](https://www.mongodb.com/){:target=\_blank .external-link} server.

- As a Project Owner, add all the [n8n IP addresses](/manage-cloud/cloud-ip.md) to the IP Access List Entries in the project's \*\*Network Access\*\*. Refer to [Add IP Access List entries](https://www.mongodb.com/docs/atlas/security/ip-access-list/#add-ip-access-list-entries){:target=\_blank .external-link} for detailed instructions.

If you are setting up MongoDB from scratch, create a cluster and a database. Refer to the [MongoDB Atlas documentation](https://www.mongodb.com/docs/atlas/){:target=\_blank .external-link} for more detailed instructions on these steps.

## Supported authentication methods

- Database connection - Connection string

- Database connection - Values

## Related resources

Refer to the [MongoDBs Atlas documentation](https://www.mongodb.com/docs/atlas/){:target=\_blank .external-link} for more information about the service.

## Using database connection - Connection string

To configure this credential, you'll need the [Prerequisites](#prerequisites) listed above. Then:

1. Select \*\*Connection String\*\* as the \*\*Configuration Type\*\*.

2. Enter your MongoDB \*\*Connection String\*\*. To get your connection string in MongoDB, go to \*\*Database > Connect\*\*.

1. Select \*\*Drivers\*\*.

2. Copy the code you see in \*\*Add your connection string into your application code\*\*. It will be something like: `mongodb+srv://yourName:yourPassword@clusterName.mongodb.net/?retryWrites=true&w=majority`.

3. Replace the `<password>` and `<username>` in the connection string with the database user's credentials you'll be using.

4. Enter that connection string into n8n.

5. Refer to [Connection String](https://www.mongodb.com/docs/manual/reference/connection-string/){:target=\_blank .external-link} for information on finding and formatting your connection string.

3. Enter your \*\*Database\*\* name. This is the name of the database that the user whose details you added to the connection string is logging into.

4. Select whether to \*\*Use TLS\*\*: Turn on to use TLS. You must have your MongoDB database configured to use TLS and have an x.509 certificate generated. Add information for these certificate fields in n8n:

- \*\*CA Certificate\*\*

- \*\*Public Client Certificate\*\*

- \*\*Private Client Key\*\*

- \*\*Passphrase\*\*

Refer to [MongoDB's x.509 documentation](https://www.mongodb.com/docs/manual/core/security-x.509/#std-label-client-x509-certificates-requirements) for more information on working with x.509 certificates.

## Using database connection - Values

To configure this credential, you'll need the [Prerequisites](#prerequisites) listed above. Then:

1. Select \*\*Values\*\* as the \*\*Configuration Type\*\*.

2. Enter the database \*\*Host\*\* name or address.

3. Enter the \*\*Database\*\* name.

4. Enter the \*\*User\*\* you'd like to log in as.

5. Enter the user's \*\*Password\*\*.

6. Enter the \*\*Port\*\* to connect over. This is the port number your server uses to listen for incoming connections.

7. Select whether to \*\*Use TLS\*\*: Turn on to use TLS. You must have your MongoDB database configured to use TLS and have an x.509 certificate generated. Add information for these certificate fields in n8n:

- \*\*CA Certificate\*\*

- \*\*Public Client Certificate\*\*

- \*\*Private Client Key\*\*

- \*\*Passphrase\*\*

Refer to [MongoDB's x.509 documentation](https://www.mongodb.com/docs/manual/core/security-x.509/#std-label-client-x509-certificates-requirements) for more information on working with x.509 certificates.

## monicacrm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Monica CRM credentials

description: Documentation for Monica CRM credentials. Use these credentials to authenticate Monica CRM in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Monica CRM credentials

You can use these credentials to authenticate the following nodes:

- [Monica CRM](/integrations/builtin/app-nodes/n8n-nodes-base.monicacrm.md)

## Prerequisites

Sign up for a [Monica CRM](https://www.monicahq.com/){:target=\_blank .external-link} account or self-host an instance.

## Supported authentication methods

- API token

## Related resources

Refer to [Monica's API documentation](https://www.monicahq.com/api){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- Your \*\*Environment\*\*:

- Select \*\*Cloud-Hosted\*\* if you access your Monica instance through Monica.

- Select \*\*Self-Hosted\*\* if you have self-hosted Monica on your own server. Provide your \*\*Self-Hosted Domain\*\*.

- An \*\*API Token\*\*: Generate a token in \*\*Settings > API\*\*.

## motorhead.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Motorhead credentials

description: Documentation for the Motorhead credentials. Use these credentials to authenticate Motorhead in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Motorhead credentials

You can use these credentials to authenticate the following nodes:

\* [Motorhead](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorymotorhead.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Motorhead's API documentation](https://docs.getmetal.io/rest-api/introduction){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need a [Motorhead](https://www.metal.ai/){:target=\_blank .external-link} account and:

- Your \*\*Host\*\* URL

- An \*\*API Key\*\*

- A \*\*Client ID\*\*

To set it up, you'll generate an API key:

1. If you're self-hosting Motorhead, update the \*\*Host\*\* URL to match your Motorhead URL.

2. In Motorhead, go to [\*\*Settings > Organization\*\*](https://app.getmetal.io/settings/organization){:target=\_blank .external-link}.

3. In the \*\*API Keys\*\* section, select \*\*Create\*\*.

4. Enter a \*\*Name\*\* for your API Key, like `n8n integration`.

5. Select \*\*Generate\*\*.

6. Copy the \*\*apiKey\*\* and enter it in your n8n credential.

7. Return to the API key list.

8. Copy the \*\*clientID\*\* for the key and enter it as the \*\*Client ID\*\* in your n8n credential.

Refer to [Generate an API key](https://docs.getmetal.io/guides/misc-get-keys){:target=\_blank .external-link} for more information.

## mqtt.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MQTT credentials

description: Documentation for MQTT credentials. Use these credentials to authenticate MQTT in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# MQTT credentials

You can use these credentials to authenticate the following nodes:

- [MQTT](/integrations/builtin/app-nodes/n8n-nodes-base.mqtt.md)

- [MQTT Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.mqtttrigger.md)

## Prerequisites

Install an [MQTT broker](https://mqtt.org/){:target=\_blank .external-link}.

MQTT provides a list of Servers/Brokers at [MQTT Software](https://mqtt.org/software/){:target=\_blank .external-link}.

## Supported authentication methods

- Broker connection

## Related resources

Refer to [MQTT's documentation](https://mqtt.org/){:target=\_blank .external-link} for more information about the MQTT protocol.

Refer to your broker provider's documentation for more detailed configuration and details.

## Using broker connection

To configure this credential, you'll need:

- Your MQTT broker's \*\*Protocol\*\*

- The \*\*Host\*\*

- The \*\*Port\*\*

- A \*\*Username\*\* and \*\*Password\*\* to authenticate with

- If you're using \*\*SSL\*\*, the relevant certificates and keys

To set things up:

1. Select the broker's \*\*Protocol\*\*, which determines the URL n8n uses. Options include:

- \*\*Mqtt\*\*: Begin the URL with the standard `mqtt:` protocol.

- \*\*Mqtts\*\*: Begin the URL with the secure `mqtts:` protocol.

- \*\*Ws\*\*: Begin the URL with the WebSocket `ws:` protocol.

2. Enter your broker \*\*Host\*\*.

3. Enter the \*\*Port\*\* number n8n should use to connect to the broker host.

4. Enter the \*\*Username\*\* to log into the broker as.

5. Enter that user's \*\*Password\*\*.

6. If you want to receive QoS 1 and 2 messages while offline, turn off the \*\*Clean Session\*\* toggle.

7. Enter a \*\*Client ID\*\* you'd like the credential to use. If you leave this blank, n8n will generate one for you. You can use a fixed or expression-based Client ID.

- Client IDs can be useful to identify and track connection access. n8n recommends using something with `n8n` in it for easier auditing.

8. If your MQTT broker uses SSL, turn the \*\*SSL\*\* toggle on. Once you turn it on:

1. Select whether to use \*\*Passwordless\*\* connection with certificates, which is like the SASL mechanism EXTERNAL. If turned on:

1. Select whether to \*\*Reject Unauthorized Certificate\*\*: If turned off, n8n will connect even if the certificate validation fails.

2. Add an SSL \*\*Client Certificate\*\*.

3. Add an SSL \*\*Client Key\*\* for the Client Certificate.

2. One or more SSL \*\*CA Certificates\*\*.

Refer to your MQTT broker provider's documentation for more detailed configuration instructions.

## msg91.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MSG91 credentials

description: Documentation for MSG91 credentials. Use these credentials to authenticate MSG91 in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# MSG91 credentials

You can use these credentials to authenticate the following nodes:

- [MSG91](/integrations/builtin/app-nodes/n8n-nodes-base.msg91.md)

## Prerequisites

Create a [MSG91](https://msg91.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [MSG91's API documentation](https://docs.msg91.com/overview){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*Authentication Key\*\*: To get your Authentication Key, go to the user menu and select \*\*Authkey\*\*. Refer to MSG91's [Where can I find my authentication key? documentation](https://msg91.com/help/where-can-i-find-my-authentication-key){:target=\_blank .external-link} for more information.

## IP Security

MSG91 enables [IP Security](https://msg91.com/help/what-do-you-mean-by-api-security){:target=\_blank .external-link} by default for authkeys.

For the n8n credentials to function with this setting enabled, add all the [n8n IP addresses](/manage-cloud/cloud-ip.md) as whitelisted IPs in MSG91. You can add them in one of two places, depending on your desired security level:

- To allow any/all authkeys in the account to work with n8n, add the n8n IP addresses in the \*\*Company's whitelisted IPs\*\* section of the \*\*Authkey\*\* page.

- To allow only specific authkeys to work with n8n, add the n8n IP addresses in the \*\*Whitelisted IPs\*\* section of an authkey's details.

## mysql.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MySQL credentials

description: Documentation for MySQL credentials. Use these credentials to authenticate MySQL in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# MySQL credentials

You can use these credentials to authenticate the following nodes:

- [MySQL](/integrations/builtin/app-nodes/n8n-nodes-base.mysql/index.md)

- [Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md)

/// note | Agent node users

The Agent node doesn't support SSH tunnels.

///

## Prerequisites

Create a user account on a [MySQL](https://www.mysql.com/){:target=\_blank .external-link} server database.

## Supported authentication methods

- Database connection

## Related resources

Refer to [MySQL's documentation](https://dev.mysql.com/doc/refman/8.3/en/){:target=\_blank .external-link} for more information about the service.

## Using database connection

To configure this credential, you'll need:

- The server \*\*Host\*\*: The database's host name or IP address.

- The \*\*Database\*\* name.

- A \*\*User\*\* name.

- A \*\*Password\*\* for that user.

- The \*\*Port\*\* number used by the MySQL server.

- \*\*Connect Timeout\*\*: The number of milliseconds during the initial database connection before a timeout occurs.

- \*\*SSL\*\*: If your database is using SSL, turn this on and add details for the SSL certificate.

- \*\*SSH Tunnel\*\*: Choose whether to connect over an SSH tunnel. An SSH tunnel lets un-encrypted traffic pass over an encrypted connection and enables authorized remote access to servers protected from outside connections by a firewall.

To set up your database connection credential:

1. Enter your database's hostname as the \*\*Host\*\* in your n8n credential. Run this query to confirm the hostname:

```

SHOW VARIABLES WHERE Variable\_name = 'hostname';

```

2. Enter your database's name as the \*\*Database\*\* in your n8n credential. Run this query to confirm the database name:

```

SHOW DATABASES;

```

3. Enter the username of a \*\*User\*\* in the database. This user should have appropriate permissions for whatever actions you want n8n to perform.

4. Enter the \*\*Password\*\* for that user.

5. Enter the \*\*Port\*\* number used by the MySQL server (default is `3306`). Run this query to confirm the port number:

```

SHOW VARIABLES WHERE Variable\_name = 'port';

```

6. Enter the \*\*Connect Timeout\*\* you'd like the node to use. The Connect Timeout is the number of milliseconds during the initial database connection the node should wait before timing out. n8n defaults to `10000` which is the default used by MySQL of 10 seconds. If you want to match your database's `connect\_timeout`, run this query to get it, then multiply by 1000 before entering it in n8n:

```

SHOW VARIABLES WHERE Variable\_name = 'connect\_timeout';

```

7. If your database uses SSL and you'd like to use \*\*SSL\*\* for the connection, turn this option on in the credential. If you turn it on, enter the information from your MySQL SSL certificate in these fields:

1. Enter the `ca.pem` file contents in the \*\*CA Certificate\*\* field.

2. Enter the `client-key.pem` file contents in the \*\*Client Private Key\*\* field.

3. Enter the `client-cert.pem` file contents in the \*\*Client Certificate\*\* field.

8. If you want to use \*\*SSH Tunnel\*\* for the connection, turn this option on in the credential. Otherwise, skip it. If you turn it on:

1. Select the \*\*SSH Authenticate with\*\* to set the SSH Tunnel type to build:

- Select \*\*Password\*\* if you want to connect to SSH using a password.

- Select \*\*Private Key\*\* if you want to connect to SSH using an identity file (private key) and a passphrase.

2. Enter the \*\*SSH Host\*\*. n8n uses this host to create the SSH URI formatted as: `[user@]host:port`.

3. Enter the \*\*SSH Port\*\*. n8n uses this port to create the SSH URI formatted as: `[user@]host:port`.

4. Enter the \*\*SSH User\*\* to connect with. n8n uses this user to create the SSH URI formatted as: `[user@]host:port`.

5. If you selected \*\*Password\*\* for \*\*SSH Authenticate with\*\*, add the \*\*SSH Password\*\*.

6. If you selected \*\*Private Key\*\* for \*\*SSH Authenticate with\*\*:

1. Add the contents of the \*\*Private Key\*\* or identity file used for SSH. This is the same as using the `ssh-identity-file` option with the `shell-connect()` command in MySQL.

2. If the \*\*Private Key\*\* was created with a passphrase, enter that \*\*Passphrase\*\*. This is the same as using the `ssh-identity-pass` option with the `shell-connect()` command in MySQL. If the \*\*Private Key\*\* has no passphrase, leave this field blank.

Refer to [MySQL | Creating SSL and RSA Certificates and Keys](https://dev.mysql.com/doc/refman/8.0/en/creating-ssl-rsa-files.html){:target=\_blank .external-link} for more information on working with SSL certificates in MySQL. Refer to [MySQL | Using an SSH Tunnel](https://dev.mysql.com/doc/mysql-shell/8.0/en/mysql-shell-connection-ssh.html){:target=\_blank .external-link} for more information on working with SSH tunnels in MySQL.

## nasa.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: NASA credentials

description: Documentation for NASA credentials. Use these credentials to authenticate NASA in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# NASA credentials

You can use these credentials to authenticate the following nodes:

- [NASA](/integrations/builtin/app-nodes/n8n-nodes-base.nasa.md)

## Supported authentication methods

- API key

## Related resources

Refer to the \*\*Browse APIs\*\* section of the [NASA Open APIs](https://api.nasa.gov/){:target=\_blank .external-link} for more information about the service.

## Using an API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

To generate an API key:

1. Go to the [NASA Open APIs](https://api.nasa.gov/){:target=\_blank .external-link} page.

2. Complete the fields in the \*\*Generate API Key\*\* section.

3. Copy the \*\*API Key\*\* and enter it in your n8n credential.

## netlify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Netlify credentials

description: Documentation for Netlify credentials. Use these credentials to authenticate Netlify in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Netlify credentials

You can use these credentials to authenticate the following nodes:

- [Netlify](/integrations/builtin/app-nodes/n8n-nodes-base.netlify.md)

- [Netlify Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.netlifytrigger.md)

## Prerequisites

Create a [Netlify](https://netlify.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [Netlify's API documentation](https://docs.netlify.com/api/get-started/){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An \*\*Access Token\*\*: Generate an Access Token in \*\*Applications > Personal Access Tokens\*\*. Refer to [Netlify API Authentication](https://docs.netlify.com/api/get-started/#authentication){:target=\_blank .external-link} for more detailed instructions.

## netscaleradc.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Netscaler ADC credentials

description: Documentation for Netscaler ADC credentials. Use these credentials to authenticate Netscaler ADC in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Netscaler ADC credentials

You can use these credentials to authenticate the following nodes:

\* [Netscaler ADC node](/integrations/builtin/app-nodes/n8n-nodes-base.netscaleradc.md)

## Prerequisites

Install a [NetScaler/Citrix ADC appliance](https://docs.netscaler.com/en-us/citrix-adc/current-release/getting-started-with-citrix-adc){:target=\_blank .external-link}.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Netscaler ADC's 14.1 NITRO API documentation](https://developer-docs.netscaler.com/en-us/adc-nitro-api/current-release){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

\* A \*\*URL\*\*: Enter the URL of your NetScaler/Citrix ADC instance.

\* A \*\*Username\*\*: Enter your NetScaler/Citrix ADC username.

\* A \*\*Password\*\*: Enter your NetScaler/Citrix ADC password.

Refer to [Performing Basic Netscaler ADC Operations](https://developer-docs.netscaler.com/en-us/adc-nitro-api/current-release/performing-basic-netscaler-operations){:target=\_blank .external-link} for more information.

## nextcloud.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Nextcloud credentials

description: Documentation for Nextcloud credentials. Use these credentials to authenticate Nextcloud in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Nextcloud credentials

You can use these credentials to authenticate the following nodes:

- [Nextcloud](/integrations/builtin/app-nodes/n8n-nodes-base.nextcloud.md)

## Supported authentication methods

- Basic auth

- OAuth2

## Related resources

Refer to [Nextcloud's API documentation](https://nextcloud-server.netlify.app/){:target=\_blank .external-link} for more information about the service.

Refer to [Nextcloud's user manual](https://docs.nextcloud.com/server/stable/user\_manual/en/contents.html){:target=\_blank .external-link} for more information on installing and configuring Nextcloud.

## Using basic auth

To configure this credential, you'll need a [Nextcloud](https://nextcloud.com/){:target=\_blank .external-link} account and:

- Your \*\*Web DAV URL\*\*

- Your \*\*User\*\* name

- Your \*\*Password\*\* or an app password

To set it up:

1. To create your \*\*Web DAV URL\*\*: If Nextcloud is in the root of your domain: Enter the URL you use to access Nextcloud and add `/remote.php/webdav/`. For example, if you access Nextcloud at `https://cloud.n8n.com`, your WebDAV URL is `https://cloud.n8n.com/remote.php/webdav`.

- If you have Nextcloud installed in a subdirectory, enter the URL you use to access Nextcloud and add `/<subdirectory>/remote.php/webdav/`. Replace `<subdirectory>` with the subdirectory Nextcloud's installed in.

- Refer to Nextcloud's [Third-party WebDAV clients](https://docs.nextcloud.com/server/stable/user\_manual/en/files/access\_webdav.html#third-party-webdav-clients){:target=\_blank .external-link} documentation for more information on constructing your WebDAV URL.

2. Enter your \*\*User\*\* name.

3. For the \*\*Password\*\*, Nextcloud recommends using an app password rather than your user password. To create an app password:

1. In the Nextcloud Web interface, select your avatar in the top right and select \*\*Personal settings\*\*.

2. In the left menu, choose \*\*Security\*\*.

3. Scroll to the bottom to the \*\*App Password\*\* section and create a new app password.

4. Copy that app password and enter it in n8n as your \*\*Password\*\*.

## Using OAuth2

To configure this credential, you'll need a [Nextcloud](https://nextcloud.com/){:target=\_blank .external-link} account and:

- An \*\*Authorization URL\*\* and \*\*Access Token URL\*\*: These depend on the URL you use to access Nextcloud.

- A \*\*Client ID\*\*: Generated once you add an OAuth2 client application in \*\*Administrator Security Settings\*\*.

- A \*\*Client Secret\*\*: Generated once you add an OAuth2 client application in \*\*Administrator Security Settings\*\*.

- A \*\*Web DAV URL\*\*: This depends on the URL you use to access Nextcloud.

To set it up:

1. In Nextcloud, open your \*\*Administrator Security Settings\*\*.

2. Find the \*\*Add client\*\* section under \*\*OAuth 2.0 clients\*\*.

3. Enter a \*\*Name\*\* for your client, like `n8n integration`.

4. Copy the \*\*OAuth Callback URL\*\* from n8n and enter it as the \*\*Redirection URI\*\*.

5. Then select \*\*Add\*\* in Nextcloud.

6. In n8n, update the \*\*Authorization URL\*\* to replace `https://nextcloud.example.com` with the URL you use to access Nextcloud. For example, if you access Nextcloud at `https://cloud.n8n.com`, the Authorization URL is `https://cloud.n8n.com/apps/oauth2/authorize`.

7. In n8n, update the \*\*Access Token URL\*\* to replace `https://nextcloud.example.com` with the URL you use to access Nextcloud. For example, if you access Nextcloud at `https://cloud.n8n.com`, the Access Token URL is `https://cloud.n8n.com/apps/oauth2/api/v1/token`.

/// note | Pretty URL configuration

The \*\*Authorization URL\*\* and \*\*Access Token URL\*\* assume that you've configured Nextcloud to use [Pretty URLs](https://docs.nextcloud.com/server/latest/admin\_manual/installation/source\_installation.html#pretty-urls){:target=\_blank .external-link}. If you haven't, you must add `/index.php/` between your Nextcloud URL and the `/apps/oauth2` portion, for example: `https://cloud.n8n.com/index.php/apps/oauth2/api/v1/token`.

///

8. Copy the Nextcloud \*\*Client Identifier\*\* for your OAuth2 client and enter it as the \*\*Client ID\*\* in n8n.

9. Copy the Nextcloud \*\*Secret\*\* and enter it as the \*\*Client Secret\*\* in n8n.

10. In n8n, to create your \*\*Web DAV URL\*\*: If Nextcloud is in the root of your domain, enter the URL you use to access Nextcloud and add `/remote.php/webdav/`. For example, if you access Nextcloud at `https://cloud.n8n.com`, your WebDAV URL is `https://cloud.n8n.com/remote.php/webdav`.

- If you have Nextcloud installed in a subdirectory, enter the URL you use to access Nextcloud and add `/<subdirectory>/remote.php/webdav/`. Replace `<subdirectory>` with the subdirectory Nextcloud's installed in.

- Refer to Nextcloud's [Third-party WebDAV clients](https://docs.nextcloud.com/server/stable/user\_manual/en/files/access\_webdav.html#third-party-webdav-clients){:target=\_blank .external-link} documentation for more information on constructing your WebDAV URL.

Refer to the Nextcloud [OAuth2 Configuration documentation](https://docs.nextcloud.com/server/latest/admin\_manual/configuration\_server/oauth2.html){:target=\_blank .external-link} for more detailed instructions.

## nocodb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: NocoDB credentials

description: Documentation for NocoDB credentials. Use these credentials to authenticate NocoDB in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# NocoDB credentials

You can use these credentials to authenticate the following nodes:

- [NocoDB](/integrations/builtin/app-nodes/n8n-nodes-base.nocodb.md)

## Supported authentication methods

- API token (recommended)

- User auth token

/// note | User auth token deprecation

NocoDB deprecated user auth tokens in v0.205.1. Use [API tokens](#using-api-token) instead.

///

## Related resources

Refer to [NocoDB's API documentation](https://data-apis-v2.nocodb.com/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need a [NocoDB](https://www.nocodb.com/){:target=\_blank .external-link} instance and:

- An \*\*API Token\*\*

- Your database \*\*Host\*\*

To generate an API token:

1. Log into NocoDB and select the \*\*User menu\*\* in the bottom left sidebar.

2. Select \*\*Account Settings\*\*.

3. Open the \*\*Tokens\*\* tab.

4. Select \*\*Add new API token\*\*.

5. Enter a \*\*Name\*\* for your token, like `n8n integration`.

6. Select \*\*Save\*\*.

7. Copy the \*\*API Token\*\* and enter it in your n8n credential.

8. Enter the \*\*Host\*\* of your NocoDB instance in your n8n credential, for example `http://localhost:8080`.

Refer to the NocoDB [API Tokens documentation](https://docs.nocodb.com/account-settings/api-tokens/){:target=\_blank .external-link} for more detailed instructions.

## Using user auth token

Before NocoDB deprecated it, user auth token was a temporary token designed for quick experiments with the API, valid for a session until the user logs out or for 10 hours.

/// note | User auth token deprecation

NocoDB deprecated user auth tokens in v0.205.1. Use [API tokens](#using-api-token) instead.

///

To configure this credential, you'll need a [NocoDB](https://www.nocodb.com/){:target=\_blank .external-link} instance and:

- A \*\*User Token\*\*

- Your database \*\*Host\*\*

To generate a user auth token:

1. Log into NocoDB and select the \*\*User menu\*\* in the bottom left sidebar.

2. Select \*\*Copy Auth token\*\*.

3. Enter that auth token as the \*\*User Token\*\* in n8n.

4. Enter the \*\*Host\*\* of your NocoDB instance, for example `http://localhost:8080`.

Refer to the NocoDB [Auth Tokens documentation](https://docs.nocodb.com/account-settings/api-tokens/#auth-tokens){:target=\_blank .external-link} for more information.

## notion.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Notion credentials

description: Documentation for Notion credentials. Use these credentials to authenticate Notion in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Notion credentials

You can use these credentials to authenticate the following nodes:

- [Notion](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md)

- [Notion Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.notiontrigger.md)

## Prerequisites

Create a [Notion](https://notion.so){:target=\_blank .external-link} account with admin level access.

## Supported authentication methods

- API integration token: Used for internal integrations.

- OAuth2: Used for public integrations.

/// note | Integration type

Not sure which integration type to use? Refer to [Internal vs. public integrations](#internal-vs-public-integrations) below for more information.

///

## Related resources

Refer to [Notion's API documentation](https://developers.notion.com/reference/intro){:target=\_blank .external-link} for more information about the service.

## Using API integration token

To configure this credential, you'll need:

- An \*\*Internal Integration Secret\*\*: Generated once you create a Notion integration.

To generate an integration secret, [create a Notion integration](https://developers.notion.com/docs/create-a-notion-integration#create-your-integration-in-notion){:target=\_blank .external-link} and grab the integration secret from the \*\*Secrets\*\* tab:

1. Go to your Notion [integration dashboard](https://www.notion.com/my-integrations){:target=\_blank .external-link}.

2. Select the \*\*+ New integration\*\* button.

3. Enter a \*\*Name\*\* for your integration, for example `n8n integration`. If desired, add a \*\*Logo\*\*.

4. Select \*\*Submit\*\* to create your integration.

5. Open the \*\*Capabilities\*\* tab. Select these capabilities:

- `Read content`

- `Update content`

- `Insert content`

- `User information without email addresses`

6. Be sure to \*\*Save changes\*\*.

7. Select the \*\*Secrets\*\* tab.

8. Copy the \*\*Internal Integration Token\*\* and add it as your n8n \*\*Internal Integration Secret\*\*.

Refer to the [Internal integration auth flow setup documentation](https://developers.notion.com/docs/authorization#internal-integration-auth-flow-set-up){:target=\_blank .external-link} for more information about authenticating to the service.

### Share Notion page(s) with the integration

For your integration to interact with Notion, you must [give your integration page permission](https://developers.notion.com/docs/create-a-notion-integration#give-your-integration-page-permissions){:target=\_blank .external-link} to interact with page(s) in your Notion workspace:

1. Visit the page in your Notion workspace.

2. Select the triple dot menu at the top right of a page.

3. In \*\*Connections\*\*, select \*\*Connect to\*\*.

4. Use the search bar to find and select your integration from the dropdown list.

Once you share at least one page with the integration, you can start making API requests. If the page isn't shared, any API requests made will respond with an error.

Refer to [Integration permissions](https://developers.notion.com/docs/authorization#integration-permissions){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated once you configure a public integration.

- A \*\*Client Secret\*\*: Generated once you configure a public integration.

You must [create a Notion integration](https://developers.notion.com/docs/create-a-notion-integration#create-your-integration-in-notion){:target=\_blank .external-link} and set it to public distribution:

1. Go to your Notion [integration dashboard](https://www.notion.so/my-integrations){:target=\_blank .external-link}.

2. Select the \*\*+ New integration\*\* button.

3. Enter a \*\*Name\*\* for your integration, for example `n8n integration`. If desired, add a \*\*Logo\*\*.

4. Select \*\*Submit\*\* to create your integration.

5. Open the \*\*Capabilities\*\* tab. Select these capabilities:

- `Read content`

- `Update content`

- `Insert content`

- `User information without email addresses`

6. Select \*\*Save changes\*\*.

7. Go to the \*\*Distribution\*\* tab.

8. Turn on the \*\*Do you want to make this integration public?\*\* control.

9. Enter your company name and website in the \*\*Organization Information\*\* section.

10. Copy the n8n \*\*OAuth Redirect URL\*\* and add it to as a \*\*Redirect URI\*\* in the Notion integration's \*\*OAuth Domain & URLs\*\* section.

11. Go to the \*\*Secrets\*\* tab.

12. Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* and add them to your n8n credential.

Refer to Notion's [public integration auth flow setup](https://developers.notion.com/docs/authorization#public-integration-auth-flow-set-up){:target=\_blank .external-link} for more information about authenticating to the service.

## Internal vs. public integrations

\*\*Internal\*\* integrations are:

\* Specific to a single workspace.

\* Accessible only to members of that workspace.

\* Ideal for custom workspace enhancements.

Internal integrations use a simpler authentication process (the integration secret) and don't require any security review before publishing.

\*\*Public\*\* integrations are:

\* Usable across multiple, unrelated Notion workspaces.

\* Accessible by any Notion user, regardless of their workspace.

\* Ideal for catering to broad use cases.

Public integrations use the OAuth 2.0 protocol for authentication. They require a Notion security review before publishing.

For a more detailed breakdown of the two integration types, refer to Notion's [Internal vs. Public Integrations documentation](https://developers.notion.com/docs/getting-started#internal-vs-public-integrations){:target=\_blank .external-link}.

## npm.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: npm credentials

description: Documentation for the npm credentials. Use these credentials to authenticate npm in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# npm credentials

You can use these credentials to authenticate the following nodes:

- [npm](/integrations/builtin/app-nodes/n8n-nodes-base.npm.md)

## Prerequisites

Create an [npm](https://www.npmjs.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [npm's external integrations documentation](https://docs.npmjs.com/integrations/integrating-npm-with-external-services){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An \*\*Access Token\*\*: Create an access token by selecting \*\*Access Tokens\*\* from your profile menu. Refer to [npm's Creating and viewing access tokens documentation](https://docs.npmjs.com/creating-and-viewing-access-tokens){:target=\_blank .external-link} for more detailed instructions.

- A \*\*Registry URL\*\*: If you're using a custom npm registry, update the \*\*Registry URL\*\* to that custom registry. Otherwise, keep the public registry value.

## odoo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Odoo credentials

description: Documentation for Odoo credentials. Use these credentials to authenticate Odoo in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Odoo credentials

You can use these credentials to authenticate the following nodes:

- [Odoo](/integrations/builtin/app-nodes/n8n-nodes-base.odoo.md)

## Supported authentication methods

- API key (Recommended)

- Password

## Related resources

Refer to [Odoo's External API documentation](https://www.odoo.com/documentation/17.0/developer/reference/external\_api.html){:target=\_blank .external-link} for more information about the service.

Refer to the Odoo [Getting Started tutorial](https://www.odoo.com/slides/getting-started-15){:target=\_blank .external-link} if you're new to Odoo.

## Using API key

To configure this credential, you'll need a user account on an [Odoo](https://www.odoo.com/){:target=\_blank .external-link} database and:

- Your \*\*Site URL\*\*

- Your \*\*Username\*\*

- An \*\*API key\*\*

- Your \*\*Database name\*\*

To set up the credential with an API key:

1. Enter your Odoo server or site URL as the \*\*Site URL\*\*.

2. Enter your \*\*Username\*\* as it's displayed on your \*\*Change password\*\* screen in Odoo.

4. To use an API key, go to \*\*Your Profile > Preferences > Account Security > Developer API Keys\*\*.

- If you don't have this option, you may need to upgrade your Odoo plan. Refer to [Required plan type](#required-plan-type) for more information.

5. Select \*\*New API Key\*\*.

6. Enter a \*\*Description\*\* for the key, like `n8n integration`.

7. Select \*\*Generate Key\*\*.

8. Copy the key and enter it as the \*\*Password or API key\*\* in your n8n credential.

9. Enter your Odoo \*\*Database name\*\*, also known as the instance name.

Refer to [Odoo API Keys](https://www.odoo.com/documentation/15.0/developer/reference/external\_api.html?#api-keys){:target=\_blank .external-link} for more information.

## Using password

To configure this credential, you'll need a user account on an [Odoo](https://www.odoo.com/){:target=\_blank .external-link} database and:

- Your \*\*Site URL\*\*

- Your \*\*Username\*\*

- Your \*\*Password\*\*

- Your \*\*Database name\*\*

To set up the credential with a password:

1. Enter your Odoo server or site URL as the \*\*Site URL\*\*.

2. Enter your \*\*Username\*\* as it's displayed on your \*\*Change password\*\* screen in Odoo.

3. To use a password, enter your user password in the \*\*Password or API key\*\* field.

4. Enter your Odoo \*\*Database name\*\*, also known as the instance name.

/// note | Password compatibility

If you try a password credential and it doesn't work for a specific node function, try switching to an API key. Odoo requires an API key for certain modules or based on certain settings.

///

## Required plan type

/// note | Required plan type

Access to the external API is only available on a \*\*Custom\*\* Odoo plan. (The One App Free or Standard plans won't give you access.)

Refer to [Odoo Pricing Plans](https://www.odoo.com/pricing-plan){:target=\_blank .external-link} for more information.

///

## okta.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Okta credentials

description: Documentation for the Okta credentials. Use these credentials to authenticate Okta in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Okta credentials

You can use these credentials to authenticate the following nodes:

- [Okta](/integrations/builtin/app-nodes/n8n-nodes-base.okta.md)

## Prerequisites

Create an [Okta free trial](https://www.okta.com/free-trial/){:target=\_blank .external-link} or create an admin account on an existing Okta org.

## Supported authentication methods

- SSWS API Access token

## Related resources

Refer to [Okta's documentation](https://developer.okta.com/docs/reference/){:target=\_blank .external-link} for more information about the service.

## Using SSWS API access token

To configure this credential, you'll need:

- The \*\*URL\*\*: The base URL of your Okta org, also referred to as your unique subdomain. There are two quick ways to access it:

1. In the Admin Console, select your \*\*Profile\*\*, hover over the domain listed below your username, and select the \*\*Copy\*\* icon. Paste this into n8n, but be sure to add `https://` before it.

2. Copy the base URL of your Admin Console URL, for example `https://dev-123456-admin.okta.com`. Paste it into n8n and remove `-admin`, for example: `https://dev-123456.okta.com`.

- An \*\*SSWS Access Token\*\*: Create a token by going to \*\*Security > API > Tokens > Create token\*\*. Refer to [Create Okta API tokens](https://help.okta.com/en-us/content/topics/security/api.htm?cshid=ext-create-api-token#create-okta-api-token){:target=\_blank .external-link} for more information.

## ollama.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Ollama credentials

description: Documentation for the Ollama credentials. Use these credentials to authenticate Ollama in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

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# Ollama credentials

You can use these credentials to authenticate the following nodes:

\* [Ollama](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmollama/index.md)

\* [Chat Ollama](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatollama/index.md)

\* [Embeddings Ollama](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsollama.md)

## Prerequisites

Create and run an [Ollama](https://ollama.com/){:target=\_blank .external-link} instance with one user. Refer to the Ollama [Quick Start](https://github.com/ollama/ollama/blob/main/README.md#quickstart){:target=\_blank .external-link} for more information.

## Supported authentication methods

- Instance URL

## Related resources

Refer to [Ollama's API documentation](https://github.com/ollama/ollama/blob/main/docs/api.md){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using instance URL

To configure this credential, you'll need:

- The \*\*Base URL\*\* of your Ollama instance.

The default \*\*Base URL\*\* is `http://localhost:11434`, but if you've set the `OLLAMA\_HOST` environment variable, enter that value. If you have issues connecting to a local n8n server, try `127.0.0.1` instead of `localhost`.

Refer to [How do I configure Ollama server?](https://github.com/ollama/ollama/blob/main/docs/faq.md#how-do-i-configure-ollama-server){:target=\_blank .external-link} for more information.

### Ollama and self-hosted n8n

If you're self-hosting n8n on the same machine as Ollama, you may run into issues if they're running in different containers.

For this setup, open a specific port for n8n to communicate with Ollama by setting the `OLLAMA\_ORIGINS` variable or adjusting `OLLAMA\_HOST` to an address the other container can access.

Refer to Ollama's [How can I allow additional web origins to access Ollama?](https://github.com/ollama/ollama/blob/main/docs/faq.md#how-can-i-allow-additional-web-origins-to-access-ollama){:target=\_blank .external-link} for more information.

## onesimpleapi.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: One Simple API credentials

description: Documentation for One Simple API credentials. Use these credentials to authenticate One Simple API in n8n, a workflow automation platform.

contentType: [integration, reference]

---

<!-- vale off -->

<!-- Not adding 'Simple' to accept.txt but can't really get away from it here -->

# One Simple API credentials

You can use these credentials to authenticate the following nodes:

- [One Simple API](/integrations/builtin/app-nodes/n8n-nodes-base.onesimpleapi.md)

## Prerequisites

Create a [One Simple API](https://onesimpleapi.com/register){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

## Related resources

Refer to [One Simple API's documentation](https://onesimpleapi.com/docs){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*API token\*\*: Create a new API token on the [API Tokens](https://onesimpleapi.com/user/api-tokens) page. Be sure you select appropriate permissions for the token.

You can also access the API Tokens page by selecting your \*\*Profile > API Tokens\*\*.

<!-- vale on -->

## onfleet.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Onfleet credentials

description: Documentation for Onfleet credentials. Use these credentials to authenticate Onfleet in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Onfleet credentials

You can use these credentials to authenticate the following nodes:

- [Onfleet](/integrations/builtin/app-nodes/n8n-nodes-base.onfleet.md)

- [Onfleet Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.onfleettrigger.md)

## Prerequisites

Create an [Onfleet](https://onfleet.com/){:target=\_blank .external-link} administrator account.

# Supported authentication methods

- API key

## Related resources

Refer to [Onfleet's API documentation](https://docs.onfleet.com/reference/introduction){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API key\*\*: To create an API key, log into your organization's administrator account. Select \*\*Settings > API & Webhooks\*\*, then select \*\*+\*\* to create a new key. Refer to Onfleet's [Creating an API key documentation](https://support.onfleet.com/hc/en-us/articles/360045763292-API) for more information.

## openai.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenAI credentials

description: Documentation for OpenAI credentials. Use these credentials to authenticate OpenAI in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# OpenAI credentials

You can use these credentials to authenticate the following nodes:

- [OpenAI](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md)

- [Chat OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/index.md)

- [Embeddings OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.embeddingsopenai.md)

- [LM OpenAI](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenai/index.md)

## Prerequisites

Create an [OpenAI](https://platform.openai.com/signup/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [OpenAI's API documentation](https://platform.openai.com/docs/introduction){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

- An \*\*Organization ID\*\*: Required if you belong to multiple organizations; otherwise, leave this blank.

To generate your API Key:

1. Login to your OpenAI account or [create](https://platform.openai.com/signup/){:target=\_blank .external-link} an account.

2. Open your [API keys](https://platform.openai.com/api-keys){:target=\_blank .external-link} page.

3. Select \*\*Create new secret key\*\* to create an API key, optionally naming the key.

4. Copy your key and add it as the \*\*API Key\*\* in n8n.

Refer to the [API Quickstart Account Setup documentation](https://platform.openai.com/docs/quickstart/account-setup){:target=\_blank .external-link} for more information.

To find your Organization ID:

1. Go to your [Organization Settings](https://platform.openai.com/account/organization){:target=\_blank .external-link} page.

2. Copy your Organization ID and add it as the \*\*Organization ID\*\* in n8n.

Refer to [Setting up your organization](https://platform.openai.com/docs/guides/production-best-practices/setting-up-your-organization){:target=\_blank .external-link} for more information. Note that API requests made using an Organization ID will count toward the organization's subscription quota.

## opencti.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenCTI credentials

description: Documentation for the OpenCTI credentials. Use these credentials to authenticate OpenCTI in n8n, a workflow automation platform.

contentType: [integration, reference]

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# OpenCTI credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create an [OpenCTI](https://filigran.io/solutions/open-cti/){:target=\_blank .external-link} developer account.

## Authentication methods

- API key

## Related resources

Refer to [OpenCTI's documentation](https://docs.opencti.io/latest/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/opencti/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To get your API key, go to your \*\*Profile > API access\*\*. Refer to the OpenCTI [Integrations Authentication documentation](https://docs.opencti.io/latest/deployment/integrations/#authentication){:target=\_blank .external-link} for more information.

## openrouter.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenRouter credentials

description: Documentation for OpenRouter credentials. Use these credentials to authenticate OpenRouter in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# OpenRouter credentials

You can use these credentials to authenticate the following nodes:

- [Chat OpenRouter](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatopenrouter.md)

## Prerequisites

Create a [OpenRouter](https://openrouter.ai/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [OpenRouter's API documentation](https://openrouter.ai/docs/quick-start) for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

To generate your API Key:

1. Login to your OpenRouter account or [create](https://openrouter.ai/) an account.

2. Open your [API keys](https://openrouter.ai/keys) page.

3. Select \*\*Create new secret key\*\* to create an API key, optionally naming the key.

4. Copy your key and add it as the \*\*API Key\*\* in n8n.

Refer to the [OpenRouter Quick Start](https://openrouter.ai/docs/quick-start) page for more information.

## openweathermap.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: OpenWeatherMap credentials

description: Documentation for OpenWeatherMap credentials. Use these credentials to authenticate OpenWeatherMap in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# OpenWeatherMap credentials

You can use these credentials to authenticate the following nodes:

- [OpenWeatherMap](/integrations/builtin/app-nodes/n8n-nodes-base.openweathermap.md)

## Supported authentication methods

- API access token

## Related resources

Refer to [OpenWeatherMap's API documentation](https://openweathermap.org/api){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need an [OpenWeatherMap](https://openweathermap.org/){:target=\_blank .external-link} account and:

- An \*\*Access Token\*\*

To get your \*\*Access Token\*\*:

1. After you verify your email address, OpenWeatherMap includes an \*\*API Key\*\* in your welcome email.

2. Copy that key and enter it in your n8n credential.

If you'd prefer to create a new key:

1. To create a new key, go to \*\*Account >\*\* [\*\*API Keys\*\*](https://home.openweathermap.org/api\_keys){:target=\_blank .external-link}.

2. In the \*\*Create Key\*\* section, enter an \*\*API Key Name\*\*, like `n8n integration`.

3. Select \*\*Generate\*\* to generate your key.

4. Copy the generated key and enter it in your n8n credential.

## oura.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Oura credentials

description: Documentation for Oura credentials. Use these credentials to authenticate Oura in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Oura credentials

You can use these credentials to authenticate the following nodes:

- [Oura](/integrations/builtin/app-nodes/n8n-nodes-base.oura.md)

## Prerequisites

Create an [Oura](https://ouraring.com/developer){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [Oura's API documentation](https://cloud.ouraring.com/v2/docs){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- A \*\*Personal Access Token\*\*: To generate a personal access token, go to the [Personal Access Tokens](https://cloud.ouraring.com/personal-access-tokens){:target=\_blank .external-link} page and select \*\*Create A New Personal Access Token\*\*.

Refer to [How to Generate Personal Access Tokens](https://support.ouraring.com/hc/en-us/articles/4415266939155-The-Oura-API#h\_01H5B94SP4P9YHG9ZKN1H69E7Z){:target=\_blank .external-link} for more information.

## paddle.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Paddle credentials

description: Documentation for Paddle credentials. Use these credentials to authenticate Paddle in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Paddle credentials

You can use these credentials to authenticate the following nodes:

- [Paddle](/integrations/builtin/app-nodes/n8n-nodes-base.paddle.md)

## Prerequisites

Create a [Paddle](https://paddle.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token (Classic)

/// warning | Paddle Classic API

This credential works with Paddle Classic's API. If you joined Paddle after August 2023, you're using the [Paddle Billing API](https://developer.paddle.com/api-reference/overview){:target=\_blank .external-link} and this credential may not work for you.

///

## Related resources

Refer to [Paddle Classic's API documentation](https://developer.paddle.com/classic/api-reference/1384a288aca7a-api-reference){:target=\_blank .external-link} for more information about the service.

## Using API access token (Classic)

To configure this credential, you'll need:

- A \*\*Vendor Auth Code\*\*: Created when you generate an API key.

- A \*\*Vendor ID\*\*: Displayed when you generate an API key.

- \*\*Use Sandbox Environment API\*\*: When turned on, nodes using this credential will hit the Sandbox API endpoint instead of the live API endpoint.

To generate an auth code and view your Vendor ID, go to \*\*Paddle > Developer Tools > Authentication > Generate Auth Code\*\*. Select \*\*Reveal Auth Code\*\* to display the Auth Code. Refer to [API Authentication](https://developer.paddle.com/classic/api-reference/zg9joji1mzuzotg5-api-authentication){:target=\_blank .external-link} for more information.

## pagerduty.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PagerDuty credentials

description: Documentation for PagerDuty credentials. Use these credentials to authenticate PagerDuty in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# PagerDuty credentials

You can use these credentials to authenticate the following nodes:

- [PagerDuty](/integrations/builtin/app-nodes/n8n-nodes-base.pagerduty.md)

## Prerequisites

Create a [PagerDuty](https://pagerduty.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

- OAuth2

## Related resources

Refer to [PagerDuty's API documentation](https://developer.pagerduty.com/docs/531092d4c6658-rest-api-v2-overview){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- A general access \*\*API Token\*\*: To generate an API token, go to \*\*Integrations > Developer Tools > API Access Keys > Create New API Key\*\*. Refer to [Generate a General Access REST API key](https://support.pagerduty.com/docs/api-access-keys#generate-a-general-access-rest-api-key){:target=\_blank .external-link} for more information.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch, [register a new Pagerduty app](https://developer.pagerduty.com/docs/dd91fbd09a1a1-register-an-app){:target=\_blank .external-link}.

Use these settings for registering your app:

- In the \*\*Category\*\* dropdown list, select \*\*Infrastructure Automation\*\*.

- In the \*\*Functionality\*\* section, select \*\*OAuth 2.0\*\*.

Once you \*\*Save\*\* your app, open the app details and [edit your app configuration](https://developer.pagerduty.com/docs/dd91fbd09a1a1-register-an-app#editing-your-app-configuration){:target=\_blank .external-link} to use these settings:

- Within the \*\*OAuth 2.0\*\* section, select \*\*Add\*\*.

- Copy the \*\*OAuth Callback URL\*\* from n8n and paste it into the \*\*Redirect URL\*\* field.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* from PagerDuty and add these to your n8n credentials.

- Select \*\*Read/Write\*\* from the \*\*Set Permission Scopes\*\* dropdown list.

Refer to the instructions in [App functionality](https://developer.pagerduty.com/docs/b25fd1b8acb1b-app-functionality){:target=\_blank .external-link} for more information on available functionality. Refer to the PagerDuty [OAuth Functionality documentation](https://developer.pagerduty.com/docs/f59fdbd94ceab-o-auth-functionality){:target=\_blank .external-link} for more information on the OAuth flow.

## paypal.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PayPal credentials

description: Documentation for PayPal credentials. Use these credentials to authenticate PayPal in n8n, a workflow automation platform.

contentType: [integration, reference]

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# PayPal credentials

You can use these credentials to authenticate the following nodes:

- [PayPal](/integrations/builtin/app-nodes/n8n-nodes-base.paypal.md)

- [PayPal Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.paypaltrigger.md)

## Prerequisites

Create a [PayPal developer](https://developer.paypal.com/home){:target=\_blank .external-link} account.

## Supported authentication methods

- API client and secret

## Related resources

Refer to [Paypal's API documentation](https://developer.paypal.com/api/rest/){:target=\_blank .external-link} for more information about the service.

## Using API client and secret

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you create an app.

- A \*\*Secret\*\*: Generated when you create an app.

- An \*\*Environment\*\*: Select \*\*Live\*\* or \*\*Sandbox\*\*.

To generate the \*\*Client ID\*\* and \*\*Secret\*\*, log in to your Paypal [developer dashboard](https://developer.paypal.com/dashboard/). Select \*\*Apps & Credentials > Rest API apps > Create app\*\*. Refer to [Get client ID and client secret](https://developer.paypal.com/api/rest/#link-getclientidandclientsecret){:target=\_blank .external-link} for more information.

## peekalink.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Peekalink credentials

description: Documentation for Peekalink credentials. Use these credentials to authenticate Peekalink in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Peekalink credentials

You can use these credentials to authenticate the following nodes:

- [Peekalink](/integrations/builtin/app-nodes/n8n-nodes-base.peekalink.md)

## Prerequisites

Create a [Peekalink](https://www.peekalink.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Peekalink's API documentation](https://docs.peekalink.io/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To get your API key, access your Peekalink [dashboard](https://www.peekalink.io/app/overview){:target=\_blank .external-link} and copy the key in the \*\*Your API Key\*\* section. Refer to [Get your API key](https://docs.peekalink.io/setup#get-your-api-key){:target=\_blank .external-link} for more information.

## perplexity.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Perplexity credentials

description: Documentation for the Perplexity credentials. Use these credentials to authenticate Perplexity in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Perplexity credentials

You can use these credentials to authenticate the following nodes:

\* [Perplexity](/integrations/builtin/app-nodes/n8n-nodes-langchain.perplexity.md)

## Supported authentication methods

\* API key

## Related resources

Refer to [Perplexity's API documentation](https://docs.perplexity.ai/api-reference/) for more information about the service.

## Using API key

To configure this credential, you'll need a [Perplexity account](https://www.perplexity.ai/account) and:

- \*\*a Perplexity API key\*\*: You can find out how to create a Perplexity API key in the [Perplexity API getting started guide](https://docs.perplexity.ai/guides/getting-started).

Refer to [Perplexity's API documentation](https://docs.perplexity.ai/) for more information about authenticating to the service.

## phantombuster.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PhantomBuster credentials

description: Documentation for PhantomBuster credentials. Use these credentials to authenticate PhantomBuster in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# PhantomBuster credentials

You can use these credentials to authenticate the following nodes:

- [PhantomBuster](/integrations/builtin/app-nodes/n8n-nodes-base.phantombuster.md)

## Prerequisites

Create a [PhantomBuster](https://www.phantombuster.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [PhantomBuster's API documentation](https://hub.phantombuster.com/reference){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To get an API key, go to [\*\*Workspace settings\*\*](https://phantombuster.com/workspace-settings){:target=\_blank .external-link} \*\*> Third party API keys\*\* and select \*\*+ Add API Key\*\*. Refer to [How to find my API key](https://hub.phantombuster.com/docs/api#how-to-find-my-api-key){:target=\_blank .external-link} for more information.

## philipshue.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Philips Hue credentials

description: Documentation for Philips Hue credentials. Use these credentials to authenticate Philips Hue in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Philips Hue credentials

You can use these credentials to authenticate the following nodes:

- [Philips Hue](/integrations/builtin/app-nodes/n8n-nodes-base.philipshue.md)

## Prerequisites

Create a [Philips Hue](https://www.philips-hue.com/en-us){:target=\_blank .external-link} account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Philips Hue's CLIP API documentation](https://developers.meethue.com/develop/hue-api-v2/api-reference/){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're using the built-in OAuth connection, you don't need to enter an \*\*APP ID\*\*.

If you need to configure OAuth2 from scratch, you'll need a [Philips Hue developer](https://developers.meethue.com/){:target=\_blank .external-link} account

Create a new remote app on the [Add new Hue Remote API app](https://developers.meethue.com/add-new-hue-remote-api-app/) page.

Use these settings for your app:

- Copy the \*\*OAuth Callback URL\*\* from n8n and add it as a \*\*Callback URL\*\*.

- Copy the \*\*AppId\*\*, \*\*ClientId\*\*, and \*\*ClientSecret\*\* and enter these in the corresponding fields in n8n.

## pinecone.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pinecone credentials

description: Documentation for the Pinecone credentials. Use these credentials to authenticate Pinecone in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Pinecone credentials

You can use these credentials to authenticate the following nodes:

\* [Pinecone Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorepinecone.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Pinecone's documentation](https://docs.pinecone.io/reference/api/introduction){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need a [Pinecone](https://www.pinecone.io/){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*

To get an API key:

1. Open your [Pinecone console](https://app.pinecone.io/organizations/-/projects){:target=\_blank .external-link}.

2. Select the project you want to create an API key for. If you don't have any existing projects, create one. Refer to Pinecone's [Quickstart](https://docs.pinecone.io/guides/get-started/quickstart){:target=\_blank .external-link} for more information.

3. Go to \*\*API Keys\*\*.

4. Copy the API Key displayed there and enter it in your n8n credential.

Refer to Pinecone's API [Authentication documentation](https://docs.pinecone.io/guides/get-started/authentication){:target=\_blank .external-link} for more information.

## pipedrive.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pipedrive credentials

description: Documentation for Pipedrive credentials. Use these credentials to authenticate Pipedrive in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Pipedrive credentials

You can use these credentials to authenticate the following nodes:

- [Pipedrive](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md)

- [Pipedrive Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.pipedrivetrigger.md)

## Supported authentication methods

- API token

- OAuth2

## Related resources

Refer to [Pipedrive's developer documentation](https://pipedrive.readme.io/docs/getting-started){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need a [Pipedrive](https://pipedrive.com/){:target=\_blank .external-link} account and:

- An \*\*API Token\*\*

To get your API token:

1. Open your [\*\*API Personal Preferences\*\*](https://app.pipedrive.com/settings/api){:target=\_blank .external-link}.

2. Copy \*\*Your personal API token\*\* and enter it in your n8n credential.

If you have multiple companies, you'll need to select the correct company first:

1. Select your account name and be sure you're viewing the correct company.

2. Then select \*\*Company Settings\*\*.

2. Select \*\*Personal Preferences\*\*.

3. Select the \*\*API\*\* tab.

4. Copy \*\*Your personal API token\*\* and enter it in your n8n credential.

Refer to [How to find the API token](https://pipedrive.readme.io/docs/how-to-find-the-api-token){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need a [Pipedrive developer sandbox account](https://developers.pipedrive.com/){:target=\_blank .external-link} and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To get both, you'll need to register a new app:

1. Select your profile name in the upper right corner.

2. Find the company name of your sandbox account and select \*\*Developer Hub\*\*.

/// note | No Developer Hub

If you don't see \*\*Developer Hub\*\* in your account dropdown, sign up for a [developer sandbox account](https://developers.pipedrive.com/){:target=\_blank .external-link}.

///

3. Select \*\*Create an app\*\*.

4. Select \*\*Create public app\*\*. The app's \*\*Basic info\*\* tab opens.

5. Enter an \*\*App name\*\* for your app, like `n8n integration`.

6. Copy the \*\*OAuth Redirect URL\*\* from n8n and add it as the app's \*\*Callback URL\*\*.

7. Select \*\*Save\*\*. The app's \*\*OAuth & access scopes\*\* tab opens.

8. Turn on appropriate \*\*Scopes\*\* for your app. Refer to [Pipedrive node scopes](#pipedrive-node-scopes) and [Pipedrive Trigger node scopes](#pipedrive-trigger-node-scopes) below for more guidance.

8. Copy the \*\*Client ID\*\* and enter it in your n8n credential.

9. Copy the \*\*Client Secret\*\* and enter it in your n8n credential.

Refer to [Registering a public app](https://pipedrive.readme.io/docs/marketplace-registering-the-app){:target=\_blank .external-link} for more information.

### Pipedrive node scopes

The scopes you add to your app depend on which node(s) you want to use it for in n8n and what actions you want to complete with those.

Scopes you may need for the [Pipedrive](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) node:

| \*\*Object\*\* | \*\*Node action\*\* | \*\*UI scope\*\* | \*\*Actual scope\*\* |

| --- | --- | --- | --- |

| Activity | Get data of an activity <br> Get data of all activities | \*\*Activities: Read only\*\* or <br> \*\*Activities: Full Access\*\* | `activities:read` or <br> `activities:full` |

| Activity | Create <br> Delete <br> Update | \*\*Activities: Full Access\*\* | `activities:full` |

| Deal | Get data of a deal <br> Get data of all deals <br> Search a deal | \*\*Deals: Read only\*\* or <br> \*\*Deals: Full Access\*\* | `deals:read` or <br> `deals:full` |

| Deal | Create <br> Delete <br> Duplicate <br> Update | \*\*Deals: Full Access\*\* | `deals:full` |

| Deal Activity | Get all activities of a deal | \*\*Activities: Read only\*\* or <br> \*\*Activities: Full Access\*\* | `activities:read` or <br> `activities:full` |

| Deal Product | Get all products in a deal | \*\*Products: Read Only\*\* or <br> \*\*Products: Full Access\*\* | `products:read` or <br> `products:full` |

| File | Download <br> Get data of a file | Refer to note below | Refer to note below |

| File | Create <br> Delete | Refer to note below | Refer to note below |

| Lead | Get data of a lead <br> Get data of all leads | \*\*Leads: Read only\*\* or <br> \*\*Leads: Full access\*\* | `leads:read` or <br> `leads:full` |

| Lead | Create <br> Delete <br> Update | \*\*Leads: Full access\*\* | `leads:full` |

| Note | Get data of a note <br> Get data of all notes | Refer to note below | Refer to note below |

| Note | Create <br> Delete <br> Update | Refer to note below | Refer to note below |

| Organization | Get data of an organization <br> Get data of all organizations <br> Search | \*\*Contacts: Read Only\*\* or <br> \*\*Contacts: Full Access\*\* | `contacts:read` or <br> `contacts:full` |

| Organization | Create <br> Delete <br> Update | \*\*Contacts: Full Access\*\* | `contacts:full` |

| Person | Get data of a person <br> Get data of all persons <br> Search | \*\*Contacts: Read Only\*\* or <br> \*\*Contacts: Full Access\*\* | `contacts:read` or <br> `contacts:full` |

| Person | Create <br> Delete <br> Update | \*\*Contacts: Full Access\*\* | `contacts:full` |

| Product | Get data of all products | \*\*Products: Read Only\*\* | `products:read` |

/// note | Files and Notes

The scopes for Files and Notes depend on which object they relate to:

- Files relate to Deals, Activities, or Contacts.

- Notes relate to Deals or Contacts.

Refer to those objects' scopes.

///

The Pipedrive node also supports Custom API calls. Add relevant scopes for whatever custom API calls you intend to make.

Refer to [Scopes and permissions explanations](https://pipedrive.readme.io/docs/marketplace-scopes-and-permissions-explanations){:target=\_blank .external-link} for more information.

### Pipedrive Trigger node scopes

The [Pipedrive Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.pipedrivetrigger.md) node requires the \*\*Webhooks: Full access\*\* (`webhooks:full`) scope.

## plivo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Plivo credentials

description: Documentation for Plivo credentials. Use these credentials to authenticate Plivo in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Plivo credentials

You can use these credentials to authenticate the following nodes:

- [Plivo](/integrations/builtin/app-nodes/n8n-nodes-base.plivo.md)

## Prerequisites

Create a [Plivo](https://www.plivo.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Plivo's API documentation](https://www.plivo.com/docs/voice/api/overview/){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- An \*\*Auth ID\*\*: Acts like your username. Copy yours from the \*\*Overview\*\* page of the Plivo [console](https://console.plivo.com/dashboard/){:target=\_blank .external-link}.

- An \*\*Auth Token\*\*: Acts like a password. Copy yours from the \*\*Overview\*\* page of the Plivo [console](https://console.plivo.com/dashboard/){:target=\_blank .external-link}.

Refer to [How can I change my Auth ID or Auth Token?](https://support.plivo.com/hc/en-us/articles/360041731231-How-can-I-change-my-Auth-ID-or-Auth-Token){:target=\_blank .external-link} for more detailed instructions.

## postgres.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Postgres credentials

description: Documentation for Postgres credentials. Use these credentials to authenticate Postgres in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Postgres credentials

You can use these credentials to authenticate the following nodes:

- [Postgres](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md)

- [Agent](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.agent/index.md)

- [Postgres Chat Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memorypostgreschat.md)

- [PGVector Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorepgvector.md)

/// note | Agent node users

The Agent node doesn't support SSH tunnels.

///

## Prerequisites

[Create a user account](https://www.postgresql.org/docs/current/sql-createuser.html) on a Postgres server.

## Supported authentication methods

- Database connection

## Related resources

Refer to [Postgres's documentation](https://www.postgresql.org/docs/16/index.html){:target=\_blank .external-link} for more information about the service.

## Using database connection

To configure this credential, you'll need:

- The \*\*Host\*\* or domain name for the server.

- The \*\*Database\*\* name.

- A \*\*User\*\* name.

- A user \*\*Password\*\*.

- \*\*Ignore SSL Issues\*\*: Set whether the credential connects if SSL validation fails.

- \*\*SSL\*\*: Choose whether to use SSL in your connection.

- The \*\*Port\*\* number to use for the connection.

- \*\*SSH Tunnel\*\*: Choose if you want to use SSH to encrypt the network connection with the Postgres server.

To set up the database connection:

1. Enter the \*\*Host\*\* or domain name for the Postgres server. You can either run the `/conninfo` command to confirm the host name or run this query:

```

SELECT inet\_server\_addr();

```

2. Enter the \*\*Database\*\* name. Run the `/conninfo` command to confirm the database name.

3. Enter the \*\*User\*\* name of the user you wish to connect as.

4. Enter the user's \*\*Password\*\*.

5. \*\*Ignore SSL Issues\*\*: If you turn this on, the credential will connect even if SSL validation fails.

6. \*\*SSL\*\*: Choose whether to use SSL in your connection. Refer to Postgres [SSL Support](https://www.postgresql.org/docs/16/libpq-ssl.html){:target=\_blank .external-link} for more information. Options include:

- \*\*Allow\*\*: Sets the `ssl-mode` parameter to `allow`. First try a non-SSL connection; if that fails, try an SSL connection.

- \*\*Disable\*\*: Sets the `ssl-mode` parameter to `disable`. Only try a non-SSL connection.

- \*\*Require\*\*: Sets the `ssl-mode` parameter to `require`. Only try an SSL connection. If a root CA file is present, verify that a trusted certificate authority (CA) issued the server certificate.

7. Enter the \*\*Port\*\* number to use for the connection. You can either run the `/conninfo` command to confirm the host name or run this query:

```

SELECT inet\_server\_port();

```

8. \*\*SSH Tunnel\*\*: Turn this setting on to connect to the database over SSH. Refer to [SSH tunnel limitations](#ssh-tunnel-limitations) for some guidance around using SSH. Once turned on, you'll need:

1. Select \*\*SSH Authenticate with\*\* to set the SSH Tunnel type to build:

- Select \*\*Password\*\* if you want to connect to SSH using a password.

- Select \*\*Private Key\*\* if you want to connect to SSH using an identity file (private key) and a passphrase.

2. Enter the remote bind address you're connecting to as the \*\*SSH Host\*\*.

3. \*\*SSH Port\*\*: Enter the local port number for the SSH tunnel.

4. \*\*SSH Postgres Port\*\*: Enter the remote end of the tunnel, the port number the database server is using.

5. \*\*SSH User\*\*: Enter the username to log in as.

6. If you selected \*\*Password\*\* for SSH Authenticate with, add the user's \*\*SSH Password\*\*.

7. If you selected \*\*Private Key\*\* for \*\*SSH Authenticate with\*\*:

1. Add the contents of the \*\*Private Key\*\* or identity file used for SSH.

2. If the \*\*Private Key\*\* was created with a passphrase, enter that \*\*Passphrase\*\*. If the \*\*Private Ke\*\*y has no passphrase, leave this field blank.

Refer to [Secure TCP/IP Connections with SSH Tunnels](https://www.postgresql.org/docs/16/ssh-tunnels.html){:target=\_blank .external-link} for more information.

### SSH tunnel limitations

Only use the \*\*SSH Tunnel\*\* setting if:

- You're using the credential with the [Postgres](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md) node (Agent node doesn't support SSH tunnels).

- You have an SSH server running on the same machine as the Postgres server.

- You have a user account that can log in using `ssh`.

## posthog.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PostHog credentials

description: Documentation for PostHog credentials. Use these credentials to authenticate PostHog in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# PostHog credentials

You can use these credentials to authenticate the following nodes:

- [PostHog](/integrations/builtin/app-nodes/n8n-nodes-base.posthog.md)

## Prerequisites

Create a [PostHog](https://posthog.com/){:target=\_blank .external-link} account or host PostHog on your server.

## Supported authentication methods

- API key

## Related resources

Refer to [PostHog's API documentation](https://posthog.com/docs/api){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- The API \*\*URL\*\*: Enter the correct domain for your API requests:

- On US Cloud, use `https://us.i.posthog.com` for public POST-only endpoints or `https://us.posthog.com` for private endpoints.

- On EU Cloud, use `https://eu.i.posthog.com` for public POST-only endpoints or `https://eu.posthog.com` for private endpoints.

- For self-hosted instances, use your self-hosted domain.

- Confirm yours by checking your PostHog instance URL.

- An \*\*API Key\*\*: The API key you use depends on whether you're accessing public or private endpoints:

- For public POST-only endpoints, use a [Project API key](https://app.posthog.com/project/settings) from your project's \*\*General\*\* Settings.

- For private endpoints, use a [Personal API key](https://app.posthog.com/settings/user-api-keys) from your User account's \*\*Personal API Keys\*\* Settings. Refer to [How to obtain a personal API key](https://posthog.com/docs/api#private-endpoint-authentication){:target=\_blank .external-link} for more information.

## postmark.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Postmark credentials

description: Documentation for Postmark credentials. Use these credentials to authenticate Postmark in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Postmark credentials

You can use these credentials to authenticate the following nodes:

- [Postmark Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.postmarktrigger.md)

## Prerequisites

Create a [Postmark](https://postmarkapp.com/){:target=\_blank .external-link} account on a Postmark server.

## Supported authentication methods

- API token

## Related resources

Refer to [Postmark's API documentation](https://postmarkapp.com/developer/api/overview){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- A \*\*Server API Token\*\*: The Server API token is accessible by Account Owners, Account Admins, and users who have Server Admin privileges on a server. Get yours from the [\*\*API Tokens\*\*](https://account.postmarkapp.com/api\_tokens){:target=\_blank .external-link} tab under your Postmark server. Refer to [API Authentication](https://postmarkapp.com/developer/api/overview#authentication){:target=\_blank .external-link} for more information.

## profitwell.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ProfitWell credentials

description: Documentation for ProfitWell credentials. Use these credentials to authenticate ProfitWell in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# ProfitWell credentials

You can use these credentials to authenticate the following nodes:

- [ProfitWell](/integrations/builtin/app-nodes/n8n-nodes-base.profitwell.md)

## Prerequisites

Create a [ProfitWell](https://www2.profitwell.com/signup/start){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

## Related resources

Refer to [Profitwell's API documentation](https://profitwellapiv2.docs.apiary.io/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*API Token\*\*: To get an API key or token, go to \*\*Account Settings > Integrations\*\* and select \*\*ProfitWell API\*\*.

## pushbullet.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pushbullet credentials

description: Documentation for Pushbullet credentials. Use these credentials to authenticate Pushbullet in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Pushbullet credentials

You can use these credentials to authenticate the following nodes:

- [Pushbullet](/integrations/builtin/app-nodes/n8n-nodes-base.pushbullet.md)

## Prerequisites

Create a [Pushbullet](https://www.pushbullet.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Pushbullet's API documentation](https://docs.pushbullet.com/){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you create a Pushbullet app, also known as an OAuth client.

- A \*\*Client Secret\*\*: Generated when you create a Pushbullet app, also known as an OAuth client.

To generate the \*\*Client ID\*\* and \*\*Client Secret\*\*, go to the [create client](https://www.pushbullet.com/create-client) page. Copy the \*\*OAuth Redirect URL\*\* from n8n and add this as your \*\*redirect\_uri\*\* for the app/client. Use the \*\*client\_id\*\* and \*\*client\_secret\*\* from the OAuth Client in your n8n credential.

Refer to Pushbullet's [OAuth2 Guide](https://docs.pushbullet.com/#oauth2) for more information.

/// note | Pushbullet OAuth test link

Pushbullet offers a test link during the client creation process described above. This link isn't compatible with n8n. To verify the authentication works, use the \*\*Connect my account\*\* button in n8n.

///

## pushcut.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pushcut credentials

description: Documentation for Pushcut credentials. Use these credentials to authenticate Pushcut in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Pushcut credentials

You can use these credentials to authenticate the following nodes:

- [Pushcut](/integrations/builtin/app-nodes/n8n-nodes-base.pushcut.md)

- [Pushcut Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.pushcuttrigger.md)

## Prerequisites

Download the [Pushcut](https://www.pushcut.io){:target=\_blank .external-link} app.

## Supported authentication methods

- API key

## Related resources

Refer to [Pushcut's Guides documentation](https://www.pushcut.io/guides){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To generate an API key, go to \*\*Account > Integrations > Add API Key\*\*. Refer to [Create an API key](https://www.pushcut.io/guides/homekit-api-schedule-cancel#step\_2){:target=\_blank .external-link} for more information.

## pushover.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pushover credentials

description: Documentation for Pushover credentials. Use these credentials to authenticate Pushover in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Pushover credentials

You can use these credentials to authenticate the following nodes:

- [Pushover](/integrations/builtin/app-nodes/n8n-nodes-base.pushover.md)

## Prerequisites

Create a [Pushover](https://pushover.net){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Pushover's API documentation](https://pushover.net/api){:target=\_blank .external-link} for more information about authenticating with the service.

## Using API Key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generated when you [register an application](https://pushover.net/apps/build){:target=\_blank .external-link}. Refer to [Application Registration](https://pushover.net/api#registration){:target=\_blank .external-link} for more information.

## qdrant.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Qdrant credentials

description: Documentation for the Qdrant credentials. Use these credentials to authenticate Qdrant in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Qdrant credentials

You can use these credentials to authenticate the following nodes:

\* [Qdrant Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoreqdrant.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Qdrant's documentation](https://qdrant.tech/documentation/){:target=\_blank .external-link} for more information.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need a [Qdrant cluster](https://qdrant.tech/documentation/cloud/create-cluster/){:target=\_blank .external-link} and:

- An \*\*API Key\*\*

- Your \*\*Qdrant URL\*\*

To set it up:

1. Go to the [Cloud Dashboard](https://qdrant.to/cloud){:target=\_blank .external-link}.

2. Select \*\*Access Management\*\* to display available API keys (or go to the \*\*API Keys\*\* section of the \*\*Cluster detail\*\* page).

3. Select \*\*Create\*\*.

4. Select the cluster you want the key to have access to in the dropdown.

5. Select \*\*OK\*\*.

6. Copy the API Key and enter it in your n8n credential.

7. Enter the URL for your Qdrant cluster in the \*\*Qdrant URL\*\*. Refer to [Qdrant Web UI](https://qdrant.tech/documentation/interfaces/web-ui/){:target=\_blank .external-link} for more information.

Refer to [Qdrant's authentication documentation](https://qdrant.tech/documentation/cloud/authentication/){:target=\_blank .external-link} for more information on creating and using API keys.

## qradar.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: QRadar credentials

description: Documentation for the QRadar credentials. Use these credentials to authenticate QRadar in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# QRadar credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Qradar](https://www.ibm.com/qradar){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [QRadar's documentation](https://ibmsecuritydocs.github.io/qradar\_api\_overview/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/qradar/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Also known as an authorized service token. Use the \*\*Manage Authorized Services\*\* window on the \*\*Admin\*\* tab to create an authentication token. Refer to [Creating an authentication token](https://www.ibm.com/docs/en/qradar-common?topic=forwarding-creating-authentication-token){:target=\_blank .external-link} for more information.

## qualys.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Qualys credentials

description: Documentation for the Qualys credentials. Use these credentials to authenticate Qualys in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Qualys credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Qualys](https://www.qualys.com/){:target=\_blank .external-link} user account with any user role except Contact.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Qualys's documentation](https://qualysguard.qg2.apps.qualys.com/qwebhelp/fo\_portal/api\_doc/index.htm){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/qualys/){:target=\_blank .external-link} on n8n's website.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Username\*\*

- A \*\*Password\*\*

- A \*\*Requested With\*\* string: Enter a user description, like a user agent, or keep the default `n8n application`. This sets the required `X-Requested-With` header.

## questdb.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: QuestDB credentials

description: Documentation for QuestDB credentials. Use these credentials to authenticate QuestDB in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# QuestDB credentials

You can use these credentials to authenticate the following nodes:

- [QuestDB](/integrations/builtin/app-nodes/n8n-nodes-base.questdb.md)

## Prerequisites

Create a user account on an instance of [QuestDB](https://questdb.io/){:target=\_blank .external-link}.

## Supported authentication methods

- Database connection

## Related resources

Refer to [QuestDB's documentation](https://questdb.io/docs){:target=\_blank .external-link} for more information about the service.

## Using database connection

To configure this credential, you'll need:

- The \*\*Host\*\*: Enter the host name or IP address for the server.

- The \*\*Database\*\*: Enter the database name, for example `qdb`.

- A \*\*User\*\*: Enter the username for the user account as configured in `pg.user` or `pg.readonly.user` property in `server.conf`. Default value is `admin`.

- A \*\*Password\*\*: Enter the password for the user account as configured in `pg.password` or `pg.readonly.password` property in `server.conf`. Default value is `quest`.

- \*\*SSL\*\*: Select whether the connection should use SSL, which sets the `sslmode` parameter. Options include:

- \*\*Allow\*\*

- \*\*Disable\*\*

- \*\*Require\*\*

- The \*\*Port\*\*: Enter the port number to use for the connection. Default is `8812`.

Refer to [List of supported connection properties](https://questdb.io/docs/reference/api/postgres/#list-of-supported-connection-properties){:target=\_blank .external-link} for more information.

## quickbase.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Quick Base credentials

description: Documentation for Quick Base credentials. Use these credentials to authenticate Quick Base in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Quick Base credentials

You can use these credentials to authenticate the following nodes:

- [Quick Base](/integrations/builtin/app-nodes/n8n-nodes-base.quickbase.md)

## Prerequisites

Create a [Quick Base](https://www.quickbase.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Quick Base's API documentation](https://developer.quickbase.com/auth/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Hostname\*\*: The string of characters located between `https://` and `/db` in your Quick Base URL.

- A \*\*User Token\*\*: To generate a token, select your \*\*Profile > My preferences > My User Information > Manage my user tokens\*\*. Refer to [Creating and using user tokens](https://helpv2.quickbase.com/hc/en-us/articles/4570374095124-Creating-and-using-user-tokens){:target=\_blank .external-link} for detailed instructions.

## quickbooks.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: QuickBooks credentials

description: Documentation for QuickBooks credentials. Use these credentials to authenticate QuickBooks in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# QuickBooks credentials

You can use these credentials to authenticate the following nodes:

- [QuickBooks](/integrations/builtin/app-nodes/n8n-nodes-base.quickbooks.md)

## Prerequisites

Create an [Intuit developer](https://developer.intuit.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Intuit's API documentation](https://developer.intuit.com/app/developer/qbo/docs/develop){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you create an app.

- A \*\*Client Secret\*\*: Generated when you create an app.

- An \*\*Environment\*\*: Select whether this credential should access your \*\*Production\*\* or \*\*Sandbox\*\* environment.

To generate your \*\*Client ID\*\* and \*\*Client Secret\*\*, [create an app](https://developer.intuit.com/app/developer/qbo/docs/get-started/start-developing-your-app#create-an-app){:target=\_blank .external-link}.

Use these settings when creating your app:

- Select appropriate scopes for your app. Refer to [Learn about scopes](https://developer.intuit.com/app/developer/qbo/docs/learn/scopes){:target=\_blank .external-link} for more information.

- Enter the \*\*OAuth Redirect URL\*\* from n8n as a \*\*Redirect URI\*\* in the app's \*\*Development > Keys & OAuth\*\* section.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* from the app's \*\*Development > Keys & OAuth\*\* section to enter in n8n. Refer to [Get the Client ID and Client Secret for your app](https://developer.intuit.com/app/developer/qbo/docs/get-started/get-client-id-and-client-secret){:target=\_blank .external-link} for more information.

Refer to Intuit's [Set up OAuth 2.0 documentation](https://developer.intuit.com/app/developer/qbo/docs/develop/authentication-and-authorization/oauth-2.0){:target=\_blank .external-link} for more information on the entire process.

/// note | Environment selection

If you're creating a new app from scratch, start with the \*\*Sandbox\*\* environment. Production apps need to fulfill all Intuit's requirements. Refer to Intuit's [Publish your app documentation](https://developer.intuit.com/app/developer/qbo/docs/go-live/publish-app){:target=\_blank .external-link} for more information.

///

## rabbitmq.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RabbitMQ credentials

description: Documentation for RabbitMQ credentials. Use these credentials to authenticate RabbitMQ in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# RabbitMQ credentials

You can use these credentials to authenticate the following nodes:

- [RabbitMQ](/integrations/builtin/app-nodes/n8n-nodes-base.rabbitmq.md)

- [RabbitMQ Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.rabbitmqtrigger.md)

## Supported authentication methods

- User connection

## Related resources

Refer to [RabbitMQ's Connections documentation](https://www.rabbitmq.com/docs/connections){:target=\_blank .external-link} for more information about the service.

## Using user connection

To configure this credential, you'll need to have a [RabbitMQ broker](https://www.rabbitmq.com/){:target=\_blank .external-link} installed and:

1. Enter the \*\*Hostname\*\* for the RabbitMQ broker.

2. Enter the \*\*Port\*\* the connection should use.

3. Enter a \*\*User\*\* the connection should use to log in as.

- The default is `guest`. RabbitMQ recommends using a different user in production environments. Refer to [Access Control | The Basics](https://www.rabbitmq.com/docs/access-control#basics){:target=\_blank .external-link} for more information. If you're using the `guest` account with a non-localhost connection, refer to [`guest` user issues](#guest-user-issues) below for troubleshooting tips.

4. Enter the user's \*\*Password\*\*.

- The default password for the `guest` user is `guest`.

5. Enter the [virtual host](https://www.rabbitmq.com/docs/vhosts){:target=\_blank .external-link} the connection should use as the \*\*Vhost\*\*. The default virtual host is `/`.

6. Select whether the connection should use \*\*SSL\*\*. If turned on, also set:

- \*\*Passwordless\*\*: Select whether the SSL certificate connection users SASL mechanism EXTERNAL (turned off) or doesn't use a password (turned on). If turned on, you'll also need to enter:

- The \*\*Client Certificate\*\*: Paste the text of the SSL client certificate to use.

- The \*\*Client Key\*\*: Paste the SSL client key to use.

- The \*\*Passphrase\*\*: Paste the SSL passphrase to use.

- \*\*CA Certificates\*\*: Paste the text of the SSL CA certificates to use.

## guest user issues

If you use the `guest` user for the credential and you try to access a remote host, you may see a connection error. The RabbitMQ logs show an error like this:

[error] <0.918.0> PLAIN login refused: user 'guest' can only connect via localhost

This happens because RabbitMQ prohibits the default `guest` user from connecting from remote hosts. It can only connect over the `localhost`.

To resolve this error, you can:

- Update the `guest` user to allow it remote host access.

- Create or use a different user to connect to the remote host. The `guest` user is the only user limited by default.

Refer to ["guest" user can only connect from localhost](https://www.rabbitmq.com/docs/access-control#loopback-users){:target=\_blank .external-link} for more information.

## raindrop.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Raindrop credentials

description: Documentation for Raindrop credentials. Use these credentials to authenticate Raindrop in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Raindrop credentials

You can use these credentials to authenticate the following nodes:

- [Raindrop](/integrations/builtin/app-nodes/n8n-nodes-base.raindrop.md)

## Prerequisites

Create a [Raindrop](https://raindrop.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Raindrop's API documentation](https://developer.raindrop.io/){:target=\_blank .external-link} for more information about the service.

## Using OAuth

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

Generate both by creating a Raindrop app.

To create an app, go to \*\*Settings >\*\* [\*\*Integrations\*\*](https://app.raindrop.io/settings/integrations){:target=\_blank .external-link} and select \*\*+ Create new app\*\* in the \*\*For Developers\*\* section.

Use these settings for your app:

- Copy the \*\*OAuth Redirect URL\*\* from n8n and add it as a \*\*Redirect URI\*\* in your app.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* from the Raindrop app and enter them in your n8n credential.

## rapid7insightvm.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Rapid7 InsightVM credentials

description: Documentation for the Rapid7 InsightVM credentials. Use these credentials to authenticate Rapid7 InsightVm in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Rapid7 InsightVM credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Rapid7 InsightVM](https://www.rapid7.com/products/insightvm/) account.

## Supported authentication methods

\* API key

## Related resources

Refer to [Rapid7 InsightVM's API documentation](https://help.rapid7.com/insightvm/en-us/api/integrations.html){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/rapid7-insight-platform/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need a [Rapid7 InsightVM](https://www.rapid7.com/products/insightvm/) account and:

\* A \*\*URL\*\*: The API endpoint URL where the resource or data you are requesting lives. You can find more information about the expected format in the [endpoint section of the Rapid7's API overview](https://docs.rapid7.com/insight/api-overview/#endpoint).

\* An \*\*API Key\*\*: Refer to [Rapid7's Managing Platform API Keys documentation](https://docs.rapid7.com/insight/managing-platform-api-keys/) to create an API key.

Refer to [Rapid7 InsightVM's API documentation](https://help.rapid7.com/insightvm/en-us/api/integrations.html){:target=\_blank .external-link} for more information about authenticating to the service.

## recordedfuture.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Recorded Future credentials

description: Documentation for the Recorded Future credentials. Use these credentials to authenticate Recorded Future in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Recorded Future credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Recorded Future](https://www.recordedfuture.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API access token

## Related resources

Refer to [Recorded Future's documentation](https://api.recordedfuture.com/index.html){:target=\_blank .external-link} for more information about the service. The rest of Recorded Future's help center requires a paid account.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/recorded-future/){:target=\_blank .external-link} on n8n's website.

## Using API access token

To configure this credential, you'll need:

- An API \*\*Access Token\*\*

Refer to the [Recorded Future APIs documentation](https://support.recordedfuture.com/hc/en-us/categories/16372120363539-Recorded-Future-APIs){:target=\_blank .external-link} for more information on getting your API access token.

## reddit.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Reddit credentials

description: Documentation for Reddit credentials. Use these credentials to authenticate Reddit in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Reddit credentials

You can use these credentials to authenticate the following nodes:

- [Reddit](/integrations/builtin/app-nodes/n8n-nodes-base.reddit.md)

## Prerequisites

Create a [Reddit](https://reddit.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Reddit's developer documentation](https://support.reddithelp.com/hc/en-us/articles/14945211791892-Developer-Platform-Accessing-Reddit-Data){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

/// note | Developer program

Reddit's developer program is in a closed beta. The instructions below are for regular Reddit users, not members of the developer platform.

///

Generate both by creating a [third-party app](https://www.reddit.com/prefs/apps){:target=\_blank .external-link}. Visit the previous link or go to your \*\*profile > Settings > Safety & Privacy > Manage third-party app authorization > are you a developer? create an app\*\*.

Use these settings for your app:

- Copy the \*\*OAuth Callback URL\*\* from n8n and use it as your app's \*\*redirect uri\*\*.

- The app's client ID displays underneath your app name. Copy that and add it as your n8n \*\*Client ID\*\*.

- Copy the app's \*\*secret\*\* and add it as your n8n \*\*Client Secret\*\*.

## redis.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Redis credentials

description: Documentation for Redis credentials. Use these credentials to authenticate Redis in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Redis credentials

You can use these credentials to authenticate the following nodes:

- [Redis](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md)

- [Redis Chat Memory](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryredischat.md)

## Supported authentication methods

- Database connection

## Related resources

Refer to [Redis's developer documentation](https://redis.readthedocs.io/en/stable/index.html){:target=\_blank .external-link} for more information about the service.

## Using database connection

You'll need a user account on a [Redis](https://redis.io/){:target=\_blank .external-link} server and:

- A \*\*Password\*\*

- The \*\*Host\*\* name

- The \*\*Port\*\* number

- A \*\*Database Number\*\*

- \*\*SSL\*\*

To configure this credential:

1. Enter your user account \*\*Password\*\*.

2. Enter the \*\*Host\*\* name of the Redis server. The default is `localhost`.

3. Enter the \*\*Port\*\* number the connection should use. The default is `6379`.

- This number should match the `tcp\_port` listed when you run the `INFO` command.

4. Enter the \*\*Database Number\*\*. The default is `0`.

5. If the connection should use SSL, turn on the \*\*SSL\*\* toggle. If this toggle is off, the connection uses TCP only.

Refer to [Connecting to Redis | Generic client](https://redis.readthedocs.io/en/stable/connections.html){:target=\_blank .external-link} for more information.

## rocketchat.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Rocket.Chat credentials

description: Documentation for Rocket.Chat credentials. Use these credentials to authenticate Rocket.Chat in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Rocket.Chat credentials

You can use these credentials to authenticate the following nodes:

- [Rocket.Chat](/integrations/builtin/app-nodes/n8n-nodes-base.rocketchat.md)

## Prerequisites

- Create a [Rocket.Chat](https://rocket.chat/){:target=\_blank .external-link} account.

- Your account must have the `create-personal-access-tokens` permission to generate personal access tokens.

## Supported authentication methods

- API access token

## Related resources

<!--vale off-->

Refer to [Rocket.Chat's API documentation](https://developer.rocket.chat/reference/api/rest-api){:target=\_blank .external-link} for more information about the service.

<!--vale on-->

## Using API access token

To configure this credential, you'll need:

- Your \*\*User ID\*\*: Displayed when you generate an access token.

- An \*\*Auth Key\*\*: Your personal access token. To generate an access token, go to your \*\*avatar > Account > Personal Access Tokens\*\*. Copy the token and add it as the n8n \*\*Auth Key\*\*.

- Your Rocket.Chat \*\*Domain\*\*: Also known as your default URL or workspace URL.

Refer to [Personal Access Tokens](https://docs.rocket.chat/docs/manage-your-account-settings#personal-access-tokens){:target=\_blank .external-link} for more information.

## rundeck.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Rundeck credentials

description: Documentation for Rundeck credentials. Use these credentials to authenticate Rundeck in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Rundeck credentials

You can use these credentials to authenticate the following nodes:

- [Rundeck](/integrations/builtin/app-nodes/n8n-nodes-base.rundeck.md)

## Prerequisites

Create a user account on a [Rundeck](https://www.rundeck.com/){:target=\_blank .external-link} server.

## Supported authentication methods

- API token

## Related resources

Refer to [Rundeck's API documentation](https://docs.rundeck.com/docs/api/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- Your \*\*URL\*\*: Enter the base URL of your Rundeck server, for example `http://myserver:4440`. Refer to [URLs](https://docs.rundeck.com/docs/api/#urls) for more information.

- A user API \*\*Token\*\*: To generate a user API token, go to your \*\*Profile > User API Tokens\*\*. Refer to [User API tokens](https://docs.rundeck.com/docs/manual/10-user.html#user-api-tokens){:target=\_blank .external-link} for more information.

## s3.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: S3 credentials

description: Documentation for S3 credentials. Use these credentials to authenticate S3 in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# S3 credentials

You can use these credentials to authenticate the following nodes:

- [S3](/integrations/builtin/app-nodes/n8n-nodes-base.s3.md)

## Prerequisites

Create an account on an S3-compatible server. Use the S3 node for generic or non-AWS S3 like:

\* [DigitalOcean Spaces](https://www.digitalocean.com/products/spaces){:target="\_blank" .external-link}

\* [MinIO](https://min.io/){:target="\_blank" .external-link}

\* [Wasabi](https://wasabi.com/){:target="\_blank" .external-link}

## Supported authentication methods

- S3 endpoint

## Related resources

Refer to your S3-compatible provider's documentation for more information on the services. For example, refer to [Wasabi's REST API documentation](https://docs.wasabi.com/docs/rest-api-introduction){:target="\_blank" .external-link} or [DigitalOcean's Spaces API Reference Documentation](https://docs.digitalocean.com/reference/api/spaces-api/){:target="\_blank" .external-link}.

## Using S3 endpoint

To configure this credential, you'll need:

- An \*\*S3 Endpoint\*\*: Enter the URL endpoint for the S3 storage backend.

- A \*\*Region\*\*: Enter the region for your S3 storage. Some providers call this the "region slug."

- An \*\*Access Key ID\*\*: Enter the S3 access key your S3 provider uses to access the bucket or space. Some providers call this API keys.

- A \*\*Secret Access Key\*\*: Enter the secret access key for the \*\*Access Key ID\*\*.

- \*\*Force Path Style\*\*: When turned on, the connection uses path-style addressing for buckets.

- \*\*Ignore SSL Issues\*\*: When turned on, n8n will connect even if SSL certificate validation fails.

More detailed instructions for DigitalOcean Spaces and Wasabi follow. If you're using a different provider, refer to their documentation for more information.

### Using DigitalOcean Spaces

To configure the credential for use with DigitalOcean spaces:

1. In DigitalOceans, go to the control panel and open \*\*Settings\*\*. Your endpoint should be listed there. Prepend `https://` to that endpoint and enter it as the \*\*S3 Endpoint\*\* in n8n.

- Your DigitalOceans endpoint depends on the data center region your bucket's in.

2. For the \*\*Region\*\*, enter the region your bucket's located in, for example, `nyc3`.

- If you plan to use this credential to create new Spaces, enter `us-east-1` instead.

3. From your DigitalOceans control panel, go to [\*\*API\*\*](https://cloud.digitalocean.com/account/api/spaces){:target="\_blank" .external-link}.

4. Open the \*\*Spaces Keys\*\* tab.

5. Select \*\*Generate New Key\*\*.

6. Enter a \*\*Name\*\* for your key, like `n8n integration` and select the checkmark.

7. Copy the \*\*Key\*\* displayed next to the name and enter this as the \*\*Access Key ID\*\* in n8n.

8. Copy the \*\*Secret\*\* value and enter this as the \*\*Secret Access Key\*\* in n8n.

- Refer to [Sharing Access to Buckets with Access Keys](https://docs.digitalocean.com/products/spaces/how-to/manage-access/#access-keys){:target="\_blank" .external-link} for more information on generating the key and secret.

9. Keep the \*\*Force Path Style\*\* toggle turned off unless you want to use subdomain/virtual calling format.

10. Decide how you want the n8n credential to handle SSL:

- To respect SSL certificate validation, keep the default of \*\*Ignore SSL Issues\*\* turned off.

- To connect even if SSL certificate validation fails, turn on \*\*Ignore SSL Issues\*\*.

Refer to DigitalOcean's [Spaces API Reference Documentation](https://docs.digitalocean.com/reference/api/spaces-api/){:target="\_blank" .external-link} for more information.

### Using Wasabi

To configure the credential for use with Wasabi:

1. For the \*\*S3 Endpoint\*\*, enter the service URL for your bucket's region. Start it with `https://`.

- Refer to [What are the service URLs for Wasabi's different storage regions?](https://knowledgebase.wasabi.com/hc/en-us/articles/360015106031-What-are-the-service-URLs-for-Wasabi-s-different-storage-regions){:target="\_blank" .external-link} to identify the correct URL.

2. For the \*\*Region\*\*, enter the region slug portion of the service URL. For example, if you entered `https://s3.us-east-2.wasabisys.com` as the \*\*S3 Endpoint\*\*, `us-east-2` is the region.

3. Log into you Wasabi Console as the root user.

4. Open the \*\*Menu\*\* and select \*\*Access Keys\*\*.

5. Select \*\*CREATE NEW ACCESS KEY\*\*.

6. Select whether the key is for the \*\*Root User\*\* or a \*\*Sub-User\*\* and select \*\*CREATE\*\*.

7. Copy the \*\*Access Key\*\* and enter it in n8n as the \*\*Access Key ID\*\*.

8. Copy the \*\*Secret Key\*\* and enter it in n8n as the \*\*Secret Access Key\*\*.

- Refer to [Creating a Wasabi API Access Key Set](https://knowledgebase.wasabi.com/hc/en-us/articles/360019677192-Creating-a-Wasabi-API-Access-Key-Set){:target="\_blank" .external-link} for more information on generating the key and secret.

9. Wasabi recommends turning on the \*\*Force Path Style\*\* toggle "because the path-style offers the greatest flexibility in bucket names, avoiding domain name issues." Refer to the Wasabi [REST API Introduction](https://docs.wasabi.com/docs/rest-api-introduction){:target="\_blank" .external-link} for more information.

10. Decide how you want the n8n credential to handle SSL:

- To respect SSL certificate validation, keep the default of \*\*Ignore SSL Issues\*\* turned off.

- To connect even if SSL certificate validation fails, turn on \*\*Ignore SSL Issues\*\*.

## salesforce.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Salesforce credentials

description: Documentation for Salesforce credentials. Use these credentials to authenticate Salesforce in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Salesforce credentials

You can use these credentials to authenticate the following nodes:

- [Salesforce](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md)

- [Salesforce trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.salesforcetrigger.md)

## Supported authentication methods

- JWT

- OAuth2

## Related resources

Refer to [Salesforce's developer documentation](https://developer.salesforce.com/docs/atlas.en-us.sfdx\_dev.meta/sfdx\_dev/sfdx\_dev\_intro.htm){:target=\_blank .external-link} for more information about the service.

## Using JWT

To configure this credential, you'll need a [Salesforce](https://www.salesforce.com/){:target=\_blank .external-link} account and:

- Your \*\*Environment Type\*\* (Production or Sandbox)

- A \*\*Client ID\*\*: Generated when you create a connected app.

- Your Salesforce \*\*Username\*\*

- A \*\*Private Key\*\* for a self-signed digital certificate

To set things up, first you'll create a private key and certificate, then a connected app:

1. In n8n, select the \*\*Environment Type\*\* for your connection. Choose the option that best describes your environment from \*\*Production\*\* or \*\*Sandbox\*\*.

2. Enter your Salesforce \*\*Username\*\*.

1. Log in to your org in Salesforce.

2. You'll need a private key and certificate issued by a certification authority. Use your own key/cert or use OpenSSL to create a key and a self-signed digital certificate. Refer to the Salesforce [Create a Private Key and Self-Signed Digital Certificate documentation](https://developer.salesforce.com/docs/atlas.en-us.sfdx\_dev.meta/sfdx\_dev/sfdx\_dev\_auth\_key\_and\_cert.htm){:target=\_blank .external-link} for instructions on creating your own key and certificate.

3. From \*\*Setup\*\* in Salesforce, enter `App Manager` in the Quick Find box, then select \*\*App Manager\*\*.

3. On the App Manager page, select \*\*New Connected App\*\*.

4. Enter the required \*\*Basic Info\*\* for your connected app, including a \*\*Name\*\* and \*\*Contact Email address\*\*. Refer to Salesforce's [Configure Basic Connected App Settings](https://help.salesforce.com/s/articleView?id=sf.connected\_app\_create\_basics.htm&type=5){:target=\_blank .external-link} documentation for more information.

5. Check the box to \*\*Enable OAuth Settings\*\*.

6. For the \*\*Callback URL\*\*, enter `http://localhost:1717/OauthRedirect`.

7. Check the box to \*\*Use digital signatures\*\*.

8. Select \*\*Choose File\*\* and upload the file that contains your digital certificate, such as `server.crt`.

9. Add these \*\*OAuth scopes\*\*:

- \*\*Full access (full)\*\*

- \*\*Perform requests at any time (refresh\_token, offline\_access)\*\*

10. Select \*\*Save\*\*, then \*\*Continue\*\*. The \*\*Manage Connected Apps\*\* page should open to the app you just created.

11. In the \*\*API (Enable OAuth Settings)\*\* section, select \*\*Manage Consumer Details\*\*.

12. Copy the \*\*Consumer Key\*\* and add it to your n8n credential as the \*\*Client ID\*\*.

13. Enter the contents of the private key file in n8n as \*\*Private Key\*\*.

- Use the multi-line editor in n8n.

- Enter the private key in standard PEM key format:

```

-----BEGIN PRIVATE KEY-----

KEY DATA GOES HERE

-----END PRIVATE KEY-----

```

These steps are what's required on the n8n side. Salesforce recommends setting refresh token policies, session policies, and OAuth policies too:

14. In Salesforce, select \*\*Back to Manage Connected Apps\*\*.

15. Select \*\*Manage\*\*.

16. Select \*\*Edit Policies\*\*.

17. Review the \*\*Refresh Token Policy\*\* field. Salesforce recommends using expire refresh token after 90 days.

18. In the \*\*Session Policies\*\* section, Salesforce recommends setting \*\*Timeout Value\*\* to 15 minutes.

19. In the \*\*OAuth Policies\*\* section, select \*\*Admin approved users are pre-authorized for permitted users\*\* for \*\*Permitted Users\*\*, and select \*\*OK\*\*.

20. Select \*\*Save\*\*.

21. Select \*\*Manage Profiles\*\*, select the profiles that are pre-authorized to use this connected app, and select \*\*Save\*\*.

22. Select \*\*Manage Permission Sets\*\* to select the permission sets. Create permission sets if necessary.

Refer to Salesforce's [Create a Connected App in Your Org](https://developer.salesforce.com/docs/atlas.en-us.sfdx\_dev.meta/sfdx\_dev/sfdx\_dev\_auth\_connected\_app.htm){:target=\_blank .external-link} documentation for more information.

## Using OAuth2

To configure this credential, you'll need a [Salesforce](https://www.salesforce.com/){:target=\_blank .external-link} account.

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

Cloud and hosted users will need to select your \*\*Environment Type\*\*. Choose between \*\*Production\*\* and \*\*Sandbox\*\*.

If you're [self-hosting](/hosting/index.md) n8n, you'll need to configure OAuth2 from scratch by creating a connected app:

1. In n8n, select the \*\*Environment Type\*\* for your connection. Choose the option that best describes your environment from \*\*Production\*\* or \*\*Sandbox\*\*.

2. Enter your Salesforce \*\*Username\*\*.

1. Log in to your org in Salesforce.

3. From \*\*Setup\*\* in Salesforce, enter `App Manager` in the Quick Find box, then select \*\*App Manager\*\*.

3. On the App Manager page, select \*\*New Connected App\*\*.

4. Enter the required \*\*Basic Info\*\* for your connected app, including a \*\*Name\*\* and \*\*Contact Email address\*\*. Refer to Salesforce's [Configure Basic Connected App Settings](https://help.salesforce.com/s/articleView?id=sf.connected\_app\_create\_basics.htm&type=5){:target=\_blank .external-link} documentation for more information.

5. Check the box to \*\*Enable OAuth Settings\*\*.

6. For the \*\*Callback URL\*\*, enter `http://localhost:1717/OauthRedirect`.

9. Add these \*\*OAuth scopes\*\*:

- \*\*Full access (full)\*\*

- \*\*Perform requests at any time (refresh\_token, offline\_access)\*\*

10. Make sure the following settings are unchecked:

- \*\*Require Proof Key for Code Exchange (PKCE) Extension for Supported Authorization Flows\*\*

- \*\*Require Secret for Web Server Flow\*\*

- \*\*Require Secret for Refresh Token Flow\*\*

10. Select \*\*Save\*\*, then \*\*Continue\*\*. The \*\*Manage Connected Apps\*\* page should open to the app you just created.

11. In the \*\*API (Enable OAuth Settings)\*\* section, select \*\*Manage Consumer Details\*\*.

12. Copy the \*\*Consumer Key\*\* and add it to your n8n credential as the \*\*Client ID\*\*.

13. Copy the \*\*Consumer Secret\*\* and add it to your n8n credential as the \*\*Client Secret\*\*.

These steps are what's required on the n8n side. Salesforce recommends setting refresh token policies and session policies, too:

14. In Salesforce, select \*\*Back to Manage Connected Apps\*\*.

15. Select \*\*Manage\*\*.

16. Select \*\*Edit Policies\*\*.

17. Review the \*\*Refresh Token Policy\*\* field. Salesforce recommends using expire refresh token after 90 days.

18. In the \*\*Session Policies\*\* section, Salesforce recommends setting \*\*Timeout Value\*\* to 15 minutes.

Refer to Salesforce's [Create a Connected App in Your Org](https://developer.salesforce.com/docs/atlas.en-us.sfdx\_dev.meta/sfdx\_dev/sfdx\_dev\_auth\_connected\_app.htm){:target=\_blank .external-link} documentation for more information.

## salesmate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Salesmate credentials

description: Documentation for Salesmate credentials. Use these credentials to authenticate Salesmate in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Salesmate credentials

You can use these credentials to authenticate the following nodes:

- [Salesmate](/integrations/builtin/app-nodes/n8n-nodes-base.salesmate.md)

## Prerequisites

Create a [Salesmate](https://salesmate.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

## Related resources

Refer to [Salesmate's API documentation](https://apidocs.salesmate.io/?version=latest){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- A \*\*Session Token\*\*: An \*\*Access Key\*\*. Generate an access key in \*\*My Account > Access Key\*\*. Refer to [Access Rights and Keys](https://apidocs.salesmate.io/?version=latest#ac8296ec-cb44-4937-a860-5ae032397ca0){:target=\_blank .external-link} for more information.

- A \*\*URL\*\*: Your Salesmate domain name/base URL, for example `n8n.salesmate.io`.

## searxng.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SearXNG credentials

description: Documentation for the SearXNG credentials. Use these credentials to authenticate SearXNG in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# SearXNG credentials

You can use these credentials to authenticate the following nodes:

\* [SearXNG Tool](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolsearxng.md)

## Supported authentication methods

\* API URL

## Related resources

Refer to [SearXNG's documentation](https://docs.searxng.org/index.html) for more information about the service.

## Using API URL

To configure this credential, you'll need an instance of SearXNG running at an URL that's accessible from n8n:

- \*\*API URL\*\*: The URL of the SearXNG instance you want to connect to.

Refer to [SearXNG's Administrator documentation](https://docs.searxng.org/admin/index.html) for more information about running the service.

## seatable.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SeaTable credentials

description: Documentation for SeaTable credentials. Use these credentials to authenticate SeaTable in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# SeaTable credentials

You can use these credentials to authenticate the following nodes:

- [SeaTable](/integrations/builtin/app-nodes/n8n-nodes-base.seatable.md)

- [SeaTable Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.seatabletrigger.md)

## Prerequisites

Create a [SeaTable](https://seatable.io/en/){:target=\_blank .external-link} account on either a cloud or self-hosted SeaTable server.

## Supported authentication methods

- API key

## Related resources

Refer to [SeaTable's API documentation](https://api.seatable.io){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*Environment\*\*: Select the environment that matches your SeaTable instance:

- \*\*Cloud-Hosted\*\*

- \*\*Self-Hosted\*\*

- An \*\*API Token (of a Base)\*\*: Generate a \*\*Base-Token\*\* in SeaTable from the base options > \*\*Advanced > API Token\*\*.

- Use \*\*Read-Write\*\* permission for your token.

- Refer to [Creating an API token](https://seatable.io/en/docs/seatable-api/erzeugen-eines-api-tokens/){:target=\_blank .external-link} for more information.

- A \*\*Timezone\*\*: Select the timezone of your SeaTable server.

## securityscorecard.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SecurityScorecard credentials

description: Documentation for SecurityScorecard credentials. Use these credentials to authenticate SecurityScorecard in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# SecurityScorecard credentials

You can use these credentials to authenticate the following nodes:

- [SecurityScorecard](/integrations/builtin/app-nodes/n8n-nodes-base.securityscorecard.md)

## Prerequisites

Create a [SecurityScorecard](https://securityscorecard.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [SecurityScorecard's Developer documentation](https://securityscorecard.readme.io/docs/integrate-ratings-platform-services){:target=\_blank .external-link} and [API documentation](https://securityscorecard.readme.io/reference/introduction){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Generate an API key in one of two ways:

\* As a user in [\*\*My Settings > API\*\*](https://platform.securityscorecard.io/#/my-settings/api){:target=\_blank .external-link}. Refer to [Get an API key](https://securityscorecard.readme.io/docs/getting-started#step-1-get-an-api-key){:target=\_blank .external-link} for more information.

\* As a bot user: View the bot user and select \*\*create token\*\*. Refer to [Authenticate with a bot user](https://securityscorecard.readme.io/docs/authentication#){:target=\_blank .external-link} for more information.

## segment.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Segment credentials

description: Documentation for Segment credentials. Use these credentials to authenticate Segment in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Segment credentials

You can use these credentials to authenticate the following nodes:

- [Segment](/integrations/builtin/app-nodes/n8n-nodes-base.segment.md)

## Prerequisites

Create a [Segment](https://segment.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Segment's Sources documentation](https://segment.com/docs/connections/sources/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Write Key\*\*: To get a Write Key, go to \*\*Sources > Add Source\*\*. Add a \*\*Node.js\*\* source and copy that write key to add to your n8n credential.

Refer to [Locate your Write Key](https://segment.com/docs/connections/find-writekey/){:target=\_blank .external-link} for more information.

## sekoia.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sekoia credentials

description: Documentation for the Sekoia credentials. Use these credentials to authenticate Sekoia in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Sekoia credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Sekoia SOC platform](https://www.sekoia.io/en/homepage/) account.

## Supported authentication methods

- API key

## Related resources

Refer to [Sekoia's documentation](https://docs.sekoia.io/getting\_started/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/sekoia/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: To generate an API key, select \*\*+ API Key\*\*. Refer to [Create an API key](https://docs.sekoia.io/getting\_started/manage\_api\_keys/#create-an-api-key){:target=\_blank .external-link} for more information.

## sendgrid.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SendGrid credentials

description: Documentation for SendGrid credentials. Use these credentials to authenticate SendGrid in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# SendGrid credentials

You can use these credentials to authenticate the following nodes:

- [SendGrid](/integrations/builtin/app-nodes/n8n-nodes-base.sendgrid.md)

## Supported authentication methods

- API key

## Related resources

Refer to [SendGrid's API documentation](https://www.twilio.com/docs/sendgrid/api-reference){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need a [SendGrid](https://sendgrid.com){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*

To create an API key:

1. In the Twilio SendGrid app, go to \*\*Settings >\*\* [\*\*API Keys\*\*](https://app.sendgrid.com/settings/api\_keys){:target=\_blank .external-link}.

2. Select \*\*Create API Key\*\*.

3. Enter a \*\*Name\*\* for your API key, like `n8n integration`.

4. Select \*\*Full Access\*\*.

5. Select \*\*Create & View\*\*.

6. Copy the key and enter it in your n8n credential.

Refer to [Create API Keys](https://www.twilio.com/docs/sendgrid/api-reference/api-keys/create-api-keys){:target=\_blank .external-link} for more information.

## sendy.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sendy credentials

description: Documentation for Sendy credentials. Use these credentials to authenticate Sendy in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Sendy credentials

You can use these credentials to authenticate the following nodes:

- [Sendy](/integrations/builtin/app-nodes/n8n-nodes-base.sendy.md)

## Prerequisites

Host a [Sendy](https://sendy.co/get-started){:target=\_blank .external-link} application.

## Supported authentication methods

- API key

## Related resources

Refer to [Sendy's API documentation](https://sendy.co/api){:target=\_blank .external-link} for more information about the service.

## Using API Key

To configure this credential, you'll need:

- A \*\*URL\*\*: The URL of your Sendy application.

- An \*\*API Key\*\*: Get your API key from your user profile > \*\*Settings > Your API Key\*\*.

## sentryio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sentry.io credentials

description: Documentation for Sentry.io credentials. Use these credentials to authenticate Sentry.io in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Sentry.io credentials

You can use these credentials to authenticate the following nodes:

- [Sentry.io](/integrations/builtin/app-nodes/n8n-nodes-base.sentryio.md)

## Prerequisites

Create a [Sentry.io](https://sentry.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

- OAuth2

- Server API token: Use for [self-hosted Sentry](https://develop.sentry.dev/self-hosted/){:target=\_blank .external-link}.

## Related resources

Refer to [Sentry.io's API documentation](https://docs.sentry.io/api/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An API \*\*Token\*\*: Generate a [\*\*User Auth Token\*\*](https://sentry.io/settings/account/api/auth-tokens/){:target=\_blank .external-link} in \*\*Account > Settings > User Auth Tokens\*\*. Refer to [User Auth Tokens](https://docs.sentry.io/account/auth-tokens/#user-auth-tokens){:target=\_blank .external-link} for more information.

## Using OAuth

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch, [create an integration](https://docs.sentry.io/organization/integrations/integration-platform/#creating-an-integration){:target=\_blank .external-link} with these settings:

- Copy the n8n \*\*OAuth Callback URL\*\* and add it as an \*\*Authorized Redirect URI\*\*.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* and add them to your n8n credential.

Refer to [Public integrations](https://docs.sentry.io/organization/integrations/integration-platform/public-integration/){:target=\_blank .external-link} for more information on creating the integration.

## Using Server API token

To configure this credential, you'll need:

- An API \*\*Token\*\*: Generate a [\*\*User Auth Token\*\*](https://sentry.io/settings/account/api/auth-tokens/){:target=\_blank .external-link} in \*\*Account > Settings > User Auth Tokens\*\*. Refer to [User Auth Tokens](https://docs.sentry.io/account/auth-tokens/#user-auth-tokens){:target=\_blank .external-link} for more information.

- The \*\*URL\*\* of your self-hosted Sentry instance.

## serp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Serp credentials

description: Documentation for the Serp credentials. Use these credentials to authenticate Serp in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Serp credentials

You can use these credentials to authenticate the following nodes:

\* [Serp](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolserpapi.md)

## Prerequisites

Create a [SerpApi](https://serpapi.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Serp's API documentation](https://serpapi.com/search-api){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

To get your API key:

1. Go to \*\*Your Account >\*\* [\*\*API Key\*\*](https://serpapi.com/manage-api-key){:target=\_blank .external-link}.

2. Copy \*\*Your Private API Key\*\* and enter it as the \*\*API Key\*\* in your n8n credential.

## servicenow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ServiceNow credentials

description: Documentation for ServiceNow credentials. Use these credentials to authenticate ServiceNow in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# ServiceNow credentials

You can use these credentials to authenticate the following nodes:

- [ServiceNow](/integrations/builtin/app-nodes/n8n-nodes-base.servicenow.md)

## Prerequisites

Create a [ServiceNow](https://developer.servicenow.com/dev.do#!/reference){:target=\_blank .external-link} developer account.

## Supported authentication methods

- Basic auth

- OAuth2

## Related resources

Refer to [ServiceNow's API documentation](https://developer.servicenow.com/dev.do#!/reference/api/washingtondc/rest/){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*User\*\* name: Enter your ServiceNow username.

- A \*\*Password\*\*: Enter your ServiceNow password.

- A \*\*Subdomain\*\*: The subdomain for your servicenow instance is in your instance URL: `https://<subdomain>.service-now.com/`. For example, if the full URL is `https://dev99890.service-now.com`, then the subdomain is `dev99890`.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated once you register a new app.

- A \*\*Client Secret\*\*: Generated once you register a new app.

- A \*\*Subdomain\*\*: The subdomain for your servicenow instance is in your instance URL: `https://<subdomain>.service-now.com/`. For example, if the full URL is `https://dev99890.service-now.com`, then the subdomain is `dev99890`.

To generate your \*\*Client ID\*\* and \*\*Client Secret\*\*, register a new app in \*\*System OAuth > Application Registry > New > Create an OAuth API endpoint for external clients\*\*. Use these settings for your app:

- Copy the \*\*Client ID\*\* and add it to your n8n credential.

- Enter a \*\*Client Secret\*\* or leave it blank to automatically generate a random secret. Add this secret to your n8n credential.

- Copy the n8n \*\*OAuth Redirect URL\*\* and add it as a \*\*Redirect URL\*\*.

Refer to [How to setup OAuth2 authentication for RESTMessageV2 integrations](https://www.servicenow.com/community/in-other-news/how-to-setup-oauth2-authentication-for-restmessagev2/ba-p/2271823){:target=\_blank .external-link} for more information.

## shopify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Shopify credentials

description: Documentation for Shopify credentials. Use these credentials to authenticate Shopify in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Shopify credentials

You can use these credentials to authenticate the following nodes with Shopify.

- [Shopify](/integrations/builtin/app-nodes/n8n-nodes-base.shopify.md)

- [Shopify Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.shopifytrigger.md)

## Supported authentication methods

- Access token (recommended): For private apps/single store use. Can be created by regular admins.

- OAuth2: For public apps. Must be created by partner accounts.

- API key: Deprecated.

## Related resources

Refer to [Shopify's authentication documentation](https://shopify.dev/docs/apps/auth){:target=\_blank .external-link} for more information about the service.

## Using access token

To configure this credential, you'll need a [Shopify](https://shopify.com/){:target=\_blank .external-link} admin account and:

- Your \*\*Shop Subdomain\*\*

- An \*\*Access Token\*\*: Generated when you create a custom app.

- An \*\*APP Secret Key\*\*: Generated when you create a custom app.

To set up the credential, you'll need to create and install a custom app:

1. Enter your \*\*Shop Subdomain\*\*.

- Your subdomain is within the URL: `https://<subdomain>.myshopify.com`. For example, if the full URL is `https://n8n.myshopify.com`, the Shop Subdomain is `n8n`.

2. In Shopify, go to \*\*Admin > Settings >\*\* [\*\*Apps and sales channels\*\*](https://admin.shopify.com/settings/apps){:target=\_blank .external-link}.

3. Select \*\*Develop apps\*\*.

4. Select \*\*Create a custom app\*\*.

/// note | Don't see this option?

If you don't see this option, your store probably doesn't have custom app development enabled. Refer to [Enable custom app development](#enable-custom-app-development) for more information.

///

5. In the modal window, enter the \*\*App name\*\*.

6. Select an \*\*App developer\*\*. The app developer can be the store owner or any account with the \*\*Develop apps\*\* permission.

7. Select \*\*Create app\*\*.

8. Select \*\*Select scopes\*\*. In the \*\*Admin API access scopes\*\* section, select the API scopes you want for your app.

- To use all functionality in the [Shopify](/integrations/builtin/app-nodes/n8n-nodes-base.shopify.md) node, add the `read\_orders`, `write\_orders`, `read\_products`, and `write\_products` scopes.

- Refer to [Shopify API Access Scopes](https://shopify.dev/docs/api/usage/access-scopes){:target=\_blank .external-link} for more information on the available scopes.

9. Select \*\*Save\*\*.

10. Select \*\*Install app\*\*.

11. In the modal window, select \*\*Install app\*\*.

12. Open the app's \*\*API Credentials\*\* section.

13. Copy the \*\*Admin API Access Token\*\*. Enter this in your n8n credential as the \*\*Access Token\*\*.

14. Copy the \*\*API Secret Key\*\*. Enter this in your n8n credential as the \*\*APP Secret Key\*\*.

Refer to [Creating a custom app](https://help.shopify.com/en/manual/apps/app-types/custom-apps){:target=\_blank .external-link} and [Generate access tokens for custom apps in the Shopify admin](https://shopify.dev/docs/apps/build/authentication-authorization/access-token-types/generate-app-access-tokens-admin){:target=\_blank .external-link} for more information on these steps.

## Using OAuth2

To configure this credential, you'll need a [Shopify partner](https://www.shopify.com/partners){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*: Generated when you create a custom app.

- A \*\*Client Secret\*\*: Generated when you create a custom app.

- Your \*\*Shop Subdomain\*\*

To set up the credential, you'll need to create and install a custom app:

/// note | Custom app development

Shopify provides templates for creating new apps. The instructions below only cover the elements necessary to set up your n8n credential. Refer to Shopify's [Build dev docs](https://shopify.dev/docs/apps/build){:target=\_blank .external-link} for more information on building apps and working with app templates.

///

1. Open your [Shopify Partner dashboard](https://partners.shopify.com/){:target=\_blank .external-link}.

2. Select \*\*Apps\*\* from the left navigation.

3. Select \*\*Create app\*\*.

4. In the \*\*Use Shopify Partners\*\* section, enter an \*\*App name\*\*.

6. Select \*\*Create app\*\*.

7. When the app details open, copy the \*\*Client ID\*\*. Enter this in your n8n credential.

8. Copy the \*\*Client Secret\*\*. Enter this in your n8n credential.

9. In the left menu, select \*\*Configuration\*\*.

10. In n8n, copy the \*\*OAuth Redirect URL\*\* and paste it into the \*\*Allowed redirection URL(s)\*\* in the \*\*URLs\*\* section.

10. In the \*\*URLs\*\* section, enter an \*\*App URL\*\* for your app. The host entered here needs to match the host for the \*\*Allowed redirection URL(s)\*\*, like the base URL for your n8n instance.

8. Select \*\*Save and release\*\*.

1. Select \*\*Overview\*\* from the left menu. At this point, you can choose to \*\*Test your app\*\* by installing it to one of your stores, or \*\*Choose distribution\*\* to distribute it publicly.

1. In n8n, enter the \*\*Shop Subdomain\*\* of the store you installed the app to, either as a test or as a distribution.

- Your subdomain is within the URL: `https://<subdomain>.myshopify.com`. For example, if the full URL is `https://n8n.myshopify.com`, the Shop Subdomain is `n8n`.

## Using API key

/// warning | Method deprecated

Shopify no longer generates API keys with passwords. Use the [Access token](#using-access-token) method instead.

///

To configure this credential, you'll need:

- An \*\*API Key\*\*

- A \*\*Password\*\*

- Your \*\*Shop Subdomain\*\*: Your subdomain is within the URL: `https://<subdomain>.myshopify.com`. For example, if the full URL is `https://n8n.myshopify.com`, the Shop Subdomain is `n8n`.

- \_Optional:\_ A \*\*Shared Secret\*\*

## Common issues

Here are some common issues setting up the Shopify credential and steps to resolve or troubleshoot them.

### Enable custom app development

If you don't see the option to \*\*Create a custom app\*\*, no one's enabled custom app development for your store.

To enable custom app development, you must log in either as a store owner or as a user with the \*\*Enable app development\*\* permission:

1. In Shopify, go to \*\*Admin > Settings >\*\* [\*\*Apps and sales channels\*\*](https://admin.shopify.com/settings/apps){:target=\_blank .external-link}.

2. Select \*\*Develop apps\*\*.

3. Select \*\*Allow custom app development\*\*.

4. Read the warning and information provided and select \*\*Allow custom app development\*\*.

### Forbidden credentials error

<!-- vale off -->

If you get a \*\*Couldn't connect with these settings / Forbidden - perhaps check your credentials\*\* warning when you test the credentials, this may be due to your app's [access scope](https://shopify.dev/docs/api/usage/access-scopes){:target=\_blank .external-link} dependencies. For example, the `read\_orders` scope also requires `read\_products` scope. Review the scopes you have assigned and the action you're trying to complete.

<!-- vale on -->

## shuffler.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Shuffler credentials

description: Documentation for the Shuffler credentials. Use these credentials to authenticate Shuffle in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Shuffler credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Shuffler](https://shuffler.io){:target=\_blank .external-link} account on either a cloud or self-hosted instance.

## Supported authentication methods

- API key

## Related resources

Refer to [Shuffler's documentation](https://shuffler.io/docs/API#authentication){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/shuffler/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Get your API key from the \*\*Settings\*\* page.

## signl4.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SIGNL4 credentials

description: Documentation for SIGNL4 credentials. Use these credentials to authenticate SIGNL4 in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# SIGNL4 credentials

You can use these credentials to authenticate the following nodes:

- [SIGNL4](/integrations/builtin/app-nodes/n8n-nodes-base.signl4.md)

## Prerequisites

Create a [SIGNL4](https://www.signl4.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- Webhook secret

## Related resources

Refer to [SIGNL4's Inbound Webhook documentation](https://connect.signl4.com/webhook/docs/index.html){:target=\_blank .external-link} for more information about the service.

## Using webhook secret

To configure this credential, you'll need:

- A \*\*Team Secret\*\*: SIGNL4 includes this secret in the "✅ Sign up complete" email as the last part of the webhook URL. If your webhook URL is `https://connect.signl4.com/webhook/helloworld`, your team secret would be `helloworld`.

## slack.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Slack credentials

description: Documentation for Slack credentials. Use these credentials to authenticate Slack in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Slack credentials

You can use these credentials to authenticate the following nodes:

- [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md)

- [Slack Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.slacktrigger.md)

## Supported authentication methods

- API access token:

- Required for the [Slack Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.slacktrigger.md) node.

- Works with the [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) node, but not recommended.

- OAuth2:

- Recommended method for the [Slack](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) node.

- Doesn't work with the [Slack Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.slacktrigger.md) node.

## Related resources

Refer to [Slack's API documentation](https://api.slack.com/apis){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need a [Slack](https://slack.com/){:target=\_blank .external-link} account and:

- An \*\*Access Token\*\*

To generate an access token, create a Slack app:

1. Open your [Slack API Apps](https://api.slack.com/apps){:target=\_blank .external-link} page.

2. Select \*\*Create New App > From scratch\*\*.

3. Enter an \*\*App Name\*\*.

4. Select the \*\*Workspace\*\* where you'll be developing your app.

5. Select \*\*Create App\*\*. The app details open.

6. In the left menu under \*\*Features\*\*, select \*\*OAuth & Permissions\*\*.

8. In the \*\*Scopes\*\* section, select appropriate scopes for your app. Refer to [Scopes](#scopes) for a list of recommended scopes.

9. After you've added scopes, go up to the \*\*OAuth Tokens\*\* section and select \*\*Install to Workspace\*\*. You must be a Slack workspace admin to complete this action.

10. Select \*\*Allow\*\*.

12. Copy the \*\*Bot User OAuth Token\*\* and enter it as the \*\*Access Token\*\* in your n8n credential.

13. If you're using this credential for the [Slack Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.slacktrigger.md), follow the steps in [Slack Trigger configuration](#slack-trigger-configuration) to finish setting up your app.

Refer to the Slack API [Quickstart](https://api.slack.com/quickstart){:target=\_blank .external-link} for more information.

### Slack Trigger configuration

To use your Slack app with the [Slack Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.slacktrigger.md) node:

1. Go to \*\*Features\*\* > \*\*Event Subscriptions\*\*.

2. Turn on the \*\*Enable Events\*\* control.

3. In n8n, copy the \*\*Webhook URL\*\* and enter it as the \*\*Request URL\*\* in your Slack app.

/// note | Request URL

Slack only allows one request URL per app. If you want to test your workflow, you'll need to do one of the following:

- Test with your \*\*Test URL\*\* first, then change your Slack app to use the \*\*Production URL\*\* once you've verified everything's working

- Use the \*\*Production URL\*\* with execution logging.

///

4. Once verified, select the bot events to subscribe to. Use the \*\*Trigger on\*\* field in n8n to filter these requests.

- To use an event not in the list, add it as a bot event and select \*\*Any Event\*\* in the n8n node.

Refer to [Quickstart | Configuring the app for event listening](https://api.slack.com/quickstart#listening){:target=\_blank .external-link} for more information.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting n8n](/hosting/index.md) and need to configure OAuth2 from scratch, you'll need a [Slack](https://slack.com/){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To get both, create a Slack app:

1. Open your [Slack API Apps](https://api.slack.com/apps){:target=\_blank .external-link} page.

2. Select \*\*Create New App > From scratch\*\*.

3. Enter an \*\*App Name\*\*.

4. Select the \*\*Workspace\*\* where you'll be developing your app.

5. Select \*\*Create App\*\*. The app details open.

6. In \*\*Settings > Basic Information\*\*, open the \*\*App Credentials\*\* section.

7. Copy the \*\*Client ID\*\* and \*\*Client Secret\*\*. Paste these into the corresponding fields in n8n.

6. In the left menu under \*\*Features\*\*, select \*\*OAuth & Permissions\*\*.

7. In the \*\*Redirect URLs\*\* section, select \*\*Add New Redirect URL\*\*.

8. Copy the \*\*OAuth Callback URL\*\* from n8n and enter it as the new Redirect URL in Slack.

9. Select \*\*Add\*\*.

10. Select \*\*Save URLs\*\*.

11. In the \*\*Scopes\*\* section, select appropriate scopes for your app. Refer to [Scopes](#scopes) for a list of scopes.

13. After you've added scopes, go up to the \*\*OAuth Tokens\*\* section and select \*\*Install to Workspace\*\*. You must be a Slack workspace admin to complete this action.

14. Select \*\*Allow\*\*.

15. At this point, you should be able to select the OAuth button in your n8n credential to connect.

Refer to the Slack API [Quickstart](https://api.slack.com/quickstart){:target=\_blank .external-link} for more information. Refer to the Slack [Installing with OAuth](https://api.slack.com/authentication/oauth-v2){:target=\_blank .external-link} documentation for more details on the OAuth flow itself.

## Scopes

Scopes determine what permissions an app has.

\* If you want your app to act on behalf of users who authorize the app, add the required scopes under the \*\*User Token Scopes\*\* section.

\* If you're building a bot, add the required scopes under the \*\*Bot Token Scopes\*\* section.

Here's the list of scopes the OAuth credential requires, which are a good starting point:

| \*\*Scope name\*\* | \*\*Notes\*\* |

| --- | --- |

| `channels:read` | |

| `channels:write` | Not available as a bot token scope |

| `chat:write` | |

| `files:read` | |

| `files:write` | |

| `groups:read` | |

| `im:read` | |

| `mpim:read` | |

| `reactions:read` | |

| `reactions:write` | |

| `stars:read`| Not available as a bot token scope |

| `stars:write` | Not available as a bot token scope |

| `usergroups:read` | |

| `usergroups:write` | |

| `users.profile:read` | |

| `users.profile:write` | Not available as a bot token scope |

| `users:read` | |

## Common issues

### Token expired

--8<-- "\_snippets/integrations/builtin/credentials/slack/token-rotation.md"

## sms77.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: seven credentials

description: Documentation for seven credentials. Use these credentials to authenticate seven in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# seven credentials

You can use these credentials to authenticate the following nodes:

- [seven](/integrations/builtin/app-nodes/n8n-nodes-base.sms77.md)

## Prerequisites

Create a [seven](https://www.seven.io/en){:target=\_blank .external-link} developer account.

## Supported authentication methods

- API key

## Related resources

Refer to [seven's API documentation](https://docs.seven.io/en){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API key\*\*: Go to \*\*Account > Developer >\*\* [\*\*API Keys\*\*](https://app.seven.io/developer#create-api-key){:target=\_blank .external-link} to create an API key. Refer to [API First Steps](https://docs.seven.io/en/rest-api/first-steps){:target=\_blank .external-link} for more information.

## snowflake.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Snowflake credentials

description: Documentation for Snowflake credentials. Use these credentials to authenticate Snowflake in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Snowflake credentials

You can use these credentials to authenticate the following nodes:

- [Snowflake](/integrations/builtin/app-nodes/n8n-nodes-base.snowflake.md)

## Prerequisites

Create a [Snowflake](https://www.snowflake.com/en/){:target=\_blank .external-link} account.

## Supported authentication methods

- Database connection

## Related resources

Refer to [Snowflake's API documentation](https://docs.snowflake.com/en/api-reference){:target=\_blank .external-link} and [SQL Command Reference](https://docs.snowflake.com/en/sql-reference-commands){:target=\_blank .external-link} for more information about the service.

## Using database connection

To configure this credential, you'll need:

- An \*\*Account\*\* name: Your account name is the string of characters located between `https://` and `snowflakecomputing.com` in your Snowflake URL. For example, if the URL of your Snowflake account is `https://abc.eu-central-1.snowflakecomputing.com` then the name of your account is `abc.eu-central-1`.

- A \*\*Database\*\*: Enter the name of the [database](https://docs.snowflake.com/en/sql-reference/sql/use-database){:target=\_blank .external-link} the credential should connect to.

- A \*\*Warehouse\*\*: Enter the name of the default virtual [warehouse](https://docs.snowflake.com/en/sql-reference/sql/use-warehouse){:target=\_blank .external-link} to use for the session after connecting. n8n uses this warehouse for performing queries, loading data, and so on.

- A \*\*Username\*\*

- A \*\*Password\*\*

- A \*\*Schema\*\*: Enter the [schema](https://docs.snowflake.com/en/sql-reference/sql/use-schema){:target=\_blank .external-link} you want to use after connecting.

- A \*\*Role\*\*: Enter the security [role](https://docs.snowflake.com/en/sql-reference/sql/use-role){:target=\_blank .external-link} you want to use after connecting.

- \*\*Client Session Keep Alive\*\*: By default, client connections typically time out three or four hours after the most recent query execution. Turning this setting on sets the `clientSessionKeepAlive` parameter to true: the server will keep the client's connection alive indefinitely, even if the connection doesn't execute any queries.

Refer to [Session Commands](https://docs.snowflake.com/en/sql-reference/commands-session){:target=\_blank .external-link} for more information on these settings.

## solarwindsipam.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SolarWinds IPAM credentials

description: Documentation for the SolarWinds IPAM credentials. Use these credentials to authenticate SolarWinds IPAM in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# SolarWinds IPAM credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Supported authentication methods

\* Username & Password

## Related resources

Refer to [SolarWinds IPAM's API documentation](https://github.com/solarwinds/OrionSDK/wiki/REST){:target=\_blank .external-link} for more information about the service.

## Using Username & Password

To configure this credential, you'll need a SolarWinds IPAM account and:

- \*\*URL\*\*: The base URL of your SolarWinds IPAM server

- \*\*Username\*\*: The username you use to access SolarWinds IPAM

- \*\*Password\*\*: The password you use to access SolarWinds IPAM

Refer to [SolarWinds IPAM's API documentation](https://github.com/solarwinds/OrionSDK/wiki/REST){:target=\_blank .external-link} for more information about authenticating to the service.

## solarwindsobservability.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SolarWinds Observability SaaS credentials

description: Documentation for the SolarWinds Observability SaaS credential, Use these credentials to authenticate SolarWinds Observability SaaS in n8n, a workflow automation platform

contentType: [integration, reference]

---

# SolarWinds Observability SaaS credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Supported authentication methods

\* API Token

## Related resources

Refer to [SolarWinds Observability SaaS's API documentation](https://documentation.solarwinds.com/en/success\_center/observability/content/api/api-swagger.htm){:target=\_blank .external-link} for more information about the service.

## Using API Token

To configure this credential, you'll need a SolarWinds Observability SaaS account and:

- \*\*URL\*\*: The URL you use to access the SolarWinds Observability SaaS platform

- \*\*API Token\*\*: An API token found in the SolarWinds Observability SaaS platform under \*\*Settings > Api Tokens\*\*

Refer to [SolarWinds Observability SaaS's API documentation](https://documentation.solarwinds.com/en/success\_center/observability/content/settings/api-tokens.htm){:target=\_blank .external-link} for more information about authenticating to the service.

## splunk.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Splunk credentials

description: Documentation for Splunk credentials. Use these credentials to authenticate Splunk in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Splunk credentials

You can use these credentials to authenticate the following nodes:

- [Splunk](/integrations/builtin/app-nodes/n8n-nodes-base.splunk.md)

## Prerequisites

- [Download and install](https://www.splunk.com/en\_us/download/splunk-enterprise.html){:target=\_blank .external-link} Splunk Enterprise.

- [Enable token authentication](https://docs.splunk.com/Documentation/Splunk/9.2.1/Security/EnableTokenAuth){:target=\_blank .external-link} in \*\*Settings > Tokens\*\*.

/// note | Free trial Splunk Cloud Platform accounts can't access the REST API

Free trial Splunk Cloud Platform accounts don't have access to the REST API. Ensure you have the necessary permissions. Refer to [Access requirements and limitations for the Splunk Cloud Platform REST API](https://docs.splunk.com/Documentation/SplunkCloud/8.2.2203/RESTTUT/RESTandCloud){:target=\_blank .external-link} for more details.

///

## Supported authentication methods

- API auth token

## Related resources

Refer to [Splunk's Enterprise API documentation](https://docs.splunk.com/Documentation/Splunk/latest/RESTREF/RESTprolog){:target=\_blank .external-link} for more information about the service.

## Using API auth token

To configure this credential, you'll need:

- An \*\*Auth Token\*\*: Once you've enabled token authentication, create an auth token in \*\*Settings > Tokens\*\*. Refer to [Creating authentication tokens](https://docs.splunk.com/Documentation/Splunk/9.2.1/Security/CreateAuthTokens){:target=\_blank .external-link} for more information.

- A \*\*Base URL\*\*: For your Splunk instance. This should include the protocol, domain, and port, for example: `https://localhost:8089`.

- \*\*Allow Self-Signed Certificates\*\*: If turned on, n8n will connect even if SSL validation fails.

## Required capabilities

Your Splunk platform account and role must have certain capabilities to create authentication tokens:

- `edit\_tokens\_own`: Required if you want to create tokens for yourself.

- `edit\_tokens\_all`: Required if you want to create tokens for any user on the instance.

Refer to [Define roles on the Splunk platform with capabilities](https://docs.splunk.com/Documentation/Splunk/9.2.1/Security/Rolesandcapabilities){:target=\_blank .external-link} for more information.

## spontit.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Spontit credentials

description: Documentation for Spontit credentials. Use these credentials to authenticate Spontit in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Spontit credentials

You can use these credentials to authenticate the following nodes:

- [Spontit](/integrations/builtin/app-nodes/n8n-nodes-base.spontit.md)

## Prerequisites

Create a [Spontit](https://www.spontit.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Spontit's API documentation](https://api.spontit.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Go to \*\*API\*\* to get a new secret key. Enter that key as your \*\*API Key\*\*.

- A \*\*Username\*\*: Enter your Spontit username. If you're unsure how to format it, open your \*\*Profile\*\* and copy the username from there.

## spotify.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Spotify credentials

description: Documentation for Spotify credentials. Use these credentials to authenticate Spotify in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Spotify credentials

You can use these credentials to authenticate the following nodes:

- [Spotify](/integrations/builtin/app-nodes/n8n-nodes-base.spotify.md)

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Spotify's Web API documentation](https://developer.spotify.com/documentation/web-api){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting](/hosting/index.md) n8n, you'll need a [Spotify Developer](https://developer.spotify.com/){:target=\_blank .external-link} account so you can create a Spotify app:

1. Open the [Spotify developer dashboard](https://developer.spotify.com/dashboard){:target=\_blank .external-link}.

2. Select \*\*Create an app\*\*.

3. Enter an \*\*App name\*\*, like `n8n integration`.

4. Enter an \*\*App description\*\*.

5. Copy the \*\*OAuth Redirect URL\*\* from n8n and enter it as the \*\*Redirect URI\*\* in your Spotify app.

6. Check the box to agree to the Spotify Terms of Service and Branding Guidelines.

7. Select \*\*Create\*\*. The \*\*App overview\*\* page opens.

8. Copy the \*\*Client ID\*\* and enter it in your n8n credential.

9. Copy the \*\*Client Secret\*\* and enter it in your n8n credential.

10. Select \*\*Connect my account\*\* and follow the on-screen prompts to finish authorizing the credential.

Refer to [Spotify Apps](https://developer.spotify.com/documentation/web-api/concepts/apps){:target=\_blank .external-link} for more information.

## ssh.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SSH credentials

description: Documentation for SSH credentials. Use these credentials to authenticate SSH in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# SSH credentials

You can use these credentials to authenticate the following nodes:

- [SSH](/integrations/builtin/core-nodes/n8n-nodes-base.ssh.md)

## Prerequisites

- Create a remote server with SSH enabled.

- Create a user account that can `ssh` into the server using one of the following:

- Their own [password](#using-password)

- An SSH [private key](#using-private-key)

## Supported authentication methods

- [Password](#using-password): Use this method if you have a user account that can `ssh` into the server using their own password.

- [Private key](#using-private-key): Use this method if you have a user account that uses an SSH key for the server or service.

## Related resources

Secure Shell (SSH) protocol is a method for securely sending commands over a network. Refer to [Connecting to GitHub with SSH](https://docs.github.com/en/github/authenticating-to-github/connecting-to-github-with-ssh) for an example of SSH setup.

## Using password

Use this method if you have a user account that can `ssh` into the server using their own password.

To configure this credential, you'll need to:

1. Enter the IP address of the server you're connecting to as the \*\*Host\*\*.

2. Enter the \*\*Port\*\* to use for the connection. SSH uses port `22` by default.

3. Enter the \*\*Username\*\* for a user account with `ssh` access on the server.

4. Enter the \*\*Password\*\* for that user account.

## Using private key

Use this method if you have a user account that uses an SSH key for the server or service.

To configure this credential, you'll need to:

1. Enter the IP address of the server you're connecting to as the \*\*Host\*\*.

2. Enter the \*\*Port\*\* to use for the connection. SSH uses port `22` by default.

3. Enter the \*\*Username\*\* of the account that generated the private key.

4. Enter the entire contents of your SSH \*\*Private Key\*\*.

5. If you created a \*\*Passphrase\*\* for the \*\*Private Key\*\*, enter the passphrase.

- If you didn't create a passphrase for the key, leave blank.

## stackby.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Stackby credentials

description: Documentation for Stackby credentials. Use these credentials to authenticate Stackby in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Stackby credentials

You can use these credentials to authenticate the following nodes:

- [Stackby](/integrations/builtin/app-nodes/n8n-nodes-base.stackby.md)

## Prerequisites

Create a [Stackby](https://stackby.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Stackby's API documentation](https://documenter.getpostman.com/view/27762116/2s9YBxXvCa){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Go to your [\*\*Account Settings > API\*\*](https://www.stackby.com/account){:target=\_blank .external-link} to create an API Key. Refer to [API Key](https://help.stackby.com/en/article/95-api-key){:target=\_blank .external-link} for more information.

## storyblok.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Storyblok credentials

description: Documentation for Storyblok credentials. Use these credentials to authenticate Storyblok in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Storyblok credentials

You can use these credentials to authenticate the following nodes:

- [Storyblok](/integrations/builtin/app-nodes/n8n-nodes-base.storyblok.md)

## Prerequisites

Create a [Storyblok](https://www.storyblok.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- Content API key: For read-only access

- Management API key: For full CRUD operations

/// note | Content API support

n8n supports Content API v1 only.

///

## Related resources

Refer to Storyblok's [Content v1 API documentation](https://www.storyblok.com/docs/api/content-delivery/v1){:target=\_blank .external-link} and [Management API documentation](https://www.storyblok.com/docs/api/management/getting-started/introduction){:target=\_blank .external-link} for more information about the services.

## Using Content API key

To configure this credential, you'll need:

- A Content \*\*API Key\*\*: Go to your Storyblok workspace's \*\*Settings > Access Tokens\*\* to get an API key. Choose an \*\*Access Level\*\* of either \*\*Public\*\* (`version=published`) or \*\*Preview\*\* (`version-published` and `version=draft`). Enter this access token as your \*\*API Key\*\*. Refer to [How to retrieve and generate access tokens](https://www.storyblok.com/faq/retrieve-and-generate-access-tokens){:target=\_blank .external-link} for more detailed instructions.

Refer to [Content v1 API Authentication](https://www.storyblok.com/docs/api/content-delivery/v1#topics/authentication){:target=\_blank .external-link} for more information about supported operations with each Access Level.

## Using Management API key

To configure this credential, you'll need:

- A \*\*Personal Access Token\*\*: Go to [\*\*My Account\*\*](https://app.storyblok.com/#!/me/account){:target=\_blank .external-link} \*\*> Personal access tokens\*\* to generate a new access token. Enter this access token as your \*\*Personal Access Token\*\*.

## strapi.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Strapi credentials

description: Documentation for Strapi credentials. Use these credentials to authenticate Strapi in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Strapi credentials

You can use these credentials to authenticate the following nodes:

- [Strapi](/integrations/builtin/app-nodes/n8n-nodes-base.strapi.md)

## Prerequisites

Create a [Strapi](https://strapi.io/){:target=\_blank .external-link} admin account with:

- Access to an existing Strapi project.

- At least one collection type within that project.

- Published data within that collection type.

Refer to the Strapi developer [Quick Start Guide](https://docs.strapi.io/dev-docs/quick-start){:target=\_blank .external-link} for more information.

## Supported authentication methods

- API user account: Requires a user account with appropriate content permissions.

- API token: Requires an admin account.

## Related resources

Refer to [Strapi's documentation](https://docs.strapi.io/dev-docs/api/rest){:target=\_blank .external-link} for more information about the service.

## Using API user account

To configure this credential, you'll need:

- A user \*\*Email\*\*: Must be for a user account, not an admin account. Refer to the more detailed instructions below.

- A user \*\*Password\*\*: Must be for a user account, not an admin account. Refer to the more detailed instructions below.

- The \*\*URL\*\*: Use the public URL of your Strapi server, defined in `./config/server.js` as the `url` parameter. Strapi recommends using an absolute URL.

- For Strapi Cloud projects, use the URL of your Cloud project, for example: `https://my-strapi-project-name.strapiapp.com`

- The \*\*API Version\*\*: Select the version of the API you want your calls to use. Options include:

- \*\*Version 3\*\*

- \*\*Version 4\*\*

In Strapi, the configuration involves two steps:

1. [Configure a role](#configure-a-role).

2. [Create a user account](#create-a-user-account).

Refer to the more detailed instructions below for each step.

### Configure a role

For API access, use the Users & Permissions Plugin in \*\*Settings > Users & Permissions Plugin\*\*.

Refer to [Configuring Users & Permissions Plugin](https://docs.strapi.io/user-docs/settings/configuring-users-permissions-plugin-settings){:target=\_blank .external-link} for more information on the plugin. Refer to [Configuring end-user roles](https://docs.strapi.io/user-docs/users-roles-permissions/configuring-end-users-roles){:target=\_blank .external-link} for more information on roles.

For the n8n credential, the user must have a role that grants them API permissions on the collection type. For the role, you can either:

\* Update the default \*\*Authenticated\*\* role to include the permissions and assign the user to that role. Refer to [Configuring role's permissions](https://docs.strapi.io/user-docs/users-roles-permissions/configuring-end-users-roles#configuring-roles-permissions){:target=\_blank .external-link} for more information.

\* Create a new role to include the permissions and assign the user to that role. Refer to [Creating a new role](https://docs.strapi.io/user-docs/users-roles-permissions/configuring-end-users-roles#creating-a-new-role){:target=\_blank .external-link} for more information.

For either option, once you open the role:

1. Go to the \*\*Permissions\*\* section.

2. Open the section for the relevant collection type.

3. Select the permissions for the collection type that the role should have. Options include:

- `create` (POST)

- `find` and `findone` (GET)

- `update` (PUT)

- `delete` (DELETE)

4. Repeat for all relevant collection types.

5. Save the role.

Refer to [Endpoints](https://docs.strapi.io/dev-docs/api/rest#endpoints){:target=\_blank .external-link} for more information on the permission options.

### Create a user account

Now that you have an appropriate role, create an end-user account and assign the role to it:

1. Go to \*\*Content Manager > Collection Types > User\*\*.

2. Select \*\*Add new entry\*\*.

3. Fill in the user details. The n8n credential requires these fields, though your Strapi project may have more custom required fields:

- \*\*Username\*\*: Required for all Strapi users.

- \*\*Email\*\*: Enter in Strapi and use as the \*\*Email\*\* in the n8n credential.

- \*\*Password\*\*: Enter in Strapi and use as the \*\*Password\*\* in the n8n credential.

- \*\*Role\*\*: Select the role you set up in the previous step.

Refer to [Managing end-user accounts](https://docs.strapi.io/user-docs/users-roles-permissions/managing-end-users){:target=\_blank .external-link} for more information.

## Using API token

To configure this credential, you'll need:

- An \*\*API Token\*\*: Create an API token from \*\*Settings > Global Settings > API Tokens\*\*. Refer to Strapi's [Creating a new API token documentation](https://docs.strapi.io/user-docs/settings/API-tokens#creating-a-new-api-token){:target=\_blank .external-link} for more details and information on regenerating API tokens.

/// note | API tokens permission

If you don't see the \*\*API tokens\*\* option in \*\*Global settings\*\*, your account doesn't have the \*\*API tokens > Read\*\* permission.

///

- The \*\*URL\*\*: Use the public URL of your Strapi server, defined in `./config/server.js` as the `url` parameter. Strapi recommends using an absolute URL.

- For Strapi Cloud projects, use the URL of your Cloud project, for example: `https://my-strapi-project-name.strapiapp.com`

- The \*\*API Version\*\*: Select the version of the API you want your calls to use. Options include:

- \*\*Version 3\*\*

- \*\*Version 4\*\*

## strava.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Strava credentials

description: Documentation for Strava credentials. Use these credentials to authenticate Strava in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Strava credentials

You can use these credentials to authenticate the following nodes:

- [Strava](/integrations/builtin/app-nodes/n8n-nodes-base.strava.md)

- [Strava Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.stravatrigger.md)

## Prerequisites

- Create a [Strava](https://strava.com){:target=\_blank .external-link} account.

- Create a Strava application in [\*\*Settings > API\*\*](https://www.strava.com/settings/api){:target=\_blank .external-link}. Refer to [Using OAuth2](#using-oauth2) for more information.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Strava's API documentation](https://developers.strava.com/docs/reference/){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you [create a Strava app](https://developers.strava.com/docs/getting-started/#account){:target=\_blank .external-link}.

- A \*\*Client Secret\*\*: Generated when you [create a Strava app](https://developers.strava.com/docs/getting-started/#account){:target=\_blank .external-link}.

Use these settings for your Strava app:

- In n8n, copy the \*\*OAuth Callback URL\*\*. Paste this URL into your Strava app's \*\*Authorization Callback Domain\*\*.

- Remove the protocol (`https://` or `http://`) and the relative URL (`/oauth2/callback` or `/rest/oauth2-credential/callback`) from the \*\*Authorization Callback Domain\*\*. For example, if the OAuth Redirect URL was originally `https://oauth.n8n.cloud/oauth2/callback`, the \*\*Authorization Callback Domain\*\* would be `oauth.n8n.cloud`.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* from your app and add them to your n8n credential.

Refer to [Authentication](https://developers.strava.com/docs/authentication/){:target=\_blank .external-link} for more information about Strava's OAuth flow.

## stripe.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Stripe credentials

description: Documentation for Stripe credentials. Use these credentials to authenticate Stripe in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Stripe credentials

You can use these credentials to authenticate the following nodes:

- [Stripe Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.stripetrigger.md)

- [Stripe](/integrations/builtin/app-nodes/n8n-nodes-base.stripe.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Stripe's API documentation](https://docs.stripe.com/api){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need a [Stripe](https://stripe.com/){:target=\_blank .external-link} admin or developer account and:

- An API \*\*Secret Key\*\*

Before you generate an API key, decide whether to generate it in live mode or test mode. Refer to [Test mode and live mode](#test-mode-and-live-mode) for more information about the two modes.

### Live mode Secret key

To generate a Secret key in live mode:

1. Open the [Stripe developer dashboard](https://dashboard.stripe.com/developers){:target=\_blank .external-link} and select [\*\*API Keys\*\*](https://dashboard.stripe.com/apikeys){:target=\_blank .external-link}.

2. In the \*\*Standard Keys\*\* section, select \*\*Create secret key\*\*.

3. Enter a \*\*Key name\*\*, like `n8n integration`.

4. Select \*\*Create\*\*. The new API key displays.

4. Copy the key and enter it in your n8n credential as the \*\*Secret Key\*\*.

Refer to Stripe's [Create a secret API key](https://docs.stripe.com/keys#create-api-secret-key){:target=\_blank .external-link} for more information.

### Test mode Secret key

To use a Secret key in test mode, you must copy the existing one:

1. Go to your [Stripe test mode developer dashboard](https://dashboard.stripe.com/test/developers){:target=\_blank .external-link} and select [\*\*API Keys\*\*](https://dashboard.stripe.com/test/apikeys){:target=\_blank .external-link}.

2. In the \*\*Standard Keys\*\* section, select \*\*Reveal test key\*\* for the \*\*Secret key\*\*.

3. Copy the key and enter it in your n8n credential as the \*\*Secret Key\*\*.

Refer to Stripe's [Create a secret API key](https://docs.stripe.com/keys#create-api-secret-key){:target=\_blank .external-link} for more information.

## Test mode and live mode

All Stripe API requests happen within either [test mode](https://docs.stripe.com/test-mode) or live mode. Each mode has its own API key.

Use test mode to access simulated test data and live mode to access actual account data. Objects in one mode aren’t accessible to the other.

Refer to [API keys | Test mode versus live mode](https://docs.stripe.com/keys#test-live-modes){:target=\_blank .external-link} for more information about what's available in each mode and guidance on when to use each.

/// note | n8n credentials for both modes

If you want to work with both live mode and test mode keys, store each mode's key in a separate n8n credential.

///

## Key prefixes

Stripes' Secret keys always begin with `sk\_`:

- Live keys begin with `sk\_live\_`.

- Test keys begin with `sk\_test\_`.

n8n hasn't tested these credentials with Restricted keys (prefixed `rk\_`).

/// warning | Publishable keys

Don't use the Publishable keys (prefixed `pk\_`) with your n8n credential.

///

## supabase.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Supabase credentials

description: Documentation for Supabase credentials. Use these credentials to authenticate Supabase in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Supabase credentials

You can use these credentials to authenticate the following nodes:

- [Supabase](/integrations/builtin/app-nodes/n8n-nodes-base.supabase/index.md)

- [Supabase Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoresupabase.md)

## Prerequisites

Create a [Supabase](https://supabase.com/dashboard/sign-up){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Supabase's API documentation](https://supabase.com/docs/guides/api){:target=\_blank .external-link} for more information about the service.

## Using access token

To configure this credential, you'll need:

- A \*\*Host\*\*

- A \*\*Service Role Secret\*\*

To generate your API Key:

<!-- vale off -->

1. In your Supabase account, go to the \*\*Dashboard\*\* and create or select a project for which you want to create an API key.

2. Go to [\*\*Project Settings > API\*\*](https://supabase.com/dashboard/project/\_/settings/api){:target=\_blank .external-link} to see the API Settings for your project.

3. Copy the \*\*URL\*\* from the \*\*Project URL\*\* section and enter it as your n8n \*\*Host\*\*. Refer to [API URL and keys](https://supabase.com/docs/guides/api#api-url-and-keys){:target=\_blank .external-link} for more detailed instruction.

4. Reveal and copy the \*\*Project API key\*\* for the `service\_role`. Copy that key and enter it as your n8n \*\*Service Role Secret\*\*. Refer to [Understanding API Keys](https://supabase.com/docs/guides/api/api-keys){:target=\_blank .external-link} for more information on the `service\_role` privileges.

<!-- vale on -->

## surveymonkey.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SurveyMonkey credentials

description: Documentation for SurveyMonkey credentials. Use these credentials to authenticate SurveyMonkey in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# SurveyMonkey credentials

You can use these credentials to authenticate the following nodes:

- [SurveyMonkey Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.surveymonkeytrigger.md)

## Prerequisites

- Create a [SurveyMonkey](https://www.surveymonkey.com){:target=\_blank .external-link} account.

- [Register an app](https://api.surveymonkey.com/v3/docs?api\_key=3yr7n6m8sjwvm48x8nhxej52#registering-an-app){:target=\_blank .external-link} from your [\*\*Developer dashboard > My apps\*\*](https://developer.surveymonkey.com/apps/){:target=\_blank .external-link}.

- Refer to [Required app scopes](#required-app-scopes) for information on the scopes you must use.

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [SurveyMonkey's API documentation](https://developer.surveymonkey.com/api/v3/#SurveyMonkey-Api){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- An \*\*Access Token\*\*: Generated once you create an app.

- A \*\*Client ID\*\*: Generated once you create an app.

- A \*\*Client Secret\*\*: Generated once you create an app.

Once you've created your app and assigned appropriate scopes, go to \*\*Settings > Credentials\*\*. Copy the \*\*Access Token\*\*, \*\*Client ID\*\*, and \*\*Secret\*\* and add them to n8n.

## Using OAuth

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated once you create an app.

- A \*\*Client Secret\*\*: Generated once you create an app.

Once you've created your app and assigned appropriate scopes:

1. Go to the app's \*\*Settings > Settings\*\*.

2. From n8n, copy the \*\*OAuth Redirect URL\*\*.

3. Overwrite the app's existing \*\*OAuth Redirect URL\*\* with that URL.

4. Select \*\*Submit Changes\*\*.

5. Be sure the \*\*Scopes\*\* section contains the [Required app scopes](#required-app-scopes).

From the app's \*\*Settings > Credentials\*\*, copy the \*\*Client ID\*\* and \*\*Client Secret\*\* and add them to your n8n credential. You can now select \*\*Connect my account\*\* from n8n.

/// note | SurveyMonkey Test OAuth Flow

This option only works if you keep the default SurveyMonkey \*\*OAuth Redirect URL\*\* and add the n8n OAuth Redirect URL as an \*\*Additional Redirect URL\*\*.

///

## Required app scopes

Once you create your app, go to \*\*Settings > Scopes\*\*. Select these scopes for your n8n credential to work:

- \*\*View Surveys\*\*

- \*\*View Collectors\*\*

- \*\*View Responses\*\*

- \*\*View Response Details\*\*

- \*\*Create/Modify Webhooks\*\*

- \*\*View Webhooks\*\*

Select \*\*Update Scopes\*\* to save them.

## syncromsp.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SyncroMSP credentials

description: Documentation for SyncroMSP credentials. Use these credentials to authenticate SyncroMSP in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# SyncroMSP credentials

You can use these credentials to authenticate the following nodes:

- [SyncroMSP](/integrations/builtin/app-nodes/n8n-nodes-base.syncromsp.md)

## Prerequisites

Create a [SyncroMSP](https://syncromsp.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [SyncroMSP's API documentation](https://api-docs.syncromsp.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Called an \*\*API token\*\* in SyncroMSP. To create an API token, go to your \*\*user menu > Profile/Password > API Tokens\*\* and select the option to \*\*Create New Token\*\*. Select \*\*Custom Permissions\*\* to enter a name for your token and adjust the permissions to match your requirements.

- Your \*\*Subdomain\*\*: Enter your SyncroMSP subdomain. This is visible in the URL of your SyncroMSP, located between `https://` and `.syncromsp.com`. If your full URL is `https://n8n-instance.syncromsp.com`, you'd enter `n8n-instance` as the subdomain.

Refer to [API Tokens](https://community.syncromsp.com/t/api-tokens/2297){:target=\_blank .external-link} for more information on creating new tokens.

## sysdig.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sysdig credentials

description: Documentation for the Sysdig credentials. Use these credentials to authenticate Sysdig in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Sysdig Management credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Sysdig](https://sysdig.com){:target=\_blank .external-link} account or configure a local instance.

## Supported authentication methods

- Access Key

## Related resources

Refer to [Sysdig's documentation](https://docs.sysdig.com/en/docs/developer-tools/sysdig-api/){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more.

## Using API access key

To configure this credential, you'll need:

- An \*\*Access Key\*\*

Refer to the [Sysdig Agent Access Keys documentation](https://docs.sysdig.com/en/docs/administration/agent\_access\_key/){:target=\_blank .external-link} for instructions on obtaining the Access Key from the application.

## taiga.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Taiga credentials

description: Documentation for Taiga credentials. Use these credentials to authenticate Taiga in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Taiga credentials

You can use these credentials to authenticate the following nodes:

- [Taiga](/integrations/builtin/app-nodes/n8n-nodes-base.taiga.md)

- [Taiga Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.taigatrigger.md)

## Prerequisites

Create a [Taiga](https://taiga.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Taiga's API documentation](https://docs.taiga.io/api.html){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Username\*\*: Enter your username or user email address. Refer to [Normal login](https://docs.taiga.io/api.html#auth-normal-login){:target=\_blank .external-link} for more information.

- A \*\*Password\*\*: Enter your password.

- The \*\*Environment\*\*: Choose between \*\*Cloud\*\* or \*\*Self-Hosted\*\*. For \*\*Self-Hosted\*\* instances, you'll also need to add:

- The \*\*URL\*\*: Enter your Taiga URL.

## tapfiliate.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Tapfiliate credentials

description: Documentation for Tapfiliate credentials. Use these credentials to authenticate Tapfiliate in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Tapfiliate credentials

You can use these credentials to authenticate the following nodes:

- [Tapfiliate](/integrations/builtin/app-nodes/n8n-nodes-base.tapfiliate.md)

## Prerequisites

Create a [Tapfiliate](https://tapfiliate.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Tapfiliate's API documentation](https://tapfiliate.com/docs/rest/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Get your API Key from your [\*\*Profile Settings\*\*](https://app.tapfiliate.com/a/profile/){:target=\_blank .external-link} \*\*> API Key\*\*.

Refer to [Your API key](https://support.tapfiliate.com/en/articles/1441950-your-api-key){:target=\_blank .external-link} for more information.

## telegram.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram credentials

description: Documentation for Telegram credentials. Use these credentials to authenticate Telegram in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# Telegram credentials

You can use these credentials to authenticate the following nodes:

- [Telegram](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md)

- [Telegram Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md)

## Prerequisites

Create a [Telegram](https://telegram.org/){:target=\_blank .external-link} account.

## Supported authentication methods

- API bot access token

## Related resources

Refer to [Telegram's Bot API documentation](https://core.telegram.org/bots/api){:target=\_blank .external-link} for more information about the service.

Refer to the [Telegram Bot Features](https://core.telegram.org/bots/features){:target=\_blank .external-link} documentation for more information on creating and working with bots.

## Using API bot access token

To configure this credential, you'll need:

- A bot \*\*Access Token\*\*

To generate your access token:

1. Start a chat with the [BotFather](https://telegram.me/BotFather){:target=\_blank .external-link}.

2. Enter the `/newbot` command to create a new bot.

3. The BotFather will ask you for a name and username for your new bot:

\* The \*\*name\*\* is the bot's name displayed in contact details and elsewhere. You can change the bot name later.

\* The \*\*username\*\* is a short name used in search, mentions, and t.me links. Use these guidelines when creating your username:

\* Must be between 5 and 32 characters long.

\* Not case sensitive.

\* May only include Latin characters, numbers, and underscores.

\* Must end in `bot`, like `tetris\_bot` or `TetrisBot`.

\* You can't change the username later.

3. Copy the bot \*\*token\*\* the BotFather generates and add it as the \*\*Access Token\*\* in n8n.

Refer to the [BotFather Create a new bot documentation](https://core.telegram.org/bots/features#creating-a-new-bot) for more information.

## thehive.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TheHive credentials

description: Documentation for TheHive credentials. Use these credentials to authenticate TheHive in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# TheHive credentials

You can use these credentials to authenticate the following nodes:

- [TheHive](/integrations/builtin/app-nodes/n8n-nodes-base.thehive.md)

/// note | TheHive and TheHive 5

n8n provides two nodes for TheHive. Use these credentials with TheHive node for TheHive 3 or TheHive 4. If you're using TheHive5 node, use [TheHive 5 credentials](/integrations/builtin/credentials/thehive5.md).

///

## Prerequisites

Install [TheHive](https://github.com/TheHive-Project/TheHiveDocs/blob/master/installation/install-guide.md){:target=\_blank .external-link} on your server.

## Supported authentication methods

- API key

## Related resources

Refer to [TheHive 3's API documentation](https://docs.thehive-project.org/thehive/legacy/thehive3/api/){:target=\_blank .external-link} and [TheHive 4's API documentation](https://docs.thehive-project.org/thehive/){:target=\_blank .external-link} for more information about the services.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Create an API key from \*\*Organization > Create API Key\*\*. Refer to [API Authentication](https://docs.thehive-project.org/thehive/legacy/thehive3/api/authentication/){:target=\_blank .external-link} for more information.

- Your \*\*URL\*\*: The URL of your TheHive server.

- An \*\*API Version\*\*: Choose between:

- \*\*TheHive 3 (api v0)\*\*

- \*\*TheHive 4 (api v1)\*\*

- For TheHive 5, use [TheHive 5 credentials](/integrations/builtin/credentials/thehive5.md) instead.

- \*\*Ignore SSL Issues\*\*: When turned on, n8n will connect even if SSL certificate validation fails.

## thehive5.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TheHive 5 credentials

description: Documentation for TheHive 5 credentials. Use these credentials to authenticate TheHive in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# TheHive 5 credentials

You can use these credentials to authenticate the following nodes with TheHive 5.

- [TheHive 5](/integrations/builtin/app-nodes/n8n-nodes-base.thehive5.md)

/// note | TheHive and TheHive 5

n8n provides two nodes for TheHive. Use these credentials with TheHive 5 node. If you're using TheHive node for TheHive 3 or TheHive 4, use [TheHive credentials](/integrations/builtin/credentials/thehive.md).

///

## Prerequisites

Install [TheHive 5](https://docs.strangebee.com/thehive/download/){:target=\_blank .external-link} on your server.

## Supported authentication methods

- API key

## Related resources

Refer to [TheHive's API documentation](https://docs.strangebee.com/thehive/api-docs/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Users with `orgAdmin` and `superAdmin` accounts can generate API keys:

- `orgAdmin` account: Go to \*\*Organization > Create API Key\*\* for the user you wish to generate a key for.

- `superAdmin` account: Go to \*\*Users > Create API Key\*\* for the user you wish to generate a key for.

- Refer to [API Authentication](https://docs.strangebee.com/cortex/api/api-guide/?h=api+key#authentication){:target=\_blank .external-link} for more information.

- A \*\*URL\*\*: The URL of your TheHive server.

- \*\*Ignore SSL Issues\*\*: When turned on, n8n will connect even if SSL certificate validation fails.

## timescaledb.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TimescaleDB credentials

description: Documentation for TimescaleDB credentials. Use these credentials to authenticate TimescaleDB in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# TimescaleDB credentials

You can use these credentials to authenticate the following nodes:

- [TimescaleDB](/integrations/builtin/app-nodes/n8n-nodes-base.timescaledb.md)

## Prerequisites

An available instance of [TimescaleDB](https://www.timescale.com/){:target=\_blank .external-link}.

## Supported authentication methods

- Database connection

## Related resources

Refer to [Timescale's documentation](https://docs.timescale.com/){:target=\_blank .external-link} for more information about the service.

## Using database connection

To configure this credential, you'll need:

- The \*\*Host\*\*: The fully qualified server name or IP address of your TimescaleDB server.

- The \*\*Database\*\*: The name of the database to connect to.

- A \*\*User\*\*: The user name you want to log in with.

- A \*\*Password\*\*: Enter the password for the database user you are connecting to.

- \*\*Ignore SSL Issues\*\*: If turned on, n8n will connect even if SSL certificate validation fails and you won't see the \*\*SSL\*\* selector.

- \*\*SSL\*\*: This setting controls the `ssl-mode` connection string for the connection. Options include:

- \*\*Allow\*\*: Sets the `ssl-mode` parameter to `allow`. First try a non-SSL connection; if that fails, try an SSL connection.

- \*\*Disable\*\*: Sets the `ssl-mode` parameter to `disable`. Only try a non-SSL connection.

- \*\*Require\*\*: Sets the `ssl-mode` parameter to `require`, which is the default for TimescaleDB connection strings. Only try an SSL connection. If a root CA file is present, verify that a trusted certificate authority (CA) issued the server certificate.

- \*\*Port\*\*: The port number of the TimescaleDB server.

Refer to [Timescale's connection settings documentation](https://docs.timescale.com/use-timescale/latest/integrations/query-admin/qstudio/#connection-settings){:target=\_blank .external-link} for more information about the non-SSL fields. Refer to [Connect with a stricter SSL](https://docs.timescale.com/use-timescale/latest/security/strict-ssl/){:target=\_blank .external-link} for more information about the SSL options.

## todoist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Todoist credentials

description: Documentation for Todoist credentials. Use these credentials to authenticate Todoist in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Todoist credentials

You can use these credentials to authenticate the following nodes:

- [Todoist](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md)

## Supported authentication methods

- API key

- OAuth2

## Related resources

Refer to [Todoist's REST API documentation](https://developer.todoist.com/rest/v2/#overview){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need a [Todoist](https://todoist.com/){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*

To get your \*\*API Key\*\*:

1. In Todoist, open your [\*\*Integration settings\*\*](https://todoist.com/prefs/integrations){:target=\_blank .external-link}.

2. Select the \*\*Developer\*\* tab.

3. Copy your \*\*API token\*\* and enter it as the \*\*API Key\*\* in your n8n credential.

Refer to [Find your API token](https://todoist.com/help/articles/find-your-api-token-Jpzx9IIlB){:target=\_blank .external-link} for more information.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you're [self-hosting](/hosting/index.md) n8n, you'll need a [Todoist](https://todoist.com/){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

Get both by creating an application:

1. Open the Todoist [App Management Console](https://developer.todoist.com/appconsole.html){:target=\_blank .external-link}.

2. Select \*\*Create a new app\*\*.

3. Enter an \*\*App name\*\* for your app, like `n8n integration`.

4. Select \*\*Create app\*\*.

5. Copy the n8n \*\*OAuth Redirect URL\*\* and enter it as the \*\*OAuth redirect URL\*\* in Todoist.

6. Copy the \*\*Client ID\*\* from Todoist and enter it in your n8n credential.

7. Copy the \*\*Client Secret\*\* from Todoist and enter it in your n8n credential.

8. Configure the rest of your Todoist app as it makes sense for your use case.

Refer to the Todoist [Authorization Guide](https://developer.todoist.com/guides/#authorization){:target=\_blank .external-link} for more information.

## toggl.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Toggl credentials

description: Documentation for Toggl credentials. Use these credentials to authenticate Toggl in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Toggl credentials

You can use these credentials to authenticate the following nodes:

- [Toggl Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.toggltrigger.md)

## Prerequisites

Create a [Toggl](https://toggl.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Toggl's API documentation](https://engineering.toggl.com/docs/){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Username\*\*: Enter your user email address.

- A \*\*Password\*\*: Enter your user password.

Refer to [Authentication](https://engineering.toggl.com/docs/authentication){:target=\_blank .external-link} for more information.

## totp.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TOTP credentials

description: Documentation for TOTP credentials. Use these credentials to authenticate TOTP in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# TOTP credentials

You can use these credentials to authenticate the following nodes:

- [TOTP](/integrations/builtin/core-nodes/n8n-nodes-base.totp.md)

## Prerequisites

Generate a TOTP \*\*Secret\*\* and \*\*Label\*\*.

## Supported authentication methods

- Secret and label

## Related resources

Time-based One-time Password (TOTP) is an algorithm that generates a one-time password (OTP) using the current time. Refer to [Google Authenticator | Key URI format](https://github.com/google/google-authenticator/wiki/Key-Uri-Format){:target=\_blank .external-link} for more information.

## Using secret and label

To configure this credential, you'll need:

- A \*\*Secret\*\*: The secret key encoded in the QR code during authenticator setup. It's an arbitrary key value encoded in Base32, for example: `BVDRSBXQB2ZEL5HE`. Refer to [Google Authenticator Secret](https://github.com/google/google-authenticator/wiki/Key-Uri-Format#secret){:target=\_blank .external-link} for more information.

- A \*\*Label\*\*: The identifier for the account. It contains an account name as a URI-encoded string. You can include prefixes to identify the provider or service managing the account. If you use prefixes, use a literal or url-encoded colon to separate the issuer prefix and the account name, for example: `GitHub:john-doe`. Refer to [Google Authenticator Label](https://github.com/google/google-authenticator/wiki/Key-Uri-Format#label){:target=\_blank .external-link} for more information.

## travisci.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Travis CI credentials

description: Documentation for Travis CI credentials. Use these credentials to authenticate Travis CI in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Travis CI credentials

You can use these credentials to authenticate the following nodes:

- [Travis CI](/integrations/builtin/app-nodes/n8n-nodes-base.travisci.md)

## Prerequisites

Create a [Travis CI](https://travis-ci.org/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

## Related resources

Refer to [Travis CI's API documentation](https://docs.travis-ci.com/user/developer/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*API Token\*\*: Get your API token from \*\*Account Settings >\*\* [\*\*API Token\*\*](https://packagecloud.io/api\_token){:target=\_blank .external-link} or generate one through the Travis CI [command line client](https://github.com/travis-ci/travis.rb#installation){:target=\_blank .external-link} .

## trellixepo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Trellix ePO credentials

description: Documentation for the Trellix ePO credentials. Use these credentials to authenticate Trellix ePO in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Trellix ePO credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [Trellix ePolicy Orchestrator](https://www.trellix.com/products/epo/){:target=\_blank .external-link} account.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Trellix ePO's documentation](https://docs.trellix.com/bundle/epolicy-orchestrator-web-api-reference-guide/page/GUID-D87A6839-AED2-47B0-BE93-5BF83F710278.html){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/trellix-epo/){:target=\_blank .external-link} on n8n's website.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Username\*\* to connect as.

- A \*\*Password\*\* for that user account.

n8n uses These fields to build the `-u` parameter in the format of `-u username:pw`. Refer to [Web API basics](https://docs.trellix.com/bundle/epolicy-orchestrator-web-api-reference-guide/page/GUID-2503B69D-2BCE-4491-9969-041838B39C1F.html){:target=\_blank .external-link} for more information.

## trello.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Trello credentials

description: Documentation for Trello credentials. Use these credentials to authenticate Trello in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Trello credentials

You can use these credentials to authenticate the following nodes:

- [Trello](/integrations/builtin/app-nodes/n8n-nodes-base.trello.md)

- [Trello Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.trellotrigger.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Trello's API documentation](https://developer.atlassian.com/cloud/trello/guides/rest-api/api-introduction/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need a [Trello](https://trello.com/){:target=\_blank .external-link} account and:

- An \*\*API Key\*\*

- An \*\*API Token\*\*

To generate both the API Key and API Token, create a Trello Power-Up:

1. Open the Trello [Power-Up Admin Portal](https://trello.com/power-ups/admin){:target=\_blank .external-link}.

2. Select \*\*New\*\*.

3. Enter a \*\*Name\*\* for your Power-Up, like `n8n integration`.

4. Select the \*\*Workspace\*\* the Power-Up should have access to.

5. Leave the \*\*iframe connector URL\*\* blank.

6. Enter appropriate contact information.

7. Select \*\*Create\*\*.

8. This should open the Power-Up to the \*\*API Key\*\* page. (If it doesn't, open that page.)

9. Select \*\*Generate a new API Key\*\*.

10. Copy the \*\*API key\*\* from Trello and enter it in your n8n credential.

11. In your Trello API key page, enter your n8n base URL as an \*\*Allowed origin\*\*.

12. In \*\*Capabilities\*\* make sure to select the necessary options.

13. Select the \*\*Token\*\* link next to your Trello \*\*API Key\*\*.

14. When prompted, select \*\*Allow\*\* to grant all the permissions asked for.

15. Copy the Trello \*\*Token\*\* and enter it as the n8n \*\*API Token\*\*.

Refer to Trello's [API Introduction](https://developer.atlassian.com/cloud/trello/guides/rest-api/api-introduction/#api-introduction){:target=\_blank .external-link} for more information on API keys and tokens. Refer to Trello's [Power-Up Admin Portal](https://developer.atlassian.com/cloud/trello/guides/power-ups/managing-power-ups/#power-up-admin-portal){:target=\_blank .external-link} for more information on creating Power-Ups.

## twake.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Twake credentials

description: Documentation for Twake credentials. Use these credentials to authenticate Twake in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Twake credentials

You can use these credentials to authenticate the following nodes:

- [Twake](/integrations/builtin/app-nodes/n8n-nodes-base.twake.md)

## Prerequisites

Create a [Twake](https://twake.app/){:target=\_blank .external-link} account.

## Supported authentication methods

- Cloud API key

- Server API key

## Related resources

Refer to [Twake's documentation](https://doc.twake.app/developers-api/api-reference){:target=\_blank .external-link} for more information about the service.

## Using Cloud API key

To configure this credential, you'll need:

- A \*\*Workspace Key\*\*: Generated when you install the \*\*n8n\*\* application to your Twake Cloud environment and select \*\*Configure\*\*. Refer to [How to connect n8n to Twake](https://help.twake.app/en/latest/applications/connectors/index.html#how-to-connect-n8n-to-twake){:target=\_blank .external-link} for more detailed instructions.

## Using Server API key

To configure this credential, you'll need:

- A \*\*Host URL\*\*: The URL of your Twake self-hosted instance.

- A \*\*Public ID\*\*: Generated when you create an app.

- A \*\*Private API Key\*\*: Generated when you create an app.

To generate your \*\*Public ID\*\* and \*\*Private API Key\*\*, [create a Twake application](https://doc.twake.app/developers-api/get-started/create-your-first-application){:target=\_blank .external-link}:

1. Go to \*\*Workspace Settings > Applications and connectors > Access your applications and connectors > Create an application\*\*.

2. Enter appropriate details.

3. Once you've created your app, view its \*\*API Details\*\*.

4. Copy the \*\*Public identifier\*\* and add it as the n8n \*\*Public ID\*\*.

5. Copy the \*\*Private key\*\* and add it as the n8n \*\*Private API Key\*\*.

Refer to [API settings](https://doc.twake.app/developers-api/get-started/create-your-first-application#id-3.-api-settings){:target=\_blank .external-link} for more information.

## twilio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Twilio credentials

description: Documentation for Twilio credentials. Use these credentials to authenticate Twilio in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Twilio credentials

You can use these credentials to authenticate the following nodes:

- [Twilio](/integrations/builtin/app-nodes/n8n-nodes-base.twilio.md)

- [Twilio trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.twiliotrigger.md)

## Supported authentication methods

- \*\*Auth token\*\*: Twilio recommends this method for local testing only.

- \*\*API key\*\*: Twilio recommends this method for production.

## Related resources

Refer to [Twilio's API documentation](https://www.twilio.com/docs){:target=\_blank .external-link} for more information about the service.

## Using Auth Token

To configure this credential, you'll need a [Twilio](https://twilio.com/){:target=\_blank .external-link} account and:

- Your Twilio \*\*Account SID\*\*

- Your Twilio \*\*Auth Token\*\*

To set up the credential:

1. In n8n, select \*\*Auth Token\*\* as the \*\*Auth Type\*\*.

2. In Twilio, go to \*\*Console Dashboard > Account Info\*\*.

3. Copy your \*\*Account SID\*\* and enter this in your n8n credential. This acts as a username.

4. Cop your \*\*Auth Token\*\* and enter this in your n8n credential. This acts as a password.

Refer to [Auth Tokens and How to Change Them](https://help.twilio.com/articles/223136027-Auth-Tokens-and-How-to-Change-Them){:target=\_blank .external-link} for more information.

## Using API key

To configure this credential, you'll need a [Twilio](https://twilio.com/){:target=\_blank .external-link} account and:

- Your Twilio \*\*Account SID\*\*

- An \*\*API Key SID\*\*: Generated when you create an API key.

- An \*\*API Key Secret\*\*: Generated when you create an API key.

To set up the credential:

1. In n8n, select \*\*API Key\*\* as the \*\*Auth Type\*\*.

2. In Twilio, go to \*\*Console Dashboard > Account Info\*\*.

3. Copy your \*\*Account SID\*\* and enter it in your n8n credential.

4. In Twilio, go to your account's [\*\*API keys & tokens\*\*](https://www.twilio.com/console/project/api-keys) page.

5. Select \*\*Create API Key\*\*.

6. Enter a \*\*Friendly name\*\* for your API key, like `n8n integration`.

7. Select your \*\*Key type\*\*. n8n works with either \*\*Main\*\* or \*\*Standard\*\*. Refer to [Selecting an API key type](#selecting-an-api-key-type) for more information.

8. Select \*\*Create API Key\*\* to finish creating the key.

5. On the \*\*Copy secret key\*\* page, copy the \*\*SID\*\* displayed with the key and enter it in your n8n credential \*\*API Key SID\*\*.

6. On the \*\*Copy secret key\*\* page, copy the \*\*Secret\*\* displayed with the key and enter it in your n8n credential \*\*API Key Secret\*\*.

Refer to [Create an API key](https://www.twilio.com/docs/iam/api-keys#create-an-api-key){:target=\_blank .external-link} for more detailed instructions.

### Selecting an API key type

When you create a Twilio API key, you must select a key type. The n8n credential works with \*\*Main\*\* and \*\*Standard\*\* key types.

Here are more details on the different API key types:

\* \*\*Main\*\*: This key type gives you the same level of access as using your Account SID and Auth Token in API requests.

\* \*\*Standard\*\*: This key type gives you access to all the functionality in Twilio's APIs except the API key resources and Account resources.

\* \*\*Restricted\*\*: This key type is in beta. n8n hasn't tested the credential against this key type; if you try it, let us know if you run into any issues.

Refer to [Types of API keys](https://www.twilio.com/docs/iam/api-keys#types-of-api-keys){:target=\_blank .external-link} for more information on the key types.

## twist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Twist credentials

description: Documentation for Twist credentials. Use these credentials to authenticate Twist in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Twist credentials

You can use these credentials to authenticate the following nodes:

- [Twist](/integrations/builtin/app-nodes/n8n-nodes-base.twist.md)

## Prerequisites

- Create a [Twist](https://twist.com/){:target=\_blank .external-link} account.

- [Create a general integration](https://twist.com/app\_console/create\_app){:target=\_blank .external-link} and configure a valid OAuth Redirect URL. Refer to [Using OAuth2](#using-oauth2) for more information.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Twist's API documentation](https://developer.twist.com/v3/#authorization){:target=\_blank .external-link} for more information about authenticating with the service.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated once you create a general integration.

- A \*\*Client Secret\*\*: Generated once you create a general integration.

To generate your Client ID and Client Secret, [create a general integration](https://twist.com/app\_console/create\_app){:target=\_blank .external-link}.

Use these settings for your integration's \*\*OAuth Authentication\*\*:

- Copy the \*\*OAuth Redirect URL\*\* from n8n and enter it as the \*\*OAuth 2 redirect URL\*\* in Twist.

/// note | OAuth Redirect URL for self-hosted n8n

Twist doesn't accept a `localhost` Redirect URL. The Redirect URL should be a URL in your domain, for example: `https://mytemplatemaker.example.com/gr\_callback`. If your n8n \*\*OAuth Redirect URL\*\* contains localhost, refer below to [Local environment redirect URL](#local-environment-redirect-url) for generating a URL that Twist will allow.

///

- Select \*\*Update OAuth settings\*\* to save those changes.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* from Twist and enter them in the appropriate fields in n8n.

### Local environment redirect URL

Twist doesn't accept a localhost callback URL. These steps should allow you to configure the OAuth credentials for the local environment:

1. Use [ngrok](https://ngrok.com/) to expose the local server running on port `5678` to the internet. In your terminal, run the following command:

```sh

ngrok http 5678

```

2. Run the following command in a new terminal. Replace `<YOUR-NGROK-URL>` with the URL that you get from the previous step.

```sh

export WEBHOOK\_URL=<YOUR-NGROK-URL>

```

3. Use the generated URL as your \*\*OAuth 2 redirect URL\*\* in Twist.

## twitter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: X (formerly Twitter) credentials

description: Documentation for X credentials. Use these credentials to authenticate X in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# X (formerly Twitter) credentials

You can use these credentials to authenticate the following nodes:

- [X (formerly Twitter)](/integrations/builtin/app-nodes/n8n-nodes-base.twitter.md)

## Prerequisites

- Create an [X developer](https://developer.x.com/en){:target=\_blank .external-link} account.

- Create a [Twitter app](https://developer.x.com/en/docs/apps){:target=\_blank .external-link} or use the default project and app created when you sign up for the developer portal. Refer to each supported authentication method below for more details on the app's configuration.

## Supported authentication methods

- OAuth2

/// note | Deprecation warning

n8n used to support an \*\*OAuth\*\* authentication method, which used X's [OAuth 1.0a](https://developer.x.com/en/docs/authentication/oauth-1-0a){:target=\_blank .external-link} authentication method. n8n deprecated this method with the release of V2 of the X node in n8n version [0.236.0](/release-notes/0-x.md#n8n02360).

///

## Related resources

Refer to [X's API documentation](https://developer.x.com/en/docs/twitter-api){:target=\_blank .external-link} for more information about the service. Refer to [X's API authentication documentation](https://developer.x.com/en/docs/authentication/overview){:target=\_blank .external-link} for more information about authenticating with the service.

Refer to [Application-only Authentication](https://developer.twitter.com/en/docs/authentication/oauth-2-0/application-only){:target=\_blank .external-link} for more information about app-only authentication.

## Using OAuth2

Use this method if you're using n8n version 0.236.0 or later.

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To generate your Client ID and Client Secret:

1. In the Twitter [developer portal](https://developer.x.com/en/portal/dashboard){:target=\_blank .external-link}, open your project.

2. On the project's \*\*Overview\*\* tab, find the \*\*Apps\*\* section and select \*\*Add App\*\*.

3. Give your app a \*\*Name\*\* and select \*\*Next\*\*.

1. Go to the \*\*App Settings\*\*.

4. In the \*\*User authentication settings\*\*, select \*\*Set Up\*\*.

1. Set the \*\*App permissions\*\*. Choose \*\*Read and write and Direct message\*\* if you want to use all functions of the n8n X node.

5. In the \*\*Type of app\*\* section, select \*\*Web App, Automated App or Bot\*\*.

1. In n8n, copy the \*\*OAuth Redirect URL\*\*.

7. In your X app, find the \*\*App Info\*\* section and paste that URL in as the \*\*Callback URI / Redirect URL\*\*.

7. Add a \*\*Website URL\*\*.

8. Save your changes.

1. Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* displayed in X and add them to the corresponding fields in your n8n credential.

Refer to X's [OAuth 2.0 Authentication documentation](https://developer.x.com/en/docs/authentication/oauth-2-0){:target=\_blank .external-link} for more information on working with this authentication method.

/// note | X rate limits

This credential uses the OAuth 2.0 Bearer Token authentication method, so you'll be subject to app rate limits. Refer to [X rate limits](#x-rate-limits) below for more information.

///

## X rate limits

X has time-based rate limits per endpoint based on your developer access plan level. X calculates app rate limits and user rate limits independently. Refer to [Rate limits](https://developer.x.com/en/docs/twitter-api/rate-limits){:target=\_blank .external-link} for the access plan level rate limits and guidance on avoiding hitting them.

Use the guidance below for calculating rate limits:

- If you're using the deprecated OAuth method, user rate limits apply. You'll have one limit per time window for each set of users' access tokens.

- If you're [Using OAuth2](#using-oauth2), app rate limits apply. You'll have a limit per time window for requests made by your app.

X calculates user rate limits and app rate limits independently.

Refer to X's [Rate limits and authentication methods](https://developer.x.com/en/docs/twitter-api/rate-limits#auth){:target=\_blank .external-link} for more information about these rate limit types.

## typeform.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Typeform credentials

description: Documentation for Typeform credentials. Use these credentials to authenticate Typeform in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Typeform credentials

You can use these credentials to authenticate the following nodes:

- [Typeform Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.typeformtrigger.md)

## Supported authentication methods

- API token

- OAuth2

## Related resources

Refer to [Typeform's API documentation](https://www.typeform.com/developers/get-started/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need a [Typeform](https://typeform.com/){:target=\_blank .external-link} account and:

- A personal \*\*Access Token\*\*

To get your personal access token:

1. Log into your Typeform account.

2. Select your profile avatar in the upper right and go to \*\*Account > Your settings >\*\* [\*\*Personal Tokens\*\*](https://admin.typeform.com/user/tokens){:target=\_blank .external-link}.

3. Select \*\*Generate a new token\*\*.

4. Give your token a \*\*Name\*\*, like `n8n integration`.

5. For \*\*Scopes\*\*, select \*\*Custom scopes\*\*. Select these scopes:

- Forms: Read

- Webhooks: Read, Write

6. Select \*\*Generate token\*\*.

7. Copy the token and enter it in your n8n credential.

Refer to Typeform's [Personal access token documentation](https://www.typeform.com/developers/get-started/personal-access-token/){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need a [Typeform](https://typeform.com/){:target=\_blank .external-link} account and:

- A \*\*Client ID\*\*: Generated when you register an app.

- A \*\*Client Secret\*\*: Generated when you register an app.

To get your Client ID and Client Secret, register a new Typeform app:

1. Log into your Typeform account.

2. In the upper left, select the dropdown for your organization and select \*\*Developer apps\*\*.

3. Select \*\*Register a new app\*\*.

4. Enter an \*\*App Name\*\* that makes sense, like `n8n OAuth2 integration`.

5. Enter your n8n base URL as the \*\*App website\*\*, for example `https://n8n-sample.app.n8n.cloud/`.

6. From n8n, copy the \*\*OAuth Redirect URL\*\*. Enter this in Typeform as the \*\*Redirect URI(s)\*\*.

7. Select \*\*Register app\*\*.

8. Copy the \*\*Client Secret\*\* and enter it in your n8n credential.

9. In Typeform, select \*\*Got it\*\* to close the Client Secret modal.

10. The \*\*Developer apps\*\* panel displays your new app. Copy the \*\*Client ID\*\* and enter it in your n8n credential.

10. Once you enter both the \*\*Client ID\*\* and \*\*Client Secret\*\* in n8n, select \*\*Connect my account\*\* and follow the on-screen prompts to finish authorizing the app.

Refer to [Create applications that integrate with Typeform's APIs](https://www.typeform.com/developers/get-started/applications/#1-create-an-application-in-the-typeform-admin-panel){:target=\_blank .external-link} for more information.

## unleashedsoftware.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Unleashed Software credentials

description: Documentation for Unleashed Software credentials. Use these credentials to authenticate Unleashed Software in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Unleashed Software credentials

You can use these credentials to authenticate the following nodes:

- [Unleashed Software](/integrations/builtin/app-nodes/n8n-nodes-base.unleashedsoftware.md)

## Prerequisites

Create an [Unleashed Software](https://www.unleashedsoftware.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Unleashed's API documentation](https://apidocs.unleashedsoftware.com/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API ID\*\*: Go to \*\*Integrations > Unleashed API Access\*\* to find your \*\*API ID\*\*.

- An \*\*API Key\*\*: Go to \*\*Integrations > Unleashed API Access\*\* to find your \*\*API Key\*\*.

Refer to [Unleashed API Access](https://support.unleashedsoftware.com/hc/en-us/articles/4402393233689-Unleashed-API-Access){:target=\_blank .external-link} for more information.

/// note | Account owner required

You must log in as an Unleashed account owner to view the API ID and API Key.

///

## uplead.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: UpLead credentials

description: Documentation for UpLead credentials. Use these credentials to authenticate UpLead in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# UpLead credentials

You can use these credentials to authenticate the following nodes:

- [UpLead](/integrations/builtin/app-nodes/n8n-nodes-base.uplead.md)

## Prerequisites

Create an [UpLead](https://uplead.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [UpLead's API documentation](https://docs.uplead.com/#overview){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Go to your \*\*Account > Profiles\*\* to \*\*Generate New API Key\*\*. Refer to [How can I generate an API key?](https://support.uplead.com/en/articles/5621412-how-can-i-generate-an-api-key){:target=\_blank .external-link} for more information.

## uproc.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: uProc credentials

description: Documentation for uProc credentials. Use these credentials to authenticate uProc in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# uProc credentials

You can use these credentials to authenticate the following nodes:

- [uProc](/integrations/builtin/app-nodes/n8n-nodes-base.uproc.md)

## Prerequisites

Create a [uProc](https://uproc.io){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [uProc's API documentation](https://docs.uproc.io/api/){:target=\_blank .external-link} for more information about the service.

## Using API Key

To configure this credential, you'll need:

- An \*\*Email\*\* address: Enter the email address you use to log in to uProc. This is also displayed in \*\*Settings > Integrations > API Credentials\*\*.

- An \*\*API Key\*\*: Go to \*\*Settings > Integrations > API Credentials\*\*. Copy the \*\*API Key (real)\*\* from the \*\*API Credentials\*\* section and enter it in your n8n credential.

## uptimerobot.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: UptimeRobot credentials

description: Documentation for UptimeRobot credentials. Use these credentials to authenticate UptimeRobot in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# UptimeRobot credentials

You can use these credentials to authenticate the following nodes:

- [UptimeRobot](/integrations/builtin/app-nodes/n8n-nodes-base.uptimerobot.md)

## Prerequisites

Create an [UptimeRobot](https://uptimerobot.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [UptimeRobot's API documentation](https://uptimerobot.com/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Get your API Key from \*\*My Settings > API Settings\*\*. Create a \*\*Main API Key\*\* and enter this key in your n8n credential.

### API key types

UptimeRobot supports three API key types:

- \*\*Account-specific\*\* (also known as \*\*main\*\*): Pulls data for multiple monitors.

- \*\*Monitor-specific\*\*: Pulls data for a single monitor.

- \*\*Read-only\*\*: Only runs `GET` API calls.

To complete all of the operations in the UptimeRobot node, use the \*\*Main\*\* or \*\*Account-specific\*\* API key type. Refer to [API authentication](https://uptimerobot.com/api/#auth){:target=\_blank .external-link} for more information.

## urlscanio.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: urlscan.io credentials

description: Documentation for urlscan.io credentials. Use these credentials to authenticate urlscan.io in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# urlscan.io credentials

You can use these credentials to authenticate the following nodes:

- [urlscan.io](/integrations/builtin/app-nodes/n8n-nodes-base.urlscanio.md)

## Prerequisites

Create an [urlscan.io](https://urlscan.io/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [urlscan.io's API documentation](https://urlscan.io/docs/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Get your API key from \*\*Settings & API > API Keys\*\*.

## venafitlsprotectcloud.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Venafi TLS Protect Cloud credentials

description: Documentation for Venafi TLS Protect Cloud credentials. Use these credentials to authenticate Venafi TLS Protect Cloud in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Venafi TLS Protect Cloud credentials

You can use these credentials to authenticate the following nodes:

\* [Venafi TLS Protect Cloud node](/integrations/builtin/app-nodes/n8n-nodes-base.venafitlsprotectcloud.md)

\* [Venafi TLS Protect Cloud Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.venafitlsprotectcloudtrigger.md)

## Prerequisites

Create a Venafi [TLS Protect Cloud](https://venafi.com/tls-protect/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Venafi TLS Protect Cloud's API documentation](https://docs.venafi.cloud/api/vaas-rest-api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Region\*\*: Select the region that matches your business needs. Choose \*\*EU\*\* if you're located in the European Union. Otherwise, choose \*\*US\*\*.

- An \*\*API Key\*\*: Go to your \*\*avatar > Preferences > API Keys\*\* to get your API key. You can also use VCert to get your API key. Refer to [Obtaining an API Key](https://docs.venafi.cloud/api/obtaining-api-key/){:target=\_blank .external-link} for more information.

## venafitlsprotectdatacenter.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Venafi TLS Protect Datacenter credentials

description: Documentation for Venafi TLS Protect Datacenter credentials. Use these credentials to authenticate Venafi TLS Protect Datacenter in n8n, a workflow automation platform.

contentType: [integration, reference]

---

<!-- vale off -->

# Venafi TLS Protect Datacenter credentials

You can use these credentials to authenticate the following nodes:

\* [Venafi TLS Protect Datacenter node](/integrations/builtin/app-nodes/n8n-nodes-base.venafitlsprotectdatacenter.md)

## Prerequisites

- Create a Venafi [TLS Protect Datacenter](https://venafi.com/){:target=\_blank .external-link} account.

- Set the expiration and refresh time for tokens. Refer to [Setting up token authentication](https://docs.venafi.com/Docs/current/TopNav/Content/SDK/AuthSDK/t-SDKa-Setup-OAuth.php){:target=\_blank .external-link} for more information.

- Create an [API integration](https://docs.venafi.com/Docs/current/TopNav/Content/API-ApplicationIntegration/c-APIAppIntegrations-about.php){:target=\_blank .external-link} in \*\*API > Integrations\*\*. Refer to [Integrating other systems with Venafi products](https://docs.venafi.com/Docs/current/TopNav/Content/API-ApplicationIntegration/t-APIAppIntegrations-creating.php){:target=\_blank .external-link} for detailed instructions.

- Take note of the Client ID for your integration.

- Choose the scopes needed for the operations you want to perform within n8n. Refer to the scopes table in [Integrating other systems with Venafi products](https://docs.venafi.com/Docs/current/TopNav/Content/API-ApplicationIntegration/t-APIAppIntegrations-creating.php){:target=\_blank .external-link} for more details on available scopes.

## Supported authentication methods

- API integration

## Related resources

Refer to [Venafi's API integration documentation](https://docs.venafi.com/Docs/currentSDK/TopNav/Content/SDK/WebSDK/c-sdk-AboutThisGuide.php){:target=\_blank .external-link} for more information about the service.

## Using API integration

To configure this credential, you'll need:

- A \*\*Domain\*\*: Enter your Venafi TLS Protect Datacenter domain.

- A \*\*Client ID\*\*: Enter the \*\*Client ID\*\* from your API integration. Refer to the information and links in [Prerequisites](#prerequisites) for more information on creating an API integration.

- A \*\*Username\*\*: Enter your username.

- A \*\*Password\*\*: Enter your password.

- \*\*Allow Self-Signed Certificates\*\*: If turned on, the credential will allow self-signed certificates.

<!-- vale on -->

## vero.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Vero credentials

description: Documentation for Vero credentials. Use these credentials to authenticate Vero in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Vero credentials

You can use these credentials to authenticate the following nodes:

- [Vero](/integrations/builtin/app-nodes/n8n-nodes-base.vero.md)

## Prerequisites

Create a [Vero](https://getvero.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API auth token

## Related resources

Refer to [Vero's API documentation](https://developers.getvero.com/track-api-reference/#/){:target=\_blank .external-link} for more information about the service.

## Using API auth token

To configure this credential, you'll need:

- An \*\*Auth Token\*\*: Get your auth token from your Vero account [settings](https://app.getvero.com/settings/project){:target=\_blank .external-link}. Refer to [API authentication](https://developers.getvero.com/track-api-reference/#/#authentication){:target=\_blank .external-link} for more information.

## virustotal.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: VirusTotal credentials

description: Documentation for the VirusTotal credentials. Use these credentials to authenticate VirusTotal in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# VirusTotal credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create a [VirusTotal](https://www.virustotal.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [VirusTotal's documentation](https://docs.virustotal.com/reference/overview){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/virustotal/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- An \*\*API Token\*\*: Go to your \*\*user account menu > API key\*\* to get your API key. Enter this as the \*\*API Token\*\* in your n8n credential. Refer to [API authentication](https://docs.virustotal.com/reference/authentication){:target=\_blank .external-link} for more information.

## vonage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Vonage credentials

description: Documentation for Vonage credentials. Use these credentials to authenticate Vonage in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Vonage credentials

You can use these credentials to authenticate the following nodes:

- [Vonage](/integrations/builtin/app-nodes/n8n-nodes-base.vonage.md)

## Prerequisites

Create a [Vonage developer](https://developer.vonage.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Vonage's SMS API documentation](https://developer.vonage.com/en/api/sms){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*

- An \*\*API Secret\*\*

Get your \*\*API Key\*\* and \*\*API Secret\*\* from your [developer dashboard](https://dashboard.nexmo.com/){:target=\_blank .external-link} \*\*user account > Settings > API Settings\*\*. Refer to [Retrieve your account information](https://developer.vonage.com/en/account/guides/dashboard-management#retrieve-your-account-information){:target=\_blank .external-link} for more information.

## weaviate.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Weaviate credentials

description: Documentation for Weaviate credentials. Use these credentials to authenticate Weaviate in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Weaviate credentials

You can use these credentials to authenticate the following nodes:

\* [Weaviate Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstoreweaviate.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Weaviate's connection documentation](https://docs.weaviate.io/weaviate/connections)for more information on how to connect to Weaviate.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

### Connection type: Weaviate Cloud

Create your [Weaviate Cloud Database](https://docs.weaviate.io/cloud/quickstart) and [follow these instructions get the following parameter values](https://docs.weaviate.io/cloud/quickstart#13-connect-to-your-weaviate-cloud-instance) from your Weaviate Cloud Database:

\* \*\*Weaviate Cloud Endpoint\*\*

\* \*\*Weaviate Api Key\*\*

Note: Weaviate provides a free sandbox option for testing.

### Connection type: Custom Connection

For this Connection Type, you need to [deploy Weaviate](https://docs.weaviate.io/deploy) on your own server, configured so n8n can access it. Refer to [Weaviate's authentication documentation](https://docs.weaviate.io/deploy/configuration/authentication#api-key-authentication) for information on creating and using API keys.

You can then provide the arguments for your custom connection:

\* \*\*Weaviate Api Key\*\*: Your Weaviate API key.

\* \*\*Custom Connection HTTP Host\*\*: The domain name or IP address of your Weaviate instance to use for HTTP API calls.

\* \*\*Custom Connection HTTP Port\*\*: The port your Weaviate instance is running on for HTTP API calls. By default, this is 8080.

\* \*\*Custom Connection HTTP Secure\*\*: Whether to connect to the Weaviate through HTTPS for HTTP API calls.

\* \*\*Custom Connection gRPC Host\*\*: The hostname or IP address of your Weaviate instance to use for gRPC.

\* \*\*Custom Connection gRPC Port\*\*: The gRPC API port for your Weaviate instance. By default, this is 50051.

\* \*\*Custom Connection gRPC Secure\*\*: Whether to connect to the Weaviate through HTTPS for gRPC.

For community support, refer to [Weaviate Forums](https://forum.weaviate.io/).

## webflow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webflow credentials

description: Documentation for Webflow credentials. Use these credentials to authenticate Webflow in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Webflow credentials

You can use these credentials to authenticate the following nodes:

- [Webflow](/integrations/builtin/app-nodes/n8n-nodes-base.webflow.md)

- [Webflow Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.webflowtrigger.md)

## Prerequisites

- Create a [Webflow](https://webflow.com/){:target=\_blank .external-link} account.

- [Create a site](https://developers.webflow.com/data/reference/structure-1#sites){:target=\_blank .external-link}: Required for API access token authentication only.

## Supported authentication methods

- API access token

- OAuth2

## Related resources

Refer to [Webflow's API documentation](https://developers.webflow.com/data/reference/rest-introduction){:target=\_blank .external-link} for more information about the service.

## Using API access token

To configure this credential, you'll need:

- A Site \*\*Access Token\*\*: Access tokens are site-specific. Go to your site's \*\*Site Settings > Apps & integrations > API access\*\* and select \*\*Generate API token\*\*. Refer to [Get a Site Token](https://developers.webflow.com/data/docs/get-a-site-token){:target=\_blank .external-link} for more information.

## Using OAuth2

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch, [register an application](https://developers.webflow.com/data/docs/register-an-app){:target=\_blank .external-link} in your workspace.

Use these settings for your application:

- Copy the \*\*OAuth callback URL\*\* from n8n and add it as a \*\*Redirect URI\*\* in your application.

- Once you've created your application, copy the \*\*Client ID\*\* and \*\*Client Secret\*\* and enter them in your n8n credential.

- If you are using the Webflow Data API V1 (deprecated), enable the \*\*Legacy\*\* toggle. Otherwise, leave this inactive.

Refer to [OAuth](https://developers.webflow.com/data/reference/oauth-app){:target=\_blank .external-link} for more information on Webflow's OAuth web flow.

## webhook.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webhook credentials

description: Documentation for Webhook credentials. Use these credentials to authenticate Webhook in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# Webhook credentials

You can use these credentials to authenticate the following nodes:

- [Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md)

## Prerequisites

You must use the authentication method required by the app or service you want to query.

## Supported authentication methods

- Basic auth

- Header auth

- JWT auth

- None

--8<-- "\_snippets/integrations/builtin/credentials/generic-auth/basic-auth.md"

--8<-- "\_snippets/integrations/builtin/credentials/generic-auth/header-auth.md"

## Using JWT auth

[\*\*JWT Auth\*\*](https://jwt.io/introduction/){:target=\_blank .external-link} is a method of authentication that uses JSON Web Tokens (JWT) to digitally sign data. This authentication method uses the \*\*JWT credential\*\* and can use either a \*\*Passphrase\*\* or \*\*PEM Key\*\* as key type. Refer to [JWT credential](/integrations/builtin/credentials/jwt.md) for more information.

## wekan.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wekan credentials

description: Documentation for Wekan credentials. Use these credentials to authenticate Wekan in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Wekan credentials

You can use these credentials to authenticate the following nodes:

- [Wekan](/integrations/builtin/app-nodes/n8n-nodes-base.wekan.md)

## Prerequisites

Install [Wekan](https://github.com/wekan/wekan/wiki) on your server.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [Wekan's API documentation](https://github.com/wekan/wekan/wiki/REST-API){:target=\_blank .external-link} for more information about authenticating with the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Username\*\*: Enter your Wekan username.

- A \*\*Password\*\*: Enter your Wekan password.

- A \*\*URL\*\*: Enter your Wekan domain.

## whatsapp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WhatsApp Business Cloud credentials

description: Documentation for WhatsApp Business Cloud credentials. Use these credentials to authenticate WhatsApp Business Cloud in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# WhatsApp Business Cloud credentials

You can use these credentials to authenticate the following nodes:

- [WhatsApp Business Cloud](/integrations/builtin/app-nodes/n8n-nodes-base.whatsapp/index.md)

- [WhatsApp Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.whatsapptrigger.md)

## Requirements

To create credentials for WhatsApp, you need the following Meta assets:

- A [Meta developer](https://developers.facebook.com/docs/development/register) account: A developer account allows you to create and manage Meta apps, including WhatsApp integrations.

??? note "Set up a Meta developer account"

1. Visit the [Facebook Developers site](https://developers.facebook.com).

2. Click \*\*Getting Started\*\* in the upper-right corner (if the link says \*\*My Apps\*\*, you've already set up a developer account).

3. Agree to terms and conditions.

4. Provide a phone number for verification.

5. Select your occupation or role.

- A Meta [business portfolio](https://www.facebook.com/business/help/1710077379203657?id=180505742745347): WhatsApp messaging services require a Meta business portfolio, formerly called a Business Manager account. The UI may still show either option.

??? note "Set up a Meta business portfolio"

1. Visit the [Facebook Business site](https://business.facebook.com).

2. Select \*\*Create an account\*\*.

\* If you already have a Facebook Business account and portfolio, but want a new portfolio, open the business portfolio selector in the left-side menu and select \*\*Create a business portfolio\*\*.

3. Enter a \*\*Business portfolio name\*\*.

4. Enter your \*\*name\*\*.

5. Enter a \*\*business email\*\*.

6. Select \*\*Submit\*\* or \*\*Create\*\*.

- A Meta [business app](https://developers.facebook.com/docs/development/create-an-app/) configured with WhatsApp: Once you have a developer account, you will create a Meta business app.

??? note "Set up a Meta business app with WhatsApp"

1. Visit the [Meta for Developers Apps dashboard](https://developers.facebook.com/apps/)

2. Select \*\*Create app\*\*.

3. In \*\*Add products to your app\*\*, select \*\*Set up\*\* in the WhatsApp tile. Refer to [Add the WhatsApp Product](https://developers.facebook.com/docs/whatsapp/solution-providers/get-started-for-tech-providers#step-3--add-the-whatsapp-product) for more detail.

4. This opens the WhatsApp \*\*Quickstart\*\* page. Select your business portfolio.

5. Select \*\*Continue\*\*.

6. In the left-side menu, go to \*\*App settings\*\* > \*\*Basic\*\*.

7. Set the \*\*Privacy Policy URL\*\* and \*\*Terms of Service URL\*\* for the app.

8. Change the \*\*App Mode\*\* to \*\*Live\*\*.

## Supported authentication methods

- API key: Use for the [WhatsApp Business Cloud](/integrations/builtin/app-nodes/n8n-nodes-base.whatsapp/index.md) node.

- OAuth2: Use for the [WhatsApp Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.whatsapptrigger.md) node.

## Related resources

Refer to [WhatsApp's API documentation](https://developers.facebook.com/docs/whatsapp/#platform-apis) for more information about the service.

Meta classifies users who create WhatsApp business apps as Tech Providers; refer to Meta's [Get Started for Tech Providers](https://developers.facebook.com/docs/whatsapp/solution-providers/get-started-for-tech-providers) for more information.

## Using API key

You need WhatsApp API key credentials to use the [WhatsApp Business Cloud](/integrations/builtin/app-nodes/n8n-nodes-base.whatsapp/index.md) node.

To configure this credential, you'll need:

- An API \*\*Access Token\*\*

- A \*\*Business Account ID\*\*

To generate an access token, follow these steps:

1. Visit the [Meta for Developers Apps dashboard](https://developers.facebook.com/apps/).

2. Select your Meta app.

3. In the left-side menu, select \*\*WhatsApp\*\* > \*\*API Setup\*\*.

4. Select \*\*Generate access token\*\* and confirm the access you want to grant.

5. Copy the \*\*Access token\*\* and add it to n8n as the \*\*Access Token\*\*.

6. Copy the \*\*WhatsApp Business Account ID\*\* and add it to n8n as the \*\*Business Account ID\*\*.

Refer to [Test Business Messaging on WhatsApp](https://developers.facebook.com/docs/whatsapp/solution-providers/become-a-tech-provider-legacy-flow#step-4--test-business-messaging-on-whatsapp) for more information on the above steps.

Fully verifying and launching your app will take further configuration. Refer to Meta's [Get Started for Tech Providers](https://developers.facebook.com/docs/whatsapp/solution-providers/become-a-tech-provider-legacy-flow#step-5--scale-your-solution) Steps 5 and beyond for more information. Refer to [App Review](https://developers.facebook.com/docs/resp-plat-initiatives/app-review) for more information on the Meta App Review process.

## Using OAuth2

You need WhatsApp OAuth2 credentials to use the [WhatsApp Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.whatsapptrigger.md) node.

To configure this credential, you'll need:

- A \*\*Client ID\*\*

- A \*\*Client Secret\*\*

To retrieve these items, follow these steps:

1. Visit the [Meta for Developers Apps dashboard](https://developers.facebook.com/apps/).

2. Select your Meta app.

3. In the left-side menu, select \*\*App settings\*\* > \*\*Basic\*\*.

4. Copy the \*\*App ID\*\* and enter it as the \*\*Client ID\*\* within the n8n credential.

5. Copy the \*\*App Secret\*\* and enter it as the \*\*Client Secret\*\* within the n8n credential.

Fully verifying and launching your app will take further configuration. Refer to Meta's [Get Started for Tech Providers](https://developers.facebook.com/docs/whatsapp/solution-providers/become-a-tech-provider-legacy-flow#step-5--scale-your-solution) Steps 5 and beyond for more information. Refer to [App Review](https://developers.facebook.com/docs/resp-plat-initiatives/app-review) for more information on the Meta App Review process.

## wise.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wise credentials

description: Documentation for Wise credentials. Use these credentials to authenticate Wise in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Wise credentials

You can use these credentials to authenticate the following nodes:

- [Wise](/integrations/builtin/app-nodes/n8n-nodes-base.wise.md)

- [Wise Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.wisetrigger.md)

## Prerequisites

Create a [Wise](https://wise.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API token

## Related resources

Refer to [Wise's API documentation](https://docs.wise.com/api-docs/api-reference){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- An \*\*API Token\*\*: Go to your \*\*user menu > Settings > API tokens\*\* to generate an API token. Enter the generated API key in your n8n credential. Refer to [Getting started with the API](https://wise.com/help/articles/2958107/getting-started-with-the-api){:target=\_blank .external-link} for more information.

- Your \*\*Environment\*\*: Select the environment that best matches your Wise account environment.

- If you're using a Wise test sandbox account, select \*\*Test\*\*.

- Otherwise, select \*\*Live\*\*.

- \*\*Private Key (Optional)\*\*: For live endpoints requiring Strong Customer Authentication (SCA), generate a public and private key. Enter the private key here. Refer to [Add a private key](#add-a-private-key) for more information.

- If you're using a \*\*Test\*\* environment, you'll only need to enter a Private Key if you've enabled Strong Customer Authentication on the [public keys management page](https://sandbox.transferwise.tech/public-keys){:target=\_blank .external-link}.

## Add a private key

Wise protects some live endpoints and operations with Strong Customer Authentication (SCA). Refer to [Strong Customer Authentication & 2FA](https://docs.wise.com/api-docs/features/strong-customer-authentication-2fa){:target=\_blank .external-link} for details.

If you make a request to an endpoint that requires SCA, Wise returns a 403 Forbidden HTTP status code. The error returned will look like this:

> This request requires Strong Customer Authentication (SCA). Please add a key pair to your account and n8n credentials. See https://api-docs.transferwise.com/#strong-customer-authentication-personal-token

To use endpoints requiring SCA, generate an RSA key pair and add the relevant key information to both Wise and n8n:

1. Generate an RSA key pair:

```sh

$ openssl genrsa -out private.pem 2048

$ openssl rsa -pubout -in private.pem -out public.pem

```

2. Add the content of the public key `public.pem` to your Wise \*\*user menu > Settings > API tokens > Manage public keys\*\*.

3. Add the content of the private key `private.pem` in n8n to the \*\*Private Key (Optional)\*\*.

Refer to [Personal Token SCA](https://docs.wise.com/api-docs/features/strong-customer-authentication-2fa/personal-token-sca){:target=\_blank .external-link} for more information.

## wolframalpha.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wolfram|Alpha credentials

description: Documentation for the Wolfram|Alpha credentials. Use these credentials to authenticate Wolfram|Alpha in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Wolfram|Alpha credentials

You can use these credentials to authenticate the following nodes:

\* [Wolfram|Alpha](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolwolframalpha.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Wolfram|Alpha's Simple API documentation](https://products.wolframalpha.com/simple-api/documentation){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need a registered [Wolfram ID](https://account.wolfram.com){:target=\_blank .external-link} and:

- An \*\*App ID\*\*

To get an App ID:

1. Open the Wolfram|Alpha Developer Portal and go to [\*\*API Access\*\*](https://developer.wolframalpha.com/access){:target=\_blank .external-link}.

2. Select \*\*Get an App ID\*\*.

3. Enter a \*\*Name\*\* for your application, like `n8n integration`.

4. Enter a \*\*Description\*\* for your application.

5. Select \*\*Simple API\*\* as the \*\*API\*\*.

6. Select \*\*Submit\*\*.

6. Copy the generated \*\*App ID\*\* and enter it in your n8n credential.

Refer to \*\*Getting Started\*\* in the [Wolfram|Alpha Simple API documentation](https://products.wolframalpha.com/simple-api/documentation){:target=\_blank .external-link} for more information.

## Resolve Forbidden connection error

If you enter your App ID and get an error that the credential is \*\*Forbidden\*\*, make sure that you have verified your email address for your Wolfram ID:

1. Go to your [Wolfram ID Details](https://account.wolfram.com/wolframid){:target=\_blank .external-link}.

2. If you don't see the \*\*Verified\*\* label underneath your \*\*Email address\*\*, select the link to \*\*Send a verification email\*\*.

3. You must open the link in that email to verify your email address.

It may take several minutes for the verification to populate to the API, but once it does, retrying the n8n credential should succeed.

## woocommerce.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WooCommerce credentials

description: Documentation for WooCommerce credentials. Use these credentials to authenticate WooCommerce in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# WooCommerce credentials

You can use these credentials to authenticate the following nodes:

- [WooCommerce](/integrations/builtin/app-nodes/n8n-nodes-base.woocommerce.md)

- [WooCommerce Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.woocommercetrigger.md)

## Prerequisites

- Install the [WooCommerce](https://woocommerce.com/){:target=\_blank .external-link} plugin on your WordPress website.

- In WordPress, go to \*\*Settings > Permalinks\*\* and set your WordPress permalinks to use something other than \*\*Plain\*\*.

## Supported authentication methods

- API key

## Related resources

Refer to [WooCommerce's REST API documentation](https://developer.woocommerce.com/docs/getting-started-with-the-woocommerce-rest-api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Consumer Key\*\*: Created when you generate an API key.

- A \*\*Consumer Secret\*\*: Created when you generate an API key.

- A \*\*WooCommerce URL\*\*

To generate an API key and set up your credential:

1. Go to \*\*WooCommerce > Settings > Advanced > Rest API > Add key\*\*.

2. Select \*\*Read/Write\*\* from the \*\*Permissions\*\* dropdown.

3. Copy the generated \*\*Consumer Key\*\* and \*\*Consumer Secret\*\* and enter them into your n8n credentials.

4. Enter your WordPress site URL as the \*\*WooCommerce URL\*\*.

5. By default, n8n passes your credential details in the Authorization header. If you need to pass them as query string parameters instead, turn on \*\*Include Credentials in Query\*\*.

Refer to [Generate Keys](https://developer.woocommerce.com/docs/getting-started-with-the-woocommerce-rest-api/#3-generate-keys){:target=\_blank .external-link} for more information.

## Resolve "Consumer key is missing" error

When you try to connect your credentials, you may receive an error like this: `Consumer key is missing`.

This occurs when the server can't parse the Authorization header details when authenticating over SSL.

To resolve it, turn on the \*\*Include Credentials in Query\*\* toggle to pass the consumer key/secret as query string parameters instead and retry the credential.

## wordpress.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WordPress credentials

description: Documentation for WordPress credentials. Use these credentials to authenticate WordPress in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# WordPress credentials

You can use these credentials to authenticate the following nodes:

- [WordPress](/integrations/builtin/app-nodes/n8n-nodes-base.wordpress.md)

## Prerequisites

- Create a [WordPress](https://wordpress.com/){:target=\_blank .external-link} account or deploy WordPress on a server.

## Supported authentication methods

- Basic auth

## Related resources

Refer to [WordPress's API documentation](https://developer.wordpress.com/docs/api/){:target=\_blank .external-link} for more information about the service.

## Using basic auth

To configure this credential, you'll need:

- Your WordPress \*\*Username\*\*

- A WordPress application \*\*Password\*\*

- Your \*\*WordPress URL\*\*

- Decide whether to \*\*Ignore SSL Issues\*\*

Using this credential involves three steps:

1. [Enable two-step authentication](#enable-two-step-authentication).

2. [Create an application password](#create-an-application-password).

3. [Set up the credential](#set-up-the-credential).

Refer to the detailed instructions below for each step.

### Enable two-step authentication

To generate an application password, you must first enable Two-Step Authentication in WordPress. If you've already done this, [skip to the next section](#create-an-application-password).

1. Open your WordPress [profile](https://wordpress.com/me){:target=\_blank .external-link}.

2. Select \*\*Security\*\* from the left menu.

3. Select \*\*Two-Step Authentication\*\*. The \*\*Two-Step Authentication\*\* page opens.

4. If Two-Step Authentication isn't enabled, you must enable it.

5. Choose whether to enable it using an authenticator app or SMS codes and follow the on-screen instructions.

Refer to WordPress's [Enable Two-Step Authentication](https://wordpress.com/support/security/two-step-authentication/){:target=\_blank .external-link} for detailed instructions.

### Create an application password

With Two-Step Authentication enabled, you can now generate an application password:

1. From the WordPress \*\*Security >\*\* [\*\*Two-Step Authentication\*\*](https://wordpress.com/me/security/two-step) page, select \*\*+ Add new application password\*\* in the \*\*Application passwords\*\* section.

5. Enter an \*\*Application name\*\*, like `n8n integration`.

6. Select \*\*Generate Password\*\*.

7. Copy the password it generates. You'll use this in your n8n credential.

### Set up the credential

Congratulations! You're now ready to set up your n8n credential:

1. Enter your WordPress \*\*Username\*\* in your n8n credential.

2. Enter the application password you copied above as the \*\*Password\*\* in your n8n credential.

3. Enter the URL of your WordPress site as the \*\*WordPress URL\*\*.

4. Optional: Use the \*\*Ignore SSL Issues\*\* to choose whether you want the n8n credential to connect even if SSL certificate validation fails (turned on) or whether to respect SSL certificate validation (turned off).

## workable.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Workable credentials

description: Documentation for Workable credentials. Use these credentials to authenticate Workable in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Workable credentials

You can use these credentials to authenticate the following nodes:

- [Workable Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.workabletrigger.md)

## Prerequisites

Create a [Workable](https://www.workable.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Workable's API documentation](https://workable.readme.io/reference/generate-an-access-token){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Subdomain\*\*: Your Workable subdomain is the part of your Workable domain between `https://` and `.workable.com`. So if the full domain is `https://n8n.workable.com`, the subdomain is `n8n`. The subdomain is also displayed on your Workable \*\*Company Profile\*\* page.

- An \*\*Access Token\*\*: Go to your \*\*profile >\*\* [\*\*Integrations\*\*](https://workable.com/backend/settings/integrations){:target=\_blank .external-link} \*\*> Apps\*\* and select \*\*Generate API token\*\*. Refer to [Generate a new token](https://help.workable.com/hc/en-us/articles/115015785428-Generating-revoking-access-tokens-for-Workable-s-API#Generateanewtoken) for more information.

<!-- vale off -->

/// note | Token scopes

If you're using this credential with the [Workable Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.workabletrigger.md) node, select the `r\_candidates` and `r\_jobs` scopes when you generate your token. If you're using this credential in other ways, select scopes that are relevant for your use case.

Refer to [Supported API scopes](https://help.workable.com/hc/en-us/articles/115015785428-Generating-revoking-access-tokens-for-Workable-s-API#SupportedAPIscopes){:target=\_blank .external-link} for more information on scopes.

///

<!-- vale on -->

## wufoo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wufoo credentials

description: Documentation for Wufoo credentials. Use these credentials to authenticate Wufoo in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Wufoo credentials

You can use these credentials to authenticate the following nodes:

- [Wufoo Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.wufootrigger.md)

## Prerequisites

Create a [Wufoo](https://wufoo.com){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Wufoo's API documentation](https://wufoo.github.io/docs/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: Get your API key from the [Wufoo Form Manager](https://app.wufoo.com/#/form-manager){:target=\_blank .external-link}. To the right of a form, select \*\*More > API Information\*\*. Refer to [Using API Information and Webhooks](https://help.surveymonkey.com/en/wufoo/integrations/wufoo-api/){:target=\_blank .external-link} for more information.

- A \*\*Subdomain\*\*: Your subdomain is the part of your Wufoo URL that comes after `https://` and before `wufoo.com`. So if the full domain is `https://n8n.wufoo.com`, the subdomain is `n8n`. Admins can view the subdomain in the [\*\*Account Manager\*\*](https://help.surveymonkey.com/en/wufoo/account-manager){:target=\_blank .external-link}. Refer to [Your Subdomain](https://help.surveymonkey.com/en/wufoo/account/your-subdomain/){:target=\_blank .external-link} for more information.

## xai.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: xAI credentials

description: Documentation for xAI credentials. Use these credentials to authenticate xAI in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# xAI credentials

You can use these credentials to authenticate the following nodes:

- [Chat xAI Grok](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.lmchatxaigrok.md)

## Prerequisites

Create an [xAI](https://accounts.x.ai/sign-up) account.

## Supported authentication methods

- API key

## Related resources

Refer to [xAI's API documentation](https://docs.x.ai/docs/api-reference) for more information about the service.

## Using API key

To configure this credential, you'll need:

- An \*\*API Key\*\*: You can create a new API key on the [xAI Console API Keys page](https://console.x.ai/team/default/api-keys).

Refer to the [The Hitchhiker's Guide to Grok | xAI](https://docs.x.ai/docs/tutorial) for more information.

## xata.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Xata credentials

description: Documentation for the Xata credentials. Use these credentials to authenticate Xata in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Xata credentials

You can use these credentials to authenticate the following nodes:

\* [Xata](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryxata.md)

## Prerequisites

Create a [Xata](https://xata.io/){:target=\_blank .external-link} database or an account on an existing database.

## Supported authentication methods

- API key

## Related resources

Refer to [Xata's documentation](https://xata.io/docs/rest-api/authentication){:target=\_blank .external-link} for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need:

- The \*\*Database Endpoint\*\*: The Workspace API requires that you identify the database you're requesting information from using this format: `https://{workspace-display-name}-{workspace-id}.{region}.xata.sh/db/{dbname}`. Refer to [Workspace API](https://xata.io/docs/rest-api#workspace-api){:target=\_blank .external-link} for more information.

- `{workspace-display-name}`: The workspace display name is an optional identifier you can include in your Database Endpoint. The API ignores it, but including it can make it easier to figure out which workspace this database is in if you're saving multiple credentials.

- `{workspace-id}`: The unique ID of the workspace, 6 alphanumeric characters.

- `{region}`: The hosting region for the database. This value must match the database region configuration.

- `{dbname}`: The name of the database you're interacting with.

- A \*\*Branch\*\*: Enter the name of the GitHub branch for your database.

- An \*\*API Key\*\*: To generate an API key, go to [\*\*Account Settings\*\*](https://app.xata.io/settings){:target=\_blank .external-link} and select \*\*+ Add a key\*\*. Refer to [Generate an API Key](https://xata.io/docs/rest-api#generate-an-api-key){:target=\_blank .external-link} for more information.

## xero.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Xero credentials

description: Documentation for Xero credentials. Use these credentials to authenticate Xero in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Xero credentials

You can use these credentials to authenticate the following nodes:

- [Xero](/integrations/builtin/app-nodes/n8n-nodes-base.xero.md)

## Prerequisites

Create a [Xero](https://www.xero.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Zero's API documentation](https://developer.xero.com/documentation/api/accounting/overview){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you create a new app for a custom connection.

- A \*\*Client Secret\*\*: Generated when you create a new app for a custom connection.

To generate your Client ID and Client Secret, [create an OAuth2 custom connection app](https://developer.xero.com/documentation/guides/oauth2/custom-connections/){:target=\_blank .external-link} in your Xero developer portal [\*\*My Apps\*\*](https://developer.xero.com/app/manage){:target=\_blank .external-link}.

Use these settings for your app:

/// note | Xero App Name

Xero doesn't support app instances within the Xero Developer Centre that contain `n8n` in their name.

///

- Select \*\*Web app\*\* as the \*\*Integration Type\*\*.

- For the \*\*Company or Application URL\*\*, enter the URL of your n8n server or reverse proxy address. For cloud users, for example, this is: `https://your-username.app.n8n.cloud/`.

- Copy the \*\*OAuth Redirect URL\*\* from n8n and add it as an \*\*OAuth 2.0 redirect URI\*\* in your app.

- Select appropriate \*\*scopes\*\* for your app. Refer to [OAuth2 Scopes](https://developer.xero.com/documentation/guides/oauth2/scopes/){:target=\_blank .external-link} for more information.

- To use all functionality in the [Xero](/integrations/builtin/app-nodes/n8n-nodes-base.xero.md) node, add the `accounting.contacts` and `accounting.transactions` scopes.

Refer to Xero's [OAuth Custom Connections](https://developer.xero.com/documentation/guides/oauth2/custom-connections){:target=\_blank .external-link} documentation for more information.

## yourls.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Yourls credentials

description: Documentation for Yourls credentials. Use these credentials to authenticate Yourls in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Yourls credentials

You can use these credentials to authenticate the following nodes:

- [Yourls](/integrations/builtin/app-nodes/n8n-nodes-base.yourls.md)

## Prerequisites

Install [Yourls](https://github.com/YOURLS/YOURLS){:target=\_blank .external-link} on your server.

## Supported authentication methods

- API key

## Related resources

Refer to [Yourl's documentation](https://yourls.org/docs){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*Signature\*\* token: Go to \*\*Tools > Secure passwordless API call\*\* to get your \*\*Signature\*\* token. Refer to [Yourl's Passworldess API documentation](https://yourls.org/docs/guide/advanced/passwordless-api){:target=\_blank .external-link} for more information.

- A \*\*URL\*\*: Enter the URL of your Yourls instance.

## zabbix.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zabbix credentials

description: Documentation for the Zabbix credentials. Use these credentials to authenticate Zabbix in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Zabbix credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

<!-- If this credential has numerous prerequisites, include the Prerequisites section below and remove the account reference in the in the Using\_Auth method\_ section.

If a single prereq. like having an account, delete the Prerequisites section here and just update the intro statement in the Using \_Auth method\_ section -->

## Prerequisites

Create a [Zabbix Cloud](https://www.zabbix.com/) account or self-host your own Zabbix server.

## Supported authentication methods

\* API key

## Related resources

Refer to [Zabbix's API documentation](https://www.zabbix.com/documentation/current/en/manual/api){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/zabbix/){:target=\_blank .external-link} on n8n's website.

## Using API key

To configure this credential, you'll need:

- an \*\*API Token\*\*: An API key for your Zabbix user.

- the \*\*URL\*\*: The URL of your Zabbix server. Don't include `/zabbix` as part of the URL.

Refer to [Zabbix's API documentation](https://www.zabbix.com/documentation/current/en/manual/api#authentication){:target=\_blank .external-link} for more information about authenticating to the service.

## zammad.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zammad credentials

description: Documentation for Zammad credentials. Use these credentials to authenticate Zammad in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Zammad credentials

You can use these credentials to authenticate the following nodes:

- [Zammad](/integrations/builtin/app-nodes/n8n-nodes-base.zammad.md)

## Prerequisites

- Create a hosted [Zammad](https://zammad.com/){:target=\_blank .external-link} account or set up your own Zammad instance.

- For token authentication, enable \*\*API Token Access\*\* in \*\*Settings > System > API\*\*. Refer to [Setting up a Zammad](https://admin-docs.zammad.org/en/latest/system/integrations/zabbix.html?#setting-up-a-zammad){:target=\_blank .external-link} for more information.

## Supported authentication methods

- Basic auth

- Token auth: Zammad recommends using this authentication method.

## Related resources

Refer to [Zammad's API Authentication documentation](https://docs.zammad.org/en/latest/api/intro.html?#authentication){:target=\_blank .external-link} for more information about authenticating with the service.

## Using basic auth

To configure this credential, you'll need:

- A \*\*Base URL\*\*: Enter the URL of your Zammad instance.

- An \*\*Email\*\* address: Enter the email address you use to log in to Zammad.

- A \*\*Password\*\*: Enter your Zammad password.

- \*\*Ignore SSL Issues\*\*: When turned on, n8n will connect even if SSL certificate validation fails.

## Using token auth

To configure this credential, you'll need:

- A \*\*Base URL\*\*: Enter the URL of your Zammad instance.

- An \*\*Access Token\*\*: Once \*\*API Token Access\*\* is enabled for the Zammad instance, any user with the `user\_preferences.access\_token` permission can generate an \*\*Access Token\*\* by going to your \*\*avatar > Profile > Token Access\*\* and \*\*Create\*\* a new token.

- The access token permissions depend on what actions you'd like to complete with this credential. For all functionality within the [Zammad](/integrations/builtin/app-nodes/n8n-nodes-base.zammad.md) node, select:

- `admin.group`

- `admin.organization`

- `admin.user`

- `ticket.agent`

- `ticket.customer`

- \*\*Ignore SSL Issues\*\*: When turned on, n8n will connect even if SSL certificate validation fails.

## zendesk.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zendesk credentials

description: Documentation for Zendesk credentials. Use these credentials to authenticate Zendesk in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Zendesk credentials

You can use these credentials to authenticate the following nodes:

- [Zendesk](/integrations/builtin/app-nodes/n8n-nodes-base.zendesk.md)

- [Zendesk Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.zendesktrigger.md)

## Prerequisites

- Create a [Zendesk](https://zendesk.com/){:target=\_blank .external-link} account.

- For API token authentication, enable token access to the API in Admin Center under \*\*Apps and integrations > APIs > Zendesk APIs\*\*.

## Supported authentication methods

- API token

- OAuth2

## Related resources

Refer to [Zendesk's API documentation](https://developer.zendesk.com/api-reference/){:target=\_blank .external-link} for more information about the service.

## Using API token

To configure this credential, you'll need:

- Your \*\*Subdomain\*\*: Your Zendesk subdomain is the portion of the URL between `https://` and `.zendesk.com`. For example, if the Zendesk URL is `https://n8n-example.zendesk.com/agent/dashboard`, the subdomain is `n8n-example`.

- An \*\*Email\*\* address: Enter the email address you use to log in to Zendesk.

- An \*\*API Token\*\*: Generate an API token in \*\*Apps and integrations > APIs > Zendesk API\*\*. Refer to [API token](https://developer.zendesk.com/api-reference/introduction/security-and-auth/#api-token){:target=\_blank .external-link} for more information.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you create a new OAuth client.

- A \*\*Client Secret\*\*: Generated when you create a new OAuth client.

- Your \*\*Subdomain\*\*: Your Zendesk subdomain is the portion of the URL between `https://` and `.zendesk.com`. For example, if the Zendesk URL is `https://n8n-example.zendesk.com/agent/dashboard`, the subdomain is `n8n-example`.

To create a new OAuth client, go to \*\*Apps and integrations > APIs > Zendesk API > OAuth Clients\*\*.

Use these settings:

- Copy the \*\*OAuth Redirect URL\*\* from n8n and enter it as a \*\*Redirect URL\*\* in the OAuth client.

- Copy the \*\*Unique identifier\*\* for the Zendesk client and enter this as your n8n \*\*Client ID\*\*.

- Copy the \*\*Secret\*\* from Zendesk and enter this as your n8n \*\*Client Secret\*\*

Refer to [Registering your application with Zendesk](https://support.zendesk.com/hc/en-us/articles/4408845965210-Using-OAuth-authentication-with-your-application#topic\_s21\_lfs\_qk){:target=\_blank .external-link} for more information.

## zep.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zep credentials

description: Documentation for the Zep credentials. Use these credentials to authenticate Zep in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Zep credentials

You can use these credentials to authenticate the following nodes:

\* [Zep](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.memoryzep.md)

\* [Zep Vector Store](/integrations/builtin/cluster-nodes/root-nodes/n8n-nodes-langchain.vectorstorezep.md)

## Supported authentication methods

- API key

## Related resources

Refer to [Zep's Cloud SDK documentation](https://help.getzep.com/sdks){:target=\_blank .external-link} and [Open Source SDK documentation](https://docs.getzep.com/sdk/){:target=\_blank .external-link} for more information about the service. Refer to [Zep's REST API documentation](https://getzep.github.io/zep/){:target=\_blank .external-link} for information about the API.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

## Using API key

To configure this credential, you'll need a [Zep server](https://www.getzep.com/){:target=\_blank .external-link} with at least one project and:

- An \*\*API URL\*\*

- An \*\*API Key\*\*

Setup depends on whether you're using Zep Cloud or self-hosted Zep Open Source.

### Zep Cloud setup

Follow these instructions if you're using [Zep Cloud](https://app.getzep.com){:target=\_blank .external-link}:

1. In Zep, open the [\*\*Project Settings\*\*](https://app.getzep.com/projects){:target=\_blank .external-link}.

2. In the \*\*Project Keys\*\* section, select \*\*Add Key\*\*.

3. Enter a \*\*Key Name\*\*, like `n8n integration`.

4. Select \*\*Create\*\*.

5. Copy the key and enter it in your n8n integration as the \*\*API Key\*\*.

6. Turn on the \*\*Cloud\*\* toggle.

### Self-hosted Zep Open Source setup

Follow these instructions if you're self-hosting [Zep Open Source](https://docs.getzep.com/deployment/quickstart/){:target=\_blank .external-link}:

1. Enter the JWT token for your Zep server as the \*\*API Key\*\* in n8n.

- If you haven't generated a JWT token for your Zep server before, refer to Zep's [Configuring Authentication](https://docs.getzep.com/deployment/auth/){:target=\_blank .external-link} for instructions.

2. Make sure the \*\*Cloud\*\* toggle is off.

3. Enter the URL for your Zep server as the \*\*API URL\*\*.

## zoho.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zoho credentials

description: Documentation for Zoho credentials. Use these credentials to authenticate Zoho in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Zoho credentials

You can use these credentials to authenticate the following nodes:

- [Zoho CRM](/integrations/builtin/app-nodes/n8n-nodes-base.zohocrm.md)

## Prerequisites

Create a [Zoho](https://www.zoho.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- OAuth2

## Related resources

Refer to [Zoho's CRM API documentation](https://www.zoho.com/crm/developer/docs/api/v3/){:target=\_blank .external-link} for more information about the service.

## Using OAuth2

To configure this credential, you'll need:

- An \*\*Access Token URL\*\*: Zoho provides region-specific access token URLs. Select the region that best fits your Zoho data center:

- \*\*AU\*\*: Select this option for Australia data center.

- \*\*CN\*\*: Select this option for Canada data center.

- \*\*EU\*\*: Select this option for the European Union data center.

- \*\*IN\*\*: Select this option for the India data center.

- \*\*US\*\*: Select this option for the United States data center.

Refer to [Multi DC](https://www.zoho.com/crm/developer/docs/api/v3/multi-dc.html){:target=\_blank .external-link} for more information about selecting a data center.

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

If you need to configure OAuth2 from scratch, [register an application](https://www.zoho.com/accounts/protocol/oauth-setup.html){:target=\_blank .external-link} with Zoho.

Use these settings for your application:

- Select \*\*Server-based Applications\*\* as the \*\*Client Type\*\*.

- Copy the \*\*OAuth Callback URL\*\* from n8n and enter it in the Zoho \*\*Authorized Redirect URIs\*\* field.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* from the application and enter them in your n8n credential.

## zoom.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zoom credentials

description: Documentation for Zoom credentials. Use these credentials to authenticate Zoom in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Zoom credentials

You can use these credentials to authenticate the following nodes:

- [Zoom](/integrations/builtin/app-nodes/n8n-nodes-base.zoom.md)

## Prerequisites

Create a [Zoom](https://zoom.us/){:target=\_blank .external-link} account. Your account must have one of the following permissions:

- Account owner

- Account admin

- Zoom for developers role

## Supported authentication methods

- API JWT token

- OAuth2

/// warning | API JWT token deprecation

Zoom removed support for JWT access tokens in June 2023. You must use OAuth2 for all new credentials.

///

## Related resources

Refer to [Zoom's API documentation](https://developers.zoom.us/docs/api/){:target=\_blank .external-link} for more information about the service.

## Using API JWT token

This authentication method has been fully deprecated by Zoom. Don't create new credentials with it.

To configure this credential, you'll need:

- A \*\*JWT token\*\*: To create a JWT token, create a new JWT app in the [Zoom App Marketplace](https://marketplace.zoom.us/){:target=\_blank .external-link}.

## Using OAuth2

To configure this credential, you'll need:

- A \*\*Client ID\*\*: Generated when you create an OAuth app on the Zoom App Marketplace.

- A \*\*Client Secret\*\*: Generated when you create an OAuth app.

To generate your \*\*Client ID\*\* and \*\*Client Secret\*\*, [create an OAuth app](https://developers.zoom.us/docs/integrations/create/){:target=\_blank .external-link}.

Use these settings for your OAuth app:

- Select \*\*User-managed app\*\* for \*\*Select how the app is managed\*\*.

- Copy the \*\*OAuth Callback URL\*\* from n8n and enter it as an \*\*OAuth Redirect URL\*\* in Zoom.

- If your n8n credential displays a \*\*Whitelist URL\*\*, also enter that URL as a an \*\*OAuth Redirect URL\*\*.

- Enter \*\*Scopes\*\* for the scopes you plan to use. For all functionality in the [Zoom](/integrations/builtin/app-nodes/n8n-nodes-base.zoom.md) node, select:

- `meeting:read`

- `meeting:write`

- Refer to [OAuth scopes | Meeting scopes](https://developers.zoom.us/docs/integrations/oauth-scopes/#meeting-scopes){:target=\_blank .external-link} for more information on meeting scopes.

- Copy the \*\*Client ID\*\* and \*\*Client Secret\*\* provided in the Zoom app and enter them in your n8n credential.

## zscalerzia.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zscaler ZIA credentials

description: Documentation for the Zscaler ZIA credentials. Use these credentials to authenticate Zscaler ZIA in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: medium

---

# Zscaler ZIA credentials

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

## Prerequisites

Create an admin account on a [Zscaler Internet Access (ZIA)](https://www.zscaler.com/products/zscaler-internet-access){:target=\_blank .external-link} cloud instance.

## Supported authentication methods

- Basic auth and API key combo

## Related resources

Refer to [Zscaler ZIA's documentation](https://help.zscaler.com/zia/getting-started-zia-api){:target=\_blank .external-link} for more information about the service.

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/zscaler-zia/){:target=\_blank .external-link} on n8n's website.

## Using basic auth and API key combo

To configure this credential, you'll need:

- A \*\*Base URL\*\*: Enter the base URL of your Zscaler ZIA cloud name. To get your base URL, log in to the ZIA Admin Portal and go to \*\*Administration > Cloud Service API Security\*\*. The base URL is displayed in both the \*\*Cloud Service API Key\*\* tab and the \*\*OAuth 2.0 Authorization Servers\*\* tab.

- A \*\*Username\*\*: Enter your ZIA admin username.

- A \*\*Password\*\*: Enter your ZIA admin password.

- An \*\*Api Key\*\*: Get an API key by creating one from \*\*Administration > Cloud Service API Security > Cloud Service API Key\*\*.

Refer to [About Cloud Service API Key](https://help.zscaler.com/zia/about-cloud-service-api-key){:target=\_blank .external-link} for more detailed instructions.

## zulip.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zulip credentials

description: Documentation for Zulip credentials. Use these credentials to authenticate Zulip in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Zulip credentials

You can use these credentials to authenticate the following nodes:

- [Zulip](/integrations/builtin/app-nodes/n8n-nodes-base.zulip.md)

## Prerequisites

Create a [Zulip](https://zulip.com/){:target=\_blank .external-link} account.

## Supported authentication methods

- API key

## Related resources

Refer to [Zulip's API documentation](https://zulip.com/api/){:target=\_blank .external-link} for more information about the service.

## Using API key

To configure this credential, you'll need:

- A \*\*URL\*\*: Enter the URL of your Zulip domain.

- An \*\*Email\*\* address: Enter the email address you use to log in to Zulip.

- An \*\*API Key\*\*: Get your API key in the \*\*Gear cog > Personal Settings > Account & privacy > API Key\*\*. Refer to [API Keys](https://zulip.com/api/api-keys){:target=\_blank .external-link} for more information.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google credentials

description: Documentation for Google credentials. Use these credentials to authenticate Google in n8n, a workflow automation platform.

contentType: overview

---

# Google credentials

This section contains:

\* [OAuth2 single service](/integrations/builtin/credentials/google/oauth-single-service.md): Create an OAuth2 credential for a specific service node, such as the Gmail node.

\* [OAuth2 generic](/integrations/builtin/credentials/google/oauth-generic.md): Create an OAuth2 credential for use with [custom operations](/integrations/custom-operations.md).

\* [Service Account](/integrations/builtin/credentials/google/service-account.md): Create a [Service Account](https://cloud.google.com/iam/docs/service-account-overview){:target=\_blank .external-link} credential for some specific service nodes.

\* [Google PaLM and Gemini](/integrations/builtin/credentials/googleai.md): Get a Google Gemini/Google PaLM API key.

## OAuth2 and Service Account

There are two authentication methods available for Google services nodes:

\* [OAuth2](https://developers.google.com/identity/protocols/oauth2){:target=\_blank .external-link}: Recommended because it's more widely available and easier to set up.

\* [Service Account](https://cloud.google.com/iam/docs/understanding-service-accounts){:target=\_blank .external-link}: Refer to the [Google documentation: Understanding service accounts](https://cloud.google.com/iam/docs/understanding-service-accounts){:target=\_blank .external-link} for guidance on when you need a service account.

--8<-- "\_snippets/integrations/managed-google-oauth.md"

## Compatible nodes

Once configured, you can use your credentials to authenticate the following nodes. Most nodes are compatible with OAuth2 authentication. Support for Service Account authentication is limited.

| Node | OAuth | Service Account |

| :--- | :---: | :-------------: |

| [Google Ads](/integrations/builtin/app-nodes/n8n-nodes-base.googleads.md) | :white\_check\_mark: | :x: |

| [Gmail](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) | :white\_check\_mark: | :warning: |

| [Google Analytics](/integrations/builtin/app-nodes/n8n-nodes-base.googleanalytics.md) | :white\_check\_mark: | :x: |

| [Google BigQuery](/integrations/builtin/app-nodes/n8n-nodes-base.googlebigquery.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Books](/integrations/builtin/app-nodes/n8n-nodes-base.googlebooks.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Calendar](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md) | :white\_check\_mark: | :x: |

| [Google Chat](/integrations/builtin/app-nodes/n8n-nodes-base.googlechat.md) | :x: | :white\_check\_mark: |

| [Google Cloud Storage](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudstorage.md) | :white\_check\_mark: | :x: |

| [Google Contacts](/integrations/builtin/app-nodes/n8n-nodes-base.googlecontacts.md) | :white\_check\_mark: | :x: |

| [Google Cloud Firestore](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudfirestore.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Cloud Natural Language](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudnaturallanguage.md) | :white\_check\_mark: | :x: |

| [Google Cloud Realtime Database](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudrealtimedatabase.md) | :white\_check\_mark: | :x: |

| [Google Docs](/integrations/builtin/app-nodes/n8n-nodes-base.googledocs.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Drive](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Drive Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.googledrivetrigger/index.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Perspective](/integrations/builtin/app-nodes/n8n-nodes-base.googleperspective.md) | :white\_check\_mark: | :x: |

| [Google Sheets](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Slides](/integrations/builtin/app-nodes/n8n-nodes-base.googleslides.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Tasks](/integrations/builtin/app-nodes/n8n-nodes-base.googletasks.md) | :white\_check\_mark: | :x: |

| [Google Translate](/integrations/builtin/app-nodes/n8n-nodes-base.googletranslate.md) | :white\_check\_mark: | :white\_check\_mark: |

| [Google Workspace Admin](/integrations/builtin/app-nodes/n8n-nodes-base.gsuiteadmin.md) | :white\_check\_mark: | :x: |

| [YouTube](/integrations/builtin/app-nodes/n8n-nodes-base.youtube.md) | :white\_check\_mark: | :x: |

/// warning | Gmail and Service Accounts

Google technically supports Service Accounts for use with Gmail, but it requires enabling domain-wide delegation, which Google discourages, and its behavior can be inconsistent.

n8n recommends using OAuth2 with the Gmail node.

///

## oauth-generic.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google OAuth2 generic

description: Documentation for generic OAuth2 Google credentials. Use these credentials to authenticate Google services in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Google: OAuth2 generic

This document contains instructions for creating a generic OAuth2 Google credential for use with [custom operations](/integrations/custom-operations.md).

--8<-- "\_snippets/integrations/managed-google-oauth.md"

## Prerequisites

\* Create a [Google Cloud](https://cloud.google.com/) account.

## Set up OAuth

There are five steps to connecting your n8n credential to Google services:

1. [Create a Google Cloud Console project](#create-a-google-cloud-console-project).

1. [Enable APIs](#enable-apis).

1. [Configure your OAuth consent screen](#configure-your-oauth-consent-screen).

1. [Create your Google OAuth client credentials](#create-your-google-oauth-client-credentials).

1. [Finish your n8n credential](#finish-your-n8n-credential).

### Create a Google Cloud Console project

First, create a Google Cloud Console project. If you already have a project, jump to the [next section](#enable-apis):

--8<-- "\_snippets/integrations/builtin/credentials/google/create-google-cloud-project.md"

### Enable APIs

With your project created, enable the APIs you'll need access to:

--8<-- "\_snippets/integrations/builtin/credentials/google/enable-apis.md"

### Configure your OAuth consent screen

If you haven't used OAuth in your Google Cloud project before, you'll need to [configure the OAuth consent screen](https://developers.google.com/workspace/guides/configure-oauth-consent):

1. Access your [Google Cloud Console - Library](https://console.cloud.google.com/apis/library). Make sure you're in the correct project.

<figure markdown="span">

![The project dropdown in the Google Cloud top navigation](/\_images/integrations/builtin/credentials/google/google-cloud-project-dropdown.png)

<figcaption>Check the project dropdown in the Google Cloud top navigation</figcaption>

</figure>

1. Open the left navigation menu and go to \*\*APIs & Services > OAuth consent screen\*\*.

1. Select \*\*Get started\*\* to begin configuring OAuth consent.

1. Enter an \*\*App name\*\* and \*\*User support email\*\* to include on the Oauth screen.

1. For the \*\*Audience\*\*, select \*\*Internal\*\* for user access within your organization's Google workspace or \*\*External\*\* for any user with a Google account. Refer to Google's [User type documentation](https://support.google.com/cloud/answer/15549945?sjid=17061891731152303663-EU#user-type) for more information on user types.

1. Select the \*\*Email addresses\*\* Google should use to contact you about changes to your project.

1. Read and accept the Google's User Data Policy and select \*\*Create\*\*.

1. In the left-hand menu, select \*\*Branding\*\*.

1. In the \*\*Authorized domains\*\* section, select \*\*Add domain\*\*:

\* If you're using n8n's Cloud service, add `n8n.cloud`

\* If you're [self-hosting](/hosting/index.md), add the domain of your n8n instance.

1. Select \*\*Save\*\* at the bottom of the page.

### Create your Google OAuth client credentials

Next, create the OAuth client credentials in Google:

1. In the \*\*APIs & Services\*\* section, select [\*\*Credentials\*\*](https://console.cloud.google.com/apis/credentials).

2. Select \*\*+ Create credentials\*\* > \*\*OAuth client ID\*\*.

3. In the \*\*Application type\*\* dropdown, select \*\*Web application\*\*.

4. Google automatically generates a \*\*Name\*\*. Update the \*\*Name\*\* to something you'll recognize in your console.

5. From your n8n credential, copy the \*\*OAuth Redirect URL\*\*. Paste it into the \*\*Authorized redirect URIs\*\* in Google Console.

6. Select \*\*Create\*\*.

### Finish your n8n credential

With the Google project and credentials fully configured, finish the n8n credential:

1. From Google's \*\*OAuth client created\*\* modal, copy the \*\*Client ID\*\*. Enter this in your n8n credential.

2. From the same Google modal, copy the \*\*Client Secret\*\*. Enter this in your n8n credential.

3. You must provide the scopes for this credential. Refer to [Scopes](#scopes) for more information. Enter multiple scopes in a space-separated list, for example:

```

https://www.googleapis.com/auth/gmail.labels https://www.googleapis.com/auth/gmail.addons.current.action.compose

```

4. In n8n, select \*\*Sign in with Google\*\* to complete your Google authentication.

5. \*\*Save\*\* your new credentials.

## Video

The following video demonstrates the steps described above:

<div class="video-container">

<iframe width="840" height="472.5" src="https://www.youtube.com/embed/gZ6N2H3\_vys" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

</div>

## Scopes

Google services have one or more possible access scopes. A scope limits what a user can do. Refer to [OAuth 2.0 Scopes for Google APIs](https://developers.google.com/identity/protocols/oauth2/scopes) for a list of scopes for all services.

n8n doesn't support all scopes. When creating a generic Google OAuth2 API credential, you can enter scopes from the \*\*Supported scopes\*\* list below. If you enter a scope that n8n doesn't already support, it won't work.

??? Details "Supported scopes"

| Service | Available scopes |

|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Gmail | <ul><li>`https://www.googleapis.com/auth/gmail.labels`</li><li>`https://www.googleapis.com/auth/gmail.addons.current.action.compose`</li><li>`https://www.googleapis.com/auth/gmail.addons.current.message.action`</li><li>`https://mail.google.com/`</li><li>`https://www.googleapis.com/auth/gmail.modify`</li><li>`https://www.googleapis.com/auth/gmail.compose`</li></ul> |

| Google Ads | <ul><li>`https://www.googleapis.com/auth/adwords`</li></ul> |

| Google Analytics | <ul><li>`https://www.googleapis.com/auth/analytics`</li><li>`https://www.googleapis.com/auth/analytics.readonly`</li></ul> |

| Google BigQuery | <ul><li>`https://www.googleapis.com/auth/bigquery`</li></ul> |

| Google Books | <ul><li>`https://www.googleapis.com/auth/books`</li></ul> |

| Google Calendar | <ul><li>`https://www.googleapis.com/auth/calendar`</li><li>`https://www.googleapis.com/auth/calendar.events`</li></ul> |

| Google Cloud<br> Natural Language | <ul><li>`https://www.googleapis.com/auth/cloud-language`</li><li>`https://www.googleapis.com/auth/cloud-platform`</li></ul> |

| Google Cloud<br>Storage | <ul><li>`https://www.googleapis.com/auth/cloud-platform`</li><li>`https://www.googleapis.com/auth/cloud-platform.read-only`</li><li>`https://www.googleapis.com/auth/devstorage.full\_control`</li><li>`https://www.googleapis.com/auth/devstorage.read\_only`</li><li>`https://www.googleapis.com/auth/devstorage.read\_write`</li></ul> |

| Google Contacts | <ul><li>`https://www.googleapis.com/auth/contacts`</li></ul> |

| Google Docs | <ul><li>`https://www.googleapis.com/auth/documents`</li><li>`https://www.googleapis.com/auth/drive`</li><li>`https://www.googleapis.com/auth/drive.file`</li></ul> |

| Google Drive | <ul><li>`https://www.googleapis.com/auth/drive`</li><li>`https://www.googleapis.com/auth/drive.appdata`</li><li>`https://www.googleapis.com/auth/drive.photos.readonly`</li></ul> |

| Google Firebase<br>Cloud Firestore | <ul><li>`https://www.googleapis.com/auth/datastore`</li><li>`https://www.googleapis.com/auth/firebase`</li></ul> |

| Google Firebase<br>Realtime Database | <ul><li>`https://www.googleapis.com/auth/userinfo.email`</li><li>`https://www.googleapis.com/auth/firebase.database`</li><li>`https://www.googleapis.com/auth/firebase`</li></ul> |

| Google Perspective | <ul><li>`https://www.googleapis.com/auth/userinfo.email`</li></ul> |

| Google Sheets | <ul><li>`https://www.googleapis.com/auth/drive.file`</li><li>`https://www.googleapis.com/auth/spreadsheets`</li></ul> |

| Google Slide | <ul><li>`https://www.googleapis.com/auth/drive.file`</li><li>`https://www.googleapis.com/auth/presentations`</li></ul> |

| Google Tasks | <ul><li>`https://www.googleapis.com/auth/tasks`</li></ul> |

| Google Translate | <ul><li>`https://www.googleapis.com/auth/cloud-translation`</li></ul> |

| GSuite Admin | <ul><li>`https://www.googleapis.com/auth/admin.directory.group`</li><li>`https://www.googleapis.com/auth/admin.directory.user`</li><li>`https://www.googleapis.com/auth/admin.directory.domain.readonly`</li><li>`https://www.googleapis.com/auth/admin.directory.userschema.readonly`</li></ul> |

## Troubleshooting

### Google hasn't verified this app

--8<-- "\_snippets/integrations/builtin/credentials/google/unverified-app.md"

### Google Cloud app becoming unauthorized

--8<-- "\_snippets/integrations/builtin/credentials/google/app-becoming-unauthorized.md"

## oauth-single-service.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google OAuth2 single service

description: Documentation for single service OAuth2 Google credentials. Use these credentials to authenticate Google in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: critical

---

# Google: OAuth2 single service

This document contains instructions for creating a Google credential for a single service. They're also available as a [video](#video).

--8<-- "\_snippets/integrations/managed-google-oauth.md"

## Prerequisites

\* Create a [Google Cloud](https://cloud.google.com/) account.

## Set up OAuth

There are five steps to connecting your n8n credential to Google services:

1. [Create a Google Cloud Console project](#create-a-google-cloud-console-project).

1. [Enable APIs](#enable-apis).

1. [Configure your OAuth consent screen](#configure-your-oauth-consent-screen).

1. [Create your Google OAuth client credentials](#create-your-google-oauth-client-credentials).

1. [Finish your n8n credential](#finish-your-n8n-credential).

### Create a Google Cloud Console project

First, create a Google Cloud Console project. If you already have a project, jump to the [next section](#enable-apis):

--8<-- "\_snippets/integrations/builtin/credentials/google/create-google-cloud-project.md"

### Enable APIs

With your project created, enable the APIs you'll need access to:

--8<-- "\_snippets/integrations/builtin/credentials/google/enable-apis.md"

### Configure your OAuth consent screen

If you haven't used OAuth in your Google Cloud project before, you'll need to [configure the OAuth consent screen](https://developers.google.com/workspace/guides/configure-oauth-consent):

1. Access your [Google Cloud Console - Library](https://console.cloud.google.com/apis/library). Make sure you're in the correct project.

<figure markdown="span">

![The project dropdown in the Google Cloud top navigation](/\_images/integrations/builtin/credentials/google/google-cloud-project-dropdown.png)

<figcaption>Check the project dropdown in the Google Cloud top navigation</figcaption>

</figure>

1. Open the left navigation menu and go to \*\*APIs & Services > OAuth consent screen\*\*.

1. Select \*\*Get started\*\* to begin configuring OAuth consent.

1. Enter an \*\*App name\*\* and \*\*User support email\*\* to include on the Oauth screen.

1. For the \*\*Audience\*\*, select \*\*Internal\*\* for user access within your organization's Google workspace or \*\*External\*\* for any user with a Google account. Refer to Google's [User type documentation](https://support.google.com/cloud/answer/15549945?sjid=17061891731152303663-EU#user-type) for more information on user types.

1. Select the \*\*Email addresses\*\* Google should use to contact you about changes to your project.

1. Read and accept the Google's User Data Policy and select \*\*Create\*\*.

1. In the left-hand menu, select \*\*Branding\*\*.

1. In the \*\*Authorized domains\*\* section, select \*\*Add domain\*\*:

\* If you're using n8n's Cloud service, add `n8n.cloud`

\* If you're [self-hosting](/hosting/index.md), add the domain of your n8n instance.

1. Select \*\*Save\*\* at the bottom of the page.

### Create your Google OAuth client credentials

Next, create the OAuth client credentials in Google:

1. In the \*\*APIs & Services\*\* section, select [\*\*Credentials\*\*](https://console.cloud.google.com/apis/credentials).

2. Select \*\*+ Create credentials\*\* > \*\*OAuth client ID\*\*.

3. In the \*\*Application type\*\* dropdown, select \*\*Web application\*\*.

4. Google automatically generates a \*\*Name\*\*. Update the \*\*Name\*\* to something you'll recognize in your console.

5. From your n8n credential, copy the \*\*OAuth Redirect URL\*\*. Paste it into the \*\*Authorized redirect URIs\*\* in Google Console.

6. Select \*\*Create\*\*.

### Finish your n8n credential

With the Google project and credentials fully configured, finish the n8n credential:

1. From Google's \*\*OAuth client created\*\* modal, copy the \*\*Client ID\*\*. Enter this in your n8n credential.

2. From the same Google modal, copy the \*\*Client Secret\*\*. Enter this in your n8n credential.

2. In n8n, select \*\*Sign in with Google\*\* to complete your Google authentication.

3. \*\*Save\*\* your new credentials.

## Video

<div class="video-container">

<iframe width="840" height="472.5" src="https://www.youtube.com/embed/gZ6N2H3\_vys" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

</div>

## Troubleshooting

### Google hasn't verified this app

--8<-- "\_snippets/integrations/builtin/credentials/google/unverified-app.md"

### Google Cloud app becoming unauthorized

--8<-- "\_snippets/integrations/builtin/credentials/google/app-becoming-unauthorized.md"

## service-account.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Service Account

description: Documentation for service account Google credentials. Use these credentials to authenticate Google in n8n, a workflow automation platform.

contentType: [integration, reference]

---

# Google: Service Account

Using service accounts is more complex than OAuth2. Before you begin:

\* Check if your node is [compatible](/integrations/builtin/credentials/google/index.md#compatible-nodes) with Service Account.

\* Make sure you need to use Service Account. For most use cases, [OAuth2](/integrations/builtin/credentials/google/oauth-single-service.md) is a better option.

\* Read the Google documentation on [Creating and managing service accounts](https://cloud.google.com/iam/docs/creating-managing-service-accounts){:target=\_blank .external-link}.

## Prerequisites

\* Create a [Google Cloud](https://cloud.google.com/){:targe=\_blank .external-link} account.

## Set up Service Account

There are four steps to connecting your n8n credential to a Google Service Account:

1. [Create a Google Cloud Console project](#create-a-google-cloud-console-project).

1. [Enable APIs](#enable-apis).

1. [Set up Google Cloud Service Account](#set-up-google-cloud-service-account).

1. [Finish your n8n credential](#finish-your-n8n-credential).

### Create a Google Cloud Console project

First, create a Google Cloud Console project. If you already have a project, jump to the next section:

--8<-- "\_snippets/integrations/builtin/credentials/google/create-google-cloud-project.md"

### Enable APIs

With your project created, enable the APIs you'll need access to:

--8<-- "\_snippets/integrations/builtin/credentials/google/enable-apis.md"

### Set up Google Cloud Service Account

1. Access your [Google Cloud Console - Library](https://console.cloud.google.com/apis/library){:target=\_blank .external-link}. Make sure you're in the correct project.

<figure markdown="span">

![The project dropdown in the Google Cloud top navigation](/\_images/integrations/builtin/credentials/google/google-cloud-project-dropdown.png)

<figcaption>Check the project dropdown in the Google Cloud top navigation</figcaption>

</figure>

1. Select the hamburger menu \*\*> APIs & Services > Credentials\*\*. Google takes you to your \*\*Credentials\*\* page.

2. Select \*\*+ CREATE CREDENTIALS > Service account\*\*.

3. Enter a name in \*\*Service account name\*\* and an ID in \*\*Service account ID\*\*. Refer to [Creating a service account](https://cloud.google.com/iam/docs/creating-managing-service-accounts?hl=en#creating){:target=\_blank .external-link} for more information.

4. Select \*\*CREATE AND CONTINUE\*\*.

5. Based on your use-case, you may want to \*\*Select a role\*\* and \*\*Grant users access to this service account\*\* using the corresponding sections.

6. Select \*\*DONE\*\*.

7. Select your newly created service account under the \*\*Service Accounts\*\* section. Open the \*\*KEYS\*\* tab.

8. Select \*\*ADD KEY > Create new key\*\*.

9. In the modal that appears, select \*\*JSON\*\*, then select \*\*CREATE\*\*. Google saves the file to your computer.

### Finish your n8n credential

With the Google project and credentials fully configured, finish the n8n credential:

1. Open the downloaded JSON file.

2. Copy the `client\_email` and enter it in your n8n credential as the \*\*Service Account Email\*\*.

3. Copy the `private\_key`. Don't include the surrounding `"` marks. Enter this as the \*\*Private Key\*\* in your n8n credential.

///warning | Older versions of n8n

If you're running an n8n version older than 0.156.0, replace all instances of `\n` in the JSON file with new lines.

///

4. \*\*Optional\*\*: Choose if you want to [\*\*Impersonate a User\*\*](https://developers.google.com/identity/protocols/oauth2/service-account#delegatingauthority){:target=\_blank .external-link} (turned on).

1. To use this option, you must [Enable domain-wide delegation](#enable-domain-wide-delegation) for the service account as a Google Workspace super admin.

1. Enter the \*\*Email\*\* of the user you want to impersonate.

5. If you plan to use this credential with the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node, turn on \*\*Set up for use in HTTP Request node\*\*.

1. With this setting turned on, you'll need to add \*\*Scope(s)\*\* for the node. n8n prepopulates some scopes. Refer to [OAuth 2.0 Scopes for Google APIs](https://developers.google.com/identity/protocols/oauth2/scopes){:target=\_blank .external-link} for more information.

6. \*\*Save\*\* your credentials.

## Video

The following video demonstrates the steps described above.

<div class="video-container">

<iframe width="840" height="472.5" src="https://www.youtube.com/embed/ArXVlpo3y1k" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>

</div>

## Troubleshooting

### Service Account can't access Google Drive files

A Service Account can't access Google Drive files and folders that weren't shared with its associated user email.

1. Access your [Google Cloud Console](https://console.cloud.google.com){:target=\_blank .external-link} and copy your Service Account email.

2. Access your [Google Drive](https://drive.google.com){:target=\_blank .external-link} and go to the designated file or folder.

3. Right-click on the file or folder and select \*\*Share\*\*.

4. Paste your Service Account email into \*\*Add People and groups\*\*.

5. Select \*\*Editor\*\* for read-write access or \*\*Viewer\*\* for read-only access.

### Enable domain-wide delegation

To impersonate a user with a service account, you must enable domain-wide delegation for the service account.

/// warning | Not recommended

Google recommends you [avoid using domain-wide delegation](https://cloud.google.com/iam/docs/best-practices-service-accounts#domain-wide-delegation){:target=\_blank .external-link}, as it allows impersonation of any user (including super admins) and can pose a security risk.

///

To delegate domain-wide authority to a service account, you must be a super administrator for the Google Workspace domain. Then:

1. From your Google Workspace domain's [Admin console](https://admin.google.com/){:target=\_blank .external-link}, select the hamburger menu, then select \*\*Security > Access and data control > API Controls\*\*.

2. In the \*\*Domain wide delegation\*\* pane, select \*\*Manage Domain Wide Delegation\*\*.

3. Select \*\*Add new\*\*.

4. In the \*\*Client ID\*\* field, enter the service account's \*\*Client ID\*\*. To get the Client ID:

\* Open your Google Cloud Console project, then open the [Service Accounts](https://console.cloud.google.com/iam-admin/serviceaccounts){:target=\_blank .external-link} page.

\* Copy the \*\*OAuth 2 Client ID\*\* and use this as the \*\*Client ID\*\* for the \*\*Domain Wide Delegation\*\*.

5. In the \*\*OAuth scopes\*\* field, enter a list of comma-separate scopes to grant your application access. For example, if your application needs domain-wide full access to the Google Drive API and the Google Calendar API, enter: `https://www.googleapis.com/auth/drive, https://www.googleapis.com/auth/calendar`.

6. Select \*\*Authorize\*\*.

It can take from 5 minutes up to 24 hours before you can impersonate all users in your Workspace.

## gmail.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail

description: Documentation for Gmail IMAP credentials. Use these credentials to authenticate Gmail IMAP in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Gmail IMAP credentials

Follow these steps to configure the IMAP credentials with a Gmail account.

## Prerequisites

To follow these instructions, you must first:

1. [Enable 2-step Verification](#enable-2-step-verification) on your Gmail account.

2. [Generate an app password](#generate-an-app-password).

### Enable 2-step Verification

--8<-- "\_snippets/integrations/builtin/credentials/email/gmail-two-step-verification.md"

### Generate an app password

--8<-- "\_snippets/integrations/builtin/credentials/email/gmail-app-password.md"

## Set up the credential

To set up the IMAP credential with a Gmail account, use these settings:

1. Enter your Gmail email address as the \*\*User\*\*.

2. Enter the app password you generated above as the \*\*Password\*\*.

3. Enter `imap.gmail.com` as the \*\*Host\*\*.

4. For the \*\*Port\*\*, keep the default port number of `993`. Check with your email administrator if this port doesn't work.

5. Turn on the \*\*SSL/TLS\*\* toggle.

6. Check with your email administrator about whether to \*\*Allow Self-Signed Certificates\*\*.

Refer to [Add Gmail to another client](https://support.google.com/mail/answer/7126229?hl=en){:target=\_blank .external-link} for more information. You may need to \*\*Enable IMAP\*\* if you're using a personal Google account before June 2024.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: IMAP credentials

description: Documentation for IMAP credentials. Use these credentials to authenticate IMAP in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# IMAP credentials

You can use these credentials to authenticate the following nodes:

- [IMAP Email](/integrations/builtin/core-nodes/n8n-nodes-base.emailimap.md)

## Prerequisites

Create an email account on a service with IMAP support.

## Supported authentication methods

- User account

## Related resources

Internet Message Access Protocol (IMAP) is a standard protocol for receiving email. Most email providers offer instructions on setting up their service with IMAP; refer to your provider's IMAP instructions.

## Using user account

To configure this credential, you'll need:

- A \*\*User\*\* name: The email address you're retrieving email for.

- A \*\*Password\*\*: Either the password you use to check email or an app password. Your provider will tell you whether to use your own password or to generate an app password.

- A \*\*Host\*\*: The IMAP host address for your email provider, often formatted as `imap.<provider>.com`. Check with your provider.

- A \*\*Port\*\* number: The default is port `993`. Use this port unless your provider or email administrator tells you to use something different.

Choose whether to use \*\*SSL/TLS\*\* and whether to \*\*Allow Self-Signed Certificates\*\*.

### Provider instructions

Refer to the quickstart guides for these common email providers.

#### Gmail

Refer to [Gmail](/integrations/builtin/credentials/imap/gmail.md).

#### Outlook.com

Refer to [Outlook.com](/integrations/builtin/credentials/imap/outlook.md).

#### Yahoo

Refer to [Yahoo](/integrations/builtin/credentials/imap/yahoo.md).

### My provider isn't listed

If your email provider isn't listed here, search for their `IMAP settings` or `IMAP instructions`.

## outlook.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Outlook.com

description: Documentation for Outlook.com IMAP credentials. Use these credentials to authenticate Outlook.com IMAP in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Outlook.com IMAP credentials

Follow these steps to configure the IMAP credentials with an Outlook.com account.

## Set up the credentials

To set up the IMAP credential with Outlook.com account, use these settings:

1. Enter your Outlook.com email address as the \*\*User\*\*.

2. Enter your Outlook.com password as the \*\*Password\*\*.

/// note | App password

Outlook.com doesn't require you to use an app password, but if you'd like to for security reasons, refer to [Use an app password](#use-an-app-password).

///

3. Enter `outlook.office365.com` as the \*\*Host\*\*.

4. For the \*\*Port\*\*, keep the default port number of `993`.

5. Turn on the \*\*SSL/TLS\*\* toggle.

6. Check with your email administrator about whether to \*\*Allow Self-Signed Certificates\*\*.

Refer to Microsoft's [POP, IMAP, and SMTP settings for Outlook.com](https://support.microsoft.com/en-us/office/pop-imap-and-smtp-settings-for-outlook-com-d088b986-291d-42b8-9564-9c414e2aa040){:target=\_blank .external-link} documentation for more information.

## Connection errors

You may receive a connection error if you configured your Outlook.com account as IMAP in multiple email clients. Microsoft is working on a fix for this. For now, try this workaround:

1. Go to [account.live.com/activity](https://account.live.com/activity) and sign in using the email address and password of the affected account.

1. Under \*\*Recent activity\*\*, find the \*\*Session Type\*\* event that matches the most recent time you received the connection error. Select it to expand the details.

1. Select \*\*This was me\*\* to approve the IMAP connection.

1. Retest your n8n credential.

Refer to [What is the Recent activity page?](https://support.microsoft.com/en-us/account-billing/what-is-the-recent-activity-page-23cf5556-4dbe-70da-82c8-bb3a8d8f8016){:target=\_blank .external-link} for more information on using this page.

The source for these instructions is [Outlook.com IMAP connection errors](https://support.microsoft.com/en-us/office/pop-imap-and-smtp-settings-for-outlook-com-d088b986-291d-42b8-9564-9c414e2aa040){:target=\_blank .external-link}. Refer to that documentation for more information.

## Use an app password

--8<-- "\_snippets/integrations/builtin/credentials/email/outlook-app-password.md"

## yahoo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Yahoo

description: Documentation for Yahoo IMAP credentials. Use these credentials to authenticate Yahoo IMAP in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Yahoo IMAP credentials

Follow these steps to configure the IMAP credentials with a Yahoo account.

## Prerequisites

To follow these instructions, you must first generate an app password:

--8<-- "\_snippets/integrations/builtin/credentials/email/yahoo-app-password.md"

## Set up the credential

To set up the IMAP credential with a Yahoo Mail account, use these settings:

1. Enter your Yahoo email address as the \*\*User\*\*.

2. Enter the app password you generated above as the \*\*Password\*\*.

3. Enter `imap.mail.yahoo.com` as the \*\*Host\*\*.

4. Keep the default \*\*Port\*\* number of `993`. Check with your email administrator if this port doesn't work.

5. Turn on the \*\*SSL/TLS\*\* toggle.

6. Check with your email administrator about whether to \*\*Allow Self-Signed Certificates\*\*.

Refer to [Set up IMAP for Yahoo mail account](https://help.yahoo.com/kb/sln4075.html){:target=\_blank .external-link} for more information.

## gmail.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail

description: Documentation for Gmail Send Email credentials. Use these credentials to authenticate Send Email with Gmail in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Gmail Send Email credentials

Follow these steps to configure the Send Email credentials with a Gmail account.

## Prerequisites

To follow these instructions, you must first:

1. [Enable 2-step Verification](#enable-2-step-verification) on your Gmail account.

2. [Generate an app password](#generate-an-app-password).

### Enable 2-step Verification

--8<-- "\_snippets/integrations/builtin/credentials/email/gmail-two-step-verification.md"

### Generate an app password

--8<-- "\_snippets/integrations/builtin/credentials/email/gmail-app-password.md"

## Set up the credential

To set up the Send Email credential to use Gmail:

1. Enter your Gmail email address as the \*\*User\*\*.

2. Enter the app password you generated above as the \*\*Password\*\*.

3. Enter `smtp.gmail.com` as the \*\*Host\*\*.

4. For the \*\*Port\*\*:

- Keep the default `465` for SSL or if you're unsure what to use.

- Enter `587` for TLS.

5. Turn on the \*\*SSL/TLS\*\* toggle.

Refer to the Outgoing Mail (SMTP) Server settings in [Read Gmail messages on other email clients using POP](https://support.google.com/mail/answer/7104828?hl=en){:target=\_blank .external-link} for more information. If the settings above don't work for you, check with your email administrator.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Send Email credentials

description: Documentation for Send Email credentials. Use these credentials to authenticate Send Email in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Send Email credentials

You can use these credentials to authenticate the following nodes:

- [Send Email](/integrations/builtin/core-nodes/n8n-nodes-base.sendemail.md)

## Prerequisites

- Create an email account on a service that supports SMTP.

- Some email providers require that you enable or set up outgoing SMTP or generate an app password. Refer to your provider's documentation to see if there are other required steps.

## Supported authentication methods

- SMTP account

## Related resources

Simple Message Transfer Protocol (SMTP) is a standard protocol for sending and receiving email. Most email providers offer instructions on setting up their service with SMTP. Refer to your provider's SMTP instructions.

## Using SMTP account

To configure this credential, you'll need:

- A \*\*User\*\* email address

- A \*\*Password\*\*: This may be the user's password or an app password. Refer to the documentation for your email provider.

- The \*\*Host\*\*: The SMTP host address for your email provider, often formatted as `smtp.<provider>.com`. Check with your provider.

- A \*\*Port\*\* number: The default is port `465`, commonly used for SSL. Other common ports are `587` for TLS or `25` for no encryption. Check with your provider.

- \*\*SSL/TLS\*\*: When turned on, SMTP will use SSL/TLS.

- \*\*Disable STARTTLS\*\*: When SSL/TLS is disabled, the SMTP server can still try to [upgrade the TCP connection using STARTTLS](https://en.wikipedia.org/wiki/Opportunistic\_TLS){:target=\_blank .external-link}. Turning this on prevents that behaviour.

- \*\*Client Host Name\*\*: If needed by your provider, add a client host name. This name identifies the client to the server.

### Provider instructions

Refer to the quickstart guides for these common email providers.

#### Gmail

Refer to [Gmail](/integrations/builtin/credentials/sendemail/gmail.md).

#### Outlook.com

Refer to [Outlook.com](/integrations/builtin/credentials/sendemail/outlook.md).

#### Yahoo

Refer to [Yahoo](/integrations/builtin/credentials/sendemail/yahoo.md).

### My provider isn't listed

If your email provider isn't listed here, search for `SMTP settings` to find their instructions. (These instructions may also be included with `IMAP settings` or `POP settings`.)

## outlook.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Outlook.com

description: Documentation for Outlook.com Send Email credentials. Use these credentials to authenticate Send Email with Outlook.com in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Outlook.com Send Email credentials

Follow these steps to configure the Send Email credentials with an Outlook.com account.

## Set up the credential

To configure the Send Email credential to use an Outlook.com account:

1. Enter your Outlook.com email address as the \*\*User\*\*.

2. Enter your Outlook.com password as the \*\*Password\*\*.

/// note | App password

Outlook.com doesn't require you to use an app password, but if you'd like to for security reasons, refer to [Use an app password](#use-an-app-password).

///

4. Enter `smtp-mail.outlook.com` as the \*\*Host\*\*.

5. Enter `587` for the \*\*Port\*\*.

6. Turn on the \*\*SSL/TLS\*\* toggle.

Refer to Microsoft's [POP, IMAP, and SMTP settings for Outlook.com](https://support.microsoft.com/en-us/office/pop-imap-and-smtp-settings-for-outlook-com-d088b986-291d-42b8-9564-9c414e2aa040){:target=\_blank .external-link} documentation for more information. If the settings above don't work for you, check with your email administrator.

## Use an app password

--8<-- "\_snippets/integrations/builtin/credentials/email/outlook-app-password.md"

## yahoo.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Yahoo

description: Documentation for Yahoo Send Email credentials. Use these credentials to authenticate Send Email with Yahoo in n8n, a workflow automation platform.

contentType: [integration, reference]

priority: high

---

# Yahoo Send Email credentials

Follow these steps to configure the Send Email credentials with a Yahoo account.

## Prerequisites

To follow these instructions, you must first generate an app password:

--8<-- "\_snippets/integrations/builtin/credentials/email/yahoo-app-password.md"

## Set up the credential

To configure the Send Email credential to use Yahoo Mail:

1. Enter your Yahoo email address as the \*\*User\*\*.

2. Enter the app password you generated above as the \*\*Password\*\*.

3. Enter `smtp.mail.yahoo.com` as the \*\*Host\*\*.

4. For the \*\*Port\*\*:

- Keep the default `465` for SSL or if you're unsure what to use.

- Enter `587` for TLS.

5. Turn on the \*\*SSL/TLS\*\* toggle.

Refer to [IMAP server settings for Yahoo Mail](https://help.yahoo.com/kb/sln4075.html){:target=\_blank .external-link} for more information. If the settings above don't work for you, check with your email administrator.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Triggers library

This section provides information about [n8n's Triggers](/glossary.md#trigger-node-n8n).

## n8n-nodes-base.activecampaigntrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ActiveCampaign Trigger node documentation

description: Learn how to use the ActiveCampaign Trigger node in n8n. Follow technical documentation to integrate ActiveCampaign Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# ActiveCampaign Trigger node

[ActiveCampaign](https://www.activecampaign.com/){:target=\_blank .external-link} is a cloud software platform for small-to-mid-sized business. The company offers software for customer experience automation, which combines the email marketing, marketing automation, sales automation, and CRM categories.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/activecampaign.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [ActiveCampaign Trigger integrations](https://n8n.io/integrations/activecampaign-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.acuityschedulingtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Acuity Scheduling Trigger node documentation

description: Learn how to use the Acuity Scheduling Trigger node in n8n. Follow technical documentation to integrate Acuity Scheduling Trigger node into your workflows.

contentType: [integration, reference]

---

# Acuity Scheduling Trigger node

[Acuity Scheduling](https://acuityscheduling.com/){:target=\_blank .external-link} is a cloud-based appointment scheduling software solution that enables business owners to manage their appointments online. It has the capability to automatically sync calendars according to users' time zones and can send regular alerts and reminders to users regarding their appointment schedules.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/acuityscheduling.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Acuity Scheduling Trigger integrations](https://n8n.io/integrations/acuity-scheduling-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.affinitytrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Affinity Trigger node documentation

description: Learn how to use the Affinity Trigger node in n8n. Follow technical documentation to integrate Affinity Trigger node into your workflows.

contentType: [integration, reference]

---

# Affinity Trigger node

[Affinity](https://www.affinity.co/){:target=\_blank .external-link} is a powerful relationship intelligence platform enabling teams to leverage their network to close the next big deal.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/affinity.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Affinity Trigger integrations](https://n8n.io/integrations/affinity-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.airtabletrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Airtable Trigger node documentation

description: Learn how to use the Airtable Trigger node in n8n. Follow technical documentation to integrate Airtable Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Airtable Trigger node

[Airtable](https://airtable.com/){:target=\_blank .external-link} is a spreadsheet-database hybrid, with the features of a database but applied to a spreadsheet. The fields in an Airtable table are similar to cells in a spreadsheet, but have types such as 'checkbox', 'phone number', and 'drop-down list', and can reference file attachments like images.

On this page, you'll find a list of events the Airtable Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/airtable.md).

///

## Events

\* \*\*New Airtable event\*\*

## Related resources

n8n provides an app node for Airtable. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md).

View [example workflows and related content](https://n8n.io/integrations/airtable-trigger/) on n8n's website.

Refer to [Airtable's documentation](https://airtable.com/developers/web/api/introduction) for details about their API.

## Node parameters

Use these parameters to configure your node.

### Poll Times

n8n's Airtable node uses polling for check for updates on configured Airtable resources. The \*\*Poll Times\*\* parameter configures the querying frequency:

\* Every Minute

\* Every Hour

\* Every Day

\* Every Week

\* Every Month

\* Every X: Check for updates every given number of minutes or hours.

\* Custom: Customize the polling interval by providing a [cron expression](https://en.wikipedia.org/wiki/Cron).

Use the \*\*Add Poll Time\*\* button to add more polling intervals.

### Base

The [Airtable base](https://support.airtable.com/docs/airtable-bases-overview) you want to check for updates on. You can provide your base's URL or [base ID](https://support.airtable.com/docs/finding-airtable-ids#finding-base-table-and-view-ids-from-urls).

### Table

The [Airtable table](https://support.airtable.com/docs/tables-overview) within the Airtable base that you want to check for updates on. You can provide the table's URL or [table ID](https://support.airtable.com/docs/finding-airtable-ids#finding-base-table-and-view-ids-from-urls).

### Trigger Field

A created or last modified field in your table. The Airtable Trigger node uses this to determine what updates occurred since the previous check.

### Download Attachments

Whether to download attachments from the table. When enabled, the \*\*Download Fields\*\* parameter defines the attachment fields.

### Download Fields

When you enable the \*\*Download Attachments\*\* toggle, this field defines which table fields to download. Field names are case sensitive. Use a comma to separate multiple field names.

### Additional Fields

Use the \*\*Add Field\*\* button to add the following parameters:

\* \*\*Fields\*\*: A comma-separated list of fields to include in the output. If you don't specify anything here, the output will contain only the \*\*Trigger Field\*\*.

\* \*\*Formula\*\*: An [Airtable formula](https://support.airtable.com/docs/formula-field-reference) to further filter the results. You can use this to add further constraints to the events that trigger the workflow. Note that formula values aren't taken into account for manual executions, only for production polling.

\* \*\*View ID\*\*: The name or ID of a table view. When defined, only returns records available in the given view.

## n8n-nodes-base.amqptrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AMQP Trigger node documentation

description: Learn how to use the AMQP Trigger node in n8n. Follow technical documentation to integrate AMQP Trigger node into your workflows.

contentType: [integration, reference]

---

# AMQP Trigger node

[AMQP](https://www.amqp.org/){:target=\_blank .external-link} is an open standard application layer protocol for message-oriented middleware. The defining features of AMQP are message orientation, queuing, routing, reliability and security. This node supports AMQP 1.0 compatible message brokers.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/amqp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [AMQP integrations](https://n8n.io/integrations/amqp-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.asanatrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Asana Trigger node documentation

description: Learn how to use the Asana Trigger node in n8n. Follow technical documentation to integrate Asana Trigger node into your workflows.

contentType: [integration, reference]

---

# Asana Trigger node

[Asana](https://asana.com/){:target=\_blank .external-link} is a web and mobile application designed to help teams organize, track, and manage their work.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/asana.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Asana Trigger integrations](https://n8n.io/integrations/asana-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.autopilottrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Autopilot Trigger node documentation

description: Learn how to use the Autopilot Trigger node in n8n. Follow technical documentation to integrate Autopilot Trigger node into your workflows.

contentType: [integration, reference]

---

# Autopilot Trigger node

[Autopilot](https://www.autopilothq.com/){:target=\_blank .external-link} is a visual marketing software that allows you to automate and personalize your marketing across the entire customer journey.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/autopilot.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Autopilot Trigger integrations](https://n8n.io/integrations/autopilot-trigger/){:target=\_blank .external-link} page.

///

## Events

- Contact added

- Contact added to a list

- Contact entered to a segment

- Contact left a segment

- Contact removed from a list

- Contact unsubscribed

- Contact updated

## n8n-nodes-base.awssnstrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: AWS SNS Trigger node documentation

description: Learn how to use the AWS SNS Trigger node in n8n. Follow technical documentation to integrate AWS SNS Trigger node into your workflows.

contentType: [integration, reference]

---

# AWS SNS Trigger node

[AWS SNS](https://aws.amazon.com/sns/){:target=\_blank .external-link} is a notification service provided as part of Amazon Web Services. It provides a low-cost infrastructure for the mass delivery of messages, predominantly to mobile users.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/aws.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [AWS SNS Trigger integrations](https://n8n.io/integrations/aws-sns-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.bitbuckettrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Bitbucket Trigger node documentation

description: Learn how to use the Bitbucket Trigger node in n8n. Follow technical documentation to integrate Bitbucket Trigger node into your workflows.

contentType: [integration, reference]

---

# Bitbucket Trigger node

[Bitbucket](https://bitbucket.org/){:target=\_blank .external-link} is a web-based version control repository hosting service owned by Atlassian, for source code and development projects that use either Mercurial or Git revision control systems.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/bitbucket.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Bitbucket Trigger integrations](https://n8n.io/integrations/bitbucket-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.boxtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Box Trigger node documentation

description: Learn how to use the Box Trigger node in n8n. Follow technical documentation to integrate Box Trigger node into your workflows.

contentType: [integration, reference]

---

# Box Trigger node

[Box](https://www.box.com/){:target=\_blank .external-link} is a cloud computing company which provides file sharing, collaborating, and other tools for working with files uploaded to its servers.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/box.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Box Trigger integrations](https://n8n.io/integrations/box-trigger/){:target=\_blank .external-link} page.

///

## Find your Box Target ID

To get your Target ID in Box:

1. Open the file/folder that you would like to monitor.

2. Copy the string of characters after `folder/` in your URL. This is the target ID. For example, if the URL is `https://app.box.com/folder/12345`, then `12345` is the target ID.

3. Paste it in the \*\*Target ID\*\* field in n8n.

## n8n-nodes-base.brevotrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Brevo Trigger node documentation

description: Learn how to use the Brevo Trigger node in n8n. Follow technical documentation to integrate Brevo Trigger node into your workflows.

contentType: [integration, reference]

---

# Brevo Trigger node

[Brevo](https://www.brevo.com/){:target=\_blank .external-link} is a digital marketing platform to help users grow their business.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/brevo.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Brevo Trigger integrations](https://n8n.io/integrations/brevo-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.calendlytrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Calendly Trigger node documentation

description: Learn how to use the Calendly Trigger node in n8n. Follow technical documentation to integrate Calendly Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Calendly Trigger node

[Calendly](https://calendly.com/){:target=\_blank .external-link} is an automated scheduling software that's designed to help find meeting times.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/calendly.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Calendly Trigger integrations](https://n8n.io/integrations/calendly-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.caltrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cal Trigger node documentation

description: Learn how to use the Cal Trigger node in n8n. Follow technical documentation to integrate Cal Trigger node into your workflows.

contentType: [integration, reference]

---

# Cal Trigger node

[Cal](https://cal.com/) is the event-juggling scheduler for everyone. Focus on meeting, not making meetings.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/cal.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Cal Trigger integrations](https://n8n.io/integrations/cal-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.chargebeetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Chargebee Trigger node documentation

description: Learn how to use the Chargebee Trigger node in n8n. Follow technical documentation to integrate Chargebee Trigger node into your workflows.

contentType: [integration, reference]

---

# Chargebee Trigger node

[Chargebee](https://www.chargebee.com/){:target=\_blank .external-link} is a billing platform for subscription based SaaS and eCommerce businesses. Chargebee integrates with payment gateways to let you automate recurring payment collection along with invoicing, taxes, accounting, email notifications, SaaS Metrics and customer management.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/chargebee.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Chargebee Trigger integrations](https://n8n.io/integrations/chargebee-trigger/){:target=\_blank .external-link} page.

///

## Add webhook URL in Chargebee

To add a Webhook URL in Chargebee:

1. Open your Chargebee dashboard.

2. Go to \*\*Settings\*\* > \*\*Configure Chargebee\*\*.

4. Scroll down and select \*\*Webhooks\*\*.

5. Select the \*\*Add Webhook\*\* button.

6. Enter the \*\*Webhook Name\*\* and the \*\*Webhook URL\*\*.

7. Select \*\*Create\*\*.

## n8n-nodes-base.ciscowebextrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webex by Cisco Trigger node documentation

description: Learn how to use the Webex by Cisco Trigger node in n8n. Follow technical documentation to integrate Webex by Cisco Trigger node into your workflows.

contentType: [integration, reference]

---

# Webex by Cisco Trigger node

[Webex by Cisco](https://webex.com/){:target=\_blank .external-link} is a web conferencing and videoconferencing application.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/ciscowebex.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Webex by Cisco Trigger integrations](https://n8n.io/integrations/webex-by-cisco-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.clickuptrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ClickUp Trigger node documentation

description: Learn how to use the ClickUp Trigger node in n8n. Follow technical documentation to integrate ClickUp Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# ClickUp Trigger node

[ClickUp](https://clickup.com/){:target=\_blank .external-link} is a cloud-based collaboration and project management tool suitable for businesses of all sizes and industries. Features include communication and collaboration tools, task assignments and statuses, alerts and a task toolbar.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/clickup.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [ClickUp Trigger integrations](https://n8n.io/integrations/clickup-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.clockifytrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Clockify Trigger node documentation

description: Learn how to use the Clockify Trigger node in n8n. Follow technical documentation to integrate Clockify Trigger node into your workflows.

contentType: [integration, reference]

---

# Clockify Trigger node

[Clockify](https://clockify.me/){:target=\_blank .external-link} is a free time tracker and timesheet app for tracking work hours across projects.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/clockify.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Clockify Trigger integrations](https://n8n.io/integrations/clockify-trigger/){:target=\_blank .external-link} page.

///

This node uses the workflow timezone setting to specify the range of time entries starting time. Configure the timezone in your [Workflow Settings](/workflows/settings.md) if you want this trigger node to retrieve the right time entries.

## n8n-nodes-base.convertkittrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: ConvertKit Trigger node documentation

description: Learn how to use the ConvertKit Trigger node in n8n. Follow technical documentation to integrate ConvertKit Trigger node into your workflows.

contentType: [integration, reference]

---

# ConvertKit Trigger node

[ConvertKit](https://www.convertkit.com/){:target=\_blank .external-link} is a fully featured email marketing platform. Use ConvertKit to build an email list, send email broadcasts, automate sequences, create segments, and build landing pages.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/convertkit.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [ConvertKit Trigger integrations](https://n8n.io/integrations/convertkit-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.coppertrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Copper Trigger node documentation

description: Learn how to use the Copper Trigger node in n8n. Follow technical documentation to integrate Copper Trigger node into your workflows.

contentType: [integration, reference]

---

# Copper Trigger node

[Copper](https://www.copper.com/){:target=\_blank .external-link} is a CRM that focuses on strong integration with Google Workspace. It's mainly targeted towards small and medium-sized businesses.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/copper.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Copper Trigger integrations](https://n8n.io/integrations/copper-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.crowddevtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: crowd.dev Trigger node documentation

description: Learn how to use the crowd.dev Trigger node in n8n. Follow technical documentation to integrate crowd.dev Trigger node into your workflows.

contentType: [integration, reference]

---

# crowd.dev Trigger node

Use the crowd.dev Trigger node to respond to events in [crowd.dev](https://www.crowd.dev/){:target=\_blank .external-link} and integrate crowd.dev with other applications. n8n has built-in support for a wide range of crowd.dev events, including new activities and new members.

On this page, you'll find a list of events the crowd.dev Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/crowddev.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [crowd.dev Trigger integrations](https://n8n.io/integrations/crowddev-trigger/){:target="\_blank" .external-link} list.

///

## Events

\* New Activity

\* New Member

## Related resources

n8n provides an app node for crowd.dev. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.crowddev.md).

View [example workflows and related content](https://n8n.io/integrations/crowddev/){:target=\_blank .external-link} on n8n's website.

Refer to [crowd.dev's documentation](https://docs.crowd.dev/reference/getting-started-with-crowd-dev-api){:target=\_blank .external-link} for more information about the service.

## n8n-nodes-base.customeriotrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Customer.io Trigger node documentation

description: Learn how to use the Customer.io Trigger node in n8n. Follow technical documentation to integrate Customer.io Trigger node into your workflows.

contentType: [integration, reference]

---

# Customer.io Trigger node

[Customer.io](https://customer.io/){:target=\_blank .external-link} enables users to send newsletters to selected segments of customers using their website data. You can send targeted emails, push notifications, and SMS to lower churn, create stronger relationships, and drive subscriptions.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/customerio.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Customer.io Trigger integrations](https://n8n.io/integrations/customerio-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.emeliatrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Emelia Trigger node documentation

description: Learn how to use the Emelia Trigger node in n8n. Follow technical documentation to integrate Emelia Trigger node into your workflows.

contentType: [integration, reference]

---

# Emelia Trigger node

[Emelia](https://emelia.io){:target=\_blank .external-link} is a cold-mailing tool.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/emelia.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Emelia Trigger integrations](https://n8n.io/integrations/emelia-trigger/){:target=\_blank .external-link} page.

///

## Events

- Email Bounced

- Email Opened

- Email Replied

- Email Sent

- Link Clicked

- Unsubscribed Contact

## n8n-nodes-base.eventbritetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Eventbrite Trigger node documentation

description: Learn how to use the Eventbrite Trigger node in n8n. Follow technical documentation to integrate Eventbrite Trigger node into your workflows.

contentType: [integration, reference]

---

# Eventbrite Trigger node

[Eventbrite](https://www.eventbrite.com/){:target=\_blank .external-link} is an event management and ticketing website. The service allows users to browse, create, and promote local events.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/eventbrite.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Eventbrite Trigger integrations](https://n8n.io/integrations/eventbrite-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.facebookleadadstrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Lead Ads Trigger node documentation

description: Learn how to use the Facebook Lead Ads Trigger node in n8n. Follow technical documentation to integrate Facebook Lead Ads Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Lead Ads Trigger node

Use the Facebook Lead Ads Trigger node to respond to events in [Facebook Lead Ads](https://www.facebook.com/business/ads/lead-ads/){:target=\_blank .external-link} and integrate Facebook Lead Ads with other applications. n8n has built-in support for responding to new leads.

On this page, you'll find a list of events the Facebook Lead Ads Trigger node can respond to, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookleadads.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Lead Ads Trigger integrations](https://n8n.io/integrations/facebook-lead-ads-trigger/){:target=\_blank .external-link} page.

///

## Events

\* New lead

## Related resources

View [example workflows and related content](https://n8n.io/integrations/facebook-lead-ads-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Facebook Lead Ads' documentation](https://developers.facebook.com/docs/marketing-api/guides/lead-ads/){:target=\_blank .external-link} for details about their API.

## Common issues

Here are some common errors and issues with the Facebook Lead Ads Trigger node and steps to resolve or troubleshoot them.

### Workflow only works in testing or production

Facebook Lead Ads only allows you to register a single webhook per app. This means that every time you switch from using the testing URL to the production URL (and vice versa), Facebook Lead Ads overwrites the registered webhook URL.

You may have trouble with this if you try to test a workflow that's also active in production. Facebook Lead Ads will only send events to one of the two webhook URLs, so the other will never receive event notifications.

To work around this, you can disable your workflow when testing:

/// warning | Halts production traffic

This workaround temporarily disables your production workflow for testing. Your workflow will no longer receive production traffic while it's deactivated.

///

1. Go to your workflow page.

2. Toggle the \*\*Active\*\* switch in the top panel to disable the workflow temporarily.

3. Test your workflow using the test webhook URL.

4. When you finish testing, toggle the \*\*Inactive\*\* toggle to enable the workflow again. The production webhook URL should resume working.

## n8n-nodes-base.figmatrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Figma Trigger (Beta) node documentation

description: Learn how to use the Figma Trigger node in n8n. Follow technical documentation to integrate Figma Trigger node into your workflows.

contentType: [integration, reference]

---

# Figma Trigger (Beta) node

[Figma](https://www.figma.com/){:target=\_blank .external-link} is a prototyping tool which is primarily web-based, with more offline features enabled by desktop applications for macOS and Windows.

/// warning | Supported Figma Plans

Figma doesn't support webhooks on the free "Starter" plan. Your team needs to be on the "Professional" plan to use this node.

///

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/figma.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Figma Trigger integrations](https://n8n.io/integrations/figma-trigger-beta/){:target=\_blank .external-link} page.

///

## Events

- \*\*File Commented\*\*: Triggers when someone comments on a file.

- \*\*File Deleted\*\*: Triggers when someone deletes an individual file, but not when someone deletes an entire folder with all files.

- \*\*File Updated\*\*: Triggers when someone saves or deletes a file. A save occurs when someone closes a file within 30 seconds after making changes.

- \*\*File Version Updated\*\*: Triggers when someone creates a named version in the version history of a file.

- \*\*Library Publish\*\*: Triggers when someone publishes a library file.

## n8n-nodes-base.flowtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Flow Trigger node documentation

description: Learn how to use the Flow Trigger node in n8n. Follow technical documentation to integrate Flow Trigger node into your workflows.

contentType: [integration, reference]

---

# Flow Trigger node

[Flow](https://www.getflow.com/){:target=\_blank .external-link} is modern task and project management software for teams. It brings together tasks, projects, timelines, and conversations, and integrates with a lot of tools.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/flow.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Flow Trigger integrations](https://n8n.io/integrations/flow-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.formiotrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Form.io Trigger node documentation

description: Learn how to use the Form.io Trigger node in n8n. Follow technical documentation to integrate Form.io Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Form.io Trigger node

[Form.io](https://www.form.io/){:target=\_blank .external-link} is an enterprise class combined form and API data management platform for building complex form-based business process applications.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/formiotrigger.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Form.io Trigger integrations](https://n8n.io/integrations/formio-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.formstacktrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Formstack Trigger node documentation

description: Learn how to use the Formstack Trigger node in n8n. Follow technical documentation to integrate Formstack Trigger node into your workflows.

contentType: [integration, reference]

---

# Formstack Trigger node

[Formstack](https://www.formstack.com/){:target=\_blank .external-link} is a workplace productivity platform that helps organizations streamline digital work through no-code online forms, documents, and signatures.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/formstacktrigger.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Formstack Trigger integrations](https://n8n.io/integrations/formstack-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.getresponsetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GetResponse Trigger node documentation

description: Learn how to use the GetResponse Trigger node in n8n. Follow technical documentation to integrate GetResponse Trigger node into your workflows.

contentType: [integration, reference]

---

# GetResponse Trigger node

[GetResponse](https://www.getresponse.com/){:target=\_blank .external-link} is an online platform that offers email marketing software, landing page creator, webinar hosting, and much more.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/getresponse.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [GetResponse Trigger integrations](https://n8n.io/integrations/getresponse-trigger/){:target=\_blank .external-link} page.

///

## Events

- Receive notifications when a customer is subscribed to a list

- Receive notifications when a customer is unsubscribed from a list

- Receive notifications when an email is opened

- Receive notifications when an email is clicked

- Receive notifications when a survey is submitted

## n8n-nodes-base.githubtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GitHub Trigger node documentation

description: Learn how to use the GitHub Trigger node in n8n. Follow technical documentation to integrate GitHub Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# GitHub Trigger node

[GitHub](https://github.com/){:target=\_blank .external-link} provides hosting for software development and version control using Git. It offers the distributed version control and source code management (SCM) functionality of Git, access control and several collaboration features such as bug tracking, feature requests, task management, and wikis for every project.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/github.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [GitHub Trigger integrations](https://n8n.io/integrations/github-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.gitlabtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: GitLab Trigger node documentation

description: Learn how to use the GitLab Trigger node in n8n. Follow technical documentation to integrate GitLab Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# GitLab Trigger node

[GitLab](https://gitlab.com/){:target=\_blank .external-link} is a web-based DevOps lifecycle tool that provides a Git-repository manager providing wiki, issue-tracking, and continuous integration/continuous installation pipeline features.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/gitlab.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [GitLab Trigger integrations](https://n8n.io/integrations/gitlab-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.googlebusinessprofiletrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Business Profile Trigger node documentation

description: Learn how to use the Google Business Profile Trigger node in n8n. Follow technical documentation to integrate Google Business Profile Trigger node into your workflows.

contentType: [integration, reference]

---

# Google Business Profile Trigger node

Use the Google Business Profile Trigger node to respond to events in [Google Business Profile](https://www.google.com/business/){:target=\_blank .external-link} and integrate Google Business Profile with other applications. n8n has built-in support for responding to new reviews.

On this page, you'll find a list of events the Google Business Profile Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/index.md).

///

## Events

\* Review Added

## Related resources

n8n provides an app node for Google Business Profile. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.googlebusinessprofile.md).

<!-- add a link to the node page on n8n's website. For example: https://n8n.io/integrations/356-gmail/ -->

View [example workflows and related content](https://n8n.io/integrations/google-business-profile-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Google Business Profile's documentation](https://developers.google.com/my-business/reference/rest){:target=\_blank .external-link} for details about their API.

## n8n-nodes-base.googlecalendartrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Calendar Trigger node documentation

description: Learn how to use the Google Calendar Trigger node in n8n. Follow technical documentation to integrate Google Calendar Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google Calendar Trigger node

[Google Calendar](https://www.google.com/calendar/){:target=\_blank .external-link} is a time-management and scheduling calendar service developed by Google.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/index.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Google Calendar Trigger integrations](https://n8n.io/integrations/google-calendar-trigger/){:target=\_blank .external-link} page.

///

## Events

- \*\*Event Cancelled\*\*

- \*\*Event Created\*\*

- \*\*Event Ended\*\*

- \*\*Event Started\*\*

- \*\*Event Updated\*\*

[[ templatesWidget(page.title, 'google-calendar-trigger') ]]

## Related resources

n8n provides an app node for Google Calendar. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md).

View [example workflows and related content](https://n8n.io/integrations/google-calendar-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Google Calendar's documentation](https://developers.google.com/calendar/api/v3/reference){:target=\_blank .external-link} for details about their API.

## n8n-nodes-base.gumroadtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gumroad Trigger node documentation

description: Learn how to use the Gumroad Trigger node in n8n. Follow technical documentation to integrate Gumroad Trigger node into your workflows.

contentType: [integration, reference]

---

# Gumroad Trigger node

[Gumroad](https://gumroad.com){:target=\_blank .external-link} is an online platform that enables creators to sell products directly to consumers.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/gumroad.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Gumroad Trigger integrations](https://n8n.io/integrations/gumroad-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.helpscouttrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Help Scout Trigger node documentation

description: Learn how to use the Help Scout Trigger node in n8n. Follow technical documentation to integrate Help Scout Trigger node into your workflows.

contentType: [integration, reference]

---

# Help Scout Trigger node

[Help Scout](https://www.helpscout.com/){:target=\_blank .external-link} is a help desk software that provides an email-based customer support platform, knowledge base tool, and an embeddable search/contact widget for customer service professionals.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/helpscout.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Help Scout Trigger integrations](https://n8n.io/integrations/helpscout-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.hubspottrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: HubSpot Trigger node documentation

description: Learn how to use the HubSpot Trigger node in n8n. Follow technical documentation to integrate HubSpot Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# HubSpot Trigger node

[HubSpot](https://www.hubspot.com/){:target=\_blank .external-link} provides tools for social media marketing, content management, web analytics, landing pages, customer support, and search engine optimization.

/// warning | Webhooks

If you activate a second trigger, the previous trigger stops working. This is because the trigger registers a new webhook with HubSpot when activated. HubSpot only allows one webhook at a time.

///

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/hubspot.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [HubSpot Trigger integrations](https://n8n.io/integrations/hubspot-trigger/){:target=\_blank .external-link} page.

///

## Events

\* Company

\* Created

\* Deleted

\* Property changed

\* Contact

\* Created

\* Deleted

\* Privacy deleted

\* Property changed

\* Conversation

\* Created

\* Deleted

\* New message

\* Privacy deletion

\* Property changed

\* Deal

\* Created

\* Deleted

\* Property changed

\* Ticket

\* Created

\* Deleted

\* Property changed

## Related resources

n8n provides an app node for HubSpot. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md).

View [example workflows and related content](https://n8n.io/integrations/hubspot-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [HubSpot's documentation](https://developers.hubspot.com/docs/api/overview){:target=\_blank .external-link} for details about their API.

## n8n-nodes-base.invoiceninjatrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Invoice Ninja Trigger node documentation

description: Learn how to use the Invoice Ninja Trigger node in n8n. Follow technical documentation to integrate Invoice Ninja Trigger node into your workflows.

contentType: [integration, reference]

---

# Invoice Ninja Trigger node

[Invoice Ninja](https://www.invoiceninja.com/){:target=\_blank .external-link} is a free open-source online invoicing app for freelancers & businesses. It offers invoicing, payments, expense tracking, & time-tasks.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/invoiceninja.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Invoice Ninja Trigger integrations](https://n8n.io/integrations/invoice-ninja-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.jiratrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Jira Trigger node documentation

description: Learn how to use the Jira Trigger node in n8n. Follow technical documentation to integrate Jira Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Jira Trigger node

[Jira](https://www.atlassian.com/software/jira){:target=\_blank .external-link} is a proprietary issue tracking product developed by Atlassian that allows bug tracking and agile project management.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/jira.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Jira trigger integrations](https://n8n.io/integrations/jira-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.jotformtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: JotForm Trigger node documentation

description: Learn how to use the JotForm Trigger node in n8n. Follow technical documentation to integrate JotForm Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# JotForm Trigger node

[JotForm](https://www.jotform.com/){:target=\_blank .external-link} is an online form building service. JotForm's software creates forms with a drag and drop creation tool and an option to encrypt user data.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/jotform.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [JotForm Trigger integrations](https://n8n.io/integrations/jotform-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.kafkatrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Kafka Trigger node documentation

description: Learn how to use the Kafka Trigger node in n8n. Follow technical documentation to integrate Kafka Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Kafka Trigger node

[Kafka](https://kafka.apache.org/){:target=\_blank .external-link} is an open-source distributed event streaming platform that one can use for high-performance data pipelines, streaming analytics, data integration, and mission-critical applications.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/kafka.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Kafka Trigger integrations](https://n8n.io/integrations/kafka-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.keaptrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Keap Trigger node documentation

description: Learn how to use the Keap Trigger node in n8n. Follow technical documentation to integrate Keap Trigger node into your workflows.

contentType: [integration, reference]

---

# Keap Trigger node

[Keap](https://keap.com/){:target=\_blank .external-link} is an e-mail marketing and sales platform for small businesses, including products to manage and optimize the customer lifecycle, customer relationship management, marketing automation, lead capture, and e-commerce.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/keap.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Keap Trigger integrations](https://n8n.io/integrations/keap-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.kobotoolboxtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: KoboToolbox Trigger node documentation

description: Learn how to use the KoboToolbox Trigger node in n8n. Follow technical documentation to integrate KoboToolbox Trigger node into your workflows.

contentType: [integration, reference]

---

# KoboToolbox Trigger node

[KoboToolbox](https://www.kobotoolbox.org/){:target=\_blank .external-link} is a field survey and data collection tool to design interactive forms to be completed offline from mobile devices. It's available both as a free cloud solution or as a self-hosted version.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/kobotoolbox.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [KoboToolbox Trigger integrations](https://n8n.io/integrations/kobotoolbox-trigger/){:target=\_blank .external-link} page.

///

This node starts a workflow upon new submissions of a specified form. The trigger node handles the creation/deletion of the hook, so you don't need to do any setup in KoboToolbox.

It works the same way as the Get Submission operation in the [KoboToolbox](/integrations/builtin/app-nodes/n8n-nodes-base.kobotoolbox.md) node, including supporting the same reformatting options.

## n8n-nodes-base.lemlisttrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Lemlist Trigger node documentation

description: Learn how to use the Lemlist Trigger node in n8n. Follow technical documentation to integrate Lemlist Trigger node into your workflows.

contentType: [integration, reference]

---

# Lemlist Trigger node

[Lemlist](https://Lemlist.com){:target=\_blank .external-link} is an email outreach platform that allows you to automatically generate personalized images and videos and send personalized cold emails.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/lemlist.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Lemlist Trigger integrations](https://n8n.io/integrations/lemlist-trigger/){:target=\_blank .external-link} page.

///

## Events

<!-- vale Vale.Spelling = NO -->

- \*

- Aircall Created

- Aircall Done

- Aircall Ended

- Aircall Interested

- Aircall Not Interested

- Api Done

- Api Failed

- Api Interested

- Api Not Interested

- Attracted

- Connection Issue

- Contacted

- Custom Domain Errors

- Emails Bounced

- Emails Clicked

- Emails Failed

- Emails Interested

- Emails Not Interested

- Emails Opened

- Emails Replied

- Emails Send Failed

- Emails Sent

- Emails Unsubscribed

- Hooked

- Interested

- Lemwarm Paused

- LinkedIn Interested

- LinkedIn Invite Accepted

- LinkedIn Invite Done

- LinkedIn Invite Failed

- LinkedIn Not Interested

- LinkedIn Replied

- LinkedIn Send Failed

- LinkedIn Sent

- LinkedIn Visit Done

- LinkedIn Visit Failed

- LinkedIn Voice Note Done

- LinkedIn Voice Note Failed

- Manual Interested

- Manual Not Interested

- Not Interested

- Opportunities Done

- Paused

- Resumed

- Send Limit Reached

- Skipped

- Warmed

<!-- vale Vale.Spelling = YES -->

## n8n-nodes-base.lineartrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Linear Trigger node documentation

description: Learn how to use the Linear Trigger node in n8n. Follow technical documentation to integrate Linear Trigger node into your workflows.

contentType: [integration, reference]

---

# Linear Trigger node

[Linear](https://linear.app/){:target=\_blank .external-link} is a SaaS issue tracking tool.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/linear.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Linear Trigger integrations](https://n8n.io/integrations/linear-trigger/){:target=\_blank .external-link} page.

///

## Events

- Comment Reaction

- Cycle

- Issue

- Issue Comment

- Issue Label

- Project

## n8n-nodes-base.lonescaletrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: LoneScale Trigger node documentation

description: Learn how to use the LoneScale Trigger node in n8n. Follow technical documentation to integrate LoneScale Trigger node into your workflows.

contentType: [integration, reference]

---

# LoneScale Trigger node

Use the LoneScale Trigger node to respond to workflow events in [LoneScale](https://www.lonescale.com/){:target=\_blank .external-link} and integrate LoneScale with other applications.

On this page, you'll find a list of operations the LoneScale node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/lonescale.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [LoneScale Trigger integrations](https://n8n.io/integrations/lonescale-trigger/){:target=\_blank .external-link} page.

///

## Events

- On new LoneScale event

## Related resources

n8n provides an app node for LoneScale. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.lonescale.md).

View [example workflows and related content](https://n8n.io/integrations/lonescale-trigger/){:target=\_blank .external-link} on n8n's website.

## n8n-nodes-base.mailchimptrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailchimp Trigger node documentation

description: Learn how to use the Mailchimp Trigger node in n8n. Follow technical documentation to integrate Mailchimp Trigger node into your workflows.

contentType: [integration, reference]

---

# Mailchimp Trigger node

[Mailchimp](https://mailchimp.com/){:target=\_blank .external-link} is an integrated marketing platform that allows business owners to automate their email campaigns and track user engagement.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mailchimp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Mailchimp Trigger integrations](https://n8n.io/integrations/mailchimp-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.mailerlitetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MailerLite Trigger node documentation

description: Learn how to use the MailerLite Trigger node in n8n. Follow technical documentation to integrate MailerLite Trigger node into your workflows.

contentType: [integration, reference]

---

# MailerLite Trigger node

[MailerLite](https://www.mailerlite.com/){:target=\_blank .external-link} is an email marketing solution that provides you with a user-friendly content editor, simplified subscriber management, and campaign reports with the most important statistics.

On this page, you'll find a list of events the MailerLite Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mailerlite.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [MailerLite Trigger integrations](https://n8n.io/integrations/mailerlite-trigger/){:target=\_blank .external-link} page.

///

## Events

- Campaign Sent

- Subscriber Added to Group

- Subscriber Automation Completed

- Subscriber Automation Triggered

- Subscriber Bounced

- Subscriber Created

- Subscriber Complained

- Subscriber Removed from Group

- Subscriber Unsubscribe

- Subscriber Updated

## n8n-nodes-base.mailjettrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mailjet Trigger node documentation

description: Learn how to use the Mailjet Trigger node in n8n. Follow technical documentation to integrate Mailjet Trigger node into your workflows.

contentType: [integration, reference]

---

# Mailjet Trigger node

[Mailjet](https://www.mailjet.com/){:target=\_blank .external-link} is a cloud-based email sending and tracking system. The platform allows professionals to send both marketing emails and transactional emails. It includes tools for designing emails, sending massive volumes and tracking these messages.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mailjet.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Mailjet Trigger integrations](https://n8n.io/integrations/mailjet-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.mautictrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Mautic Trigger node documentation

description: Learn how to use the Mautic Trigger node in n8n. Follow technical documentation to integrate Mautic Trigger node into your workflows.

contentType: [integration, reference]

---

# Mautic Trigger node

[Mautic](https://www.mautic.org/){:target=\_blank .external-link} is an open-source marketing automation software that helps online businesses automate their repetitive marketing tasks such as lead generation, contact scoring, contact segmentation, and marketing campaigns.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mautic.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Mautic Trigger integrations](https://n8n.io/integrations/mautic-trigger/){:target=\_blank .external-link} page.

///

## Related resources

n8n provides an app node for Mautic. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md).

View [example workflows and related content](https://n8n.io/integrations/mautic/){:target=\_blank .external-link} on n8n's website.

## n8n-nodes-base.microsoftonedrivetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft OneDrive Trigger node documentation

description: Learn how to use the Microsoft OneDrive Trigger node in n8n. Follow technical documentation to integrate Microsoft OneDrive Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Microsoft OneDrive Trigger node

Use the Microsoft OneDrive Trigger node to respond to events in [Microsoft OneDrive](https://www.microsoft.com/en-us/microsoft-365/onedrive/online-cloud-storage){:target=\_blank .external-link} and integrate Microsoft OneDrive with other applications. n8n has built-in support for file and folder events in OneDrive.

On this page, you'll find a list of events the Microsoft OneDrive Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/microsoft.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Microsoft OneDrive integrations](https://n8n.io/integrations/microsoft-onedrive-trigger/){:target=\_blank .external-link} page.

///

## Events

\* On File Created

\* On File Updated

\* On Folder Created

\* On Folder Updates

## Related resources

n8n provides an app node for Microsoft OneDrive. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md).

View [example workflows and related content](https://n8n.io/integrations/microsoft-onedrive-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Microsoft's OneDrive API documentation](https://learn.microsoft.com/en-us/onedrive/developer/rest-api/){:target=\_blank .external-link} for more information about the service.

## n8n-nodes-base.microsoftoutlooktrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Outlook Trigger node documentation

description: Learn how to use the Microsoft Outlook Trigger node in n8n. Follow technical documentation to integrate Microsoft Outlook Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Microsoft Outlook Trigger node

Use the Microsoft Outlook Trigger node to respond to events in [Microsoft Outlook](https://www.microsoft.com/en-us/microsoft-365/outlook/email-and-calendar-software-microsoft-outlook){:target=\_blank .external-link} and integrate Microsoft Outlook with other applications.

On this page, you'll find a list of events the Microsoft Outlook Trigger node can respond to, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/microsoft.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Microsoft Outlook integrations](https://n8n.io/integrations/microsoft-outlook-trigger/){:target=\_blank .external-link} page.

///

## Events

\* Message Received

## Related resources

n8n provides an app node for Microsoft Outlook. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftoutlook.md).

View [example workflows and related content](https://n8n.io/integrations/microsoft-outlook-trigger/){:target=\_blank .external-link} on n8n's website.

## n8n-nodes-base.microsoftteamstrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Microsoft Teams Trigger node documentation

description: Learn how to use the Microsoft Teams Trigger node in n8n. Follow technical documentation to integrate Microsoft Teams Trigger node into your workflows.

contentType: [integration, reference]

---

# Microsoft Teams Trigger node

Use the Microsoft Teams Trigger node to respond to events in [Microsoft Teams](https://www.microsoft.com/en-us/microsoft-teams/group-chat-software) and integrate Microsoft Teams with other applications.

On this page, you'll find a list of events the Microsoft Teams Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/microsoft.md).

///

## Events

\* \*\*New Channel\*\*

\* \*\*New Channel Message\*\*

\* \*\*New Chat\*\*

\* \*\*New Chat Message\*\*

\* \*\*New Team Member\*\*

## Related resources

n8n provides an app node for Microsoft Teams. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftteams.md).

<!-- add a link to the node page on n8n's website. For example: https://n8n.io/integrations/356-gmail/ -->

View [example workflows and related content](https://n8n.io/integrations/microsoft-teams-trigger/) on n8n's website.

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to the [Microsoft Teams documentation](https://learn.microsoft.com/en-us/graph/api/resources/teams-api-overview?view=graph-rest-1.0) for details about their API.

## n8n-nodes-base.mqtttrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: MQTT Trigger node documentation

description: Learn how to use the MQTT Trigger node in n8n. Follow technical documentation to integrate MQTT Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# MQTT Trigger node

[MQTT](https://mqtt.org){:target=\_blank .external-link} is an open OASIS and ISO standard lightweight, publish-subscribe network protocol that transports messages between devices.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/mqtt.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [MQTT Trigger integrations](https://n8n.io/integrations/mqtt-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.netlifytrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Netlify Trigger node documentation

description: Learn how to use the Netlify Trigger node in n8n. Follow technical documentation to integrate Netlify Trigger node into your workflows.

contentType: [integration, reference]

---

# Netlify Trigger node

[Netlify](https://netlify.com/){:target=\_blank .external-link} offers hosting and serverless backend services for web applications and static websites.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/netlify.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Netlify Trigger integrations](https://n8n.io/integrations/netlify-trigger/){:target=\_blank .external-link} page.

///

## Related resources

n8n provides an app node for Netlify. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.netlify.md).

View [example workflows and related content](https://n8n.io/integrations/netlify/){:target=\_blank .external-link} on n8n's website.

## n8n-nodes-base.notiontrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Notion Trigger node documentation

description: Learn how to use the Notion Trigger node in n8n. Follow technical documentation to integrate Notion Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# Notion Trigger node

[Notion](https://notion.so){:target=\_blank .external-link} is an all-in-one workspace for your notes, tasks, wikis, and databases.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/notion.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Notion Trigger integrations](https://n8n.io/integrations/notion-trigger-beta/){:target=\_blank .external-link} page.

///

## Events

\* Page added to database

\* Page updated in database

## Related resources

n8n provides an app node for Notion. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md).

View [example workflows and related content](https://n8n.io/integrations/notion-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Notion's documentation](https://developers.notion.com/){:target=\_blank .external-link} for details about their API.

## n8n-nodes-base.onfleettrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Onfleet Trigger node documentation

description: Learn how to use the Onfleet Trigger node in n8n. Follow technical documentation to integrate Onfleet Trigger node into your workflows.

contentType: [integration, reference]

---

# Onfleet Trigger node

[Onfleet](https://onfleet.com/){:target=\_blank .external-link} is a logistics platform offering a last-mile delivery solution.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/onfleet.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Onfleet Trigger integrations](https://n8n.io/integrations/onfleet-trigger/){:target=\_blank .external-link} page.

///

## Events

Trigger a workflow on:

\* SMS recipient opt out

\* SMS recipient response missed

\* Task arrival

\* Task assigned

\* Task cloned

\* Task completed

\* Task created

\* Task delayed

\* Task ETA

\* Task failed

\* Task started

\* Task unassigned

\* Task updated

\* Worker created

\* Worker deleted

\* Worker duty

## n8n-nodes-base.paypaltrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: PayPal Trigger node documentation

description: Learn how to use the PayPal Trigger node in n8n. Follow technical documentation to integrate PayPal Trigger node into your workflows.

contentType: [integration, reference]

---

# PayPal Trigger node

[PayPal](https://paypal.com){:target=\_blank .external-link} is a digital payment service that supports online fund transfers that customers can use when shopping online.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/paypal.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [PayPal Trigger integrations](https://n8n.io/integrations/paypal-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.pipedrivetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pipedrive Trigger node documentation

description: Learn how to use the Pipedrive Trigger node in n8n. Follow technical documentation to integrate Pipedrive Trigger node into your workflows.

contentType: [integration, reference]

---

# Pipedrive Trigger node

[Pipedrive](https://www.pipedrive.com/){:target=\_blank .external-link} is a cloud-based sales software company that aims to improve the productivity of businesses through the use of their software.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/pipedrive.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Pipedrive Trigger integrations](https://n8n.io/integrations/pipedrive-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.postgrestrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Postgres Trigger node documentation

description: Learn how to use the Postgres Trigger node in n8n. Follow technical documentation to integrate Postgres Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Postgres Trigger node

Use the Postgres Trigger node to respond to events in [Postgres](https://www.postgresql.org/){:target=\_blank .external-link} and integrate Postgres with other applications. n8n has built-in support responding to insert, update, and delete events.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/postgres.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Postgres Trigger integrations](https://n8n.io/integrations/postgres-trigger/){:target=\_blank .external-link} page.

///

## Events

You can configure how the node listens for events.

\* Select \*\*Listen and Create Trigger Rule\*\*, then choose the events to listen for:

\* Insert

\* Update

\* Delete

\* Select \*\*Listen to Channel\*\*, then enter a channel name that the node should monitor.

## Related resources

n8n provides an app node for Postgres. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md).

View [example workflows and related content](https://n8n.io/integrations/postgres-trigger/){:target=\_blank .external-link} on n8n's website.

## n8n-nodes-base.postmarktrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Postmark Trigger node documentation

description: Learn how to use the Postmark Trigger node in n8n. Follow technical documentation to integrate Postmark Trigger node into your workflows.

contentType: [integration, reference]

---

# Postmark Trigger node

[Postmark](https://postmarkapp.com){:target=\_blank .external-link} helps deliver and track application email. You can track statistics such as the number of emails sent or processed, opens, bounces and, spam complaints.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/postmark.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Postmark Trigger integrations](https://n8n.io/integrations/postmark-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.pushcuttrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Pushcut Trigger node documentation

description: Learn how to use the Pushcut Trigger node in n8n. Follow technical documentation to integrate Pushcut Trigger node into your workflows.

contentType: [integration, reference]

---

# Pushcut Trigger node

[Pushcut](https://pushcut.io){:target=\_blank .external-link} is an app for iOS that lets you create smart notifications to kick off shortcuts, URLs, and online automation.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/pushcut.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Pushcut Trigger integrations](https://n8n.io/integrations/pushcut-trigger/){:target=\_blank .external-link} page.

///

## Configure a Pushcut action

Follow these steps to configure your Pushcut Trigger node with your Pushcut app.

1. In your Pushcut app, select a notification from the \*\*Notifications\*\* screen.

2. Select the \*\*Add Action\*\* button.

3. Enter an action name in the \*\*Label\*\* field.

4. Select the \*\*Server\*\* tab.

5. Select the \*\*Integration\*\* tab.

6. Select \*\*Integration Trigger\*\*.

7. In n8n, enter a name for the action and select \*\*Execute step\*\*.

8. Select this action under the \*\*Select Integration Trigger\*\* screen in your Pushcut app.

9. Select \*\*Done\*\* in the top right to save the action.

## n8n-nodes-base.rabbitmqtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RabbitMQ Trigger node documentation

description: Learn how to use the RabbitMQ Trigger node in n8n. Follow technical documentation to integrate RabbitMQ Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# RabbitMQ Trigger node

[RabbitMQ](https://www.rabbitmq.com){:target=\_blank .external-link} is an open-source message broker that accepts and forwards messages.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/rabbitmq.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Rabbit MQ Trigger integrations](https://n8n.io/integrations/rabbitmq-trigger/){:target=\_blank .external-link} page.

///

## Related resources

n8n provides an app node for RabbitMQ. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.rabbitmq.md).

View [example workflows and related content](https://n8n.io/integrations/rabbitmq-trigger/){:target=\_blank .external-link} on n8n's website.

## n8n-nodes-base.redistrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Redis Trigger node documentation

description: Learn how to use the Redis Trigger node in n8n. Follow technical documentation to integrate Redis Trigger node into your workflows.

contentType: [integration, reference]

---

# Redis Trigger node

[Redis](https://redis.io/){:target=\_blank .external-link} is an open-source, in-memory data structure store, used as a database, cache and message broker.

Use the Redis Trigger node to subscribe to a Redis channel. The workflow starts whenever the channel receives a new message.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/redis.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Redis Trigger integrations](https://n8n.io/integrations/redis-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.salesforcetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Salesforce Trigger node documentation

description: Learn how to use the Salesforce Trigger node in n8n. Follow technical documentation to integrate Salesforce Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Salesforce Trigger node

Use the Salesforce Trigger node to respond to events in [Salesforce](https://login.salesforce.com/){:target=\_blank .external-link} and integrate Salesforce with other applications. n8n has built-in support for a wide range of Salesforce events.

On this page, you'll find a list of events the Salesforce Trigger node can respond to, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/salesforce.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Salesforce trigger integrations](https://n8n.io/integrations/salesforce-trigger/){:target=\_blank .external-link} page.

///

## Events

\* On Account Created

\* On Account Updated

\* On Attachment Created

\* On Attachment Updated

\* On Case Created

\* On Case Updated

\* On Contact Created

\* On Contact Updated

\* On Custom Object Created

\* On Custom Object Updated

\* On Lead Created

\* On Lead Updated

\* On Opportunity Created

\* On Opportunity Updated

\* On Task Created

\* On Task Updated

\* On User Created

\* On User Updated

## Related resources

n8n provides an app node for Salesforce. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md).

View [example workflows and related content](https://n8n.io/integrations/salesforce-trigger/){:target=\_blank .external-link} on n8n's website.

## n8n-nodes-base.seatabletrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SeaTable Trigger node documentation

description: Learn how to use the SeaTable Trigger node in n8n. Follow technical documentation to integrate SeaTable Trigger node into your workflows.

contentType: [integration, reference]

---

# SeaTable Trigger node

[SeaTable](https://seatable.io/en){:target=\_blank .external-link} is a collaborative database application with a spreadsheet interface.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/seatable.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [SeaTable Trigger integrations](https://n8n.io/integrations/seatable-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.shopifytrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Shopify Trigger node documentation

description: Learn how to use the Shopify Trigger node in n8n. Follow technical documentation to integrate Shopify Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Shopify Trigger node

[Shopify](https://www.shopify.com/){:target=\_blank .external-link} is an e-commerce platform that allows users to set up an online store and sell their products.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/shopify.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Shopify Trigger integrations](https://n8n.io/integrations/shopify-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.slacktrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Slack Trigger node documentation

description: Learn how to use the Slack Trigger node in n8n. Follow technical documentation to integrate Slack Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Slack Trigger node

Use the Slack Trigger node to respond to events in [Slack](https://slack.com/){:target=\_blank .external-link} and integrate Slack with other applications. n8n has built-in support for a wide range of Slack events, including new messages, reactions, and new channels.

On this page, you'll find a list of events the Slack Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/slack.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Slack integrations](https://n8n.io/integrations/slack-trigger/){:target=\_blank .external-link} page.

///

## Events

\* \*\*Any Event\*\*: The node triggers on any event in Slack.

\* \*\*Bot / App Mention\*\*: The node triggers when your bot or app is [mentioned](https://slack.com/help/articles/205240127-Use-mentions-in-Slack){:target=\_blank .external-link} in a channel the app is in.

\* \*\*File Made Public\*\*: The node triggers when a file is [made public](https://slack.com/help/articles/4412651915539-Manage-public-file-sharing){:target=\_blank .external-link}.

\* \*\*File Shared\*\*: The node triggers when a file is [shared](https://slack.com/help/articles/201330736-Add-files-to-Slack){:target=\_blank .external-link} in a channel the app is in.

\* \*\*New Message Posted to Channel\*\*: The node triggers when a new message is posted to a channel the app is in.

\* \*\*New Public Channel Created\*\*: The node triggers when a new [public channel](https://slack.com/help/articles/360017938993-What-is-a-channel){:target=\_blank .external-link} is created.

\* \*\*New User\*\*: The node triggers when a new user is added to Slack.

\* \*\*Reaction Added\*\*: The node triggers when a [reaction](https://slack.com/help/articles/202931348-Use-emoji-and-reactions){:target=\_blank .external-link} is added to a message the app is added to.

## Parameters

Once you've set the events to trigger on, use the remaining parameters to further define the node's behavior:

\* \*\*Watch Whole Workspace\*\*: Whether the node should watch for the selected \*\*Events\*\* in all channels in the workspace (turned on) or not (turned off, default).

///warning | Caution

This will use one execution for every event in any channel your bot or app is in. Use with caution!

///

\* \*\*Channel to Watch\*\*: Select the channel your node should watch for the selected \*\*Events\*\*. This parameter only appears if you don't turn on \*\*Watch Whole Workspace\*\*. You can select a channel:

\* \*\*From list\*\*: The node uses your credential to look up a list of channels in the workspace so you can select the channel you want.

\* \*\*By ID\*\*: Enter the ID of a channel you want to watch. Slack displays the channel ID at the bottom of the channel details with a one-click copy button.

\* \*\*By URL\*\*: Enter the URL of the channel you want to watch, formatted as `https://app.slack.com/client/<channel-address>`.

\* \*\*Download Files\*\*: Whether to download files and use them in the node's output (turned on) or not (turned off, default). Use this parameter with the \*\*File Made Public\*\* and \*\*File Shared\*\* events.

## Options

You can further refine the node's behavior when you \*\*Add Option\*\*s:

\* \*\*Resolve IDs\*\*: Whether to resolve the IDs to their respective names and return them (turned on) or not (turned off, default).

\* \*\*Usernames or IDs to ignore\*\*: Select usernames or enter a comma-separated string of encoded user IDs to ignore events from. Choose from the list, or specify IDs using an [expression](/code/expressions.md).

## Related resources

n8n provides an app node for Slack. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md).

View [example workflows and related content](https://n8n.io/integrations/slack-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Slack's documentation](https://api.slack.com/apis/connections/events-api){:target=\_blank .external-link} for details about their API.

## Required scopes

To use this node, you need to create an application in Slack and enable event subscriptions. Refer to [Slack credentials | Slack Trigger configuration](/integrations/builtin/credentials/slack.md#slack-trigger-configuration) for more information.

You must add the appropriate scopes to your Slack app for this trigger node to work.

The node requires scopes for the [conversations.list](https://api.slack.com/methods/conversations.list){:target=blank .external-link} and [users.list](https://api.slack.com/methods/users.list){:target=blank .external-link} methods at minimum. Check out the [Scopes | Slack credentials](/integrations/builtin/credentials/slack.md#scopes) list for a more complete list of scopes.

## Common issues

Here are some common errors and issues with the Slack Trigger node and steps to resolve or troubleshoot them.

### Workflow only works in testing or production

Slack only allows you to register a single webhook per app. This means that you can't switch from using the testing URL to the production URL (and vice versa) without reconfiguring the registered webhook URL.

You may have trouble with this if you try to test a workflow that's also active in production. Slack will only send events to one of the two webhook URLs, so the other will never receive event notifications.

To work around this, you can disable your workflow when testing:

/// warning | Halts production traffic

This temporarily disables your production workflow for testing. Your workflow will no longer receive production traffic while it's deactivated.

///

1. Go to your workflow page.

2. Toggle the \*\*Active\*\* switch in the top panel to disable the workflow temporarily.

3. Edit the \*\*Request URL\*\* in your the [Slack Trigger configuration](/integrations/builtin/credentials/slack.md#slack-trigger-configuration) to use the testing webhook URL instead of the production webhook URL.

4. Test your workflow using the test webhook URL.

5. When you finish testing, edit the \*\*Request URL\*\* in your the [Slack Trigger configuration](/integrations/builtin/credentials/slack.md#slack-trigger-configuration) to use the production webhook URL instead of the testing webhook URL.

6. Toggle the \*\*Inactive\*\* toggle to enable the workflow again. The production webhook URL should resume working.

### Token expired

--8<-- "\_snippets/integrations/builtin/credentials/slack/token-rotation.md"

## n8n-nodes-base.stravatrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Strava Trigger node documentation

description: Learn how to use the Strava Trigger node in n8n. Follow technical documentation to integrate Strava Trigger node into your workflows.

contentType: [integration, reference]

---

# Strava Trigger node

[Strava](https://www.strava.com/){:target=\_blank .external-link} is an internet service for tracking human exercise which incorporates social network features.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/strava.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Strava Trigger integrations](https://n8n.io/integrations/strava-trigger/){:target=\_blank .external-link} page.

///

## Events

- \*\*\[All\]\*\*

- \[All\]

- Created

- Deleted

- Updated

- \*\*Activity\*\*

- \[All\]

- Created

- Deleted

- Updated

- \*\*Athlete\*\*

- \[All\]

- Created

- Deleted

- Updated

## n8n-nodes-base.stripetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Stripe Trigger node documentation

description: Learn how to use the Stripe Trigger node in n8n. Follow technical documentation to integrate Stripe Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Stripe Trigger node

[Stripe](https://stripe.com/){:target=\_blank .external-link} is a suite of payment APIs that powers commerce for online businesses.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/stripe.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Stripe Trigger integrations](https://n8n.io/integrations/stripe-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.surveymonkeytrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: SurveyMonkey Trigger node documentation

description: Learn how to use the SurveyMonkey Trigger node in n8n. Follow technical documentation to integrate SurveyMonkey Trigger node into your workflows.

contentType: [integration, reference]

---

# SurveyMonkey Trigger node

[SurveyMonkey](https://www.surveymonkey.com/){:target=\_blank .external-link} is an online cloud-based SaaS survey platform that also provides a suite of paid back-end programs.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/surveymonkey.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [SurveyMonkey Trigger integrations](https://n8n.io/integrations/surveymonkey-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.taigatrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Taiga Trigger node documentation

description: Learn how to use the Taiga Trigger node in n8n. Follow technical documentation to integrate Taiga Trigger node into your workflows.

contentType: [integration, reference]

---

# Taiga Trigger node

[Taiga](https://www.taiga.io/){:target=\_blank .external-link} is a free and open-source project management platform for startups, agile developers, and designers.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/taiga.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Taiga Trigger integrations](https://n8n.io/integrations/taiga-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.thehive5trigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TheHive 5 Trigger node documentation

description: Learn how to use the TheHive 5 Trigger node in n8n. Follow technical documentation to integrate TheHive 5 Trigger node into your workflows.

contentType: [integration, reference]

---

# TheHive 5 Trigger node

Use the TheHive 5 Trigger node to respond to events in [TheHive](https://strangebee.com/thehive/){:target=\_blank .external-link} and integrate TheHive with other applications. n8n has built-in support for a wide range of TheHive events, including alerts, cases, comments, pages, and tasks.

On this page, you'll find a list of events the TheHive5 Trigger node can respond to and links to more resources.

/// note | TheHive and TheHive 5

n8n provides two nodes for TheHive. Use this node (TheHive 5 Trigger) if you want to use TheHive's version 5 API. If you want to use version 3 or 4, use [TheHive Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.thehivetrigger.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [TheHive 5 Trigger integrations](https://n8n.io/integrations/thehive-5-trigger/){:target=\_blank .external-link} page.

///

## Events

\* Alert

\* Created

\* Deleted

\* Updated

\* Case

\* Created

\* Deleted

\* Updated

\* Comment

\* Created

\* Deleted

\* Updated

\* Observable

\* Created

\* Deleted

\* Updated

\* Page

\* Created

\* Deleted

\* Updated

\* Task

\* Created

\* Deleted

\* Updated

\* Task log

\* Created

\* Deleted

\* Updated

## Related resources

n8n provides an app node for TheHive 5. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.thehive5.md).

Refer to TheHive's [documentation](https://docs.strangebee.com/){:target=\_blank .external-link} for more information about the service.

## Configure a webhook in TheHive

To configure the webhook for your TheHive instance:

1. Copy the testing and production webhook URLs from TheHive Trigger node.

2. Add the following lines to the `application.conf` file. This is TheHive configuration file:

```

notification.webhook.endpoints = [

{

name: TESTING\_WEBHOOK\_NAME

url: TESTING\_WEBHOOK\_URL

version: 0

wsConfig: {}

includedTheHiveOrganisations: ["ORGANIZATION\_NAME"]

excludedTheHiveOrganisations: []

},

{

name: PRODUCTION\_WEBHOOK\_NAME

url: PRODUCTION\_WEBHOOK\_URL

version: 0

wsConfig: {}

includedTheHiveOrganisations: ["ORGANIZATION\_NAME"]

excludedTheHiveOrganisations: []

}

]

```

3. Replace `TESTING\_WEBHOOK\_URL` and `PRODUCTION\_WEBHOOK\_URL` with the URLs you copied in the previous step.

4. Replace `TESTING\_WEBHOOK\_NAME` and `PRODUCTION\_WEBHOOK\_NAME` with your preferred endpoint names.

5. Replace `ORGANIZATION\_NAME` with your organization name.

6. Execute the following cURL command to enable notifications:

```sh

curl -XPUT -uTHEHIVE\_USERNAME:THEHIVE\_PASSWORD -H 'Content-type: application/json' THEHIVE\_URL/api/config/organisation/notification -d '

{

"value": [

{

"delegate": false,

"trigger": { "name": "AnyEvent"},

"notifier": { "name": "webhook", "endpoint": "TESTING\_WEBHOOK\_NAME" }

},

{

"delegate": false,

"trigger": { "name": "AnyEvent"},

"notifier": { "name": "webhook", "endpoint": "PRODUCTION\_WEBHOOK\_NAME" }

}

]

}'

```

## n8n-nodes-base.thehivetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: TheHive Trigger node documentation

description: Learn how to use the TheHive Trigger node in n8n. Follow technical documentation to integrate TheHive Trigger node into your workflows.

contentType: [integration, reference]

---

# TheHive Trigger node

On this page, you'll find a list of events the TheHive Trigger node can respond to and links to more resources.

/// note | TheHive and TheHive 5

n8n provides two nodes for TheHive. Use this node (TheHive Trigger) if you want to use TheHive's version 3 or 4 API. If you want to use version 5, use [TheHive 5 Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.thehive5trigger.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [TheHive Trigger integrations](https://n8n.io/integrations/thehive-trigger/){:target=\_blank .external-link} page.

///

## Events

\* Alert

\* Created

\* Deleted

\* Updated

\* Case

\* Created

\* Deleted

\* Updated

\* Log

\* Created

\* Deleted

\* Updated

\* Observable

\* Created

\* Deleted

\* Updated

\* Task

\* Created

\* Deleted

\* Updated

## Related resources

n8n provides an app node for TheHive. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.thehive.md).

View [example workflows and related content](https://n8n.io/integrations/thehive-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to TheHive's documentation for more information about the service:

\* [Version 3](https://docs.thehive-project.org/thehive/legacy/thehive3/api/){:target=\_blank .external-link}

\* [Version 4](https://docs.thehive-project.org/cortex/api/api-guide/){:target=\_blank .external-link}

## Configure a webhook in TheHive

To configure the webhook for your TheHive instance:

1. Copy the testing and production webhook URLs from TheHive Trigger node.

2. Add the following lines to the `application.conf` file. This is TheHive configuration file:

```

notification.webhook.endpoints = [

{

name: TESTING\_WEBHOOK\_NAME

url: TESTING\_WEBHOOK\_URL

version: 0

wsConfig: {}

includedTheHiveOrganisations: ["ORGANIZATION\_NAME"]

excludedTheHiveOrganisations: []

},

{

name: PRODUCTION\_WEBHOOK\_NAME

url: PRODUCTION\_WEBHOOK\_URL

version: 0

wsConfig: {}

includedTheHiveOrganisations: ["ORGANIZATION\_NAME"]

excludedTheHiveOrganisations: []

}

]

```

3. Replace `TESTING\_WEBHOOK\_URL` and `PRODUCTION\_WEBHOOK\_URL` with the URLs you copied in the previous step.

4. Replace `TESTING\_WEBHOOK\_NAME` and `PRODUCTION\_WEBHOOK\_NAME` with your preferred endpoint names.

5. Replace `ORGANIZATION\_NAME` with your organization name.

6. Execute the following cURL command to enable notifications:

```sh

curl -XPUT -uTHEHIVE\_USERNAME:THEHIVE\_PASSWORD -H 'Content-type: application/json' THEHIVE\_URL/api/config/organisation/notification -d '

{

"value": [

{

"delegate": false,

"trigger": { "name": "AnyEvent"},

"notifier": { "name": "webhook", "endpoint": "TESTING\_WEBHOOK\_NAME" }

},

{

"delegate": false,

"trigger": { "name": "AnyEvent"},

"notifier": { "name": "webhook", "endpoint": "PRODUCTION\_WEBHOOK\_NAME" }

}

]

}'

```

## n8n-nodes-base.toggltrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Toggl Trigger node documentation

description: Learn how to use the Toggl Trigger node in n8n. Follow technical documentation to integrate Toggl Trigger node into your workflows.

contentType: [integration, reference]

---

# Toggl Trigger node

[Toggl](https://toggl.com/){:target=\_blank .external-link} is a time tracking app that offers online time tracking and reporting services through their website along with mobile and desktop applications.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/toggl.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Toggl Trigger integrations](https://n8n.io/integrations/toggl-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.trellotrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Trello Trigger node documentation

description: Learn how to use the Trello Trigger node in n8n. Follow technical documentation to integrate Trello Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Trello Trigger node

[Trello](https://trello.com/){:target=\_blank .external-link} is a web-based Kanban-style list-making application which is a subsidiary of Atlassian. Users can create their task boards with different columns and move the tasks between them.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/trello.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Trello Trigger integrations](https://n8n.io/integrations/trello-trigger/){:target=\_blank .external-link} page.

///

## Find the Model ID

The model ID is the ID of any model in Trello. Depending on the use-case, it could be the User ID, List ID, and so on.

For this specific example, the List ID would be the Model ID:

1. Open the Trello board that contains the list.

2. If the list doesn't have any cards, add a card to the list.

3. Open the card, add `.json` at the end of the URL, and press enter.

4. In the JSON file, you will see a field called `idList`.

5. Copy `idList`and paste it in the \*\*Model ID\*\* field in n8n.

## n8n-nodes-base.twiliotrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Twilio Trigger node documentation

description: Learn how to use the Twilio Trigger node in n8n. Follow technical documentation to integrate Twilio Trigger node into your workflows.

contentType: [integration, reference]

---

# Twilio Trigger node

Use the Twilio Trigger node to respond to events in [Twilio](https://www.twilio.com){:target=\_blank .external-link} and integrate Twilio with other applications. n8n has built-in support for a wide range of Twilio events, including new SMS and calls.

On this page, you'll find a list of events the Twilio Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/twilio.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Twilio integrations](https://n8n.io/integrations/twilio-trigger/){:target=\_blank .external-link} page.

///

## Events

\* On New SMS

\* On New Call

/// note | New Call Delay

It can take Twilio up to thirty minutes to generate a summary for a completed call.

///

## Related resources

n8n provides an app node for Twilio. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.twilio.md).

View [example workflows and related content](https://n8n.io/integrations/twilio/){:target=\_blank .external-link} on n8n's website.

Refer to [Twilio's documentation](https://www.twilio.com/docs){:target=\_blank .external-link} for details about their API.

## n8n-nodes-base.typeformtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Typeform Trigger node documentation

description: Learn how to use the Typeform Trigger node in n8n. Follow technical documentation to integrate Typeform Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Typeform Trigger node

[Typeform](https://www.typeform.com/){:target=\_blank .external-link} is an online software as a service company that specializes in online form building and online surveys. Its main software creates dynamic forms based on user needs.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/typeform.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Typeform Trigger integrations](https://n8n.io/integrations/typeform-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.venafitlsprotectcloudtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Venafi TLS Protect Cloud Trigger node documentation

description: Learn how to use the Venafi TLS Protect Cloud Trigger node in n8n. Follow technical documentation to integrate Venafi TLS Protect Cloud Trigger node into your workflows.

contentType: [integration, reference]

---

# Venafi TLS Protect Cloud Trigger node

[Venafi](https://www.venafi.com/){:target=\_blank .external-link} is a cybersecurity company providing services for machine identity management. They offer solutions to manage and protect identities for a wide range of machine types, delivering global visibility, lifecycle automation, and actionable intelligence.

Use the n8n Venafi TLS Protect Cloud Trigger node to start a workflow in n8n in response to events in the [cloud-based Venafi TLS Protect](https://vaas.venafi.com/){:target=\_blank} service.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/venafitlsprotectcloud.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Venafi TLS Protect Cloud Trigger integrations](https://n8n.io/integrations/venafi-tls-protect-cloud-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.webflowtrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Webflow Trigger node documentation

description: Learn how to use the Webflow Trigger node in n8n. Follow technical documentation to integrate Webflow Trigger node into your workflows.

contentType: [integration, reference]

---

# Webflow Trigger node

[Webflow](https://webflow.com){:target=\_blank .external-link} is an application that allows you to build responsive websites with browser-based visual editing software.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/webflow.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Webflow Trigger integrations](https://n8n.io/integrations/webflow-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.whatsapptrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WhatsApp Trigger node documentation

description: Learn how to use the WhatsApp Trigger node in n8n. Follow technical documentation to integrate WhatsApp Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# WhatsApp Trigger node

Use the WhatsApp Trigger node to respond to events in WhatsApp and integrate WhatsApp with other applications. n8n has built-in support for a wide range of WhatsApp events, including account, message, and phone number events.

On this page, you'll find a list of events the WhatsApp Trigger node can respond to, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/whatsapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [WhatsApp integrations](https://n8n.io/integrations/whatsapp-trigger/){:target=\_blank .external-link} page.

///

## Events

\* Account Review Update

\* Account Update

\* Business Capability Update

\* Message Template Quality Update

\* Message Template Status Update

\* Messages

\* Phone Number Name Update

\* Phone Number Quality Update

\* Security

\* Template Category Update

## Related resources

n8n provides an app node for WhatsApp. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.whatsapp/index.md).

View [example workflows and related content](https://n8n.io/integrations/whatsapp-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [WhatsApp's documentation](https://developers.facebook.com/docs/whatsapp/cloud-api){:target=\_blank .external-link} for details about their API.

## Common issues

Here are some common errors and issues with the WhatsApp Trigger node and steps to resolve or troubleshoot them.

### Workflow only works in testing or production

WhatsApp only allows you to register a single webhook per app. This means that every time you switch from using the testing URL to the production URL (and vice versa), WhatsApp overwrites the registered webhook URL.

You may have trouble with this if you try to test a workflow that's also active in production. WhatsApp will only send events to one of the two webhook URLs, so the other will never receive event notifications.

To work around this, you can disable your workflow when testing:

/// warning | Halts production traffic

This workaround temporarily disables your production workflow for testing. Your workflow will no longer receive production traffic while it's deactivated.

///

1. Go to your workflow page.

2. Toggle the \*\*Active\*\* switch in the top panel to disable the workflow temporarily.

3. Test your workflow using the test webhook URL.

4. When you finish testing, toggle the \*\*Inactive\*\* toggle to enable the workflow again. The production webhook URL should resume working.

## n8n-nodes-base.wisetrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wise Trigger node documentation

description: Learn how to use the Wise Trigger node in n8n. Follow technical documentation to integrate Wise Trigger node into your workflows.

contentType: [integration, reference]

---

# Wise Trigger node

[Wise](https://wise.com) allows you to transfer money abroad with low-cost money transfers, receive money with international account details, and track transactions on your phone.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/wise.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Wise Trigger integrations](https://n8n.io/integrations/wise-trigger/){:target=\_blank .external-link} page.

///

## Events

- Triggered every time a balance account is credited

- Triggered every time a balance account is credited or debited

- Triggered every time a transfer's list of active cases is updated

- Triggered every time a transfer's status is updated

## n8n-nodes-base.woocommercetrigger.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: WooCommerce Trigger node documentation

description: Learn how to use the WooCommerce Trigger node in n8n. Follow technical documentation to integrate WooCommerce Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# WooCommerce Trigger node

[WooCommerce](https://woocommerce.com/){:target=\_blank .external-link} is a customizable, open-source e-commerce plugin for WordPress.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/woocommerce.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [WooCommerce Trigger integrations](https://n8n.io/integrations/woocommerce-trigger/){:target=\_blank .external-link} page.

///

## Events

- coupon.created

- coupon.updated

- coupon.deleted

- customer.created

- customer.updated

- customer.deleted

- order.created

- order.updated

- order.deleted

- product.created

- product.updated

- product.deleted

## n8n-nodes-base.workabletrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Workable Trigger node documentation

description: Learn how to use the Workable Trigger node in n8n. Follow technical documentation to integrate Workable Trigger node into your workflows.

contentType: [integration, reference]

---

# Workable Trigger node

Use the Workable Trigger node to respond to events in the [Workable](https://www.workable.com/){:target=\_blank .external-link} recruiting platform and integrate Workable with other applications. n8n has built-in support for a wide range of Workable events, including candidate created and moved.

On this page, you'll find a list of events the Workable Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/workable.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Workable Trigger integrations](https://n8n.io/integrations/workable-trigger/){:target=\_blank .external-link} page.

///

## Events

- \*\*Candidate Created\*\*

- \*\*Candidate Moved\*\*

## Related resources

View [example workflows and related content](https://n8n.io/integrations/workable-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Workable's API documentation](https://developers.workable.com/){:target=\_blank .external-link} for details about using the service.

## n8n-nodes-base.wufootrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Wufoo Trigger node documentation

description: Learn how to use the Wufoo Trigger node in n8n. Follow technical documentation to integrate Wufoo Trigger node into your workflows.

contentType: [integration, reference]

---

# Wufoo Trigger node

[Wufoo](https://wufoo.com){:target=\_blank .external-link} is an online form builder that helps you create custom HTML forms without writing code.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/wufoo.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Wufoo Trigger integrations](https://n8n.io/integrations/wufoo-trigger/){:target=\_blank .external-link} page.

///

## n8n-nodes-base.zendesktrigger.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Zendesk Trigger node documentation

description: Learn how to use the Zendesk Trigger node in n8n. Follow technical documentation to integrate Zendesk Trigger node into your workflows.

contentType: [integration, reference]

---

# Zendesk Trigger node

[Zendesk](https://www.zendesk.com/){:target=\_blank .external-link} is a support ticketing system, designed to help track, prioritize, and solve customer support interactions. More than just a help desk, Zendesk Support helps nurture customer relationships with personalized, responsive support across any channel.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/zendesk.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Zendesk Trigger integrations](https://n8n.io/integrations/zendesk-trigger/){:target=\_blank .external-link} page.

///

## ad-account.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Ad Account object documentation

description: Learn how to use the Ad Account object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Ad Account object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Ad Account object

Use this object to receive updates on certain ads changes in an Ad Account. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Ad Account\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available Ad Account events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in. Options include:

\* \*\*In Process Ad Objects\*\*: Notifies you when a campaign, ad set, or ad exits the `IN\_PROCESS` status. Refer to Meta's [Post-processing for Ad Creation and Edits](https://developers.facebook.com/docs/marketing-api/using-the-api/post-processing/){:target=\_blank .external-link} for more information.

\* \*\*With Issues Ad Objects\*\*: Notifies you when a campaign, ad set, or ad under the ad account receives the `WITH\_ISSUES` status.

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

## Related resources

Refer to [Webhooks for Ad Accounts](https://developers.facebook.com/docs/graph-api/webhooks/getting-started/webhooks-for-ad-accounts){:target=\_blank .external-link} and Meta's [Ad Account](https://developers.facebook.com/docs/graph-api/webhooks/reference/ad-account/){:target=\_blank .external-link} Graph API reference for more information.

## application.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Application object documentation

description: Learn how to use the Application object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Application object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Application object

Use this object to receive updates sent to a specific app. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Application\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in. Options include:

\* \*\*Add Account\*\*

\* \*\*Ads Rules Engine\*\*

\* \*\*Async Requests\*\*

\* \*\*Async Sessions\*\*

\* \*\*Group Install\*\*

\* \*\*Oe Reseller Onboarding Request Created\*\*

\* \*\*Plugin Comment\*\*

\* \*\*Plugin Comment Reply\*\*

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

## Related resources

Refer to Meta's [Application](https://developers.facebook.com/docs/graph-api/webhooks/reference/application/){:target=\_blank .external-link} Graph API reference for more information.

## certificate-transparency.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Certificate Transparency object documentation

description: Learn how to use the Certificate Transparency object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Certificate Transparency object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Certificate Transparency object

Use this object to receive updates about newly issued certificates for any domains that you have subscribed for certificate alerts or phishing alerts. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Certificate Transparency\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in. Options include:

\* \*\*Certificate\*\*: Notifies you when someone issues a new certificate for your subscribed domains. You'll need to subscribe your domain for certificate alerts.

\* \*\*Phishing\*\*: Notifies you when someone issues a new certificate that may be phishing one of your legitimate subscribed domains.

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

For these alerts, you'll need to subscribe your domain to the relevant alerts:

\* Refer to [Certificate Alerts](https://developers.facebook.com/docs/certificate-transparency-api#certificate-alerts-subscribing){:target=\_blank .external-link} for Certificate Alerts subscriptions.

\* Refer to [Phishing Alerts](https://developers.facebook.com/docs/certificate-transparency-api#phishing-alerts-subscribing){:target=\_blank .external-link} for Phishing Alerts subscriptions.

## Related resources

Refer to [Webhooks for Certificate Transparency](https://developers.facebook.com/docs/graph-api/webhooks/getting-started/webhooks-for-certificate-transparency){:target=\_blank .external-link} and Meta's [Certificate Transparency](https://developers.facebook.com/docs/graph-api/webhooks/reference/certificate-transparency/){:target=\_blank .external-link} Graph API reference for more information.

## group.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Group object documentation

description: Learn how to use the Group object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Group object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Group object

Use this object to receive updates about activities and events in a group. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Group\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in.

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

## Related resources

Refer to Meta's [Groups](https://developers.facebook.com/docs/workplace/reference/webhooks/#groups){:target=\_blank .external-link} Workplace API reference for more information.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger

description: Learn how to use the Facebook Trigger node in n8n. Follow technical documentation to integrate Facebook Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger node

[Facebook](https://www.facebook.com/){:target=\_blank .external-link} is a social networking site to connect and share with family and friends online.

Use the Facebook Trigger node to trigger a workflow when events occur in Facebook.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Objects

- [\*\*Ad Account\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/ad-account.md): Get updates for certain ads changes.

- [\*\*Application\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/application.md): Get updates sent to the application.

- [\*\*Certificate Transparency\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/certificate-transparency.md): Get updates when new security certificates are generated for your subscribed domains, including new certificates and potential phishing attempts.

- Activity and events in a [\*\*Group\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/group.md)

- [\*\*Instagram\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/instagram.md): Get updates when someone comments on the Media objects of your app users; @mentions your app users; or when Stories of your app users expire.

- [\*\*Link\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/link.md): Get updates about the links for rich previews by an external provider

- [\*\*Page\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/page.md) updates

- [\*\*Permissions\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/permissions.md): Updates when granting or revoking permissions

- [\*\*User\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/user.md) profile updates

- [\*\*WhatsApp Business Account\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/whatsapp.md)

/// note | Use WhatsApp Trigger

n8n recommends using the [WhatsApp Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.whatsapptrigger.md) with the [WhatsApp credentials](/integrations/builtin/credentials/whatsapp.md) instead of the Facebook Trigger node for these events. The WhatsApp Trigger node has more events to listen to.

///

- [\*\*Workplace Security\*\*](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/workplace-security.md)

For each \*\*Object\*\*, use the \*\*Field Names or IDs\*\* dropdown to select more details on what data to receive. Refer to the linked pages for more details.

## Related resources

View [example workflows and related content](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to Meta's [Graph API documentation](https://developers.facebook.com/docs/graph-api/webhooks/reference){:target=\_blank .external-link} for details about their API.

## instagram.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Instagram object documentation

description: Learn how to use the Instagram object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Instagram object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Instagram object

Use this object to receive updates when someone comments on the Media objects of your app users; @mentions your app users; or when Stories of your app users expire. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Instagram\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in. Options include:

\* \*\*Comments\*\*: Notifies you when anyone comments on an IG Media owned by your app's Instagram user.

\* \*\*Messaging Handover\*\*

\* \*\*Mentions\*\*: Notifies you whenever an Instagram user @mentions an Instagram Business or Creator Account in a comment or caption.

\* \*\*Messages\*\*: Notifies you when anyone messages your app's Instagram user.

\* \*\*Messaging Seen\*\*: Notifies you when someone sees a message sent by your app's Instagram user.

\* \*\*Standby\*\*

\* \*\*Story Insights\*\*: Notifies you one hour after a story expires with metrics describing interactions on a story.

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

## Related resources

Refer to [Webhooks for Instagram](https://developers.facebook.com/docs/graph-api/webhooks/getting-started/webhooks-for-instagram){:target=\_blank .external-link} and Meta's [Instagram](https://developers.facebook.com/docs/graph-api/webhooks/reference/instagram/){:target=\_blank .external-link} Graph API reference for more information.

## link.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Link object documentation

description: Learn how to use the Link object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Link object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Link object

Use this object to receive updates about links for rich previews by an external provider. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Link\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in.

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

## Related resources

Refer to Meta's [Links](https://developers.facebook.com/docs/workplace/reference/webhooks/#links){:target=\_blank .external-link} Workplace API reference for more information.

## page.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Page object documentation

description: Learn how to use the Page object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Page object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Page object

Use this object to receive updates when updates to your page profile fields or profile settings occur or someone mentions your page. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Prerequisites

This Object requires some configuration in your app and page before you can use the trigger:

1. At least one page admin needs to grant the `manage\_pages` permission to your app.

1. The page admin needs to have at least moderator privileges. If they don't, they won't receive all content.

1. You'll also need to add the app to your page, and you may need to go to the [Graph API explorer](https://developers.facebook.com/tools/explorer/){:target=\_blank .external-link} and execute this call with your app token:

```

{page-id}/subscribed\_apps?subscribed\_fields=feed

```

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Page\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in. Options include individual profile fields, as well as:

\* \*\*Feed\*\*: Describes most changes to a page's feed, including posts, likes, shares, and so on.

\* \*\*Leadgen\*\*: Notifies you when a page's lead generation settings change.

\* \*\*Live Videos\*\*: Notifies you when a page's live video status changes.

\* \*\*Mention\*\*: Notifies you when new mentions in pages, comments, and so on occur.

\* \*\*Merchant Review\*\*: Notifies you when a page's merchant review settings change.

\* \*\*Page Change Proposal\*\*: Notifies you when Facebook suggests proposed changes for your Facebook Page.

\* \*\*Page Upcoming Change\*\*: Notifies you about upcoming changes that will occur on your Facebook Page. Facebook has suggested these changes and they may have a deadline to accept or reject before automatically taking effect.

\* \*\*Product Review\*\*: Notifies you when a page's product review settings change.

\* \*\*Ratings\*\*: Notifies you when a page's ratings change, including new ratings or when a user comments on or reacts to a rating.

\* \*\*Videos\*\*: Notifies you when the encoding status of a video on a page changes.

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

## Related resources

Refer to [Webhooks for Pages](https://developers.facebook.com/docs/graph-api/webhooks/getting-started/webhooks-for-pages){:target=\_blank .external-link} and Meta's [Page](https://developers.facebook.com/docs/graph-api/webhooks/reference/page/){:target=\_blank .external-link} Graph API reference for more information.

## permissions.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Permissions object documentation

description: Learn how to use the Permissions object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Permissions object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Permissions object

Use this object to receive updates when a user grants or revokes a permission for your app. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Permissions\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in.

1. In \*\*Options\*\*, choose whether to turn on the toggle to \*\*Include Values\*\*. When turned on, the node includes the new values for the changes.

## Related resources

Refer to Meta's [Permissions](https://developers.facebook.com/docs/graph-api/webhooks/reference/permissions/){:target=\_blank .external-link} Graph API reference for more information.

## user.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger User object documentation

description: Learn how to use the User object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's User object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger User object

Use this object to receive updates when changes to a user's profile occur. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*User\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in.

1. In \*\*Options\*\*, choose whether to turn on the toggle to \*\*Include Values\*\*. When turned on, the node includes the new values for the changes.

## Related resources

Refer to Meta's [User](https://developers.facebook.com/docs/graph-api/webhooks/reference/user/){:target=\_blank .external-link} Graph API reference for more information.

## whatsapp.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger WhatsApp Business Account object documentation

description: Learn how to use the WhatsApp Business Account object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's WhatsApp Business Account object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger WhatsApp Business Account object

Use this object to receive updates when your WhatsApp Business Account (WABA) changes. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// warning | Use WhatsApp trigger

n8n recommends using the [WhatsApp Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.whatsapptrigger.md) with the [WhatsApp credentials](/integrations/builtin/credentials/whatsapp.md) instead of the Facebook Trigger node. That trigger node includes twice the events to subscribe to.

///

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Prerequisites

This Object requires some configuration in your app and WhatsApp account before you can use the trigger:

1. Subscribe your app under your WhatsApp business account. You must subscribe an app owned by your business. Apps shared with your business can't receive webhook notifications.

1. If you are working as a Solution Partner, make sure your app has completed App Review and requested the `whatsapp\_business\_management` permission.

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*WhatsApp Business Account\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in. Options include:

\* \*\*Message Template Status Update\*\*

\* \*\*Phone Number Name Update\*\*

\* \*\*Phone Number Quality Update\*\*

\* \*\*Account Review Update\*\*

\* \*\*Account Update\*\*

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

Refer to [Webhooks for WhatsApp Business Accounts](https://developers.facebook.com/docs/graph-api/webhooks/getting-started/webhooks-for-whatsapp){:target=\_blank .external-link} and Meta's [WhatsApp Business Account](https://developers.facebook.com/docs/graph-api/webhooks/reference/whatsapp-business-account/){:target=\_blank .external-link} Graph API reference for more information.

## workplace-security.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Facebook Trigger Workplace Security object documentation

description: Learn how to use the Workplace Security object of the Facebook Trigger node in n8n. Follow technical documentation to integrate the Facebook Trigger node's Workplace Security object into your workflows.

contentType: [integration, reference]

priority: medium

---

# Facebook Trigger Workplace Security object

Use this object to receive updates when Workplace security events occur, like adding or removing admins, users joining or leaving a Workplace, and more. Refer to [Facebook Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) for more information on the trigger itself.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/facebookapp.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Facebook Trigger integrations](https://n8n.io/integrations/facebook-trigger/){:target=\_blank .external-link} page.

///

## Trigger configuration

To configure the trigger with this Object:

1. Select the \*\*Credential to connect with\*\*. Select an existing or create a new [Facebook App credential](/integrations/builtin/credentials/facebookapp.md).

1. Enter the \*\*APP ID\*\* of the app connected to your credential. Refer to the [Facebook App credential](/integrations/builtin/credentials/facebookapp.md) documentation for more information.

1. Select \*\*Workplace Security\*\* as the \*\*Object\*\*.

1. \*\*Field Names or IDs\*\*: By default, the node will trigger on all the available events using the `\*` wildcard filter. If you'd like to limit the events, use the `X` to remove the star and use the dropdown or an expression to select the updates you're interested in.

1. In \*\*Options\*\*, turn on the toggle to \*\*Include Values\*\*. This Object type fails without the option enabled.

## Related resources

Refer to Meta's [Security](https://developers.facebook.com/docs/workplace/reference/webhooks/#security){:target=\_blank .external-link} Workplace API reference for more information.

## common-issues.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail Trigger node common issues

description: Documentation for common issues and questions in the Gmail Trigger node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: \_priority-from-main-node\_

---

# Gmail Trigger node common issues

Here are some common errors and issues with the [Gmail Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.gmailtrigger/index.md) and steps to resolve or troubleshoot them.

## 401 unauthorized error

The full text of the error looks like this:

<!--vale off-->

```

401 - {"error":"unauthorized\_client","error\_description":"Client is unauthorized to retrieve access tokens using this method, or client not authorized for any of the scopes requested."}

```

<!--vale on-->

This error occurs when there's an issue with the credential you're using and its scopes or permissions.

To resolve:

1. For [OAuth2](/integrations/builtin/credentials/google/oauth-single-service.md) credentials, make sure you've enabled the Gmail API in \*\*APIs & Services > Library\*\*. Refer to [Google OAuth2 Single Service - Enable APIs](/integrations/builtin/credentials/google/oauth-single-service.md#enable-apis) for more information.

2. For [Service Account](/integrations/builtin/credentials/google/service-account.md) credentials:

1. [Enable domain-wide delegation](/integrations/builtin/credentials/google/service-account.md#enable-domain-wide-delegation).

2. Make sure you add the Gmail API as part of the domain-wide delegation configuration.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail Trigger node documentation

description: Learn how to use the Gmail Trigger node in n8n. Follow technical documentation to integrate Gmail Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# Gmail Trigger node

[Gmail](https://www.gmail.com){:target=\_blank .external-link} is an email service developed by Google. The Gmail Trigger node can start a workflow based on events in Gmail.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/index.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Gmail Trigger integrations](https://n8n.io/integrations/gmail-trigger/){:target=\_blank .external-link} page.

///

## Events

\* \*\*Message Received\*\*: The node triggers for new messages at the selected \*\*Poll Time\*\*.

## Node parameters

Configure the node with these parameters:

\* \*\*Credential to connect with\*\*: Select or create a new Google credential to use for the trigger. Refer to [Google credentials](/integrations/builtin/credentials/google/index.md) for more information on setting up a new credential.

\* \*\*Poll Times\*\*: Select a poll \*\*Mode\*\* to set how often to trigger the poll. Your \*\*Mode\*\* selection will add or remove relevant fields. Refer to [Poll Mode options](/integrations/builtin/trigger-nodes/n8n-nodes-base.gmailtrigger/poll-mode-options.md) to configure the parameters for each mode type.

\* \*\*Simplify\*\*: Choose whether to return a simplified version of the response (turned on, default) or the raw data (turned off).

\* The simplified version returns email message IDs, labels, and email headers, including: From, To, CC, BCC, and Subject.

## Node filters

Use these filters to further refine the node's behavior:

\* \*\*Include Spam and Trash\*\*: Select whether the node should trigger on new messages in the Spam and Trash folders (turned on) or not (turned off).

\* \*\*Label Names or IDs\*\*: Only trigger on messages with the selected labels added to them. Select the Label names you want to apply or enter an expression to specify IDs. The dropdown populates based on the \*\*Credential\*\* you selected.

\* \*\*Search\*\*: Enter Gmail search refine filters, like `from:`, to trigger the node on the filtered conditions only. Refer to [Refine searches in Gmail](https://support.google.com/mail/answer/7190?hl=en){:target=\_blank .external-link} for more information.

\* \*\*Read Status\*\*: Choose whether to receive \*\*Unread and read emails\*\*, \*\*Unread emails only\*\* (default), or \*\*Read emails only\*\*.

\* \*\*Sender\*\*: Enter an email or a part of a sender name to trigger only on messages from that sender.

## Related resources

n8n provides an app node for Gmail. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md).

View [example workflows and related content](https://n8n.io/integrations/gmail-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Google's Gmail API documentation](https://developers.google.com/gmail/api/guides){:target=\_blank .external-link} for details about their API.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/trigger-nodes/n8n-nodes-base.gmailtrigger/common-issues.md).

## poll-mode-options.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Gmail Trigger node poll mode options documentation

description: Learn about the poll mode options available to the Gmail Trigger node in n8n and how to configure them.

contentType: howto

priority: high

---

# Gmail Trigger node Poll Mode options

Use the [Gmail Trigger node's](/integrations/builtin/trigger-nodes/n8n-nodes-base.gmailtrigger/index.md) \*\*Poll Time\*\* parameter to set how often to trigger the poll. Your \*\*Mode\*\* selection will add or remove relevant fields.

## Poll mode options

Refer to the sections below for details on using each \*\*Mode\*\*.

--8<-- "\_snippets/integrations/builtin/poll-modes.md"

## common-issues.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive Trigger node common issues

description: Documentation for common issues and questions in the Google Drive Trigger node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: medium

---

# Google Drive Trigger node common issues

Here are some common errors and issues with the [Google Drive Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.googledrivetrigger/index.md) and steps to resolve or troubleshoot them.

## 401 unauthorized error

The full text of the error looks like this:

<!--vale off-->

```

401 - {"error":"unauthorized\_client","error\_description":"Client is unauthorized to retrieve access tokens using this method, or client not authorized for any of the scopes requested."}

```

<!--vale on-->

This error occurs when there's an issue with the credential you're using and its scopes or permissions.

To resolve:

1. For [OAuth2](/integrations/builtin/credentials/google/oauth-single-service.md) credentials, make sure you've enabled the Google Drive API in \*\*APIs & Services > Library\*\*. Refer to [Google OAuth2 Single Service - Enable APIs](/integrations/builtin/credentials/google/oauth-single-service.md#enable-apis) for more information.

2. For [Service Account](/integrations/builtin/credentials/google/service-account.md) credentials:

1. [Enable domain-wide delegation](/integrations/builtin/credentials/google/service-account.md#enable-domain-wide-delegation).

2. Make sure you add the Google Drive API as part of the domain-wide delegation configuration.

## Handling more than one file change

The Google Drive Trigger node polls Google Drive for changes at a set interval (once every minute by default).

If multiple changes to the \*\*Watch For\*\* criteria occur during the polling interval, a single Google Drive Trigger event occurs containing the changes as items. To handle this, your workflow must account for times when the data might contain more than one item.

You can use an [if node](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) or a [switch node](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md) to change your workflow's behavior depending on whether the data from the Google Drive Trigger node contains a single item or multiple items.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Drive Trigger node documentation

description: Learn how to use the Google Drive Trigger node in n8n. Follow technical documentation to integrate Google Drive Trigger node into your workflows.

contentType: [integration, reference]

priority: medium

---

# Google Drive Trigger node

[Google Drive](https://drive.google.com){:target=\_blank .external-link} is a file storage and synchronization service developed by Google. It allows users to store files on their servers, synchronize files across devices, and share files.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/index.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Google Drive Trigger integrations](https://n8n.io/integrations/google-drive-trigger/){:target=\_blank .external-link} page.

///

/// note | Manual Executions vs. Activation

On manual executions this node will return the last event matching its search criteria. If no event matches the criteria (for example because you are watching for files to be created but no files have been created so far), an error is thrown. Once saved and activated, the node will regularly check for any matching events and will trigger your workflow for each event found.

///

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/trigger-nodes/n8n-nodes-base.googledrivetrigger/common-issues.md).

## common-issues.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Sheets Trigger node common issues

description: Documentation for common issues and questions in the Google Sheets Trigger node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: high

---

# Google Sheets Trigger node common issues

Here are some common errors and issues with the [Google Sheets Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlesheetstrigger/index.md) and steps to resolve or troubleshoot them.

## Stuck waiting for trigger event

When testing the Google Sheets Trigger node with the \*\*Execute step\*\* or \*\*Execute workflow\*\* buttons, the execution may appear stuck and unable to stop listening for events. If this occurs, you may need to exit the workflow and open it again to reset the canvas.

Stuck listening events often occur due to issues with your network configuration outside of n8n. Specifically, this behavior often occurs when you run n8n behind a reverse proxy without configuring websocket proxying.

To resolve this issue, check your reverse proxy configuration (Nginx, Caddy, Apache HTTP Server, Traefik, etc.) to enable websocket support.

## Date and time columns are rendering as numbers

Google Sheets can render dates and times a few different ways.

The [\*\*serial number\*\* format](https://developers.google.com/sheets/api/reference/rest/v4/DateTimeRenderOption), popularized by Lotus 1-2-3 and used my types of spreadsheet software, represents dates as a decimal number. The whole number component (the part left of the decimal) represents the number of days since December 30, 1899. The decimal portion (the part right of the decimal) represents time as a portion of a 24-hour period (for example, `.5` represents noon).

To use a different format for date and time values, adjust the format in your Google Sheet Trigger node. This is available when \*\*Trigger On\*\* is set to \*\*Row Added\*\*:

1. Open the Google Sheet Trigger node on your canvas.

2. Select \*\*Add option\*\*.

3. Select \*\*DateTime Render\*\*.

4. Change \*\*DateTime Render\*\* to \*\*Formatted String\*\*.

The Google Sheets Trigger node will now format date, time, datetime, and duration fields as strings according to their number format.

The number format depends on the spreadsheet's locale settings. You can change the local by opening the spreadsheet and selecting \*\*File > Settings\*\*. In the \*\*General\*\* tab, set \*\*Locale\*\* to your preferred locale. Select \*\*Save settings\*\* to adjust the value.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Google Sheets Trigger node documentation

description: Learn how to use the Google Sheets Trigger node in n8n. Follow technical documentation to integrate Google Sheets Trigger node into your workflows.

contentType: [integration, reference]

priority: high

---

# Google Sheets Trigger node

[Google Sheets](https://www.google.com/sheets){:target=\_blank} is a web-based spreadsheet program that's part of Google's office software suite within its Google Drive service.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/google/index.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Google Sheets Trigger integrations](https://n8n.io/integrations/google-sheets-trigger/){:target=\_blank .external-link} page.

///

## Events

\* Row added

\* Row updated

\* Row added or updated

## Related resources

Refer to [Google Sheet's API documentation](https://developers.google.com/sheets/api){:target=\_blank .external-link} for more information about the service.

n8n provides an app node for Google Sheets. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md).

View [example workflows and related content](https://n8n.io/integrations/google-sheets-trigger/){:target=\_blank .external-link} on n8n's website.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlesheetstrigger/common-issues.md).

## common-issues.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram Trigger node common issues

description: Documentation for common issues and questions in the Telegram Trigger node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: critical

---

# Telegram Trigger node common issues

Here are some common errors and issues with the [Telegram Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) and steps to resolve or troubleshoot them.

## Stuck waiting for trigger event

When testing the Telegram Trigger node with the \*\*Execute step\*\* or \*\*Execute workflow\*\* buttons, the execution may appear stuck and unable to stop listening for events. If this occurs, you may need to exit the workflow and open it again to reset the canvas.

Stuck listening events often occur due to issues with your network configuration outside of n8n. Specifically, this behavior often occurs when you run n8n behind a reverse proxy without configuring websocket proxying.

To resolve this issue, check your reverse proxy configuration (Nginx, Caddy, Apache HTTP Server, Traefik, etc.) to enable websocket support.

<!-- vale off -->

## Bad request: bad webhook: An HTTPS URL must be provided for webhook

<!-- vale on -->

This error occurs when you run n8n behind a reverse proxy and there is a problem with your instance's webhook URL.

When running n8n behind a reverse proxy, you must [configure the `WEBHOOK\_URL` environment variable](/hosting/configuration/configuration-examples/webhook-url.md) with the public URL where your n8n instance is running. For Telegram, this URL must use HTTPS.

To fix this issue, configure TLS/SSL termination in your reverse proxy. Afterward, update your `WEBHOOK\_URL` environment variable to use the HTTPS address.

## Workflow only works in testing or production

Telegram only allows you to register a single webhook per app. This means that every time you switch from using the testing URL to the production URL (and vice versa), Telegram overwrites the registered webhook URL.

You may have trouble with this if you try to test a workflow that's also active in production. The Telegram bot will only send events to one of the two webhook URLs, so the other will never receive event notifications.

To work around this, you can either disable your workflow when testing or create separate Telegram bots for testing and production.

To create a separate telegram bot for testing, repeat the process you completed to create your first bot. Reference [Telegram's bot documentation](https://core.telegram.org/bots) and the [Telegram bot API reference](https://core.telegram.org/bots/api) for more information.

To disable your workflow when testing, try the following:

/// warning | Halts production traffic

This workaround temporarily disables your production workflow for testing. Your workflow will no longer receive production traffic while it's deactivated.

///

1. Go to your workflow page.

2. Toggle the \*\*Active\*\* switch in the top panel to disable the workflow temporarily.

3. Test your workflow using the test webhook URL.

4. When you finish testing, toggle the \*\*Inactive\*\* toggle to enable the workflow again. The production webhook URL should resume working.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Telegram Trigger node documentation

description: Learn how to use the Telegram Trigger node in n8n. Follow technical documentation to integrate Telegram Trigger node into your workflows.

contentType: [integration, reference]

priority: critical

---

# Telegram Trigger node

[Telegram](https://telegram.org/){:target=\_blank .external-link} is a cloud-based instant messaging and voice over IP service. Users can send messages and exchange photos, videos, stickers, audio, and files of any type. On this page, you'll find a list of events the Telegram Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/telegram.md).

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Telegram Trigger integrations](https://n8n.io/integrations/telegram-trigger/){:target=\_blank .external-link} page.

///

## Events

- \*\*`\*`\*\*: All updates except "Chat Member", "Message Reaction", and "Message Reaction Count" (default behavior of Telegram API as they produces a lot of calls of updates).

- \*\*Business Connection\*\*: Trigger when the bot is connected to or disconnected from a business account, or a user edited an existing connection with the bot.

- \*\*Business Message\*\*: Trigger on a new message from a connected business account.

- \*\*Callback Query\*\*: Trigger on new incoming callback query.

- \*\*Channel Post\*\*: Trigger on new incoming channel post of any kind — including text, photo, sticker, and so on.

- \*\*Chat Boost\*\*: Trigger when a chat boost is added or changed. The bot must be an administrator in the chat to receive these updates.

- \*\*Chat Join Request\*\*: Trigger when a request to join the chat is sent. The bot must have the `can\_invite\_users` administrator right in the chat to receive these updates.

- \*\*Chat Member\*\*: Trigger when a chat member's status is updated. The bot must be an administrator in the chat.

- \*\*Chosen Inline Result\*\*: Trigger when the result of an inline query chosen by a user is sent. Please see Telegram's API documentation on [feedback collection](https://core.telegram.org/bots/inline#collecting-feedback) for details on how to enable these updates for your bot.

- \*\*Deleted Business Messages\*\*: Trigger when messages are deleted from a connected business account.

- \*\*Edited Business Message\*\*: Trigger on new version of a message from a connected business account.

- \*\*Edited Channel Post\*\*: Trigger on new version of a channel post that is known to the bot is edited.

- \*\*Edited Message\*\*: Trigger on new version of a channel post that is known to the bot is edited.

- \*\*Inline Query\*\*: Trigger on new incoming inline query.

- \*\*Message\*\*: Trigger on new incoming message of any kind — text, photo, sticker, and so on.

- \*\*Message Reaction\*\*: Trigger when a reaction to a message is changed by a user. The bot must be an administrator in the chat. The update isn't received for reactions set by bots.

- \*\*Message Reaction Count\*\*: Trigger when reactions to a message with anonymous reactions are changed. The bot must be an administrator in the chat. The updates are grouped and can be sent with delay up to a few minutes.

- \*\*My Chat Member\*\*: Trigger when the bot's chat member status is updated in a chat. For private chats, this update is received only when the bot is blocked or unblocked by the user.

- \*\*Poll\*\*: Trigger on new poll state. Bots only receive updates about stopped polls and polls which are sent by the bot.

- \*\*Poll Answer\*\*: Trigger when user changes their answer in a non-anonymous poll. Bots only receive new votes in polls that were sent by the bot itself.

- \*\*Pre-Checkout Query\*\*: Trigger on new incoming pre-checkout query. Contains full information about checkout.

- \*\*Purchased Paid Media\*\*: Trigger when a user purchases paid media with a non-empty payload sent by the bot in a non-channel chat.

- \*\*Removed Chat Boost\*\*: Trigger when a boost is removed from a chat. The bot must be an administrator in the chat to receive these updates.

- \*\*Shipping Query\*\*: Trigger on new incoming shipping query. Only for invoices with flexible price.

Some \*\*events may require additional permissions\*\*, see [Telegram's API documentation](https://core.telegram.org/bots/api#getting-updates) for more information.

## Options

- \*\*Download Images/Files\*\*: Whether to download attached images or files to include in the output data.

- \*\*Image Size\*\*: When you enable \*\*Download Images/Files\*\*, this configures the size of image to download. Downloads large images by default.

- \*\*Restrict to Chat IDs\*\*: Only trigger for events with the listed chat IDs. You can include multiple chat IDs separated by commas.

- \*\*Restrict to User IDs\*\*: Only trigger for events with the listed user IDs. You can include multiple user IDs separated by commas.

## Related resources

n8n provides an app node for Telegram. You can find the node docs [here](/integrations/builtin/credentials/telegram.md).

View [example workflows and related content](https://n8n.io/integrations/telegram-trigger/){:target=\_blank .external-link} on n8n's website.

Refer to [Telegram's API documentation](https://core.telegram.org/bots/api){:target=\_blank .external-link} for details about their API.

## Common issues

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/common-issues.md).

## blocklist.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# n8n community node blocklist

n8n maintains a blocklist of community nodes. You can't install any node on this list.

n8n may add community nodes to the blocklist for a range of reasons, including:

\* The node is intentionally malicious

\* It's low quality (low enough to be harmful)

<!-- vale off -->

If you are a community node creator whose node is on the blocklist, and you believe this is a mistake, contact [hello@n8n.io](mailto: hello@n8n.io).

<!-- vale on -->

## build-community-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Building community nodes

--8<-- "\_snippets/integrations/submit-community-node.md"

## risks.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Risks when using community nodes

Installing community nodes from npm means you are installing unverified code from a public source into your n8n instance. This has some risks.

Risks include:

\* System security: community nodes have full access to the machine that n8n runs on, and can do anything, including malicious actions.

\* Data security: any community node that you use has access to data in your workflows.

\* Breaking changes: node developers may introduce breaking changes in new versions of their nodes. A breaking change is an update that breaks previous functionality. Depending on the node versioning approach that a node developer chooses, upgrading to a version with a breaking change could cause all workflows using the node to break. Be careful when upgrading your nodes.

/// note | n8n vets verified community nodes

In addition to publicly available community nodes from npm, n8n inspects some nodes and makes them available as [verified community node inside the nodes panel](/integrations/community-nodes/installation/verified-install.md). These nodes have to meet a set of data and system security requirements for approval.

///

## Report bad community nodes

<!-- vale off -->

You can report bad community nodes to [security@n8n.io](mailto: security@n8n.io)

<!-- vale on -->

## Disable community nodes

If you are self-hosting n8n, you can disable community nodes by setting `N8N\_COMMUNITY\_PACKAGES\_ENABLED` to `false`. On n8n cloud, visit the [Cloud Admin Panel](https://docs.n8n.io/manage-cloud/cloud-admin-dashboard/) and disable community nodes from there. See [troubleshooting](/integrations/community-nodes/troubleshooting.md) for more information.

## troubleshooting.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Troubleshooting and errors

## Error: Missing packages

n8n installs community nodes directly onto the hard disk. The files must be available at startup for n8n to load them. If the packages aren't available at startup, you get an error warning of missing packages.

If running n8n using Docker: depending on your Docker setup, you may lose the packages when you recreate your container or upgrade your n8n version. You must either:

\* Persist the contents of the `~/.n8n/nodes` directory. This is the best option. If you follow the [Docker installation](/hosting/installation/docker.md) guide, the setup steps include persisting this directory.

\* Set the `N8N\_REINSTALL\_MISSING\_PACKAGES` environment variable to `true`.

The second option might increase startup time and may cause health checks to fail.

## Prevent loading community nodes on n8n cloud

If your n8n cloud instance crashes and fails to start, you can prevent installed community nodes from loading on instance startup. Visit the [Cloud Admin Panel](/manage-cloud/cloud-admin-dashboard.md) > \*\*Manage\*\* and toggle \*\*Disable all community nodes\*\* to \*\*`true`\*\*. This toggle is only visible when you allow community node installation.

## usage.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Using community nodes

To use community nodes, you first need to [install](/integrations/community-nodes/installation/index.md) them.

## Adding community nodes to your workflow

After installing a community node, you can use it like any other node. n8n displays the node in search results in the \*\*Nodes\*\* panel. n8n marks community nodes with a \*\*Package\*\* <span class="inline-image">![Package icon](/\_images/common-icons/package.png){.off-glb}</span> icon in the nodes panel.

## Community nodes with duplicate names

It's possible for several community nodes to have the same name. If you use two nodes with the same name in your workflow, they'll look the same, unless they have different icons.

## gui-install.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Install community nodes from npm in the n8n app

/// note | Only for instance owners of self-hosted n8n instances

Only the n8n instance owner of a self-hosted n8n instance can install and manage community nodes from npm. The instance owner is the person who sets up and manages user management.

Admin accounts can also uninstall any community node, verified or unverified. This helps them remove problematic nodes that may affect the instance's health and functionality.

///

## Install a community node

To install a community node from npm:

1. Go to \*\*Settings\*\* > \*\*Community Nodes\*\*.

2. Select \*\*Install\*\*.

3. Find the node you want to install:

1. Select \*\*Browse\*\*. n8n takes you to an npm search results page, showing all npm packages tagged with the keyword `n8n-community-node-package`.

2. Browse the list of results. You can filter the results or add more keywords.

3. Once you find the package you want, make a note of the package name. If you want to install a specific version, make a note of the version number as well.

4. Return to n8n.

4. Enter the npm package name, and version number if required. For example, consider a community node designed to access a weather API called "Storms." The package name is n8n-node-storms, and it has three major versions.

\* To install the latest version of a package called n8n-node-weather: enter `n8n-nodes-storms` in \*\*Enter npm package name\*\*.

\* To install version 2.3: enter `n8n-node-storms@2.3` in \*\*Enter npm package name\*\*.

<!-- vale off -->

5. Agree to the [risks](/integrations/community-nodes/risks.md) of using community nodes: select \*\*I understand the risks of installing unverified code from a public source.\*\*

<!-- vale on -->

6. Select \*\*Install\*\*. n8n installs the node, and returns to the \*\*Community Nodes\*\* list in \*\*Settings\*\*.

/// note | Nodes on the blocklist

n8n maintains a blocklist of community nodes that it prevents you from installing. Refer to [n8n community node blocklist](/integrations/community-nodes/blocklist.md) for more information.

///

## Uninstall a community node

To uninstall a community node:

1. Go to \*\*Settings\*\* > \*\*Community nodes\*\*.

2. On the node you want to install, select \*\*Options\*\* <span class="inline-image">![Three dots options menu](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span>.

3. Select \*\*Uninstall package\*\*.

4. Select \*\*Uninstall Package\*\* in the confirmation modal.

## Upgrade a community node

/// warning | Breaking changes in versions

Node developers may introduce breaking changes in new versions of their nodes. A breaking change is an update that breaks previous functionality. Depending on the node versioning approach that a node developer chooses, upgrading to a version with a breaking change could cause all workflows using the node to break. Be careful when upgrading your nodes. If you find that an upgrade causes issues, you can [downgrade](#downgrade-a-community-node).

///

### Upgrade to the latest version

You can upgrade community nodes to the latest version from the node list in \*\*Settings\*\* > \*\*community nodes\*\*.

When a new version of a community node is available, n8n displays an \*\*Update\*\* button on the node. Click the button to upgrade to the latest version.

### Upgrade to a specific version

To upgrade to a specific version (a version other than the latest), uninstall the node, then reinstall it, making sure to specify the target version. Follow the [Installation](#install-a-community-node) instructions for more guidance.

## Downgrade a community node

If there is a problem with a particular version of a community node, you may want to roll back to a previous version.

To do this, uninstall the community node, then reinstall it, targeting a specific node version. Follow the [Installation](#install-a-community-node) instructions for more guidance.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Install and manage community nodes

There are three ways to install community nodes:

\* Within n8n using the [nodes panel](/integrations/community-nodes/installation/verified-install.md) (for verified community nodes only).

\* Within n8n [using the GUI](/integrations/community-nodes/installation/gui-install.md): Use this method to install community nodes from the npm registry.

\* [Manually from the command line](/integrations/community-nodes/installation/manual-install.md): use this method to install community nodes from npm if your n8n instance doesn't support installation through the in-app GUI.

/// note | Installing from npm only available on self-hosted instances

Unverified community nodes aren't available on n8n cloud and require [self-hosting](/hosting/index.md) n8n.

///

## manual-install.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Manually install community nodes from npm

You can manually install community nodes from the npm registry on self-hosted n8n.

You need to manually install community nodes in the following circumstances:

\* Your n8n instance runs in queue mode.

\* You want to install [private packages](https://docs.npmjs.com/creating-and-publishing-private-packages){:target=\_blank .external-link}.

## Install a community node

Access your Docker shell:

```sh

docker exec -it n8n sh

```

Create `~/.n8n/nodes` if it doesn't already exist, and navigate into it:

```sh

mkdir ~/.n8n/nodes

cd ~/.n8n/nodes

```

Install the node:

```sh

npm i n8n-nodes-nodeName

```

Then restart n8n.

## Uninstall a community node

Access your Docker shell:

```sh

docker exec -it n8n sh

```

Run npm uninstall:

```sh

npm uninstall n8n-nodes-nodeName

```

## Upgrade a community node

/// warning | Breaking changes in versions

Node developers may introduce breaking changes in new versions of their nodes. A breaking change is an update that breaks previous functionality. Depending on the node versioning approach that a node developer chooses, upgrading to a version with a breaking change could cause all workflows using the node to break. Be careful when upgrading your nodes. If you find that an upgrade causes issues, you can [downgrade](#upgrade-or-downgrade-to-a-specific-version).

///

### Upgrade to the latest version

Access your Docker shell:

```sh

docker exec -it n8n sh

```

Run npm update:

```sh

npm update n8n-nodes-nodeName

```

### Upgrade or downgrade to a specific version

Access your Docker shell:

```sh

docker exec -it n8n sh

```

Run npm uninstall to remove the current version:

```sh

npm uninstall n8n-nodes-nodeName

```

Run npm install with the version specified:

```sh

# Replace 2.1.0 with your version number

npm install n8n-nodes-nodeName@2.1.0

```

## verified-install.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Install verified community nodes in the n8n app

/// note | Limited to n8n instance owners

Only the n8n instance owner can install and manage verified community nodes. The instance owner is the person who sets up and manages user management. All members of an n8n instance can use already installed community nodes in their workflows.

Admin accounts can also uninstall any community node, verified or unverified. This helps them remove problematic nodes that may affect the instance's health and functionality.

///

## Install a community node

To install a [verified community node](/integrations/creating-nodes/deploy/submit-community-nodes.md#submit-your-node-for-verification-by-n8n):

1. Go to the \*\*Canvas\*\* and open the \*\*nodes panel\*\* (either by selecting '+' or pressing ++tab++).

2. \*\*Search\*\* for the node that you're looking for. If there is a matching verified community node, you will see a \*\*More from the community\*\* section at the bottom of the nodes panel.

3. Select the node you want to install. This takes you to a detailed view of the node, showing all the supported actions.

4. Select \*\*install\*\*. This will install the node for your instance and enable all members to use it in their workflows.

5. You can now add the node to your workflows.

/// note | Enable installation of verified community nodes

Some users may not want to show verified community nodes in the nodes panel of their instances. On n8n cloud, instance owners can toggle this in the [Cloud Admin Panel](/manage-cloud/cloud-admin-dashboard.md). Self-hosted users can use [environment variables](/hosting/configuration/environment-variables/nodes.md) to control the availability of this feature.

///

## Uninstall a community node

To uninstall a community node:

1. Go to \*\*Settings\*\* > \*\*Community nodes\*\*.

2. On the node you want to install, select \*\*Options\*\* <span class="inline-image">![Three dots options menu](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span>.

3. Select \*\*Uninstall package\*\*.

4. Select \*\*Uninstall Package\*\* in the confirmation modal.

## overview.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Creating nodes

Learn how to build your own custom [nodes](/glossary.md#node-n8n).

This section includes:

\* Guidance on planning your build, including [which style to use](/integrations/creating-nodes/plan/choose-node-method.md).

\* [Tutorials](/integrations/creating-nodes/build/index.md) for different node building styles.

\* Instructions for [testing your node](/integrations/creating-nodes/test/index.md), including how to use the n8n [node linter](/integrations/creating-nodes/test/node-linter.md) and [troubleshooting](/integrations/creating-nodes/test/troubleshooting-node-development.md) support.

\* How to [share your node](/integrations/creating-nodes/deploy/submit-community-nodes.md) with the community, submit it for [verification by n8n](/integrations/creating-nodes/deploy/submit-community-nodes.md), or use it as a [private node](/integrations/creating-nodes/deploy/install-private-nodes.md).

\* [Reference material](/integrations/creating-nodes/build/reference/index.md), including UI elements and information on the individual files that make up a node.

## Prerequisites

This section assumes the following:

\* Some familiarity with JavaScript and TypeScript.

\* Ability to manage your own development environment, including git.

\* Knowledge of npm, including creating and submitting packages.

\* Familiarity with n8n, including a good understanding of [data structures](/data/data-structure.md) and [item linking](/data/data-mapping/data-item-linking/index.md).

## declarative-style-node.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Build a declarative-style node

This tutorial walks through building a declarative-style node. Before you begin, make sure this is the node style you need. Refer to [Choose your node building approach](/integrations/creating-nodes/plan/choose-node-method.md) for more information.

## Prerequisites

You need the following installed on your development machine:

--8<-- "\_snippets/integrations/creating-nodes/prerequisites.md"

You need some understanding of:

- JavaScript/TypeScript

- REST APIs

- git

## Build your node

In this section, you'll clone n8n's node starter repository, and build a node that integrates the [NASA API](https://api.nasa.gov/){:target=\_blank .external-link}. You'll create a node that uses two of NASA's services: APOD (Astronomy Picture of the Day) and Mars Rover Photos. To keep the code examples short, the node won't implement every available option for the Mars Rover Photos endpoint.

/// note | Existing node

n8n has a built-in NASA node. To avoid clashing with the existing node, you'll give your version a different name.

///

### Step 1: Set up the project

n8n provides a starter repository for node development. Using the starter ensures you have all necessary dependencies. It also provides a linter.

Clone the repository and navigate into the directory:

1. [Generate a new repository](https://github.com/n8n-io/n8n-nodes-starter/generate) from the template repository.

2. Clone your new repository:

```shell

git clone https://github.com/<your-organization>/<your-repo-name>.git n8n-nodes-nasa-pics

cd n8n-nodes-nasa-pics

```

The starter contains example nodes and credentials. Delete the following directories and files:

\* `nodes/ExampleNode`

\* `nodes/HTTPBin`

\* `credentials/ExampleCredentials.credentials.ts`

\* `credentials/HttpBinApi.credentials.ts`

Now create the following directories and files:

`nodes/NasaPics`

`nodes/NasaPics/NasaPics.node.json`

`nodes/NasaPics/NasaPics.node.ts`

`credentials/NasaPicsApi.credentials.ts`

These are the key files required for any node. Refer to [Node file structure](/integrations/creating-nodes/build/reference/node-file-structure.md) for more information on required files and recommended organization.

Now install the project dependencies:

```shell

npm i

```

### Step 2: Add an icon

Save the NASA SVG logo from [here](https://upload.wikimedia.org/wikipedia/commons/e/e5/NASA\_logo.svg){:target=\_blank .external-link} as `nasapics.svg` in `nodes/NasaPics/`.

--8<-- "\_snippets/integrations/creating-nodes/node-icons.md"

### Step 3: Create the node

Every node must have a base file. Refer to [Node base file](/integrations/creating-nodes/build/reference/node-base-files/index.md) for detailed information about base file parameters.

In this example, the file is `NasaPics.node.ts`. To keep this tutorial short, you'll place all the node functionality in this one file. When building more complex nodes, you should consider splitting out your functionality into modules. Refer to [Node file structure](/integrations/creating-nodes/build/reference/node-file-structure.md) for more information.

#### Step 3.1: Imports

Start by adding the import statements:

```typescript

import { INodeType, INodeTypeDescription } from 'n8n-workflow';

```

#### Step 3.2: Create the main class

The node must export an interface that implements INodeType. This interface must include a `description` interface, which in turn contains the `properties` array.

/// note | Class names and file names

Make sure the class name and the file name match. For example, given a class `NasaPics`, the filename must be `NasaPics.node.ts`.

///

```typescript

export class NasaPics implements INodeType {

description: INodeTypeDescription = {

// Basic node details will go here

properties: [

// Resources and operations will go here

]

};

}

```

#### Step 3.3: Add node details

All nodes need some basic parameters, such as their display name, icon, and the basic information for making a request using the node. Add the following to the `description`:

```typescript

displayName: 'NASA Pics',

name: 'NasaPics',

icon: 'file:nasapics.svg',

group: ['transform'],

version: 1,

subtitle: '={{$parameter["operation"] + ": " + $parameter["resource"]}}',

description: 'Get data from NASAs API',

defaults: {

name: 'NASA Pics',

},

inputs: ['main'],

outputs: ['main'],

credentials: [

{

name: 'NasaPicsApi',

required: true,

},

],

requestDefaults: {

baseURL: 'https://api.nasa.gov',

headers: {

Accept: 'application/json',

'Content-Type': 'application/json',

},

},

```

n8n uses some of the properties set in `description` to render the node in the Editor UI. These properties are `displayName`, `icon`, `description`, and `subtitle`.

#### Step 3.4: Add resources

The resource object defines the API resource that the node uses. In this tutorial, you're creating a node to access two of NASA's API endpoints: `planetary/apod` and `mars-photos`. This means you need to define two resource options in `NasaPics.node.ts`. Update the `properties` array with the resource object:

```typescript

properties: [

{

displayName: 'Resource',

name: 'resource',

type: 'options',

noDataExpression: true,

options: [

{

name: 'Astronomy Picture of the Day',

value: 'astronomyPictureOfTheDay',

},

{

name: 'Mars Rover Photos',

value: 'marsRoverPhotos',

},

],

default: 'astronomyPictureOfTheDay',

},

// Operations will go here

]

```

`type` controls which UI element n8n displays for the resource, and tells n8n what type of data to expect from the user. `options` results in n8n adding a dropdown that allows users to choose one option. Refer to [Node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md) for more information.

#### Step 3.5: Add operations

The operations object defines the available operations on a resource.

In a declarative-style node, the operations object includes `routing` (within the `options` array). This sets up the details of the API call.

Add the following to the `properties` array, after the `resource` object:

```typescript

{

displayName: 'Operation',

name: 'operation',

type: 'options',

noDataExpression: true,

displayOptions: {

show: {

resource: [

'astronomyPictureOfTheDay',

],

},

},

options: [

{

name: 'Get',

value: 'get',

action: 'Get the APOD',

description: 'Get the Astronomy Picture of the day',

routing: {

request: {

method: 'GET',

url: '/planetary/apod',

},

},

},

],

default: 'get',

},

{

displayName: 'Operation',

name: 'operation',

type: 'options',

noDataExpression: true,

displayOptions: {

show: {

resource: [

'marsRoverPhotos',

],

},

},

options: [

{

name: 'Get',

value: 'get',

action: 'Get Mars Rover photos',

description: 'Get photos from the Mars Rover',

routing: {

request: {

method: 'GET',

},

},

},

],

default: 'get',

},

{

displayName: 'Rover name',

description: 'Choose which Mars Rover to get a photo from',

required: true,

name: 'roverName',

type: 'options',

options: [

{name: 'Curiosity', value: 'curiosity'},

{name: 'Opportunity', value: 'opportunity'},

{name: 'Perseverance', value: 'perseverance'},

{name: 'Spirit', value: 'spirit'},

],

routing: {

request: {

url: '=/mars-photos/api/v1/rovers/{{$value}}/photos',

},

},

default: 'curiosity',

displayOptions: {

show: {

resource: [

'marsRoverPhotos',

],

},

},

},

{

displayName: 'Date',

description: 'Earth date',

required: true,

name: 'marsRoverDate',

type: 'dateTime',

default:'',

displayOptions: {

show: {

resource: [

'marsRoverPhotos',

],

},

},

routing: {

request: {

// You've already set up the URL. qs appends the value of the field as a query string

qs: {

earth\_date: '={{ new Date($value).toISOString().substr(0,10) }}',

},

},

},

},

// Optional/additional fields will go here

```

This code creates two operations: one to get today's APOD image, and another to send a get request for photos from one of the Mars Rovers. The object named `roverName` requires the user to choose which Rover they want photos from. The `routing` object in the Mars Rover operation references this to create the URL for the API call.

#### Step 3.6: Optional fields

Most APIs, including the NASA API that you're using in this example, have optional fields you can use to refine your query.

To avoid overwhelming users, n8n displays these under \*\*Additional Fields\*\* in the UI.

For this tutorial, you'll add one additional field, to allow users to pick a date to use with the APOD endpoint. Add the following to the properties array:

```typescript

{

displayName: 'Additional Fields',

name: 'additionalFields',

type: 'collection',

default: {},

placeholder: 'Add Field',

displayOptions: {

show: {

resource: [

'astronomyPictureOfTheDay',

],

operation: [

'get',

],

},

},

options: [

{

displayName: 'Date',

name: 'apodDate',

type: 'dateTime',

default: '',

routing: {

request: {

// You've already set up the URL. qs appends the value of the field as a query string

qs: {

date: '={{ new Date($value).toISOString().substr(0,10) }}',

},

},

},

},

],

}

```

### Step 4: Set up authentication

The NASA API requires users to authenticate with an API key.

Add the following to `nasaPicsApi.credentials.ts`:

```typescript

import {

IAuthenticateGeneric,

ICredentialType,

INodeProperties,

} from 'n8n-workflow';

export class NasaPicsApi implements ICredentialType {

name = 'NasaPicsApi';

displayName = 'NASA Pics API';

// Uses the link to this tutorial as an example

// Replace with your own docs links when building your own nodes

documentationUrl = 'https://docs.n8n.io/integrations/creating-nodes/build/declarative-style-node/';

properties: INodeProperties[] = [

{

displayName: 'API Key',

name: 'apiKey',

type: 'string',

default: '',

},

];

authenticate = {

type: 'generic',

properties: {

qs: {

'api\_key': '={{$credentials.apiKey}}'

}

},

} as IAuthenticateGeneric;

}

```

For more information about credentials files and options, refer to [Credentials file](/integrations/creating-nodes/build/reference/credentials-files.md).

### Step 5: Add node metadata

Metadata about your node goes in the JSON file at the root of your node. n8n refers to this as the codex file. In this example, the file is `NasaPics.node.json`.

Add the following code to the JSON file:

```json

{

"node": "n8n-nodes-base.NasaPics",

"nodeVersion": "1.0",

"codexVersion": "1.0",

"categories": [

"Miscellaneous"

],

"resources": {

"credentialDocumentation": [

{

"url": ""

}

],

"primaryDocumentation": [

{

"url": ""

}

]

}

}

```

For more information on these parameters, refer to [Node codex files](/integrations/creating-nodes/build/reference/node-codex-files.md).

### Step 6: Update the npm package details

Your npm package details are in the `package.json` at the root of the project. It's essential to include the `n8n` object with links to the credentials and base node file. Update this file to include the following information:

```json

{

// All node names must start with "n8n-nodes-"

"name": "n8n-nodes-nasapics",

"version": "0.1.0",

"description": "n8n node to call NASA's APOD and Mars Rover Photo services.",

"keywords": [

// This keyword is required for community nodes

"n8n-community-node-package"

],

"license": "MIT",

"homepage": "https://n8n.io",

"author": {

"name": "Test",

"email": "test@example.com"

},

"repository": {

"type": "git",

// Change the git remote to your own repository

// Add the new URL here

"url": "git+<your-repo-url>"

},

"main": "index.js",

"scripts": {

// don't change

},

"files": [

"dist"

],

// Link the credentials and node

"n8n": {

"n8nNodesApiVersion": 1,

"credentials": [

"dist/credentials/NasaPicsApi.credentials.js"

],

"nodes": [

"dist/nodes/NasaPics/NasaPics.node.js"

]

},

"devDependencies": {

// don't change

},

"peerDependencies": {

// don't change

}

}

```

You need to update the `package.json` to include your own information, such as your name and repository URL. For more information on npm `package.json` files, refer to [npm's package.json documentation](https://docs.npmjs.com/cli/v8/configuring-npm/package-json){:target=\_blank .external-link}.

## Test your node

--8<-- "\_snippets/integrations/creating-nodes/testing.md"

## Next steps

\* [Deploy your node](/integrations/creating-nodes/deploy/index.md).

\* View an example of a declarative node: n8n's [Brevo node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Brevo){:target=\_blank .external-link}. Note that the main node is declarative, while the trigger node is in programmatic style.

\* Learn about [node versioning](/integrations/creating-nodes/build/reference/node-versioning.md).

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Build a node

This section provides tutorials on building nodes. It covers:

\* [Tutorial: Build a declarative-style node](/integrations/creating-nodes/build/declarative-style-node.md)

\* [Reference](/integrations/creating-nodes/build/reference/index.md) material on [file structure](/integrations/creating-nodes/build/reference/node-file-structure.md), parameter definitions for [base](/integrations/creating-nodes/build/reference/node-base-files/index.md), [codex](/integrations/creating-nodes/build/reference/node-codex-files.md), and [credentials](/integrations/creating-nodes/build/reference/credentials-files.md) files, [node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md), and more.

Coming soon:

\* More tutorials

\* Revised guidance on standards

<!--

\* [Build a programmatic-style node](/integrations/creating-nodes/build/programmatic-style-node.md)

\* [Build a trigger node](/integrations/creating-nodes/build/create-trigger-node/)

If you are unsure which tutorial to use, refer to [Choose your node building approach](/integrations/creating-nodes/plan/choose-node-method.md) to understand the different styles of node building.

-->

## node-development-environment.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Set up your development environment

This document lists the essential dependencies for developing a node, as well as guidance on setting up your editor.

## Requirements

To build and test a node, you need:

\* Node.js and npm. Minimum version Node 18.17.0. You can find instructions on how to install both using nvm (Node Version Manager) for Linux, Mac, and WSL (Windows Subsystem for Linux) [here](https://github.com/nvm-sh/nvm){:target=\_blank class=.external-link}. For Windows users, refer to Microsoft's guide to [Install NodeJS on Windows](https://docs.microsoft.com/en-us/windows/dev-environment/javascript/nodejs-on-windows){:target=\_blank class=.external-link}.

\* A local instance of n8n. You can install n8n with `npm install n8n -g`, then follow the steps in [Run your node locally](/integrations/creating-nodes/test/run-node-locally.md) to test your node.

You should also have [git](https://git-scm.com/){:target=\_blank class=.external-link} installed. This allows you to clone and use the [n8n-node-starter](https://github.com/n8n-io/n8n-nodes-starter){:target=\_blank class=.external-link}.

## Editor setup

n8n recommends using [VS Code](https://code.visualstudio.com/){:target=\_blank class=.external-link} as your editor.

Install these extensions:

\* [ESLint](https://marketplace.visualstudio.com/items?itemName=dbaeumer.vscode-eslint){:target=\_blank class=.external-link}

\* [EditorConfig](https://marketplace.visualstudio.com/items?itemName=EditorConfig.EditorConfig){:target=\_blank class=.external-link}

\* [Prettier](https://marketplace.visualstudio.com/items?itemName=esbenp.prettier-vscode){:target=\_blank class=.external-link}

By using VS Code and these extensions, you get access to the n8n node linter's warnings as you code.

## programmatic-style-node.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: tutorial

---

# Build a programmatic-style node

This tutorial walks through building a programmatic-style node. Before you begin, make sure this is the node style you need. Refer to [Choose your node building approach](/integrations/creating-nodes/plan/choose-node-method.md) for more information.

## Prerequisites

You need the following installed on your development machine:

--8<-- "\_snippets/integrations/creating-nodes/prerequisites.md"

You need some understanding of:

- JavaScript/TypeScript

- REST APIs

- git

- [Expressions](/glossary.md#expression-n8n) in n8n

## Build your node

In this section, you'll clone n8n's node starter repository, and build a node that integrates the [SendGrid](https://sendgrid.com/){:target=\_blank .external-link}. You'll create a node that implements one piece of SendGrid functionality: create a contact.

/// note | Existing node

n8n has a built-in SendGrid node. To avoid clashing with the existing node, you'll give your version a different name.

///

### Step 1: Set up the project

n8n provides a starter repository for node development. Using the starter ensures you have all necessary dependencies. It also provides a linter.

Clone the repository and navigate into the directory:

1. [Generate a new repository](https://github.com/n8n-io/n8n-nodes-starter/generate){:target=\_blank .external-link} from the template repository.

2. Clone your new repository:

```shell

git clone https://github.com/<your-organization>/<your-repo-name>.git n8n-nodes-friendgrid

cd n8n-nodes-friendgrid

```

The starter contains example nodes and credentials. Delete the following directories and files:

\* `nodes/ExampleNode`

\* `nodes/HTTPBin`

\* `credentials/ExampleCredentials.credentials.ts`

\* `credentials/HttpBinApi.credentials.ts`

Now create the following directories and files:

`nodes/FriendGrid`

`nodes/FriendGrid/FriendGrid.node.json`

`nodes/FriendGrid/FriendGrid.node.ts`

`credentials/FriendGridApi.credentials.ts`

These are the key files required for any node. Refer to [Node file structure](/integrations/creating-nodes/build/reference/node-file-structure.md) for more information on required files and recommended organization.

Now install the project dependencies:

```shell

npm i

```

### Step 2: Add an icon

Save the SendGrid SVG logo from [here](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/SendGrid/sendGrid.svg){:target=\_blank .external-link} as `friendGrid.svg` in `nodes/FriendGrid/`.

--8<-- "\_snippets/integrations/creating-nodes/node-icons.md"

### Step 3: Define the node in the base file

Every node must have a base file. Refer to [Node base file](/integrations/creating-nodes/build/reference/node-base-files/index.md) for detailed information about base file parameters.

In this example, the file is `FriendGrid.node.ts`. To keep this tutorial short, you'll place all the node functionality in this one file. When building more complex nodes, you should consider splitting out your functionality into modules. Refer to [Node file structure](/integrations/creating-nodes/build/reference/node-file-structure.md) for more information.

#### Step 3.1: Imports

Start by adding the import statements:

```typescript

import {

IExecuteFunctions,

} from 'n8n-core';

import {

IDataObject,

INodeExecutionData,

INodeType,

INodeTypeDescription,

} from 'n8n-workflow';

import {

OptionsWithUri,

} from 'request';

```

#### Step 3.2: Create the main class

The node must export an interface that implements `INodeType`. This interface must include a `description` interface, which in turn contains the `properties` array.

/// note | Class names and file names

Make sure the class name and the file name match. For example, given a class `FriendGrid`, the filename must be `FriendGrid.node.ts`.

///

```typescript

export class FriendGrid implements INodeType {

description: INodeTypeDescription = {

// Basic node details will go here

properties: [

// Resources and operations will go here

],

};

// The execute method will go here

async execute(this: IExecuteFunctions): Promise<INodeExecutionData[][]> {

}

}

```

#### Step 3.3: Add node details

All programmatic nodes need some basic parameters, such as their display name and icon. Add the following to the `description`:

```typescript

displayName: 'FriendGrid',

name: 'friendGrid',

icon: 'file:friendGrid.svg',

group: ['transform'],

version: 1,

description: 'Consume SendGrid API',

defaults: {

name: 'FriendGrid',

},

inputs: ['main'],

outputs: ['main'],

credentials: [

{

name: 'friendGridApi',

required: true,

},

],

```

n8n uses some of the properties set in `description` to render the node in the Editor UI. These properties are `displayName`, `icon`, and `description`.

#### Step 3.4: Add the resource

The resource object defines the API resource that the node uses. In this tutorial, you're creating a node to access one of SendGrid's API endpoints: `/v3/marketing/contacts`. This means you need to define a resource for this endpoint. Update the `properties` array with the resource object:

```typescript

{

displayName: 'Resource',

name: 'resource',

type: 'options',

options: [

{

name: 'Contact',

value: 'contact',

},

],

default: 'contact',

noDataExpression: true,

required: true,

description: 'Create a new contact',

},

```

`type` controls which UI element n8n displays for the resource, and tells n8n what type of data to expect from the user. `options` results in n8n adding a dropdown that allows users to choose one option. Refer to [Node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md) for more information.

#### Step 3.5: Add operations

The operations object defines what you can do with a resource. It usually relates to REST API verbs (GET, POST, and so on). In this tutorial, there's one operation: create a contact. It has one required field, the email address for the contact the user creates.

Add the following to the `properties` array, after the `resource` object:

```typescript

{

displayName: 'Operation',

name: 'operation',

type: 'options',

displayOptions: {

show: {

resource: [

'contact',

],

},

},

options: [

{

name: 'Create',

value: 'create',

description: 'Create a contact',

action: 'Create a contact',

},

],

default: 'create',

noDataExpression: true,

},

{

displayName: 'Email',

name: 'email',

type: 'string',

required: true,

displayOptions: {

show: {

operation: [

'create',

],

resource: [

'contact',

],

},

},

default:'',

placeholder: 'name@email.com',

description:'Primary email for the contact',

},

```

#### Step 3.6: Add optional fields

Most APIs, including the SendGrid API that you're using in this example, have optional fields you can use to refine your query.

To avoid overwhelming users, n8n displays these under \*\*Additional Fields\*\* in the UI.

For this tutorial, you'll add two additional fields, to allow users to enter the contact's first name and last name. Add the following to the properties array:

```typescript

{

displayName: 'Additional Fields',

name: 'additionalFields',

type: 'collection',

placeholder: 'Add Field',

default: {},

displayOptions: {

show: {

resource: [

'contact',

],

operation: [

'create',

],

},

},

options: [

{

displayName: 'First Name',

name: 'firstName',

type: 'string',

default: '',

},

{

displayName: 'Last Name',

name: 'lastName',

type: 'string',

default: '',

},

],

},

```

### Step 4: Add the execute method

You've set up the node UI and basic information. It's time to map the node UI to API requests, and make the node actually do something.

The `execute` method runs every time the node runs. In this method, you have access to the input items and to the parameters that the user set in the UI, including the credentials.

Add the following the `execute` method in the `FriendGrid.node.ts`:

```typescript

// Handle data coming from previous nodes

const items = this.getInputData();

let responseData;

const returnData = [];

const resource = this.getNodeParameter('resource', 0) as string;

const operation = this.getNodeParameter('operation', 0) as string;

// For each item, make an API call to create a contact

for (let i = 0; i < items.length; i++) {

if (resource === 'contact') {

if (operation === 'create') {

// Get email input

const email = this.getNodeParameter('email', i) as string;

// Get additional fields input

const additionalFields = this.getNodeParameter('additionalFields', i) as IDataObject;

const data: IDataObject = {

email,

};

Object.assign(data, additionalFields);

// Make HTTP request according to https://sendgrid.com/docs/api-reference/

const options: OptionsWithUri = {

headers: {

'Accept': 'application/json',

},

method: 'PUT',

body: {

contacts: [

data,

],

},

uri: `https://api.sendgrid.com/v3/marketing/contacts`,

json: true,

};

responseData = await this.helpers.requestWithAuthentication.call(this, 'friendGridApi', options);

returnData.push(responseData);

}

}

}

// Map data to n8n data structure

return [this.helpers.returnJsonArray(returnData)];

```

Note the following lines of this code:

```typescript

const items = this.getInputData();

...

for (let i = 0; i < items.length; i++) {

...

const email = this.getNodeParameter('email', i) as string;

...

}

```

Users can provide data in two ways:

\* Entered directly in the node fields

\* By mapping data from earlier nodes in the workflow

`getInputData()`, and the subsequent loop, allows the node to handle situations where data comes from a previous node. This includes supporting multiple inputs. This means that if, for example, the previous node outputs contact information for five people, your FriendGrid node can create five contacts.

### Step 5: Set up authentication

The SendGrid API requires users to authenticate with an API key.

Add the following to `FriendGridApi.credentials.ts`

```typescript

import {

IAuthenticateGeneric,

ICredentialTestRequest,

ICredentialType,

INodeProperties,

} from 'n8n-workflow';

export class FriendGridApi implements ICredentialType {

name = 'friendGridApi';

displayName = 'FriendGrid API';

properties: INodeProperties[] = [

{

displayName: 'API Key',

name: 'apiKey',

type: 'string',

default: '',

},

];

authenticate: IAuthenticateGeneric = {

type: 'generic',

properties: {

headers: {

Authorization: '=Bearer {{$credentials.apiKey}}',

},

},

};

test: ICredentialTestRequest = {

request: {

baseURL: 'https://api.sendgrid.com/v3',

url: '/marketing/contacts',

},

};

}

```

For more information about credentials files and options, refer to [Credentials file](/integrations/creating-nodes/build/reference/credentials-files.md).

### Step 6: Add node metadata

Metadata about your node goes in the JSON file at the root of your node. n8n refers to this as the codex file. In this example, the file is `FriendGrid.node.json`.

Add the following code to the JSON file:

```json

{

"node": "n8n-nodes-base.FriendGrid",

"nodeVersion": "1.0",

"codexVersion": "1.0",

"categories": [

"Miscellaneous"

],

"resources": {

"credentialDocumentation": [

{

"url": ""

}

],

"primaryDocumentation": [

{

"url": ""

}

]

}

}

```

For more information on these parameters, refer to [Node codex files](/integrations/creating-nodes/build/reference/node-codex-files.md).

### Step 7: Update the npm package details

Your npm package details are in the `package.json` at the root of the project. It's essential to include the `n8n` object with links to the credentials and base node file. Update this file to include the following information:

```json

{

// All node names must start with "n8n-nodes-"

"name": "n8n-nodes-friendgrid",

"version": "0.1.0",

"description": "n8n node to create contacts in SendGrid",

"keywords": [

// This keyword is required for community nodes

"n8n-community-node-package"

],

"license": "MIT",

"homepage": "https://n8n.io",

"author": {

"name": "Test",

"email": "test@example.com"

},

"repository": {

"type": "git",

// Change the git remote to your own repository

// Add the new URL here

"url": "git+<your-repo-url>"

},

"main": "index.js",

"scripts": {

// don't change

},

"files": [

"dist"

],

// Link the credentials and node

"n8n": {

"n8nNodesApiVersion": 1,

"credentials": [

"dist/credentials/FriendGridApi.credentials.js"

],

"nodes": [

"dist/nodes/FriendGrid/FriendGrid.node.js"

]

},

"devDependencies": {

// don't change

},

"peerDependencies": {

// don't change

}

}

```

You need to update the `package.json` to include your own information, such as your name and repository URL. For more information on npm `package.json` files, refer to [npm's package.json documentation](https://docs.npmjs.com/cli/v8/configuring-npm/package-json){:target=\_blank .external-link}.

## Test your node

--8<-- "\_snippets/integrations/creating-nodes/testing.md"

## Next steps

\* [Deploy your node](/integrations/creating-nodes/deploy/index.md).

\* View an example of a programmatic node: n8n's [Mattermost node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Mattermost){:target=\_blank .external-link}. This is an example of a more complex programmatic node structure.

\* Learn about [node versioning](/integrations/creating-nodes/build/reference/node-versioning.md).

\* Make sure you understand key concepts: [item linking](/data/data-mapping/data-item-linking/item-linking-concepts.md) and [data structures](/data/data-structure.md).

## code-standards.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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---

# Code standards

Following defined code standards when building your node makes your code more readable and maintainable, and helps avoid errors. This document provides guidance on good code practices for node building. It focuses on code details. For UI standards and UX guidance, refer to [Node UI design](/integrations/creating-nodes/plan/node-ui-design.md).

## Use the linter

The n8n node linter provides automatic checking for many of the node-building standards. You should ensure your node passes the linter's checks before publishing it. Refer to the [n8n node linter](/integrations/creating-nodes/test/node-linter.md) documentation for more information.

## Use the starter

The n8n node starter project includes a recommended setup, dependencies (including the linter), and examples to help you get started. Begin new projects with the [starter](https://github.com/n8n-io/n8n-nodes-starter){:target=\_blank .external-link}.

## Write in TypeScript

All n8n code is TypeScript. Writing your nodes in TypeScript can speed up development and reduce bugs.

## Detailed guidelines for writing a node

These guidelines apply to any node you build.

### Resources and operations

If your node can perform several operations, call the parameter that sets the operation `Operation`. If your node can do these operations on more than one resource, create a `Resource` parameter. The following code sample shows a basic resource and operations setup:

```js

export const ExampleNode implements INodeType {

description: {

displayName: 'Example Node',

...

properties: [

{

displayName: 'Resource',

name: 'resource',

type: 'options',

options: [

{

name: 'Resource One',

value: 'resourceOne'

},

{

name: 'Resource Two',

value: 'resourceTwo'

}

],

default: 'resourceOne'

},

{

displayName: 'Operation',

name: 'operation',

type: 'options',

// Only show these operations for Resource One

displayOptions: {

show: {

resource: [

'resourceOne'

]

}

},

options: [

{

name: 'Create',

value: 'create',

description: 'Create an instance of Resource One'

}

]

}

]

}

}

```

### Reuse internal parameter names

All resource and operation fields in an n8n node have two settings: a display name, set using the `name` parameter, and an internal name, set using the `value` parameter. Reusing the internal name for fields allows n8n to preserve user-entered data if a user switches operations.

For example: you're building a node with a resource named 'Order'. This resource has several operations, including Get, Edit, and Delete. Each of these operations uses an order ID to perform the operation on the specified order. You need to display an ID field for the user. This field has a display label, and an internal name. By using the same internal name (set in `value`) for the operation ID field on each resource, a user can enter the ID with the Get operation selected, and not lose it if they switch to Edit.

When reusing the internal name, you must ensure that only one field is visible to the user at a time. You can control this using `displayOptions`.

## Detailed guidelines for writing a programmatic-style node

These guidelines apply when building nodes using the programmatic node-building style. They aren't relevant when using the declarative style. For more information on different node-building styles, refer to [Choose your node building approach](/integrations/creating-nodes/plan/choose-node-method.md).

### Don't change incoming data

Never change the incoming data a node receives (data accessible with `this.getInputData()`) as all nodes share it. If you need to add, change, or delete data, clone the incoming data and return the new data. If you don't do this, sibling nodes that execute after the current one will operate on the altered data and process incorrect data.

It's not necessary to always clone all the data. For example, if a node changes the binary data but not the JSON data, you can create a new item that reuses the reference to the JSON item.

### Use the built in request library

Some third-party services have their own libraries on npm, which make it easier to create an integration. The problem with these packages is that you add another dependency (plus all the dependencies of the dependencies). This adds more and more code, which has to be loaded, can introduce security vulnerabilities, bugs, and so on. Instead, use the built-in module:

```typescript

// If no auth needed

const response = await this.helpers.httpRequest(options);

// If auth needed

const response = await this.helpers.httpRequestWithAuthentication.call(

this,

'credentialTypeName', // For example: pipedriveApi

options,

);

```

This uses the npm package [Axios](https://www.npmjs.com/package/axios){:target=\_blank .external-link}.

Refer to [HTTP helpers](/integrations/creating-nodes/build/reference/http-helpers.md) for more information, and for migration instructions for the removed `this.helpers.request`.

## credentials-files.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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---

# Credentials file

The credentials file defines the authorization methods for the node. The settings in this file affect what n8n displays in the \*\*Credentials\*\* modal, and must reflect the authentication requirements of the service you're connecting to.

In the credentials file, you can use all the [n8n UI elements](/integrations/creating-nodes/build/reference/ui-elements.md). n8n encrypts the data that's stored using credentials using an encryption key.

## Structure of the credentials file

The credentials file follows this basic structure:

1. Import statements

2. Create a class for the credentials

3. Within the class, define the properties that control authentication for the node.

### Outline structure

```js

import {

IAuthenticateGeneric,

ICredentialTestRequest,

ICredentialType,

INodeProperties,

} from 'n8n-workflow';

export class ExampleNode implements ICredentialType {

name = 'exampleNodeApi';

displayName = 'Example Node API';

documentationUrl = '';

properties: INodeProperties[] = [

{

displayName: 'API Key',

name: 'apiKey',

type: 'string',

default: '',

},

];

authenticate: IAuthenticateGeneric = {

type: 'generic',

properties: {

// Can be body, header, qs or auth

qs: {

// Use the value from `apiKey` above

'api\_key': '={{$credentials.apiKey}}'

}

},

};

test: ICredentialTestRequest = {

request: {

baseURL: '={{$credentials?.domain}}',

url: '/bearer',

},

};

}

```

## Parameters

### `name`

String. The internal name of the object. Used to reference it from other places in the node.

### `displayName`

String. The name n8n uses in the GUI.

### `documentationUrl`

String. URL to your credentials documentation.

### `properties`

Each object contains:

\* `displayName`: the name n8n uses in the GUI.

\* `name`: the internal name of the object. Used to reference it from other places in the node.

\* `type`: the data type expected, such as `string`.

\* `default`: the URL that n8n should use to test credentials.

### `authenticate`

\* `authenticate`: Object. Contains objects that tell n8n how to inject the authentication data as part of the API request.

#### `type`

String. If you're using an authentication method that sends data in the header, body, or query string, set this to `'generic'`.

#### `properties`

Object. Defines the authentication methods. Options are:

\* `body`: Object. Sends authentication data in the request body. Can contain nested objects.

```typescript

authenticate: IAuthenticateGeneric = {

type: 'generic',

properties: {

body: {

username: '={{$credentials.username}}',

password: '={{$credentials.password}}',

},

},

};

```

\* `header`: Object. Send authentication data in the request header.

```typescript

authenticate: IAuthenticateGeneric = {

type: 'generic',

properties: {

header: {

Authorization: '=Bearer {{$credentials.authToken}}',

},

},

};

```

\* `qs`: Object. Stands for "query string." Send authentication data in the request query string.

```typescript

authenticate: IAuthenticateGeneric = {

type: 'generic',

properties: {

qs: {

token: '={{$credentials.token}}',

},

},

};

```

\* `auth`: Object. Used for Basic Auth. Requires `username` and `password` as the key names.

```typescript

authenticate: IAuthenticateGeneric = {

type: 'generic',

properties: {

auth: {

username: '={{$credentials.username}}',

password: '={{$credentials.password}}',

},

},

};

```

### `test`

Provide a `request` object containing a URL and authentication type that n8n can use to test the credential.

```typescript

test: ICredentialTestRequest = {

request: {

baseURL: '={{$credentials?.domain}}',

url: '/bearer',

},

};

```

## http-helpers.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

---

# HTTP request helper for node builders

n8n provides a flexible helper for making HTTP requests, which abstracts away most of the complexity.

/// note | Programmatic style only

The information in this document is for node building using the programmatic style. It doesn't apply to declarative style nodes.

///

## Usage

Call the helper inside the `execute` function.

```typescript

// If no auth needed

const response = await this.helpers.httpRequest(options);

// If auth needed

const response = await this.helpers.httpRequestWithAuthentication.call(

this,

'credentialTypeName', // For example: pipedriveApi

options,

);

```

`options` is an object:

```typescript

{

url: string;

headers?: object;

method?: 'GET' | 'POST' | 'PUT' | 'DELETE' | 'HEAD';

body?: FormData | Array | string | number | object | Buffer | URLSearchParams;

qs?: object;

arrayFormat?: 'indices' | 'brackets' | 'repeat' | 'comma';

auth?: {

username: string,

password: string,

};

disableFollowRedirect?: boolean;

encoding?: 'arraybuffer' | 'blob' | 'document' | 'json' | 'text' | 'stream';

skipSslCertificateValidation?: boolean;

returnFullResponse?: boolean;

proxy?: {

host: string;

port: string | number;

auth?: {

username: string;

password: string;

},

protocol?: string;

};

timeout?: number;

json?: boolean;

}

```

`url` is required. The other fields are optional. The default method is `GET`.

Some notes about the possible fields:

- `body`: you can use a regular JavaScript object for JSON payload, a buffer for file uploads, an instance of FormData for `multipart/form-data`, and `URLSearchParams` for `application/x-www-form-urlencoded`.

- `headers`: a key-value pair.

\* If `body` is an instance of `FormData` then n8n adds `content-type: multipart/form-data` automatically.

\* If `body` is an instance of `URLSearchParams`, then n8n adds `content-type: application/x-www-form-urlencoded`.

\* To override this behavior, set a `content-type` header.

- `arrayFormat`: if your query string contains an array of data, such as `const qs = {IDs: [15,17]}`, the value of `arrayFormat` defines how n8n formats it.

\* `indices` (default): `{ a: ['b', 'c'] }` as `a[0]=b&a[1]=c`

\* `brackets`: `{ a: ['b', 'c'] }` as `a[]=b&a[]=c`

\* `repeat`: `{ a: ['b', 'c'] }` as `a=b&a=c`

\* `comma`: `{ a: ['b', 'c'] }` as `a=b,c`

- `auth`: Used for Basic auth. Provide `username` and `password`. n8n recommends omitting this, and using `helpers.httpRequestWithAuthentication(...)` instead.

- `disableFollowRedirect`: By default, n8n follows redirects. You can set this to true to prevent this from happening.

- `skipSslCertificateValidation`: Used for calling HTTPS services without proper certificate

- `returnFullResponse`: Instead of returning just the body, returns an object with more data in the following format: `{body: body, headers: object, statusCode: 200, statusMessage: 'OK'}`

- `encoding`: n8n can detect the content type, but you can specify `arrayBuffer` to receive a Buffer you can read from and interact with.

## Example

For an example, refer to the [Mattermost node](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Mattermost/v1/MattermostV1.node.ts){:target=\_blank .external-link}.

## Deprecation of the previous helper

The previous helper implementation using `this.helpers.request(options)` used and exposed the `request-promise` library. This was removed in version 1.

To minimize incompatibility, n8n made a transparent conversion to another library called `Axios`.

If you are having issues, please report them in the [Community Forums](https://community.n8n.io/){:target=\_blank .external-link} or on [GitHub](https://github.com/n8n-io/n8n/issues){:target=\_blank .external-link}.

## Migration guide to the new helper

The new helper is much more robust, library agnostic, and easier to use.

New nodes should all use the new helper. You should strongly consider migrating existing custom nodes to the new helper. These are the main considerations when migrating:

- Accepts `url`. Doesn't accept `uri`.

- `encoding: null` now must be `encoding: arrayBuffer`.

- `rejectUnauthorized: false` is now `skipSslCertificateValidation: true`

- Use `body` according to `content-type` headers to clarify the payload.

- `resolveWithFullResponse` is now `returnFullResponse` and has similar behavior

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Node building reference

This section contains reference information, including details about:

\* [Node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md)

\* [Organizing your node files](/integrations/creating-nodes/build/reference/node-file-structure.md)

\* Key parameters in your node's [base file](/integrations/creating-nodes/build/reference/node-base-files/index.md) and [credentials file](/integrations/creating-nodes/build/reference/credentials-files.md).

\* [UX guidelines](/integrations/creating-nodes/build/reference/ux-guidelines.md) and [verification guidelines](/integrations/creating-nodes/build/reference/verification-guidelines.md) for submitting your node for [verification by n8n](/integrations/community-nodes/installation/verified-install.md).

## node-codex-files.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

---

# Node codex files

The codex file contains metadata about your node. This file is the JSON file at the root of your node. For example, the [`HttpBin.node.json`](https://github.com/n8n-io/n8n-nodes-starter/blob/master/nodes/HttpBin/HttpBin.node.json){:target=\_blank .external-class} file in the n8n starter.

The codex filename must match the node base filename. For example, given a node base file named `MyNode.node.ts`, the codex would be named `MyNode.node.json`.

| Parameter | Description |

| -------- | ----------- |

| `node` | Includes the node name. Must start with `n8n-nodes-base.`. For example, `n8n-nodes-base.openweatherapi`. |

| `nodeVersion` | The node version. This should have the same value as the `version` parameter in your main node file. For example, `"1.0"`. |

| `codexVersion` | The codex file version. The current version is `"1.0"`. |

| `categories` | The settings in the `categories` array determine which category n8n adds your node to in the GUI. See [Node categories](#node-categories) for more information. |

| `resources` | The `resources` object contains links to your node documentation. n8n automatically adds help links to credentials and nodes in the GUI. |

## Node categories

You can define one or more categories in your node configuration JSON. This helps n8n put the node in the correct category in the nodes panel.

Choose from these categories:

\* Data & Storage

\* Finance & Accounting

\* Marketing & Content

\* Productivity

\* Miscellaneous

\* Sales

\* Development

\* Analytics

\* Communication

\* Utility

You must match the syntax. For example, `Data & Storage` not `data and storage`.

## node-file-structure.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Node file structure

Following best practices and standards in your node structure makes your node easier to maintain. It's helpful if other people need to work with the code.

The file and directory structure of your node depends on:

\* Your node's complexity.

\* Whether you use node versioning.

\* How many nodes you include in the npm package.

## Required files and directories

Your node must include:

\* A `package.json` file at the root of the project. This is required for any npm module.

\* A `nodes` directory, containing the code for your node:

\* This directory must contain the [base file](/integrations/creating-nodes/build/reference/node-base-files/index.md), in the format `<node-name>.node.ts`. For example, `MyNode.node.ts`.

\* n8n recommends including a [codex file](/integrations/creating-nodes/build/reference/node-codex-files.md), containing metadata for your node. The codex filename must match the node base filename. For example, given a node base file named `MyNode.node.ts`, the codex name is `MyNode.node.json`.

\* The `nodes` directory can contain other files and subdirectories, including directories for versions, and node code split across more than one file to create a modular structure.

\* A `credentials` directory, containing your credentials code. This code lives in a single [credentials file](/integrations/creating-nodes/build/reference/credentials-files.md). The filename format is `<node-name>.credentials.ts`. For example, `MyNode.credentials.ts`.

## Modular structure

<!-- vale off -->

You can choose whether to place all your node's functionality in one file, or split it out into a base file and other modules, which the base file then imports. Unless your node is very simple, it's a best practice to split it out.

<!-- vale on -->

A basic pattern is to separate out operations. Refer to the [HttpBin starter node](https://github.com/n8n-io/n8n-nodes-starter/tree/master/nodes/HttpBin){:target=\_blank .external-link} for an example of this.

For more complex nodes, n8n recommends a directory structure. Refer to the [Airtable node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Airtable){:target=\_blank .external-class} or [Microsoft Outlook node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Microsoft/Outlook){:target=\_blank .external-link} as examples.

\* `actions`: a directory containing sub-directories that represent resources.

\* Each sub-directory should contain two types of files:

\* An index file with resource description (named either `<resourceName>.resource.ts` or `index.ts`)

\* Files for operations `<operationName>.operation.ts`. These files should have two exports: `description` of the operation and an `execute` function.

\* `methods`: an optional directory dynamic parameters' functions.

\* `transport`: a directory containing the communication implementation.

## Versioning

If your node has more than one version, and you're using full versioning, this makes the file structure more complex. You need a directory for each version, along with a base file that sets the default version. Refer to [Node versioning](/integrations/creating-nodes/build/reference/node-versioning.md) for more information on working with versions, including types of versioning.

## Decide how many nodes to include in a package

There are two possible setups when building a node:

\* One node in one npm package.

\* More than one node in a single npm package.

n8n supports both approaches. If you include more than one node, each node should have its own directory in the `nodes` directory.

## A best-practice example for programmatic nodes

n8n's built-in [Airtable node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Airtable){:target=\_blank .external-class} implements a modular structure and versioning, following recommended patterns.

## node-versioning.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Node versioning

n8n supports node versioning. You can make changes to existing nodes without breaking the existing behavior by introducing a new version.

Be aware of how n8n decides which node version to load:

\* If a user builds and saves a workflow using version 1, n8n continues to use version 1 in that workflow, even if you create and publish a version 2 of the node.

\* When a user creates a new workflow and browses for nodes, n8n always loads the latest version of the node.

/// note | Versioning type restricted by node style

If you build a node using the declarative style, you can't use full versioning.

///

## Light versioning

This is available for all node types.

One node can contain more than one version, allowing small version increments without code duplication. To use this feature:

1. Change the main `version` parameter to an array, and add your version numbers, including your existing version.

2. You can then access the version parameter with `@version` in your `displayOptions` in any object (to control which versions n8n displays the object with). You can also query the version from a function using `const nodeVersion = this.getNode().typeVersion;`.

As an example, say you want to add versioning to the NasaPics node from the [Declarative node tutorial](/integrations/creating-nodes/build/declarative-style-node.md), then configure a resource so that n8n only displays it in version 2 of the node. In your base `NasaPics.node.ts` file:

```js

{

displayName: 'NASA Pics',

name: 'NasaPics',

icon: 'file:nasapics.svg',

// List the available versions

version: [1,2,3],

// More basic parameters here

properties: [

// Add a resource that's only displayed for version2

{

displayName: 'Resource name',

// More resource parameters

displayOptions: {

show: {

'@version': 2,

},

},

},

],

}

```

## Full versioning

This isn't available for declarative-style nodes.

As an example, refer to the [Mattermost node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Mattermost){:target=\_blank .external-link}.

Full versioning summary:

- The base node file should extend `NodeVersionedType` instead of `INodeType`.

- The base node file should contain a description including the `defaultVersion` (usually the latest), other basic node metadata such as name, and a list of versions. It shouldn't contain any node functionality.

- n8n recommends using `v1`, `v2`, and so on, for version folder names.

## paired-items.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Item linking

--8<-- "\_snippets/data/data-mapping/item-linking-node-creators.md"

## ui-elements.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

---

# Node user interface elements

n8n provides a set of predefined UI components (based on a JSON file) that allows users to input all sorts of data types. The following UI elements are available in n8n.

## String

Basic configuration:

```typescript

{

displayName: Name, // The value the user sees in the UI

name: name, // The name used to reference the element UI within the code

type: string,

required: true, // Whether the field is required or not

default: 'n8n',

description: 'The name of the user',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![String](/\_images/integrations/creating-nodes/string.png)

String field for inputting passwords:

```typescript

{

displayName: 'Password',

name: 'password',

type: 'string',

required: true,

typeOptions: {

password: true,

},

default: '',

description: `User's password`,

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Password](/\_images/integrations/creating-nodes/password.png)

String field with more than one row:

```typescript

{

displayName: 'Description',

name: 'description',

type: 'string',

required: true,

typeOptions: {

rows: 4,

},

default: '',

description: 'Description',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Multiple rows](/\_images/integrations/creating-nodes/multiple-rows.png)

### Support drag and drop for data keys

Users can drag and drop data values to map them to fields. Dragging and dropping creates an [expression](/glossary.md#expression-n8n) to load the data value. n8n supports this automatically.

You need to add an extra configuration option to support dragging and dropping data keys:

\* `requiresDataPath: 'single'`: for fields that require a single string.

\* `requiresDataPath: 'multiple'`: for fields that can accept a comma-separated list of string.

The [Compare Datasets node code](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/CompareDatasets/CompareDatasets.node.ts){:target=\_blank .external-link} has examples.

## Number

Number field with decimal points:

```typescript

{

displayName: 'Amount',

name: 'amount',

type: 'number',

required: true,

typeOptions: {

maxValue: 10,

minValue: 0,

numberPrecision: 2,

},

default: 10.00,

description: 'Your current amount',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Decimal](/\_images/integrations/creating-nodes/decimal.png)

## Collection

Use the `collection` type when you need to display optional fields.

```typescript

{

displayName: 'Filters',

name: 'filters',

type: 'collection',

placeholder: 'Add Field',

default: {},

options: [

{

displayName: 'Type',

name: 'type',

type: 'options',

options: [

{

name: 'Automated',

value: 'automated',

},

{

name: 'Past',

value: 'past',

},

{

name: 'Upcoming',

value: 'upcoming',

},

],

default: '',

},

],

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Collection](/\_images/integrations/creating-nodes/collection.png)

## DateTime

The `dateTime` type provides a date picker.

```typescript

{

displayName: 'Modified Since',

name: 'modified\_since',

type: 'dateTime',

default: '',

description: 'The date and time when the file was last modified',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![DateTime](/\_images/integrations/creating-nodes/datetime.png)

## Boolean

The `boolean` type adds a toggle for entering true or false.

```typescript

{

displayName: 'Wait for Image',

name: 'waitForImage',

type: 'boolean',

default: true, // Initial state of the toggle

description: 'Whether to wait for the image or not',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Boolean](/\_images/integrations/creating-nodes/boolean.png)

## Color

The `color` type provides a color selector.

```typescript

{

displayName: 'Background Color',

name: 'backgroundColor',

type: 'color',

default: '', // Initially selected color

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Color](/\_images/integrations/creating-nodes/color.png)

## Options

The `options` type adds an options list. Users can select a single value.

```typescript

{

displayName: 'Resource',

name: 'resource',

type: 'options',

options: [

{

name: 'Image',

value: 'image',

},

{

name: 'Template',

value: 'template',

},

],

default: 'image', // The initially selected option

description: 'Resource to consume',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Options](/\_images/integrations/creating-nodes/options.png)

## Multi-options

The `multiOptions` type adds an options list. Users can select more than one value.

```typescript

{

displayName: 'Events',

name: 'events',

type: 'multiOptions',

options: [

{

name: 'Plan Created',

value: 'planCreated',

},

{

name: 'Plan Deleted',

value: 'planDeleted',

},

],

default: [], // Initially selected options

description: 'The events to be monitored',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Multi-options](/\_images/integrations/creating-nodes/multioptions.png)

## Filter

Use this component to evaluate, match, or filter incoming data.

This is the code from n8n's own If node. It shows a filter component working with a [collection](#collection) component where users can configure the filter's behavior.

```typescript

{

displayName: 'Conditions',

name: 'conditions',

placeholder: 'Add Condition',

type: 'filter',

default: {},

typeOptions: {

filter: {

// Use the user options (below) to determine filter behavior

caseSensitive: '={{!$parameter.options.ignoreCase}}',

typeValidation: '={{$parameter.options.looseTypeValidation ? "loose" : "strict"}}',

},

},

},

{

displayName: 'Options',

name: 'options',

type: 'collection',

placeholder: 'Add option',

default: {},

options: [

{

displayName: 'Ignore Case',

description: 'Whether to ignore letter case when evaluating conditions',

name: 'ignoreCase',

type: 'boolean',

default: true,

},

{

displayName: 'Less Strict Type Validation',

description: 'Whether to try casting value types based on the selected operator',

name: 'looseTypeValidation',

type: 'boolean',

default: true,

},

],

},

```

![Filter](/\_images/integrations/creating-nodes/filter.png)

## Assignment collection (drag and drop)

Use the drag and drop component when you want users to pre-fill name and value parameters with a single drag interaction.

```typescript

{

displayName: 'Fields to Set',

name: 'assignments',

type: 'assignmentCollection',

default: {},

},

```

You can see an example in n8n's [Edit Fields (Set) node](https://github.com/n8n-io/n8n/tree/0faeab1228e26d69a2a93bdb2f89523cca1e4036/packages/nodes-base/nodes/Set/v2){:target=\_blank .external-link}:

![A gif showing the drag and drop action, as well as changing a field to fixed](/\_images/integrations/builtin/core-nodes/set/drag-drop-fixed-toggle.gif)

## Fixed collection

Use the `fixedCollection` type to group fields that are semantically related.

```typescript

{

displayName: 'Metadata',

name: 'metadataUi',

placeholder: 'Add Metadata',

type: 'fixedCollection',

default: '',

typeOptions: {

multipleValues: true,

},

description: '',

options: [

{

name: 'metadataValues',

displayName: 'Metadata',

values: [

{

displayName: 'Name',

name: 'name',

type: 'string',

default: 'Name of the metadata key to add.',

},

{

displayName: 'Value',

name: 'value',

type: 'string',

default: '',

description: 'Value to set for the metadata key.',

},

],

},

],

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![Fixed collection](/\_images/integrations/creating-nodes/fixed-collection.png)

## Resource locator

![Resource locator](/\_images/integrations/creating-nodes/resource-locator.png)

The resource locator element helps users find a specific resource in an external service, such as a card or label in Trello.

The following options are available:

\* ID

\* URL

\* List: allows users to select or search from a prepopulated list. This option requires more coding, as you must populate the list, and handle searching if you choose to support it.

You can choose which types to include.

Example:

```typescript

{

displayName: 'Card',

name: 'cardID',

type: 'resourceLocator',

default: '',

description: 'Get a card',

modes: [

{

displayName: 'ID',

name: 'id',

type: 'string',

hint: 'Enter an ID',

validation: [

{

type: 'regex',

properties: {

regex: '^[0-9]',

errorMessage: 'The ID must start with a number',

},

},

],

placeholder: '12example',

// How to use the ID in API call

url: '=http://api-base-url.com/?id={{$value}}',

},

{

displayName: 'URL',

name: 'url',

type: 'string',

hint: 'Enter a URL',

validation: [

{

type: 'regex',

properties: {

regex: '^http',

errorMessage: 'Invalid URL',

},

},

],

placeholder: 'https://example.com/card/12example/',

// How to get the ID from the URL

extractValue: {

type: 'regex',

regex: 'example.com/card/([0-9]\*.\*)/',

},

},

{

displayName: 'List',

name: 'list',

type: 'list',

typeOptions: {

// You must always provide a search method

// Write this method within the methods object in your base file

// The method must populate the list, and handle searching if searchable: true

searchListMethod: 'searchMethod',

// If you want users to be able to search the list

searchable: true,

// Set to true if you want to force users to search

// When true, users can't browse the list

// Or false if users can browse a list

searchFilterRequired: true,

},

},

],

displayOptions: {

// the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

],

},

},

},

```

Refer to the following for live examples:

\* Refer to [`CardDescription.ts`](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Trello/CardDescription.ts){:target=\_blank .external-link} and [`Trello.node.ts`](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Trello/Trello.node.ts){:target=\_blank .external-link} in n8n's Trello node for an example of a list with search that includes `searchFilterRequired: true`.

\* Refer to [`GoogleDrive.node.ts`](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Google/Drive/GoogleDrive.node.ts){:target=\_blank .external-link} for an example where users can browse the list or search.

## Resource mapper

If your node performs insert, update, or upsert operations, you need to send data from the node in a format supported by the service you're integrating with. A common pattern is to use a Set node before the node that sends data, to convert the data to match the schema of the service you're connecting to. The resource mapper UI component provides a way to get data into the required format directly within the node, rather than using a Set node. The resource mapper component can also validate input data against the schema provided in the node, and cast input data into the expected type.

/// note | Mapping and matching

Mapping is the process of setting the input data to use as values when updating row(s). Matching is the process of using column names to identify the row(s) to update.

///

```js

{

displayName: 'Columns',

name: 'columns', // The name used to reference the element UI within the code

type: 'resourceMapper', // The UI element type

default: {

// mappingMode can be defined in the component (mappingMode: 'defineBelow')

// or you can attempt automatic mapping (mappingMode: 'autoMapInputData')

mappingMode: 'defineBelow',

// Important: always set default value to null

value: null,

},

required: true,

// See "Resource mapper type options interface" below for the full typeOptions specification

typeOptions: {

resourceMapper: {

resourceMapperMethod: 'getMappingColumns',

mode: 'update',

fieldWords: {

singular: 'column',

plural: 'columns',

},

addAllFields: true,

multiKeyMatch: true,

supportAutoMap: true,

matchingFieldsLabels: {

title: 'Custom matching columns title',

description: 'Help text for custom matching columns',

hint: 'Below-field hint for custom matching columns',

},

},

},

},

```

Refer to the [Postgres node (version 2)](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Postgres/v2){:target=\_blank .external-link} for a live example using a database schema.

Refer to the [Google Sheets node (version 2)](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Google/Sheet/v2){:target=\_blank .external-link} for a live example using a schema-less service.

### Resource mapper type options interface

The `typeOptions` section must implement the following interface:

```js

export interface ResourceMapperTypeOptions {

// The name of the method where you fetch the schema

// Refer to the Resource mapper method section for more detail

resourceMapperMethod: string;

// Choose the mode for your operation

// Supported modes: add, update, upsert

mode: 'add' | 'update' | 'upsert';

// Specify labels for fields in the UI

fieldWords?: { singular: string; plural: string };

// Whether n8n should display a UI input for every field when node first added to workflow

// Default is true

addAllFields?: boolean;

// Specify a message to show if no fields are fetched from the service

// (the call is successful but the response is empty)

noFieldsError?: string;

// Whether to support multi-key column matching

// multiKeyMatch is for update and upsert only

// Default is false

// If true, the node displays a multi-select dropdown for the matching column selector

multiKeyMatch?: boolean;

// Whether to support automatic mapping

// If false, n8n hides the mapping mode selector field and sets mappingMode to defineBelow

supportAutoMap?: boolean;

// Custom labels for the matching columns selector

matchingFieldsLabels?: {

title?: string;

description?: string;

hint?: string;

};

}

```

### Resource mapper method

This method contains your node-specific logic for fetching the data schema. Every node must implement its own logic for fetching the schema, and setting up each UI field according to the schema.

It must return a value that implements the `ResourceMapperFields` interface:

```js

interface ResourceMapperField {

// Field ID as in the service

id: string;

// Field label

displayName: string;

// Whether n8n should pre-select the field as a matching field

// A matching field is a column used to identify the rows to modify

defaultMatch: boolean;

// Whether the field can be used as a matching field

canBeUsedToMatch?: boolean;

// Whether the field is required by the schema

required: boolean;

// Whether to display the field in the UI

// If false, can't be used for matching or mapping

display: boolean;

// The data type for the field

// These correspond to UI element types

// Supported types: string, number, dateTime, boolean, time, array, object, options

type?: FieldType;

// Added at runtime if the field is removed from mapping by the user

removed?: boolean;

// Specify options for enumerated types

options?: INodePropertyOptions[];

}

```

Refer to the [Postgres resource mapping method](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Postgres/v2/methods/resourceMapping.ts){:target=\_blank .external-link} and [Google Sheets resource mapping method](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Google/Sheet/v2/methods/resourceMapping.ts){:target=\_blank .external-link} for live examples.

## JSON

```typescript

{

displayName: 'Content (JSON)',

name: 'content',

type: 'json',

default: '',

description: '',

displayOptions: { // the resources and operations to display this element with

show: {

resource: [

// comma-separated list of resource names

],

operation: [

// comma-separated list of operation names

]

}

},

}

```

![JSON](/\_images/integrations/creating-nodes/json.png)

## HTML

The HTML editor allows users to create HTML templates in their workflows. The editor supports standard HTML, CSS in `<style>` tags, and expressions wrapped in `{{}}`. Users can add `<script>` tags to pull in additional JavaScript. n8n doesn't run this JavaScript during workflow execution.

```js

{

displayName: 'HTML Template', // The value the user sees in the UI

name: 'html', // The name used to reference the element UI within the code

type: 'string',

typeOptions: {

editor: 'htmlEditor',

},

default: placeholder, // Loads n8n's placeholder HTML template

noDataExpression: true, // Prevent using an expression for the field

description: 'HTML template to render',

},

```

Refer to [`Html.node.ts`](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Html/Html.node.ts){:target=\_blank .external-link} for a live example.

## Notice

Display a yellow box with a hint or extra info. Refer to [Node UI design](/integrations/creating-nodes/plan/node-ui-design.md) for guidance on writing good hints and info text.

```js

{

displayName: 'Your text here',

name: 'notice',

type: 'notice',

default: '',

},

```

![Notice](/\_images/integrations/creating-nodes/notice.png)

## Hints

There are two types of hints: parameter hints and node hints:

\* Parameter hints are small lines of text below a user input field.

\* Node hints are a more powerful and flexible option than [Notice](#notice). Use them to display longer hints, in the input panel, output panel, or node details view.

### Add a parameter hint

Add the `hint` parameter to a UI element:

```ts

{

displayName: 'URL',

name: 'url',

type: 'string',

hint: 'Enter a URL',

...

}

```

### Add a node hint

Define the node's hints in the `hints` property within the node `description`:

```ts

description: INodeTypeDescription = {

...

hints: [

{

// The hint message. You can use HTML.

message: "This node has many input items. Consider enabling <b>Execute Once</b> in the node\'s settings.",

// Choose from: info, warning, danger. The default is 'info'.

// Changes the color. info (grey), warning (yellow), danger (red)

type: 'info',

// Choose from: inputPane, outputPane, ndv. By default n8n displays the hint in both the input and output panels.

location: 'outputPane',

// Choose from: always, beforeExecution, afterExecution. The default is 'always'

whenToDisplay: 'beforeExecution',

// Optional. An expression. If it resolves to true, n8n displays the message. Defaults to true.

displayCondition: '={{ $parameter["operation"] === "select" && $input.all().length > 1 }}'

}

]

...

}

```

### Add a dynamic hint to a programmatic-style node

In programmatic-style nodes you can create a dynamic message that includes information from the node execution. As it relies on the node output data, you can't display this type of hint until after execution.

```ts

if (operation === 'select' && items.length > 1 && !node.executeOnce) {

// Expects two parameters: NodeExecutionData and an array of hints

return new NodeExecutionOutput(

[returnData],

[

{

message: `This node ran ${items.length} times, once for each input item. To run for the first item only, enable <b>Execute once</b> in the node settings.`,

location: 'outputPane',

},

],

);

}

return [returnData];

```

For a live example of a dynamic hint in a programmatic-style node, view the [Split Out node code](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Transform/SplitOut/SplitOut.node.ts#L266){:target=\_blank .external-link}.

## ux-guidelines.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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---

# UX guidelines for community nodes

Your node's UI must conform to these guidelines to be a [verified community node](/integrations/creating-nodes/deploy/submit-community-nodes.md#submit-your-node-for-verification-by-n8n) candidate.

## Credentials

API key and sensitive credentials should always be password fields.

### OAuth

Always include the OAuth credential if available.

## Node structure

### Operations to include

Try to include \*\*CRUD\*\* operations for each resource type.

Try to include common operations in nodes for each resource. n8n uses some CRUD operations to keep the experience consistent and allow users to perform basic operations on the resource. The suggested operations are:

\* \*\*Create\*\*

\* \*\*Create or Update (Upsert)\*\*

\* \*\*Delete\*\*

\* \*\*Get\*\*

\* \*\*Get Many:\*\* also used when some filtering or search is available

\* \*\*Update\*\*

Notes:

1. These operations can apply to the resource itself or an entity inside of the resource (for example, a row inside a Google Sheet). When operating on an entity inside of the resource, you must specify the \*\*name of the entity\*\* in the operations name.

2. The naming could change depending on the node and the resource. Check the following guidelines for details.

### Resource Locator

\* Use a Resource Locator component whenever possible. This provides a much better UX for users. The Resource Locator Component is most often useful when you have to select a single item.

\* The default option for the Resource Locator Component should be `From list` (if available).

### Consistency with other nodes

\* Maintain UX consistency: n8n tries to keep its UX consistent. This means following existing UX patterns, in particular, those used in the latest new or overhauled nodes.

\* Check similar nodes: For example, if you're working on a database node, it's worth checking the Postgres node.

### Sorting options

\* You can enhance certain "Get Many" operations by providing users with sorting options.

\* Add sorting in a dedicated collection (below the "Options" collection). Follow the example of [Airtable Record:Search](https://github.com/n8n-io/n8n/blob/92e2a8e61a4189025e5d4bac8be81576b624fe85/packages/nodes-base/nodes/Airtable/v2/actions/record/search.operation.ts#L85-L135).

## Node functionality

### Deleting operations output

When deleting an item (like a record or a row), return an array with a single object: `{"deleted": true}`. This is a confirmation for the user that the deletion was successful and the item will trigger the following node.

### Simplifying output fields

#### Normal nodes: 'Simplify' parameter

When an endpoint returns data with more than 10 fields, add the "Simplify" boolean parameter to return a simplified version of the output with max 10 fields.

\* One of the main issues with n8n can be the size of data and the Simplify parameter limits that problem by reducing data size.

\* Select the most useful fields to output in the simplified node and sort them to have the most used ones at the top.

\* In the Simplify mode, it's often best to flatten nested fields

\* Display Name: `Simplify`

\* Description: `Whether to return a simplified version of the response instead of the raw data`

#### AI tool nodes: ‘Output’ parameter

When an endpoint returns data with more than 10 fields, add the 'Output' option parameter with 3 modes.

In AI tool nodes, allow the user to be more granular and select the fields to output. The rationale is that tools may run out of context window and they can get confused by too many fields, so it's better to pass only the ones they need.

Options:

\* \*\*Simplified:\*\* Works the same as the "Simplify" parameter described above.

\* \*\*Raw:\*\* Returns all the available fields.

\* \*\*Selected fields:\*\* Shows a multi-option parameter for selecting the fields to add to the output and send to the AI agent. By default, this option always returns the ID of the record/entity.

## Copy

### Text Case

Use \*\*Title Case\*\* for the node `name`, `parameters display names` (labels), `dropdown titles`. Title Case is when you capitalize the first letter of each word, except for certain small words, such as articles and short prepositions.

Use \*\*Sentence case\*\* for node `action` names, node `descriptions`, `parameters descriptions` (tooltips), `hints`, `dropdown descriptions`.

### Terminology

\* \*\*Use the third-party service terminology:\*\* Try to use the same terminology as the service you're interfacing with (for example, Notion 'blocks', not Notion 'paragraphs').

\* \*\*Use the terminology used in the UI:\*\* Stick to the terminology used in the user interface of the service, rather than that used in the APIs or technical documentation (for example, in Trello you "archive" cards, but in the API they show up as "closed". In this case, you might want to use "archive").

\* \*\*No tech jargon:\*\* Don't use technical jargon where simple words will do. For example, use "field" instead of "key".

\* \*\*Consistent naming:\*\* Choose one term for something and stick to it. For example, don't mix "directory" and "folder".

### Placeholders

It's often helpful to insert examples of content in parameters placeholders. These should start with "e.g." and use \*\*camel case\*\* for the demo content in fields.

Placeholder examples to copy:

\* image: `e.g. https://example.com/image.png`

\* video: `e.g. https://example.com/video.mp4`

\* search term: `e.g. automation`

\* email: `e.g. nathan@example.com`

\* Twitter user (or similar): `e.g. n8n`

\* Name and last name: `e.g. Nathan Smith`

\* First name: `e.g. Nathan`

\* Last name: `e.g. Smith`

### Operations name, action, and description

\* \*\*Name:\*\* This is the name displayed in the select when the node is open on the canvas. It must use title case and doesn't have to include the resource (for example, "Delete").

\* \*\*Action:\*\* This is the name of the operation displayed in the panel where the user selects the node. It must be in sentence case and must include the resource (for example, "Delete record").

\* \*\*Description:\*\* This is the sub-text displayed below the name in the select when the node is open on the canvas. It must use sentence case and must include the resource. It can add a bit of information and use alternative words than the basic resource/operation (for example, "Retrieve a list of users").

\* If the operation acts on an entity that's not the Resource (for example, a row in a Google Sheet), specify that in the operation name (for example, "Delete Row").

As a general rule, is important to understand what the \*\*object\*\* of an operation is. Sometimes, the object of an Operation is the resource itself (for example, `Sheet:Delete` to delete a Sheet).

In other cases, the object of the operation isn't the resource, but something contained inside the resource (for example, `Table:Delete rows`, here the resource is the table, but what you are operating on are the rows inside of it).

#### Naming `name`

This is the name displayed in the select when the node is open on the canvas.

\* Parameter: `name`

\* Case: Title Case

Naming guidelines:

\* \*\*Don't repeat the resource (if the resource selection is above):\*\* The resource is often displayed above the operation, so it's not necessary to repeat it in the operation (this is the case if the object of the operation is the resource itself).

\* For example: `Sheet:Delete` → No need to repeat `Sheet` in `Delete`, because n8n displays `Sheet` in the field above and what you're deleting is the Sheet.

\* \*\*Specify the resource if there's no resource selection above:\*\* In some nodes, you won't have a resource selection (because there's only one resource). In these cases, specify the resource in the operation.

\* For example: `Delete Records` → In Airtable, there's no resource selection, so it's better to specify that the Delete operation will delete records.

\* \*\*Specify the object of the operation if it's not the resource:\*\* Sometimes, the object of the operation isn't the resource. In these cases, specify the object in the operation as well.

\* For example: `Table:Get Columns` → Specify `Columns` because the resource is `Table`, while the object of the operation is `Columns`.

#### Naming `action`

This is the name of the operation displayed in the panel where the user selects the node.

\* Parameter: `action`

\* Case: Sentence case

Naming guidelines:

\* \*\*Omit articles:\*\* To keep the text shorter, get rid of articles (a, an, the…).

\* \*\*correct\*\*: `Update row in sheet`

\* \*\*incorrect\*\*: `Update a row in a sheet`

\* \*\*Repeat the resource:\*\* In this case, it's okay to repeat the resource. Even if the resource is visible in the list, the user might not notice and it's useful to repeat it in the operation label.

\* \*\*Specify the object of the operation if it is not the resource:\*\* Same as for the operation name. In this case, you don't need to repeat the resource.

\* For example: `Append Rows` → You have to specify `Rows` because rows are what you're actually appending to. Don't add the resource (`Sheet`) since you aren't appending to the resource.

#### Naming `description`

This is the subtext displayed below the name in the selection when the node is open on the canvas.

\* Parameter: `description`

\* Case: Sentence case

Naming guidelines:

\* If possible, add more information than that specified in the operation `name`

\* Use alternative wording to help users better understand what the operation is doing. Some people might not understand the text used in the operation (maybe English isn't their native language), and using alternative working could help them.

#### Vocabulary

n8n uses a general vocabulary and some context-specific vocabulary for groups of similar applications (for example, databases or spreadsheets).

The general vocabulary takes inspiration from CRUD operations:

\* \*\*Clear\*\*

\* Delete all the contents of the resource (empty the resource).

\* Description: `Delete all the <CHILD\_ELEMENT>s inside the <RESOURCE>`

\* \*\*Create\*\*

\* Create a new instance of the resource.

\* Description: `Create a new <RESOURCE>`

\* \*\*Create or Update\*\*

\* Create or update an existing instance of the resource.

\* Description: `Create a new <RESOURCE> or update an existing one (upsert)`

\* \*\*Delete\*\*

\* You can use "Delete" in two different ways:

1. Delete a resource:

\* Description: `Delete a <RESOURCE> permanently` (use "permanently" only if that's the case)

2. Delete something \*\*inside\*\* of the resource (for example, a row):

\* In this case, \*\*always specify the object of the operation\*\*: for example, `Delete Rows` or `Delete Records`.

\* Description: `Delete a <CHILD\_ELEMENT> permanently`

\* \*\*Get\*\*

\* You can use "Get" in two different ways:

1. Get a resource:

\* Description: `Retrieve a <RESOURCE>`

2. Get an item \*\*inside\*\* of the resource (for example, records):

\* In this case, \*\*always specify the object of the operation\*\*: for example, `Get Row` or `Get Record`.

\* Description: `Retrieve a <CHILD\_ELEMENT> from the/a <RESOURCE>`

\* \*\*Get Many\*\*

\* You can use "Get Many" in two different ways:

1. Get a list of resources (without filtering):

\* Description: `Retrieve a list of <RESOURCE>s`

2. Get a list of items \*\*inside\*\* of the resource (for example, records):

\* In this case, \*\*always specify the object of the operation\*\*: for example, `Get Many Rows` or `Get Many Records`.

\* You can omit `Many`: `Get Many Rows` can be `Get Rows`.

\* Description: `List all <CHILD\_ELEMENT>s in the/a <RESOURCE>`

\* \*\*Insert\*\* or \*\*Append\*\*

\* Add something inside of a resource.

\* Use `insert` for database nodes.

\* Description: `Insert <CHILD\_ELEMENT>(s) in a <RESOURCE>`

\* \*\*Insert or Update\*\* or \*\*Append or Update\*\*

\* Add or update something inside of a resource.

\* Use `insert` for database nodes.

\* Description: `Insert <CHILD\_ELEMENT>(s) or update an existing one(s) (upsert)`

\* \*\*Update\*\*

\* You can use "Update" in two different ways:

1. Update a resource:

\* Description: `Update one or more <RESOURCE>s`

2. Update something \*\*inside\*\* of a resource (for example, a row):

\* In this case, \*\*always specify the object of the operation\*\*: for example, `Update Rows` or `Update Records`.

\* Description: `Update <CHILD\_ELEMENT>(s) inside a <RESOURCE>`

### Referring to parameter and field name

When you need to refer to parameter names or field names in copy, wrap them in single quotation marks (for example, "Please fill the `'name'` parameter).

### Boolean description

Start the description of boolean components with 'Whether...'

## Errors

### General philosophy

Errors are sources of pain for users. For this reason, n8n always wants to tell the user:

\* \*\*What happened\*\*: a description of the error and what went wrong.

\* \*\*How to solve the problem\*\*: or at least how to get unstuck and continue using n8n without problems. n8n doesn't want users to remain blocked, so use this as an opportunity to guide them to success.

### Error structure in the Output panel

#### Error Message - What happened

This message explains to the user what happened, and the current issue that prevents the execution completing.

\* If you have the `displayName` of the parameter that triggered the error, include it in the error message or description (or both).

\* Item index: if you have the ID of the item that triggered the error, append `[Item X]` to the error message. For example, `The ID of the release in the parameter “Release ID” for could not be found [item 2]`.

\* Avoid using words like "error", "problem", "failure", "mistake".

#### Error Description - How to solve or get unstuck

The description explains to users how to solve the problem, what to change in the node configuration (if that's the case), or how to get unstuck. Here, you should guide them to the next step and unblock them.

Avoid using words like "error", "problem", "failure", "mistake".

## verification-guidelines.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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# Community node verification guidelines

/// note | Do you want n8n to verify your node?

Consider following these guidelines while building your node if you want to submit it for verification by n8n. Any user with verified community nodes enabled can discover and install verified nodes from n8n's nodes panel.

///

## Package source verification

\* Verify that your npm package repository URL matches the expected GitHub (or other platform) repository.

\* Confirm that the package author / maintainer matches between npm and the repository.

\* Confirm that the git link in npm works and that the repository is public.

\* Make sure your package has proper documentation (README, usage examples, etc.).

\* Make sure your package license is MIT.

## No external dependencies

\* Ensure that your package does \*\*not\*\* include any external dependencies to keep it lightweight and easy to maintain.

## Proper documentation

\* Provide clear documentation, whether it’s a \*\*README\*\* on GitHub or links to relevant \*\*API documentation\*\*.

\* Include usage instructions, example workflows, and any necessary authentication details.

## No access to environment variables or file system

\* The code \*\*must not\*\* interact with environment variables or attempt to read/write files.

\* Pass all necessary data through node parameters.

## Follow n8n best practices

\* Maintain a clear and consistent coding style.

\* Use \*\*TypeScript\*\* and follow n8n's [\*\*node development guidelines\*\*](/integrations/creating-nodes/overview.md).

\* Ensure proper error handling and validation.

\* Make sure the linter passes (in other words, make sure running `npx @n8n/scan-community-package n8n-nodes-PACKAGE` passes).

## Use English language only

\* Both the node interface and all documentation must be in \*\*English\*\* only.

\* This includes parameter names, descriptions, help text, error messages and \*\*README\*\* content.

## declarative-style-parameters.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Declarative-style parameters

description: A reference document listing the declarative-style parameters of the node base file.

contentType: reference

---

# Declarative-style parameters

These are the parameters available for [node base file](/integrations/creating-nodes/build/reference/node-base-files/index.md) of declarative-style nodes.

This document gives short code snippets to help understand the code structure and concepts. For a full walk-through of building a node, including real-world code examples, refer to [Build a declarative-style node](/integrations/creating-nodes/build/declarative-style-node.md).

Refer to [Standard parameters](/integrations/creating-nodes/build/reference/node-base-files/standard-parameters.md) for parameters available to all nodes.

## `methods` and `loadOptions`

\_Object\_ | \_Optional\_

`methods` contains the `loadOptions` object. You can use `loadOptions` to query the service to get user-specific settings, then return them and render them in the GUI so the user can include them in subsequent queries. The object must include routing information for how to query the service, and output settings that define how to handle the returned options. For example:

```js

methods : {

loadOptions: {

routing: {

request: {

url: '/webhook/example-option-parameters',

method: 'GET',

},

output: {

postReceive: [

{

// When the returned data is nested under another property

// Specify that property key

type: 'rootProperty',

properties: {

property: 'responseData',

},

},

{

type: 'setKeyValue',

properties: {

name: '={{$responseItem.key}} ({{$responseItem.value}})',

value: '={{$responseItem.value}}',

},

},

{

// If incoming data is an array of objects, sort alphabetically by key

type: 'sort',

properties: {

key: 'name',

},

},

],

},

},

}

},

```

## `routing`

\_Object\_ | \_Required\_

`routing` is an object used within an `options` array in operations and input field objects. It contains the details of an API call.

The code example below comes from the [Declarative-style tutorial](/integrations/creating-nodes/build/declarative-style-node.md). It sets up an integration with a NASA API. It shows how to use `requestDefaults` to set up the basic API call details, and `routing` to add information for each operation.

```js

description: INodeTypeDescription = {

// Other node info here

requestDefaults: {

baseURL: 'https://api.nasa.gov',

url: '',

headers: {

Accept: 'application/json',

'Content-Type': 'application/json',

},

},

properties: [

// Resources here

{

displayName: 'Operation'

// Other operation details

options: [

{

name: 'Get'

value: 'get',

description: '',

routing: {

request: {

method: 'GET',

url: '/planetary/apod'

}

}

}

]

}

]

}

```

<!--

TODO: more info on the routing object

### routing.output

include postReceive actions, including ability to dynamically disable - see DOC-400

### routing.request

### routing.send

-->

## `version`

\_Number\_ or \_Array\_ | \_Optional\_

If you have one version of your node, this can be a number. If you want to support more than one version, turn this into an array, containing numbers for each node version.

n8n supports two methods of node versioning, but declarative-style nodes must use the light versioning approach. Refer to [Node versioning](/integrations/creating-nodes/build/reference/node-versioning.md) for more information.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

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---

# Node base file

The node base file contains the core code of your node. All nodes must have a base file. The contents of this file are different depending on whether you're building a declarative-style or programmatic-style node. For guidance on which style to use, refer to [Choose your node building approach](/integrations/creating-nodes/plan/choose-node-method.md).

These documents give short code snippets to help understand the code structure and concepts. For full walk-throughs of building a node, including real-world code examples, refer to [Build a declarative-style node](/integrations/creating-nodes/build/declarative-style-node.md) or [Build a programmatic-style node](/integrations/creating-nodes/build/programmatic-style-node.md).

You can also explore the [n8n-nodes-starter](https://github.com/n8n-io/n8n-nodes-starter){:target=\_blank .external-link} and n8n's own [nodes](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes){:target=\_blank .external-link} for a wider range of examples. The starter contains basic examples that you can build on. The n8n [Mattermost node](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Mattermost) is a good example of a more complex programmatic-style node, including versioning.

For all nodes, refer to the:

\* [Structure of the node base file](/integrations/creating-nodes/build/reference/node-base-files/structure.md)

\* [Standard parameters](/integrations/creating-nodes/build/reference/node-base-files/standard-parameters.md)

For declarative-style nodes, refer to the:

\* [Declarative-style parameters](/integrations/creating-nodes/build/reference/node-base-files/declarative-style-parameters.md)

For programmatic-style nodes, refer to the:

\* [Programmatic-style parameters](/integrations/creating-nodes/build/reference/node-base-files/programmatic-style-parameters.md)

\* [Programmatic-style execute() method](/integrations/creating-nodes/build/reference/node-base-files/programmatic-style-execute-method.md)

## programmatic-style-execute-method.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Programmatic-style execute() method

description: A reference document for the programmatic-style execute() method of the node base file.

contentType: reference

---

# Programmatic-style execute() method

The main difference between the declarative and programmatic styles is how they handle incoming data and build API requests. The programmatic style requires an `execute()` method, which reads incoming data and parameters, then builds a request. The declarative style handles requests using the `routing` key in the `operations` object.

The `execute()` method creates and returns an instance of `INodeExecutionData`.

/// warning | Paired items

You must include input and output item pairing information in the data you return. For more information, refer to [Paired items](/integrations/creating-nodes/build/reference/paired-items.md).

///

## programmatic-style-parameters.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Programmatic-style parameters

description: A reference document listing the programmatic-style parameters of the node base file.

contentType: reference

---

# Programmatic-style parameters

These are the parameters available for [node base file](/integrations/creating-nodes/build/reference/node-base-files/index.md) of programmatic-style nodes.

This document gives short code snippets to help understand the code structure and concepts. For a full walk-through of building a node, including real-world code examples, refer to [Build a programmatic-style node](/integrations/creating-nodes/build/programmatic-style-node.md).

Programmatic-style nodes also use the `execute()` method. Refer to [Programmatic-style execute method](/integrations/creating-nodes/build/reference/node-base-files/programmatic-style-execute-method.md) for more information.

Refer to [Standard parameters](/integrations/creating-nodes/build/reference/node-base-files/standard-parameters.md) for parameters available to all nodes.

## `defaultVersion`

\_Number\_ | \_Optional\_

Use `defaultVersion` when using the full versioning approach.

n8n support two methods of node versioning. Refer to [Node versioning](/integrations/creating-nodes/build/reference/node-versioning.md) for more information.

## `methods` and `loadOptions`

\_Object\_ | \_Optional\_

Contains the `loadOptions` method for programmatic-style nodes. You can use this method to query the service to get user-specific settings (such as getting a user's email labels from Gmail), then return them and render them in the GUI so the user can include them in subsequent queries.

For example, n8n's [Gmail node](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Google/Gmail/Gmail.node.ts) uses `loadOptions` to get all email labels:

```js

methods = {

loadOptions: {

// Get all the labels and display them

async getLabels(

this: ILoadOptionsFunctions,

): Promise<INodePropertyOptions[]> {

const returnData: INodePropertyOptions[] = [];

const labels = await googleApiRequestAllItems.call(

this,

'labels',

'GET',

'/gmail/v1/users/me/labels',

);

for (const label of labels) {

const labelName = label.name;

const labelId = label.id;

returnData.push({

name: labelName,

value: labelId,

});

}

return returnData;

},

},

};

```

## `version`

\_Number\_ or \_Array\_ | \_Optional\_

Use `version` when using the light versioning approach.

If you have one version of your node, this can be a number. If you want to support multiple versions, turn this into an array, containing numbers for each node version.

n8n support two methods of node versioning. Programmatic-style nodes can use either. Refer to [Node versioning](/integrations/creating-nodes/build/reference/node-versioning.md) for more information.

## standard-parameters.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Standard parameters

description: A reference document listing the standard parameters of the node base file.

contentType: reference

---

# Standard parameters

These are the standard parameters for the [node base file](/integrations/creating-nodes/build/reference/node-base-files/index.md). They're the same for all node types.

## `displayName`

\_String\_ | \_Required\_

This is the name users see in the n8n GUI.

## `name`

\_String\_ | \_Required\_

The internal name of the object. Used to reference it from other places in the node.

## `icon`

\_String\_ or \_Object\_ | \_Required\_

Specifies an icon for a particular node. n8n recommends uploading your own image file.

You can provide the icon file name as a string, or as an object to handle different icons for light and dark modes.

If the icon works in both light and dark modes, use a string that starts with `file:`, indicating the path to the icon file. For example:

```

icon: 'file:exampleNodeIcon.svg'

```

To provide different icons for light and dark modes, use an object with `light` and `dark` properties. For example:

```

icon: {

light: 'file:exampleNodeIcon.svg',

dark: 'file:exampleNodeIcon.dark.svg'

}

```

--8<-- "\_snippets/integrations/creating-nodes/node-icons.md"

## `group`

\_Array of strings\_ | \_Required\_

Tells n8n how the node behaves when the workflow runs. Options are:

\* `trigger`: node waits for a trigger.

\* `schedule`: node waits for a timer to expire.

\* `input`, `output`, `transform`: these currently have no effect.

\* An empty array, `[]`. Use this as the default option if you don't need `trigger` or `schedule`.

## `description`

\_String\_ | \_Required\_

A short description of the node. n8n uses this in the GUI.

## `defaults`

\_Object\_ | \_Required\_

Contains essential brand and name settings.

The object can include:

\* `name`: String. Used as the node name on the canvas if the `displayName` is too long.

\* `color`: String. Hex color code. Provide the brand color of the integration for use in n8n.

## `forceInputNodeExecution`

\_Boolean\_ | \_Optional\_

When building a multi-input node, you can choose to force all preceding nodes on all branches to execute before the node runs. The default is `false` (requiring only one input branch to run).

## `inputs`

\_Array of strings\_ | \_Required\_

Names the input connectors. Controls the number of connectors the node has on the input side. If you need only one connector, use `input: ['main']`.

## `outputs`

\_Array of strings\_ | \_Required\_

Names the output connectors. Controls the number of connectors the node has on the output side. If you need only one connector, use `output: ['main']`.

## `requiredInputs`

\_Integer\_ or \_Array\_ | \_Optional\_

Used for multi-input nodes. Specify inputs by number that must have data (their branches must run) before the node can execute.

## `credentials`

\_Array of objects\_ | \_Required\_

This parameter tells n8n the credential options. Each object defines an authentication type.

The object must include:

\* `name`: the credential name. Must match the `name` property in the credential file. For example, `name: 'asanaApi'` in [`Asana.node.ts`](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/Asana/Asana.node.ts){:target=\_blank .external-class} links to `name = 'asanaApi'` in [`AsanaApi.credential.ts`](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/credentials/AsanaApi.credentials.ts){:target=\_blank .external-class}.

\* `required`: Boolean. Specify whether authentication is required to use this node.

## `requestDefaults`

\_Object\_ | \_Required\_

Set up the basic information for the API calls the node makes.

This object must include:

\* `baseURL`: The API base URL.

You can also add:

\* `headers`: an object describing the API call headers, such as content type.

\* `url`: string. Appended to the `baseURL`. You can usually leave this out. It's more common to provide this in the `operations`.

## `properties`

\_Array of objects\_ | \_Required\_

This contains the resource and operations objects that define node behaviors, as well as objects to set up mandatory and optional fields that can receive user input.

### Resource objects

A resource object includes the following parameters:

\* `displayName`: String. This should always be `Resource`.

\* `name`: String. This should always be `resource`.

\* `type`: String. Tells n8n which UI element to use, and what input type to expect. For example, `options` results in n8n adding a dropdown that allows users to choose one option. Refer to [Node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md) for more information.

\* `noDataExpression`: Boolean. Prevents using an expression for the parameter. Must always be `true` for `resource`.

### Operations objects

The operations object defines the available operations on a resource.

\* `displayName`: String. This should always be `Options`.

\* `name`: String. This should always be `option`.

\* `type`: String. Tells n8n which UI element to use, and what input type to expect. For example, `dateTime` results in n8n adding a date picker. Refer to [Node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md) for more information.

\* `noDataExpression`: Boolean. Prevents using an expression for the parameter. Must always be `true` for `operation`.

\* `options`: Array of objects. Each objects describes an operation's behavior, such as its routing, the REST verb it uses, and so on. An `options` object includes:

\* `name`. String.

\* `value`. String.

\* `action`: String. This parameter combines the resource and operation. You should always include it, as n8n will use it in future versions. For example, given a resource called `"Card"` and an operation `"Get all"`, your action is `"Get all cards"`.

\* `description`: String.

\* `routing`: Object containing request details.

### Additional fields objects

These objects define optional parameters. n8n displays them under \*\*Additional Fields\*\* in the GUI. Users can choose which parameters to set.

The objects must include:

```js

displayName: 'Additional Fields',

name: 'additionalFields',

// The UI element type

type: ''

placeholder: 'Add Field',

default: {},

displayOptions: {

// Set which resources and operations this field is available for

show: {

resource: [

// Resource names

],

operation: [

// Operation names

]

},

}

```

For more information about UI element types, refer to [UI elements](/integrations/creating-nodes/build/reference/ui-elements.md).

## structure.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Structure of the node base file

description: A reference document detailing the basic structure of the node base file.

contentType: reference

---

# Structure of the node base file

The node base file follows this basic structure:

1. Add import statements.

2. Create a class for the node.

3. Within the node class, create a `description` object, which defines the node.

A programmatic-style node also has an `execute()` method, which reads incoming data and parameters, then builds a request. The declarative style handles this using the `routing` key in the `properties` object, within `descriptions`.

## Outline structure for a declarative-style node

This code snippet gives an outline of the node structure.

```js

import { INodeType, INodeTypeDescription } from 'n8n-workflow';

export class ExampleNode implements INodeType {

description: INodeTypeDescription = {

// Basic node details here

properties: [

// Resources and operations here

]

};

}

```

Refer to [Standard parameters](/integrations/creating-nodes/build/reference/node-base-files/standard-parameters.md) for information on parameters available to all node types. Refer to [Declarative-style parameters](/integrations/creating-nodes/build/reference/node-base-files/declarative-style-parameters.md) for the parameters available for declarative-style nodes.

## Outline structure for a programmatic-style node

This code snippet gives an outline of the node structure.

```js

import { IExecuteFunctions } from 'n8n-core';

import { INodeExecutionData, INodeType, INodeTypeDescription } from 'n8n-workflow';

export class ExampleNode implements INodeType {

description: INodeTypeDescription = {

// Basic node details here

properties: [

// Resources and operations here

]

};

async execute(this: IExecuteFunctions): Promise<INodeExecutionData[][]> {

// Process data and return

}

};

```

Refer to [Standard parameters](/integrations/creating-nodes/build/reference/node-base-files/standard-parameters.md) for information on parameters available to all node types. Refer to [Programmatic-style parameters](/integrations/creating-nodes/build/reference/node-base-files/programmatic-style-parameters.md) and [Programmatic-style execute method](/integrations/creating-nodes/build/reference/node-base-files/programmatic-style-execute-method.md) for more information on working with programmatic-style nodes.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Deploy a node

This section contains details on how to deploy and share your node.

You can choose to:

\* [Submit your node to the community node repository](/integrations/creating-nodes/deploy/submit-community-nodes.md). This makes it available for everyone to use, and allows you to [install and use it](/integrations/community-nodes/installation/index.md) like any other community node. This is the only way to use custom nodes on cloud.

\* Install the node into your n8n instance as a [private node](/integrations/creating-nodes/deploy/install-private-nodes.md).

## install-private-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Install private nodes

You can build your own nodes and install them in your n8n instance without publishing them on npm. This is useful for nodes that you create for internal use only at your company.

## Install your node in a Docker n8n instance

If you're running n8n using Docker, you need to create a Docker image with the node installed in n8n.

1. Create a Dockerfile and paste the code from [this Dockerfile](https://github.com/n8n-io/n8n/blob/master/docker/images/n8n/Dockerfile).

Your Dockerfile should look like this:

```Dockerfile

FROM node:16-alpine

ARG N8N\_VERSION

RUN if [ -z "$N8N\_VERSION" ] ; then echo "The N8N\_VERSION argument is missing!" ; exit 1; fi

# Update everything and install needed dependencies

RUN apk add --update graphicsmagick tzdata git tini su-exec

# Set a custom user to not have n8n run as root

USER root

# Install n8n and the packages it needs to build it correctly.

RUN apk --update add --virtual build-dependencies python3 build-base ca-certificates && \

npm config set python "$(which python3)" && \

npm\_config\_user=root npm install -g full-icu n8n@${N8N\_VERSION} && \

apk del build-dependencies \

&& rm -rf /root /tmp/\* /var/cache/apk/\* && mkdir /root;

# Install fonts

RUN apk --no-cache add --virtual fonts msttcorefonts-installer fontconfig && \

update-ms-fonts && \

fc-cache -f && \

apk del fonts && \

find /usr/share/fonts/truetype/msttcorefonts/ -type l -exec unlink {} \; \

&& rm -rf /root /tmp/\* /var/cache/apk/\* && mkdir /root

ENV NODE\_ICU\_DATA /usr/local/lib/node\_modules/full-icu

WORKDIR /data

COPY docker-entrypoint.sh /docker-entrypoint.sh

ENTRYPOINT ["tini", "--", "/docker-entrypoint.sh"]

EXPOSE 5678/tcp

```

2. Compile your custom node code (`npm run build` if you are using nodes starter). Copy the \*\*node\*\* and \*\*credential\*\* folders from within the \*\*dist\*\* folder into your container's `~/.n8n/custom/` directory. This makes them available to Docker.

3. Download the [docker-entrypoint.sh](https://github.com/n8n-io/n8n/blob/master/docker/images/n8n/docker-entrypoint.sh) file, and place it in the same directory as your Dockerfile.

4. Build your Docker image:

```Dockerfile

# Replace <n8n-version-number> with the n8n release version number.

# For example, N8N\_VERSION=0.177.0

docker build --build-arg N8N\_VERSION=<n8n-version-number> --tag=customizedn8n .

```

You can now use your node in Docker.

## Install your node in a global n8n instance

If you've installed n8n globally, make sure that you install your node inside n8n. n8n will find the module and load it automatically.

## submit-community-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Submit community nodes

--8<-- "\_snippets/integrations/submit-community-node.md"

## choose-node-method.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Choose your node building approach

n8n has two node-building styles, declarative and programmatic.

You should use the declarative style for most nodes. This style:

\* Uses a JSON-based syntax, making it simpler to write, with less risk of introducing bugs.

\* Is more future-proof.

\* Supports integration with REST APIs.

The programmatic style is more verbose. You must use the programmatic style for:

\* Trigger nodes

\* Any node that isn't REST-based. This includes nodes that need to call a GraphQL API and nodes that use external dependencies.

\* Any node that needs to transform incoming data.

\* Full versioning. Refer to [Node versioning](/integrations/creating-nodes/build/reference/node-versioning.md) for more information on types of versioning.

## Data handling differences

The main difference between the declarative and programmatic styles is how they handle incoming data and build API requests. The programmatic style requires an `execute()` method, which reads incoming data and parameters, then builds a request. The declarative style handles this using the `routing` key in the `operations` object. Refer to [Node base file](/integrations/creating-nodes/build/reference/node-base-files/index.md) for more information on node parameters and the `execute()` method.

## Syntax differences

To understand the difference between the declarative and programmatic styles, compare the two code snippets below. This example creates a simplified version of the SendGrid integration, called "FriendGrid." The following code snippets aren't complete: they emphasize the differences in the node building styles.

In programmatic style:

```js

import {

IExecuteFunctions,

INodeExecutionData,

INodeType,

INodeTypeDescription,

IRequestOptions,

} from 'n8n-workflow';

// Create the FriendGrid class

export class FriendGrid implements INodeType {

description: INodeTypeDescription = {

displayName: 'FriendGrid',

name: 'friendGrid',

. . .

properties: [

{

displayName: 'Resource',

. . .

},

{

displayName: 'Operation',

name: 'operation',

type: 'options',

displayOptions: {

show: {

resource: [

'contact',

],

},

},

options: [

{

name: 'Create',

value: 'create',

description: 'Create a contact',

},

],

default: 'create',

description: 'The operation to perform.',

},

{

displayName: 'Email',

name: 'email',

. . .

},

{

displayName: 'Additional Fields',

// Sets up optional fields

},

],

};

async execute(this: IExecuteFunctions): Promise<INodeExecutionData[][]> {

let responseData;

const resource = this.getNodeParameter('resource', 0) as string;

const operation = this.getNodeParameter('operation', 0) as string;

//Get credentials the user provided for this node

const credentials = await this.getCredentials('friendGridApi') as IDataObject;

if (resource === 'contact') {

if (operation === 'create') {

// Get email input

const email = this.getNodeParameter('email', 0) as string;

// Get additional fields input

const additionalFields = this.getNodeParameter('additionalFields', 0) as IDataObject;

const data: IDataObject = {

email,

};

Object.assign(data, additionalFields);

// Make HTTP request as defined in https://sendgrid.com/docs/api-reference/

const options: IRequestOptions = {

headers: {

'Accept': 'application/json',

'Authorization': `Bearer ${credentials.apiKey}`,

},

method: 'PUT',

body: {

contacts: [

data,

],

},

url: `https://api.sendgrid.com/v3/marketing/contacts`,

json: true,

};

responseData = await this.helpers.httpRequest(options);

}

}

// Map data to n8n data

return [this.helpers.returnJsonArray(responseData)];

}

}

```

In declarative style:

```js

import { INodeType, INodeTypeDescription } from 'n8n-workflow';

// Create the FriendGrid class

export class FriendGrid implements INodeType {

description: INodeTypeDescription = {

displayName: 'FriendGrid',

name: 'friendGrid',

. . .

// Set up the basic request configuration

requestDefaults: {

baseURL: 'https://api.sendgrid.com/v3/marketing'

},

properties: [

{

displayName: 'Resource',

. . .

},

{

displayName: 'Operation',

name: 'operation',

type: 'options',

displayOptions: {

show: {

resource: [

'contact',

],

},

},

options: [

{

name: 'Create',

value: 'create',

description: 'Create a contact',

// Add the routing object

routing: {

request: {

method: 'POST',

url: '=/contacts',

send: {

type: 'body',

properties: {

email: {{$parameter["email"]}}

}

}

}

},

// Handle the response to contact creation

output: {

postReceive: [

{

type: 'set',

properties: {

value: '={{ { "success": $response } }}'

}

}

]

}

},

],

default: 'create',

description: 'The operation to perform.',

},

{

displayName: 'Email',

. . .

},

{

displayName: 'Additional Fields',

// Sets up optional fields

},

],

}

// No execute method needed

}

```

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Plan a node

This section provides guidance on designing your node, including key technical decisions such as choosing your node building style.

When building a node, there are design choices you need to make before you start:

\* Which [node type](/integrations/creating-nodes/plan/node-types.md) you need to build.

\* Which [node building style](/integrations/creating-nodes/plan/choose-node-method.md) to use.

\* Your [UI design and UX principles](/integrations/creating-nodes/plan/node-ui-design.md)

\* Your node's [file structure](/integrations/creating-nodes/build/reference/node-file-structure.md).

## node-types.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

---

# Node types: Trigger and Action

There are two node types you can build for n8n: trigger nodes and action nodes.

Both types provide integrations with external services.

## Trigger nodes

[Trigger nodes](/glossary.md#trigger-node-n8n) start a workflow and supply the initial data. A workflow can contain multiple trigger nodes but with each execution, only one of them will execute, depending on the triggering event.

There are three types of trigger nodes in n8n:

| Type | Description | Example Nodes |

| --- | --- | --- |

| Webhook | Nodes for services that support webhooks. These nodes listen for events and trigger workflows in real time. | [Zendesk Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Zendesk){:target=\_blank .external-link}, [Telegram Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Telegram){:target=\_blank .external-link}, [Brevo Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Brevo){:target=\_blank .external-link} |

| Polling | Nodes for services that don't support webhooks. These nodes periodically check for new data, triggering workflows when they detect updates. | [Airtable Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Airtable){:target=\_blank .external-link}, [Gmail Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Google/Gmail){:target=\_blank .external-link}, [Google Sheet Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Google/Sheet){:target=\_blank .external-link}, [RssFeed Read Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/RssFeedRead){:target=\_blank .external-link} |

| Others | Nodes that handle real-time responses not related to HTTP requests or polling. This includes message queue nodes and time-based triggers. | [AMQP Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Amqp){:target=\_blank .external-link}, [RabbitMQ Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/RabbitMQ){:target=\_blank .external-link}, [MQTT Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/MQTT){:target=\_blank .external-link}, [Schedule Trigger](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/Schedule){:target=\_blank .external-link}, [Email Trigger (IMAP)](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes/EmailReadImap){:target=\_blank .external-link} |

## Action nodes

Action nodes perform operations as part of your workflow. These can include manipulating data, and triggering events in other systems.

## node-ui-design.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

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# Design your node's user interface

Most nodes are a GUI (graphical user interface) representation of an API. Designing the interface means finding a user-friendly way to represent API endpoints and parameters. Directly translating an entire API into form fields in a node may not result in a good user experience.

This document provides design guidance and standards to follow. These guidelines are the same as those used by n8n. This helps provide a smooth and consistent user experience for users mixing community and built-in nodes.

## Design guidance

All node's use n8n's [node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md), so you don't need to consider style details such as colors, borders, and so on. However, it's still useful to go through a basic design process:

\* Review the documentation for the API you're integrating. Ask yourself:

\* What can you leave out?

\* What can you simplify?

\* Which parts of the API are confusing? How can you help users understand them?

\* Use a wireframe tool to try out your field layout. If you find your node has a lot of fields and is getting confusing, consider n8n's guidance on [showing and hiding fields](#showing-and-hiding-fields).

## Standards

### UI text style

| Element | Style |

| ------- | ----- |

| Drop-down value | Title case |

| Hint | Sentence case |

| Info box | Sentence case. Don't use a period (`.`) for one-sentence information. Always use a period if there's more than one sentence. This field can include links, which should open in a new tab. |

| Node name | Title case |

| Parameter name | Title case |

| Subtitle | Title case |

| Tooltip | Sentence case. Don't use a period (`.`) for one-sentence tooltips. Always use a period if there's more than one sentence. This field can include links, which should open in a new tab. |

### UI text terminology

\* Use the same terminology as the service the node connects to. For example, a Notion node should refer to Notion blocks, not Notion paragraphs, because Notion calls these elements blocks. There are exceptions to this rule, usually to avoid technical terms (for example, refer to the guidance on [name and description for upsert operations](#upsert-operations)).

\* Sometimes a service has different terms for something in its API and in its GUI. Use the GUI language in your node, as this is what most users are familiar with. If you think some users may need to refer to the service's API docs, consider including this information in a hint.

\* Don't use technical jargon when there are simpler alternatives.

\* Be consistent when naming things. For example, choose one of `directory` or `folder` then stick to it.

### Node naming conventions

| Convention | Correct | Incorrect |

| ---------- | ------- | --------- |

| If a node is a trigger node, <br>the displayed name should have 'Trigger' at the end, <br>with a space before. | Shopify Trigger | ShopifyTrigger, Shopify trigger |

| Don't include 'node' in the name. | Asana | Asana Node, Asana node |

### Showing and hiding fields

Fields can either be:

\* Displayed when the node opens: use this for resources and operations, and required fields.

\* Hidden in the \*\*Optional fields\*\* section until a user clicks on that section: use this for optional fields.

Progressively disclose complexity: hide a field until any earlier fields it depends on have values. For example, if you have a \*\*Filter by date\*\* toggle, and a \*\*Date to filter by\*\* datepicker, don't display \*\*Date to filter by\*\* until the user enables \*\*Filter by date\*\*.

### Conventions by field type

#### Credentials

n8n automatically displays credential fields as the top fields in the node.

#### Resources and operations

APIs usually involve doing something to data. For example, "get all tasks." In this example, "task" is the resource, and "get all" is the operation.

When your node has this resource and operation pattern, your first field should be \*\*Resource\*\*, and your second field should be \*\*Operation\*\*.

#### Required fields

Order fields by:

\* Most important to least important.

\* Scope: from broad to narrow. For example, you have fields for \*\*Document\*\*, \*\*Page\*\*, and \*\*Text to insert\*\*, put them in that order.

#### Optional fields

\* Order fields alphabetically. To group similar things together, you can rename them. For example, rename \*\*Email\*\* and \*\*Secondary Email\*\* to \*\*Email (primary)\*\* and \*\*Email (secondary)\*\*.

\* If an optional field has a default value that the node uses when the value isn't set, load the field with that value. Explain this in the field description. For example, \*\*Defaults to false\*\*.

\* Connected fields: if one optional fields is dependent on another, bundle them together. They should both be under a single option that shows both fields when selected.

\* If you have a lot of optional fields, consider grouping them by theme.

#### Help

There are five types of help built in to the GUI:

\* Info boxes: yellow boxes that appear between fields. Refer to [UI elements | Notice](/integrations/creating-nodes/build/reference/ui-elements.md#notice) for more information.

\* Use info boxes for essential information. Don't over-use them. By making them rare, they stand out more and grab the user's attention.

\* Parameter hints: lines of text displayed beneath a user input field. Use this when there's something the user needs to know, but an info box would be excessive.

\* Node hints: provide help in the input panel, output panel, or node details view. Refer to [UI elements | Hints](/integrations/creating-nodes/build/reference/ui-elements.md#hints) for more information.

\* Tooltips: callouts that appear when the user hovers over the tooltip icon !["Screenshot of the tooltip icon. The icon is a ? in a grey circle"](/\_images/common-icons/help-tooltip.png). Use tooltips for extra information that the user might need.

\* You don't have to provide a tooltip for every field. Only add one if it contains useful information.

\* When writing tooltips, think about what the user needs. Don't just copy-paste API parameter descriptions. If the description doesn't make sense, or has errors, improve it.

\* Placeholder text: n8n can display placeholder text in a field where the user hasn't entered a value. This can help the user know what's expected in that field.

Info boxes, hints, and tooltips can contain links to more information.

#### Errors

Make it clear which fields are required.

Add validation rules to fields if possible. For example, check for valid email patterns if the field expects an email.

When displaying errors, make sure only the main error message displays in the red error title. More information should go in \*\*Details\*\*.

#### Toggles

\* Tooltips for binary states should start with something like \*\*Whether to . . . \*\*.

\* You may need a list rather than a toggle:

\* Use toggles when it's clear what happens in a false state. For example, \*\*Simplify Output?\*\*. The alternative (don't simplify output) is clear.

\* Use a dropdown list with named options when you need more clarity. For example, \*\*Append?\*\*. What happens if you don't append is unclear (it could be that nothing happens, or information is overwritten, or discarded).

#### Lists

\* Set default values for lists whenever possible. The default should be the most-used option.

\* Sort list options alphabetically.

\* You can include list option descriptions. Only add descriptions if they provide useful information.

\* If there is an option like \*\*All\*\*, use the word \*\*All\*\*, not shorthand like \*\*\*\*\*.

#### Trigger node inputs

When a trigger node has a parameter for specifying which events to trigger on:

\* Name the parameter \*\*Trigger on\*\*.

\* Don't include a tooltip.

#### Subtitles

Set subtitles based on the values of the main parameters. For example:

```js

subtitle: '={{$parameter["operation"] + ": " + $parameter["resource"]}}',

```

#### IDs

When performing an operation on a specific record, such as "update a task comment" you need a way to specify which record you want to change.

\* Wherever possible, provide two ways to specify a record:

\* By choosing from a pre-populated list. You can generate this list using the `loadOptions` parameter. Refer to [Base files](/integrations/creating-nodes/build/reference/node-base-files/index.md) for more information.

\* By entering an ID.

\* Name the field `<Record name> name or ID`. For example, \*\*Workspace Name or ID\*\*. Add a tooltip saying "Choose a name from the list, or specify an ID using an expression." Link to n8n's [Expressions](/code/expressions.md) documentation.

\* Build your node so that it can handle users providing more information than required. For example:

\* If you need a relative path, handle the user pasting in the absolute path.

\* If the user needs to get an ID from a URL, handle the user pasting in the entire URL.

#### Dates and timestamps

n8n uses [ISO timestamp strings](https://en.wikipedia.org/wiki/ISO\_8601){:target=\_blank class=.external-link} for dates and times. Make sure that any date or timestamp field you add supports all ISO 8601 formats.

#### JSON

You should support two ways of specifying the content of a text input that expects JSON:

\* Typing JSON directly into the text input: you need to parse the resulting string into a JSON object.

\* Using an expression that returns JSON.

#### Node icons

--8<-- "\_snippets/integrations/node-icons.md"

### Common patterns and exceptions

This section provides guidance on handling common design patterns, including some edge cases and exceptions to the main standards.

#### Simplify responses

APIs can return a lot of data that isn't useful. Consider adding a toggle that allows users to choose to simplify the response data:

\* Name: \*\*Simplify Response\*\*

\* Description: \*\*Whether to return a simplified version of the response instead of the raw data\*\*

#### Upsert operations

This should always be a separate operation with:

\* Name: \*\*Create or Update\*\*

\* Description: \*\*Create a new record, or update the current one if it already exists (upsert)\*\*

#### Boolean operators

<!-- vale off -->

n8n doesn't have good support for combining boolean operators, such as AND and OR, in the GUI. Whenever possible, provide options for all ANDs or all ORs.

<!-- vale on -->

For example, you have a field called \*\*Must match\*\* to test if values match. Include options to test for \*\*Any\*\* and \*\*All\*\*, as separate options.

#### Source keys or binary properties

Binary data is file data, such as spreadsheets or images. In n8n, you need a named key to reference the data. Don't use the terms "binary data" or "binary property" for this field. Instead, use a more descriptive name: \*\*Input data field name\*\* / \*\*Output data field name\*\*.

## index.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

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# Test a node

This section contains information about testing your node.

There are two ways to test your node:

\* Manually, by [running it on your own machine](/integrations/creating-nodes/test/run-node-locally.md) within a local n8n instance.

\* Automatically, using the [linter](/integrations/creating-nodes/test/node-linter.md).

You should use both methods before publishing your node.

## node-linter.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# n8n node linter

n8n's node linter, [`eslint-plugin-n8n-nodes-base`](https://github.com/ivov/eslint-plugin-n8n-nodes-base), statically analyzes ("lints") the source code of n8n nodes and credentials in the official repository and in community packages. The linter detects issues and automatically fixes them to help you follow best practices.

`eslint-plugin-n8n-nodes-base` contains a [collection of rules](https://github.com/ivov/eslint-plugin-n8n-nodes-base#ruleset) for node files (`\*.node.ts`), resource description files (`\*Description.ts`), credential files (`\*.credentials.ts`), and the `package.json` of a community package.

## Setup

If using the [n8n node starter](https://github.com/n8n-io/n8n-nodes-starter): Run `npm install` in the starter project to install all dependencies. Once the installation finishes, the linter is available to you.

If using VS Code, install the [ESLint VS Code extension](https://marketplace.visualstudio.com/items?itemName=dbaeumer.VS Code-eslint). For other IDEs, refer to their ESLint integrations.

/// note | Don't edit the configuration file

[`.eslintrc.js`](https://github.com/n8n-io/n8n-nodes-starter/blob/master/.eslintrc.js) contains the configuration for `eslint-plugin-n8n-nodes-base`. Don't edit this file.

///

## Usage

You can use the linter in a community package or in the main n8n repository.

### Linting

In a community package, the linter runs automatically after installing dependencies and before publishing the package to npm. In the [main n8n repository](https://github.com/n8n-io/n8n){:target=\_blank .external-link}, the linter runs automatically using GitHub Actions whenever you push to your pull request.

In both cases, VS Code lints in the background as you work on your project. Hover over a detected issue to see a full description of the linting and a link to further information.

You can also run the linter manually:

\* Run `npm run lint` to lint and view detected issues in your console.

\* Run `npm run lintfix` to lint and automatically fix issues. The linter fixes violations of rules [marked as automatically fixable](https://github.com/ivov/eslint-plugin-n8n-nodes-base#ruleset).

Both commands can run in the root directory of your community package, or in `/packages/nodes-base/` in the main repository.

### Exceptions

Instead of fixing a rule violation, you can also make an exception for it, so the linter doesn't flag it.

To make a lint exception from VS Code: hover over the issue and click on `Quick fix` (or `cmd+.` in macOS) and select \*\*Disable {rule} for this line\*\*. Only disable rules for a line where you have good reason to. If you think the linter is incorrectly reporting an issue, please [report it in the linter repository](https://github.com/ivov/eslint-plugin-n8n-nodes-base/issues).

To add a lint exception to a single file, add a code comment. In particular, TSLint rules may not show up in VS Code and may need to be turned off using code comments. Refer to the [TSLint documentation](https://palantir.github.io/tslint/usage/rule-flags/) for more guidance.

## run-node-locally.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# Run your node locally

--8<-- "\_snippets/integrations/creating-nodes/testing.md"

## troubleshooting-node-development.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

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# Troubleshooting

## Credentials

<!-- vale off -->

### Error message: 'Credentials of type "\*" aren't known'

<!-- vale on -->

Check that the name in the credentials array matches the name used in the property name of the credentials' class.

![Troubleshooting credentials](/\_images/integrations/creating-nodes/troubleshooting-credentials-1.png)

<!-- vale off -->

## Editor UI

<!-- vale on -->

<!-- vale off -->

### Error message: 'There was a problem loading init data: API-Server can not be reached. It's probably down'

<!-- vale on -->

- Check that the names of the node file, node folder, and class match the path added to `packages/nodes-base/package.json`.

- Check that the names used in the `displayOptions` property are names used by UI elements in the node.

<!-- vale off -->

### Node icon doesn't show up in the Add Node menu and the Editor UI

<!-- vale on -->

- Check that the icon is in the same folder as the node.

- Check that it's either in PNG or SVG format.

- When the `icon` property references the icon file, check that it includes the logo extension (`.png` or `.svg`) and that it prefixes it with `file:`. For example, `file:friendGrid.png` or `file:friendGrid.svg`.

### Node icon doesn't fit

- If you use an SVG file, make sure the canvas size is square. You can find instructions to change the canvas size of an SVG file using GIMP [here](https://docs.gimp.org/2.10/en/gimp-image-resize.html).

- If you use a PNG file, make sure that it's 60x60 pixels.

### Node doesn't show up in the Add Node menu

Check that you registered the node in the `package.json` file in your project.

<!-- vale off -->

### Changes to the description properties don't show in the UI on refreshing

<!-- vale on -->

Every time you change the description properties, you have to stop the current n8n process (`ctrl` + `c`) and run it again. You may also need to re-run `npm link`.

### Linter incorrectly warning about file name case

The node linter has rules for file names, including what case they should be. Windows users may encounter an issue when renaming files that causes the linter to continue giving warnings, even after you rename the files. This is due to a [known Windows issue](https://answers.microsoft.com/en-us/windows/forum/all/file-renaming-when-changing-case-doesnt-work/aa15ff7c-dd2d-4ed3-bcce-799ca90d4e58) with changing case when renaming files.

## ai-assistant.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

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# AI Assistant

The n8n AI Assistant helps you build, debug, and optimize your workflows seamlessly. From answering questions about n8n to providing help with coding and [expressions](/glossary.md#expression-n8n), the AI Assistant can streamline your workflow-building process and support you as you navigate n8n's capabilities.

## Current capabilities

The AI Assistant offers a range of tools to support you:

- \*\*Debug helper\*\*: Identify and troubleshoot node execution issues in your workflows to keep them running without issues.

- \*\*Answer n8n questions\*\*: Get instant answers to your n8n-related questions, whether they're about specific features or general functionality.

- \*\*Coding support\*\*: Receive guidance on coding, including SQL and JSON, to optimize your nodes and data processing.

- \*\*Expression assistance\*\*: Learn how to create and refine [expressions](/code/expressions.md) to get the most out of your workflows.

- \*\*Credential setup tips\*\*: Find out how to set up and manage node [credentials](/integrations/builtin/credentials/index.md) securely and efficiently.

## Tips for getting the most out of the Assistant

1. \*\*Engage in a conversation\*\*: The AI Assistant can collaborate with you step-by-step. If a suggestion isn't what you need, let it know! The more context you provide, the better the recommendations will be.

<!-- vale from-microsoft.FirstPerson = NO -->

2. \*\*Ask specific questions\*\*: For the best results, ask focused questions (for example, "How do I set up credentials for Google Sheets?"). The assistant works best with clear queries.

3. \*\*Iterate on suggestions\*\*: Don't hesitate to build on the assistant's responses. Try different approaches and keep refining based on the assistant's feedback to get closer to your ideal solution.

4. \*\*Things to try out\*\*:

- Debug any error you're seeing

- Ask how to setup credentials

- "Explain what this workflow does."

- "I need your help to write code: [Explain your code here]"

- "How can I build X in n8n?"

<!-- vale from-microsoft.FirstPerson = YES -->

## FAQs

<!-- vale from-microsoft.HeadingPunctuation = NO -->

### What context does the Assistant have?

The AI Assistant has access to all elements displayed on your n8n screen, excluding actual input and output data values (like customer information). To learn more about what data n8n shares with the Assistant, refer to [AI in n8n](https://docs.n8n.io/privacy-security/privacy/#ai-in-n8n).

<!-- vale from-microsoft.FirstPerson = NO -->

### Who can use the Assistant?

<!-- vale from-microsoft.FirstPerson = YES -->

Any user on a Cloud plan can use the assistant.

### How does the Assistant work?

The underlying logic of the assistant is build with the advanced AI capabilities of n8n. It uses a combination of different [agents](/glossary.md#ai-agent), specialized in different areas of n8n, RAG to gather knowledge from the docs and the community forum, and custom prompts, [memory](/glossary.md#ai-memory) and context.

<!-- vale from-microsoft.HeadingPunctuation = YES -->

## change-ownership-or-username.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Change Instance Ownership or Username

Description: Change instance ownership or username.

contentType: howto

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## Change instance ownership

You can change the ownership of an instance by navigating to the \*\*Settings\*\* page in the owner's account and editing the \*\*Email\*\* field. After making the changes, scroll down and press \*\*Save\*\*.

Note that for the change to be effective, the new email address can't be linked to any other n8n account.

Changing emails will change the owner of the instance, the email you log in with, and the email your invoices and general communication gets sent to.

If the workspace is deactivated, there will be no \*\*Settings\*\* page and no possibility to change the email address or the owner info.

## Change instance username

It's not currently possible to change usernames.

If you want your instance to have a different name you will need to create a new account and transfer your work into it. [The import/export documentation](https://docs.n8n.io/workflows/export-import/) explains how you can transfer your work to a new n8n instance.

## cloud-admin-dashboard.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to access the Cloud admin dashboard.

contentType: howto

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# Cloud admin dashboard

Instance owners can access the admin dashboard to manage their Cloud instance. This is where you can upgrade your n8n version and set the timezone.

## Access the dashboard from the app

1. [Log in to n8n](https://app.n8n.cloud/magic-link){:target=\_blank .external-link}

1. Select \*\*Admin Dashboard\*\*. n8n opens the dashboard.

## Access the dashboard if the app is offline

If your instance is down, you can still access the admin dashboard. When you log in to the app, n8n will ask you if you want a magic link to access your dashboard. Select \*\*Send magic link\*\*, then check your email for the link.

## cloud-data-management.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to manage your data on Cloud.

contentType: howto

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# Cloud data management

There are two concerns when managing data on Cloud:

\* Memory usage: complex workflows processing large amounts of data can exceed n8n's memory limits. If this happens, the instance can crash and become inaccessible.

\* Data storage: depending on your execution settings and volume, your n8n database can grow in size and run out of storage.

To avoid these issues, n8n recommends that you build your workflows with memory efficiency in mind, and don't save unnecessary data

## Memory limits on each Cloud plan

Current plans:

\* Trial: 320MiB RAM, 10 millicore CPU burstable

\* Starter: 320MiB RAM, 10 millicore CPU burstable

\* Pro-1 (10k executions): 640MiB RAM, 20 millicore CPU burstable

\* Pro-2 (50k executions): 1280MiB RAM, 80 millicore CPU burstable

\* Enterprise: 4096MiB RAM, 80 millicore CPU burstable

Legacy plans:

\* Start: 320MiB RAM, 10 millicore CPU burstable

\* Power: 1280MiB RAM, 80 millicore CPU burstable

n8n gives each instance up to 100GB of data storage.

## How to reduce memory consumption in your workflow

The way you build workflows affects how much data they consume when executed. Although these guidelines aren't applicable to all cases, they provide a baseline of best practices to avoid exceeding instance memory.

--8<-- "\_snippets/self-hosting/scaling/reduce-memory-consumption.md"

Note that n8n itself consumes memory to run. On average, the software alone uses around 180MiB RAM.

Interactions with the UI also consume memory. Playing around with the workflow UI while it performs heavy executions could also push the memory capacity over the limit.

## How to manage execution data on Cloud

Execution data includes node data, parameters, variables, execution context, and binary data references. It's text-based.

Binary data is non-textual data that n8n can't represent as plain text. This is files and media such as images, documents, audio files, and videos. It's much larger than textual data.

If a workflow consumes a large amounts of data and is past testing stage, it's a good option to stop saving the successful executions.

There are two ways you can control how much execution data n8n stores in the database:

In the admin dashboard:

1. From your workspace or editor, navigate to \*\*Admin Panel\*\*.

1. Select \*\*Manage\*\*.

1. In \*\*Executions to Save\*\* deselect the executions you don't want to log.

In your workflow settings:

1. Select the \*\*Options\*\* <span class="inline-image">![Options menu](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span> menu.

1. Select \*\*Settings\*\*. n8n opens the \*\*Workflow settings\*\* modal.

1. Change \*\*Save successful production executions\*\* to \*\*Do not save\*\*.

## Cloud data pruning and out of memory incident prevention

### Automatic data pruning

n8n automatically prunes execution logs after a certain time or once you reach the max storage limit, whichever comes first. The pruning always happens from oldest to newest and the limits depend on your Could plan:

\* Start and Starter plans: max 2500 executions saved and 7 days execution log retention;

\* Pro and Power plans: max 25000 executions saved and 30 days execution log retention;

\* Enterprise plan: max 50000 executions saved and unlimited execution log retention time.

### Manual data pruning

Heavier executions and use cases can exceed database capacity despite the automatic pruning practices. In cases like this, n8n will manually prune data to protect instance stability.

1. An alert system warns n8n if an instance is at 85% disk capacity.

2. n8n prunes execution data. n8n does this by running a backup of the instance (workflows, users, credentials and execution data) and restoring it without execution data.

Due to the human steps in this process, the alert system isn't perfect. If warnings are triggered after hours or if data consumption rates are high, there might not be time to prune the data before the remaining disk space fills up.

## cloud-free-trial.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Cloud free trial

description: Explanation on how the n8n Cloud trial works and the features included

contentType: Overview

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# Cloud free trial

When you create a new n8n cloud trial, you have 14 days to try all the features of the [Pro plan](https://n8n.io/pricing/), including:

- Global variables

- Insights dashboard

- Execution search

- 5 days workflow history to rollback

The trial gives you Pro plan features with limits of 1000 executions, 5 active workflows, and the same computing power as the [Starter plan](https://n8n.io/pricing/).

## Upgrade to a paid account

You can upgrade to a paid n8n account at any time. To upgrade:

1. Log in to your account.

2. Click the \*\*Upgrade\*\* button in the upper-right corner.

3. Select your plan and whether to pay annually or by the month.

4. Select a payment method.

## Trial expiration

If you don't upgrade by the end of your trial, the trial will automatically expire and your workspace will be deleted.

/// tip | Download your workflows

You can [download your workflows](/manage-cloud/download-workflows.md) to reuse them later. You have 90 days to download your workflows after your free trial ends.

///

### Cancelling your trial

You don't need to cancel your trial. Your trial will automatically expire at the end of the trial period and no charges will occur. All your data will be deleted soon after.

## Enterprise trial

You can contact the sales team if you want to test the [Enterprise plan](https://n8n.io/pricing/), which includes features such as:

- SSO SAML and LDAP

- Different environments

- External secret store integration

- Log streaming

- Version control using Git

Click the \*\*Contact\*\* button on the [n8n website](https://n8n.io/pricing/).

## cloud-ip.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: reference

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# Cloud IP addresses

/// warning | Cloud IP addresses change without warning

n8n can't guarantee static source IPs, as Cloud operates in a dynamic cloud provider environment and scales its infrastructure to meet demand. You should use strong authentication and secure transport protocols when connecting into and out of n8n.

///

Outbound traffic may appear to originate from any of:

\* 20.79.227.226/32

\* 20.113.47.122/32

\* 20.218.202.73/32

\* 98.67.233.91/32

\* 4.182.111.50/32

\* 4.182.129.20/32

\* 4.182.88.118/32

\* 4.182.212.136/32

\* 98.67.244.108/32

\* 72.144.128.145/32

\* 72.144.83.147/32

\* 72.144.69.38/32

\* 72.144.111.50/32

\* 4.182.128.108/32

\* 4.182.190.144/32

\* 4.182.191.184/32

\* 98.67.233.200/32

\* 20.52.126.0/28

\* 20.218.238.112/28

\* 4.182.64.64/28

\* 20.218.174.0/28

\* 4.184.78.240/28

\* 20.79.32.32/28

\* 51.116.119.64/28

## concurrency.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: explanation

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# Cloud concurrency

/// info | Only for n8n Cloud

This document discusses concurrency in n8n Cloud. Read [self-hosted n8n concurrency control](/hosting/scaling/concurrency-control.md) to learn how concurrency works with self-hosted n8n instances.

///

Too many concurrent executions can cause performance degradation and unresponsiveness. To prevent this and improve instance stability, n8n sets concurrency limits for production executions in regular mode.

Any executions beyond the limits queue for later processing. These executions remain in the queue until concurrency capacity frees up, and are then processed in FIFO order.

## Concurrency limits

n8n limits the number of concurrent executions for Cloud instances according to their plan:

\* Starter and Trial: 5

\* Pro (10k workflow executions, 15 active workflows): 20

\* Pro (50k workflow executions, 50 active workflows): 50

\* Enterprise (in regular mode): 200

You can view the number of active executions and your plan's concurrency limit at the top of a project's or workflow's executions tab.

## Details

Some other details about concurrency to keep in mind:

- Concurrency control applies only to production executions: those started from a webhook or trigger node. It doesn't apply to any other kinds, such as manual executions, sub-workflow executions, or error executions.

- [Test evaluations](/glossary.md#evaluation-n8n) do not count towards concurrency limits. Your test evaluation concurrency limit is equal to, but separate from, your plan's regular concurrency limit.

- You can't retry queued executions. Cancelling or deleting a queued execution also removes it from the queue.

- On instance startup, n8n resumes queued executions up to the concurrency limit and re-enqueues the rest.

## Comparison to queue mode

/// info | Feature availability

Queue mode is available for Cloud Enterprise plans. To enable it, [contact n8n](https://n8n-community.typeform.com/to/y9X2YuGa){:target=\_blank .external-link}.

///

Concurrency in queue mode is a separate mechanism from concurrency in regular mode. In queue mode, the concurrency settings determine how many jobs each worker can run in parallel. In regular mode, concurrency limits apply to the entire instance.

## download-workflows.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Download workflows

description: How to download workflows from n8n Cloud with the admin dashboard.

contentType: howto

---

# Download workflows

n8n Cloud instance owners can download workflows from the most recent backup.

You can do this with the [Cloud admin dashboard](/manage-cloud/cloud-admin-dashboard.md).

## How to download workflows

1. [Log in to n8n](https://app.n8n.cloud/magic-link).

1. Select \*\*Admin Dashboard\*\* to open the dashboard.

1. In the \*\*Manage\*\* section, select the \*\*Export\*\* tab.

1. Select \*\*Download Workflows\*\*.

## Accessing workflows after your free trial

You have \*\*90 days\*\* to download your workflows after your free trial ends. After that, all workflows will be \*\*permanently deleted\*\* and are unrecoverable.

## overview.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

hide:

- toc

---

# n8n Cloud

n8n Cloud is n8n's hosted solution. It provides:

- No technical set up or maintenance for your n8n instance

- Continual uptime monitoring

- Managed OAuth for authentication

- One-click upgrades to the newest n8n versions

[Sign up for n8n Cloud](https://www.n8n.io/){:target=\_blank .external-link}

/// note | Russia and Belarus

n8n Cloud isn't available in Russia and Belarus. Refer to this blog post: [Update on n8n cloud accounts in Russia and Belarus](https://blog.n8n.io/update-on-n8n-cloud-accounts-in-russia-and-belarus/) for more information.

///

## set-cloud-timezone.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to set your timezone on n8n Cloud.

contentType: howto

---

# Set the Cloud instance timezone

You can change the timezone for your n8n instance. This affects the [Schedule Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) and [Date & Time node](/integrations/builtin/core-nodes/n8n-nodes-base.datetime.md). Users can configure the timezone for individual workflows in [Workflow settings](/workflows/settings.md).

1. On your dashboard, select \*\*Manage\*\*.

1. Change the \*\*Timezone\*\* dropdown to the timezone you want.

## update-cloud-version.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to update your n8n version on Cloud.

contentType: howto

---

# Update your Cloud version

n8n recommends regularly updating your Cloud version. Check the [Release notes](/release-notes.md) to learn more about changes.

/// info

Only instance owners can upgrade n8n Cloud versions. Contact your instance owner if you don't have permission to update n8n Cloud.

///

1. [Log in to the n8n Cloud dashboard](https://app.n8n.cloud/manage){:target=\_blank .external-link}

1. On your dashboard, select \*\*Manage\*\*.

1. Use the \*\*n8n version\*\* dropdown to select your preferred release version:

\* Latest Stable: recommended for most users.

\* Latest Beta: get the newest n8n. This may be unstable.

1. Select \*\*Save Changes\*\* to restart your n8n instance and perform the update.

1. In the confirmation modal, select \*\*Confirm\*\*.

## Best practices for updating

--8<-- "\_snippets/manage-cloud/updating-best-practices.md"

## Automatic update

n8n automatically updates outdated Cloud instances.

If you don't update you instance for 120 days, n8n emails you to warn you to update. After a further 30 days, n8n automatically updates your instance.

## incident-response.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Incident response

description: n8n's incident response procedures.

contentType: explanation

---

<!-- vale off -->

# Incident response

n8n implements incident response best practices for identifying, documenting, resolving and communicating incidents.

n8n publishes incident notifications to a status page at [n8n Status](https://status.n8n.cloud/){:target=\_blank .external-link}.

n8n notifies customers of any data breaches according to the company's [Data Processing Addendum](https://n8n.io/legal/#data){:target=\_blank .external-link}.

<!-- vale on -->

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: n8n Privacy and security

description: Learn about privacy and security at n8n. Explore how n8n handles and secures your data, with an overview of key policies and procedures.

contentType: overview

---

<!-- vale off -->

# Privacy and security at n8n

n8n is committed to the privacy and security of your data. This section outlines how n8n handles and secures data. This isn't an exhaustive list of practices, but an overview of key policies and procedures.

If you have any questions related to data privacy, email privacy@n8n.io.

If you have any security-related questions, or if you want to report a suspected vulnerability, email security@n8n.io.

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

<!-- vale on -->

## privacy.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: n8n's privacy policies

tags:

- gdpr

- data collection

- pid

- payment processor

hide:

- tags

contentType: explanation

---

<!-- vale off -->

# Privacy

This page describes n8n's data privacy practices.

## GDPR

### Data processing agreement

For Cloud versions of n8n, n8n is considered both a Controller and a Processor as defined by the GDPR. As a Processor, n8n implements policies and practices that secure the personal data you send to the platform, and includes a [Data Processing Agreement](https://n8n.io/legal/#data){:target=\_blank .external-link} as part of the company's standard [Terms of Service](https://n8n.io/legal/#terms){:target=\_blank .external-link}.

The n8n Data Processing Agreement includes the [Standard Contractual Clauses (SCCs)](https://ec.europa.eu/info/law/law-topic/data-protection/international-dimension-data-protection/standard-contractual-clauses-scc\_en){:target=\_blank .external-link}. These clarify how n8n handles your data, and they update n8n's GDPR policies to cover the latest standards set by the European Commission.

You can find a list of n8n sub-processors [here](https://n8n.io/legal/#subprocessors){:target=\_blank .external-link}.

/// note | Self-hosted n8n

For self-hosted versions, n8n is neither a Controller nor a Processor, as we don't manage your data

///

### Submitting a GDPR deletion request

Email privacy@n8n.io to request data deletion.

### Sub-processors

This is a list of sub-processors authorized to process customer data for n8n's service. n8n audits each sub-processor's security controls and applicable regulations for the protection of personal data.

| Sub-processor name | Contact details | Geographic location of processing |

| ------------------ | --------------- | --------------------------------- |

| Microsoft Azure | Microsoft Azure <br /> 1 Microsoft Way <br /> Redmond <br /> WA 98052 <br /> USA <br /> Contact information: https://privacy.microsoft.com/en-GB/privacystatement#mainhowtocontactusmodule | Germany (West Central Region) |

| Hetzner Online | Hetzner Online GmbH <br /> Industriestr. 25 <br /> 91710 Gunzenhausen <br /> Germany <br /> data-protection@hetzner.com | Germany |

Subscribe [here](https://n8n-community.typeform.com/to/FdeRxSkH?typeform-source=n8n.io){:target=\_blank .external-link} to receive updates when n8n adds or changes a sub-processor.

### GDPR for self-hosted users

--8<-- "\_snippets/privacy-security/gdpr-self-hosted.md"

## Data collection

n8n collects selected usage and performance data to help diagnose problems and improve the platform. Read about how n8n stores and processes this information in the [privacy policy](https://n8n.io/legal/#privacy){:target=\_blank .external-link}.

The data gathered is different in self-hosted n8n and n8n Cloud.

### Data collection in self-hosted n8n

n8n takes care to keep self-hosted data anonymous and avoids collecting sensitive data.

#### What n8n collects

- Error codes and messages of failed executions (excluding any payload data, and not for custom nodes)

- Error reports for app crashes and API issues

- The graph of a workflow (types of nodes used and how they're connected)

- From node parameters:

- The 'resource' and 'operation' that a node is set to (if applicable)

- For HTTP request nodes, the domain, path, and method (with personal data anonymized)

- Data around workflow executions:

- Status

- The user ID of the user who ran the execution

- The first time a workflow loads data from an external source

- The first successful production (non-manual) workflow execution

- The domain of webhook calls, if specified (excluding subdomain).

- Details on how the UI is used (for example, navigation, nodes panel searches)

- Diagnostic information:

- n8n version

- Selected settings:

- DB\_TYPE

- N8N\_VERSION\_NOTIFICATIONS\_ENABLED

- N8N\_DISABLE\_PRODUCTION\_MAIN\_PROCESS

- [Execution variables](/hosting/configuration/environment-variables/executions.md)

- OS, RAM, and CPUs

- Anonymous instance ID

- IP address

#### What n8n doesn't collect

n8n doesn't collect private or sensitive information, such as:

- Personally identifiable information (except IP address)

- Credential information

- Node parameters (except 'resource' and 'operation')

- Execution data

- Sensitive settings (for example, endpoints, ports, DB connections, username/password)

- Error payloads

#### How collection works

Most data is sent to n8n as events that generate it occur. Workflow execution counts and an instance pulse are sent periodically (every 6 hours).

#### Opting out of telemetry

Telemetry collection is enabled by default. To disable it you can configure the following environment variables.

To opt out of telemetry events:

```bash

export N8N\_DIAGNOSTICS\_ENABLED=false

```

To opt out of checking for new versions of n8n:

```bash

export N8N\_VERSION\_NOTIFICATIONS\_ENABLED=false

```

To disable the templates feature (prevents background health check calls):

```bash

export N8N\_TEMPLATES\_ENABLED=false

```

See [configuration](/hosting/configuration/configuration-methods.md) for more info on how to set environment variables.

### Data collection in n8n Cloud

n8n Cloud collects everything listed in [Data collection in self-hosted n8n](#data-collection-in-self-hosted-n8n).

Additionally, in n8n Cloud, n8n uses [PostHog](https://posthog.com/){:target=\_blank .external-link} to track events and visualise usage, including using session recordings. Session recordings comprise the data seen by a user on screen, with the exception of credential values. n8n's product team uses this data to improve the product. All recordings are deleted after 21 days.

### AI in n8n

To provide enhanced assistance, n8n integrates AI-powered features that leverage Large Language Models (LLMs).

#### How n8n uses AI

To assist and improve user experience, n8n may send specific context data to LLMs. This context data is strictly limited to information about the current workflow. n8n does not send any values from credential fields or actual output data to AI services. The data will not be incorporated, used, or retained to train the models of the AI services. Any data will be deleted after 30 days.

#### When n8n shares data

Data is only sent to AI services if workspaces have opted in to use the assistant. The Assistant is enabled by default for n8n Cloud users. When a workspace opts in to use the assistant, node-specific data is transmitted only during direct interactions and active sessions with the AI assistant, ensuring no unnecessary data sharing occurs.

#### What n8n shares

- \*\*General Workflow Information\*\*: This includes details about which nodes are present in your workflow, the number of items currently in the workflow, and whether the workflow is active.

- \*\*Input & Output Schemas of Nodes\*\*: This includes the schema of all nodes with incoming data and the output schema of a node in question. We do not send the actual data value of the schema.

- \*\*Node Configuration\*\*: This includes the operations, options, and settings chosen in the referenced node.

- \*\*Code and Expressions\*\*: This includes any code or expressions in the node in question to help with debugging potential issues and optimizations.

#### What n8n doesn't share

- \*\*Credentials\*\*: Any values of the credential fields of your nodes.

- \*\*Output Data\*\*: The actual data processed by your workflows.

- \*\*Sensitive Information\*\*: Any personally identifiable information or other sensitive data that could compromise your privacy or security that you have not explicitly mentioned in node parameters or your code of a [Code Node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md).

### Documentation telemetry

n8n's documentation (this website) uses cookies to recognize your repeated visits and preferences, as well as to measure the effectiveness of n8n's documentation and whether users find what they're searching for. With your consent, you're helping n8n to make our documentation better.

[Change cookie settings](#\_\_consent){ .md-button }

## Retention and deletion of personal identifiable data

PID (personal identifiable data) is data that's personal to you and would identify you as an individual.

### n8n Cloud

#### PID retention

n8n only retains data for as long as necessary to provide the core service.

For n8n Cloud, n8n stores your workflow code, credentials, and other data indefinitely, until you choose to delete it or close your account. The platform stores execution data according to the retention rules on your account.

n8n deletes most internal application logs and logs tied to subprocessors within 90 days. The company retains a subset of logs for longer periods where required for security investigations.

#### PID deletion

If you choose to delete your n8n account, n8n deletes all customer data and event data associated with your account. n8n deletes customer data in backups within 90 days.

### Self-hosted

Self-hosted users should have their own PID policy and data deletion processes. Refer to [What you can do](/privacy-security/what-you-can-do.md) for more information.

## Payment processor

n8n uses Paddle.com to process payments. When you sign up for a paid plan, Paddle transmits and stores the details of your payment method according to their security policy. n8n stores no information about your payment method.

<!-- vale on -->

## what-you-can-do.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: What you can do

description: What you can do to improve privacy and data security when using n8n.

contentType: howto

---

<!-- vale off -->

# What you can do

It's also your responsibility as a customer to ensure you are securing your code and data. This document lists some steps you can take.

## All users

\* Report security issues and [terms of service](https://n8n.io/legal/#terms){:target=\_blank .external-link} violations to security@n8n.io.

\* If more than one person uses your n8n instance, set up [User management](/user-management/index.md) and follow the [Best practices](/user-management/best-practices.md).

\* Use OAuth to connect integrations whenever possible.

## Self-hosted users

If you self-host n8n, there are additional steps you can take:

\* Set up a reverse proxy to handle TLS, ensuring data is encrypted in transit.

\* Ensure data is encrypted at rest by using encrypted partitions, or encryption at the hardware level, and ensuring n8n and its database is written to that location.

\* Run a [Security audit](/hosting/securing/security-audit.md).

\* Be aware of the [Risks](/integrations/community-nodes/risks.md) when installing community nodes, or choose to disable them.

\* Make sure users can't import external modules in the Code node. Refer to [Environment variables | Nodes](https://docs.n8n.io/hosting/configuration/environment-variables/nodes) for more information.

\* Choose to exclude certain nodes. For example, you can disable nodes like Execute Command or SSH. Refer to [Environment variables | Nodes](https://docs.n8n.io/hosting/configuration/environment-variables/nodes) for more information.

\* For maximum privacy, you can [Isolate n8n](/hosting/configuration/configuration-examples/isolation.md).

### GDPR for self-hosted users

--8<-- "\_snippets/privacy-security/gdpr-self-hosted.md"

<!-- vale on -->

## 0-x.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Release notes pre 1.0

description: Release notes detailing new features and bug fixes for n8n.

tags:

- release

- release notes

- changelog

hide:

- tags

contentType: reference

---

<!-- vale off -->

# Release notes pre 1.0

Features and bug fixes for n8n before the release of 1.0.0.

You can also view the [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} in the GitHub repository.

--8<-- "\_snippets/self-hosting/installation/latest-next-version.md"

--8<-- "\_snippets/update-n8n.md"

## Semantic versioning in n8n

n8n uses [semantic versioning](https://semver.org/){:target=\_blank .external-link}. All version numbers are in the format `MAJOR.MINOR.PATCH`. Version numbers increment as follows:

\* MAJOR version when making incompatible changes which can require user action.

\* MINOR version when adding functionality in a backward-compatible manner.

\* PATCH version when making backward-compatible bug fixes.

## n8n@0.237.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.236.3...n8n@0.237.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-08-17

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Jordan Hall](https://github.com/Jordan-Hall){:target=\_blank .external-link}

[Xavier Calland](https://github.com/xavier-calland){:target=\_blank .external-link}

## n8n@0.236.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.236.2...n8n@0.236.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-18

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Romain Dunand](https://github.com/airmoi){:target=\_blank .external-link}

[noctarius aka Christoph Engelbert](https://github.com/noctarius){:target=\_blank .external-link}

## n8n@0.236.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.236.1...n8n@0.236.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-14

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.236.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.236.0...n8n@0.236.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-12

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.236.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.235.0...n8n@0.236.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-05

This release contains new nodes, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New nodes

<div class="n8n-new-features" markdown>

#### crowd.dev

This release includes a [crowd.dev](https://www.crowd.dev/){:target=\_blank .external-link} node and crowd.dev Trigger node. crowd.dev is a tool to help you understand who is engaging with your open source project.

[crowd.dev node documentation](/integrations/builtin/app-nodes/n8n-nodes-base.crowddev.md).

</div>

### Contributors

[Alberto Pasqualetto](https://github.com/albertopasqualetto){:target=\_blank .external-link}

[perseus-algol](https://github.com/perseus-algol){:target=\_blank .external-link}

[Romeo Balta](https://github.com/romeobalta){:target=\_blank .external-link}

[ZergRael](https://github.com/ZergRael){:target=\_blank .external-link}

## n8n@0.234.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.234.0...n8n@0.234.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-07-05

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.235.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.234.0...n8n@0.235.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-28

This release contains new features, new nodes, node enhancements, and bug fixes.

/// warning | Unstable version

This version is (as of 4th July 2023) considered unstable. n8n recommends against upgrading.

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Contributors

[Marten Steketee](https://github.com/Marten-S){:target=\_blank .external-link}

[Sandra Ashipala](https://github.com/sandramsc){:target=\_blank .external-link}

## n8n@0.234.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.233.1...n8n@0.234.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-22

This release contains new features, new nodes, node enhancements, and bug fixes.

/// warning | Unstable version

This version is (as of 4th July 2023) considered unstable. n8n recommends upgrading directly to 0.234.1.

///

/// warning | Irreversible database migration

This version contains a database migration that changes credential and workflow IDs to use nanoId strings, This migration may take a while to complete in some environments. This change doesn't break anything using the older numeric IDs.

If you upgrade to 0.234.0, you can't roll back to an earlier version.

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New nodes

<div class="n8n-new-features" markdown>

#### Debug Helper

The Debug Helper node can be used to trigger different error types or generate random datasets to help test n8n workflows.

[Debug Helper node documentation](/integrations/builtin/core-nodes/n8n-nodes-base.debughelper.md).

</div>

## n8n@0.233.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.233.0...n8n@0.233.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-19

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.233.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.232.0...n8n@0.233.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-14

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.232.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.231.1...n8n@0.232.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-07

This release contains new features, new nodes, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New nodes

This release includes a new trigger node for Postgres, which allows you to listen to events, as well as listen to custom channels. Refer to [Postgres Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.postgrestrigger.md) for more information.

## n8n@0.231.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.231.2...n8n@0.231.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-17

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.231.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.231.1...n8n@0.231.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-14

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.231.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.231.0...n8n@0.231.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-06

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.231.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.230.2...n8n@0.231.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-31

This release contains bug fixes and new features.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New features

Notable new features.

#### Resource mapper UI component

This release includes a new UI component, the resource mapper. This component is useful for node creators. If your node does insert, update, or upsert operations, you need to send data from the node in a format supported by the service you're integrating with. Often it's necessary to use a Set node before a node that sends data, to get the data to match the schema of the service you're connecting to. The resource mapper UI component provides a way to get data into the required format directly within the node.

Refer to [Node user interface elements | Resource mapper](/integrations/creating-nodes/build/reference/ui-elements.md#resource-mapper) for guidance for node builders.

## n8n@0.230.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.230.2...n8n@0.230.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-06-05

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.230.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.230.1...n8n@0.230.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-25

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.230.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.230.0...n8n@0.230.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-25

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.230.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.229.0...n8n@0.230.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-24

This release contains new features, new nodes, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New nodes

<div class="n8n-new-features" markdown>

#### Execution Data

Save metadata for workflow executions. You can then search by this data in the \*\*Executions\*\* list.

[Execution Data node documentation](/integrations/builtin/core-nodes/n8n-nodes-base.executiondata.md).

</div>

<div class="n8n-new-features" markdown>

#### LDAP node

The LDAP node allows you to interact with your LDAP servers from your n8n workflows.

[LDAP node documentation](/integrations/builtin/core-nodes/n8n-nodes-base.ldap.md).

</div>

<div class="n8n-new-features" markdown>

#### LoneScale node

Integrate n8n with [LoneScale](https://www.lonescale.com/){:target=\_blank .external-link}, a buying intents data platform.

[LoneScale node documentation](/integrations/builtin/app-nodes/n8n-nodes-base.lonescale.md).

</div>

### Contributors

[Bram Kn](https://github.com/bramkn){:target=\_blank .external-link}

[pemontto](https://github.com/pemontto){:target=\_blank .external-link}

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## n8n@0.229.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.228.0...n8n@0.229.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-17

This release contains bug fixes, improves UI copy and error messages in some nodes, and other node enhancements.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Node enhancements

The Google Ads node now supports v13.

## n8n@0.228.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.228.1...n8n@0.228.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-15

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.228.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.228.0...n8n@0.228.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-11

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.228.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.227.0...n8n@0.228.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-11

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New nodes

<div class="n8n-new-features" markdown>

#### npm node

This release introduces the [npm](/integrations/builtin/app-nodes/n8n-nodes-base.npm.md) node. This is a new core node. It provides a way to query an npm registry within your workflow.

</div>

### Contributors

[Adam Charnock](https://github.com/adamcharnock){:target=\_blank .external-link}

## n8n@0.227.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.227.0...n8n@0.227.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-15

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.227.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.226.2...n8n@0.227.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-03

This release contains new features, node enhancements, and bug fixes.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### Node enhancements

\* An overhaul of the Microsoft Excel 365 node, improve the UI making it easier to configure, improve error handling, and fix issues.

### Deprecations

This release deprecates the following:

\* The `EXECUTIONS\_PROCESS` environment variable.

\* Running n8n in own mode. Main mode is now the default. Use [Queue mode](/hosting/scaling/queue-mode.md) if you need full execution isolation.

\* The `WEBHOOK\_TUNNEL\_URL` flag. Replaced by `WEBHOOK\_URL`.

\* Support for MySQL and MariaDB as n8n backend databases. n8n will remove support completely in version 1.0. n8n recommends using PostgreSQL instead.

## n8n@0.226.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.226.1...n8n@0.226.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-03

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.226.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.226.0...n8n@0.226.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-05-02

This is a bug fix release.

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

## n8n@0.226.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.225.2...n8n@0.226.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-26

This release contains new features, node enhancements, and bug fixes.

/// warning | Breaking changes

Please note that this version contains a breaking change to `extractDomain` and `isDomain`. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#02260){:target=\_blank .external-link}.

///

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases){:target=\_blank .external-link} on GitHub.

### New features

\* A new command to get information about licenses for self-hosted users:

```sh

n8n license:info

```

### Node enhancements

\* Nodes that use SQL, such as the PostgresSQL node, now have a better SQL editor for writing custom queries.

\* An overhaul of the Google BigQuery node to support executing queries, improve the UI making it easier to configure, improve error handling, and fix issues.

## n8n@0.225.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.225.1...n8n@0.225.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-25

This is a bug fix release.

### Bug fixes

\* Core: Upgrade google-timezones-json to use the correct timezone for Sao Paulo.

\* Code Node: Update vm2 to address [CVE-2023-30547](https://github.com/advisories/GHSA-ch3r-j5x3-6q2m){:target=\_blank .external-link}.

## n8n@0.225.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.225.0...n8n@0.225.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-20

This is a bug fix release.

### Bug fixes

\* Editor: Clean up demo and template callouts from workflows page.

\* Editor: Fix memory leak in Node Detail View by correctly unsubscribing from event buses.

\* Editor: Settings sidebar should disconnect from push when navigating away.

\* Notion Node: Update credential test to not require user permissions.

## n8n@0.225.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.224.1...n8n@0.225.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-19

### New features

<div class="n8n-new-features" markdown>

This release introduces [Variables](/code/variables.md). You can now create variables that allows you to store and reuse values in n8n workflows. This is the first phase of a larger project to support [Environments](/source-control-environments/index.md) in n8n.

</div>

\* Core: Add support for Google Service account authentication in the HTTP Request node.

\* GitLab Node: Add \*\*Additional Parameters\*\* for the file list operation.

\* MySQL Node: This node has been overhauled.

### Bug fixes

\* Core: Fix broken API permissions in public API.

\* Core: Fix paired item returning wrong data.

\* Core: Improve SAML connection test result views.

\* Core: Make getExecutionId available on all nodes types.

\* Core: Skip SAML onboarding for users with first- and lastname.

\* Editor: Add padding to prepend input.

\* Editor: Clean up demo/video experiment.

\* Editor: Enterprise features missing with user management.

\* Editor: Fix moving canvas on middle click preventing lasso selection.

\* Editor: Make sure to redirect to blank canvas after personalisation modal.

\* Editor: Fix an issue that was preventing typing certain characters in the UI on devices with touchscreen.

\* Editor: Fix n8n-checkbox alignment.

\* Code Node: Handle user code returning null and undefined.

\* GitHub Trigger Node: Remove content\_reference event.

\* Google Sheets Trigger Node: Return actual error message.

\* HTTP Request Node: Fix `itemIndex` in HTTP Request errors.

\* NocoDB Node: Fix for updating or deleting rows with not default primary keys.

\* OpenAI Node: Update models to only show those supported.

\* OpenAI Node: Update OpenAI Text Moderate input placeholder text.

### Contributors

[Bram Kn](https://github.com/bramkn){:target=\_blank .external-link}

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## n8n@0.224.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.224.2...n8n@0.224.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-24

This is a bug fix release.

### Bug fixes

\* Core: Upgrade google-timezones-json to use the correct timezone for Sao Paulo.

\* Code Node: Update vm2 to address [CVE-2023-30547](https://github.com/advisories/GHSA-ch3r-j5x3-6q2m){:target=\_blank .external-link}.

## n8n@0.224.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.224.1...n8n@0.224.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-20

This is a bug fix release.

### Bug fixes

\* Core: Fix paired item returning wrong data.

\* Core: Make getExecutionId available on all nodes types.

\* Editor: Fix memory leak in Node Detail View by correctly unsubscribing from event buses.

\* Editor: Fix moving canvas on middle click preventing lasso selection.

\* Editor: Settings sidebar should disconnect from push when navigating away.

\* Google Sheets Trigger Node: Return actual error message.

\* HTTP Request Node: Fix `itemIndex` in HTTP Request errors.

\* Notion Node: Update credential test to not require user permissions.

### Contributors

[Filipe Dobreira](https://github.com/filp){:target=\_blank .external-link}

## n8n@0.224.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.224.0...n8n@0.224.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-14

This is a bug fix release.

### Bug fixes

\* Core: Fix broken API permissions in public API.

\* Editor: Fix an issue that was preventing typing certain characters in the UI on devices with touchscreen.

## n8n@0.224.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.223.0...n8n@0.224.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-12

This release contains a new node, updates, and bug fixes.

### New nodes

This release introduces the [TOTP](/integrations/builtin/core-nodes/n8n-nodes-base.totp.md) node. This is a new core node. It provides a way to generate a TOTP (time-based one-time password) within your workflow.

### Bug fixes

\* Code Node: Update vm2 to address CVE-2023-29017.

\* Core: App shouldn't crash with a custom REST endpoint.

\* Core: Do not execute workflowExecuteBefore hook when resuming executions from a waiting state.

\* Core: Fix issue where sub workflows would display as running forever after failure to start.

\* Core: Update xml2js to address CVE-2023-0842.

\* Editor: Drop mergeDeep in favor of lodash merge.

\* HTTP Request Node: Restore detailed error message.

### Contributors

[Loganaden Velvindron](https://github.com/loganaden){:target=\_blank .external-link}

## n8n@0.223.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.222.1...n8n@0.223.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-05

This release contains new features and bug fixes.

/// warning | Breaking changes

Please note that this version contains a breaking change. The minimum Node.js version is now v16. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#02230){:target=\_blank .external-link}.

///

### New features

\* Core: Convert `eventBus` controller to decorator style and improve permissions.

\* Core: Prevent non owners password reset when SAML is enabled (this is preparation for an upcoming feature).

\* Core: Read ephemeral license from environment and clean up `ee` flags.

\* Editor: Allow tab to accept completion.

\* Editor: Enable saving workflow when node details view is open.

\* Editor: SSO onboarding (this is preparation for an upcoming feature).

\* Editor: SSO setup (this is preparation for an upcoming feature).

### Node enhancements

\* Filter Node: Show discarded items.

\* HTTP Request Node: Follow redirects by default.

\* Postgres Node: Overhaul node.

\* ServiceNow Node: Add support for work notes when updating an incident.

\* SSH Node: Hide the private key within the SSH credential.

### Bug fixes

\* Add droppable state for booleans when mapping.

\* Compare Datasets Node: Fuzzy comparen't comparing keys missing in one of the inputs.

\* Compare Datasets Node: Fix support for dot notation in skip fields.

\* Core: Deactivate active workflows during import.

\* Core: Stop marking duplicates as circular references in `jsonStringify`.

\* Core: Stop using `util.types.isProxy` for tracking of augmented objects.

\* Core: Fix curl import error when no data.

\* Core: Handle Date and RegExp correctly in `jsonStringify`.

\* Core: Handle Date and RegExp objects in `augmentObject`.

\* Core: Prevent `augmentObject` from creating infinitely deep proxies.

\* Core: Service account private key as a password field.

\* Core: Update lock file.

\* Core: Waiting workflows not stopping.

\* Date & Time Node: Add info box at top of date and time explaining expressions.

\* Date & Time Node: Convert Luxon DateTime object to ISO.

\* Editor: Add `$if`, `$min`, `$max` to root expression autocomplete.

\* Editor: Curb overeager item access linting.

\* Editor: Disable Grammarly in expression editors.

\* Editor: Disable password reset on desktop with no user management.

\* Editor: Fix connection lost hover text not showing.

\* Editor: Fix issue preventing execution preview loading when in an Iframe.

\* Editor: Fix mapping with special characters.

\* Editor: Prevent error from showing-up when duplicating unsaved workflow.

\* Editor: Prevent NDV schema view pagination.

\* Editor: Support backspacing with modifier key.

\* Google Sheets Node: Fix insertOrUpdate cell update with object.

\* HTML Extract Node: Support for dot notation in JSON property.

\* HTTP Request Node: Fix AWS credentials to stop removing URL parameters for STS.

\* HTTP Request Node: Refresh token properly on never fail option.

\* HTTP Request Node: Support for dot notation in JSON body.

\* LinkedIn Node: Update the version of the API.

\* Redis Node: Fix issue with hash set not working as expected.

## n8n@0.222.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.222.2...n8n@0.222.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-14

This is a bug fix release.

### Bug fixes

\* Core: Fix broken API permissions in public API.

\* Editor: Fix an issue that was preventing typing certain characters in the UI on devices with touchscreen.

## n8n@0.222.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.222.1...n8n@0.222.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-11

This is a bug fix release.

### Bug fixes

\* Code node: Update vm2 to address CVE-2023-29017.

\* Core: Update xml2js to address CVE-2023-0842.

### Contributors

[Loganaden Velvindron](https://github.com/loganaden){:target=\_blank .external-link}

## n8n@0.222.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.222.0...n8n@0.222.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-04

This is a bug fix release.

### Bug fixes

\* AWS SNS Node: Fix an issue with messages failing to send if they contain certain characters.

\* Core: `augmentObject` should clone Buffer/Uint8Array instead of wrapping them in a proxy.

\* Core: `augmentObject` should use existing property descriptors whenever possible.

\* Core: Fix the issue of nodes not loading when run using npx.

\* Core: Improve Axios error handling in nodes.

\* Core: Password reset should pass in the correct values to external hooks.

\* Core: Prevent `augmentObject` from creating infinitely deep proxies.

\* Core: Use table-prefixes in queries in import commands.

\* Editor: Fix focused state in Code node editor.

\* Editor: Fix loading executions in long execution list.

\* Editor: Show correct status on canceled executions.

\* Gmail Node: Gmail Luxon object support, fix for timestamp.

\* HTTP Request Node: Detect mime-type from streaming responses.

\* HubSpot Trigger Node: Developer API key is required for webhooks.

\* Set Node: Convert string to number.

## n8n@0.222.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.221.2...n8n@0.222.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-30

This release contains new features, including custom filters for the executions list, and a new node to filter items in your workflows.

/// note | Upgrade to 0.222.1

Upgrade directly to 0.222.1.

///

### New features

<div class="n8n-new-features" markdown>

This release introduces improvements to the execution lists. You can now save [Custom execution data](/workflows/executions/custom-executions-data.md), and use it to filter both the [All executions](/workflows/executions/all-executions.md) and [Single workflow executions](/workflows/executions/single-workflow-executions.md) lists.

</div>

\* Add test overrides.

\* Core: Improve LDAP/SAML toggle and tests.

\* Core: Limit user invites when SAML is enabled.

\* Core: Make OAuth2 error handling consistent with success handling.

\* Editor: Fix ResourceLocator dropdown style.

### New nodes

This release introduces the [Filter](/integrations/builtin/core-nodes/n8n-nodes-base.filter.md) node. The node allows you to filter items based on a condition. If the item meets the condition, the Filter node passes it on to the next node in the Filter node output. If the item doesn't meet the condition, the Filter node omits the item from its output.

### Bug fixes

\* Core: Assign `properties.success` earlier to set `executionStatus` correctly.

\* Core: Don't mark duplicates as circular references in `jsonStringify`.

\* Core: Don't use `util.types.isProxy` for tracking of augmented objects.

\* Core: Ensure that all non-lazy-loaded community nodes get post-processed correctly.

\* Core: Force-upgrade decode-uri-component to address CVE-2022-38900.

\* Core: Force-upgrade http-cache-semantics to address CVE-2022-25881.

\* Core: Handle `Date` and `RegExp` correctly in `jsonStringify`.

\* Core: Handle `Date` and `RegExp` objects in `augmentObject`.

\* Core: Improve Axios error handling in nodes.

\* Core: Improve community nodes loading.

\* Core: Initialize queue in the webhook server as well.

\* Core: Persist `CurrentAuthenticationMethod` setting change.

\* Core: Remove circular references from Code and push message.

\* Core: Require authentication on icons and nodes/credentials types static files.

\* Core: Return SAML service provider URls with configuration.

\* Core: Service account private key should display as a password field.

\* Core: Upgrade Luxon to address CVE-2023-22467.

\* Core: Upgrade simple-git to address CVE-2022-25912.

\* Core: Upgrade SQLite3 to address CVE-2022-43441.

\* Core: Upgrade Convict to address CVE-2023-0163.

\* Core: Waiting workflows not stopping.

\* Editor: Fix connection lost hover text not showing.

\* Editor: Fix issue preventing execution preview loading when in an iframe.

\* Editor: Use credentials when fetching node and credential types.

\* Google Sheets Node: Fix `insertOrUpdate` cell update with object.

\* HTTP Request Node: Add streaming to binary response.

\* HTTP Request Node: Fix AWS credentials to automatically deconstruct the URL.

\* HTTP Request Node: Fix AWS credentials to stop removing URL parameters for STS.

\* Split In Batches Node: Roll back changes in v1 and create v2.

\* Update PostHog no-capture.

### Contributors

[Manish Dhanwal](https://github.com/ManishDhanwal07){:target=\_blank .external-link}

## n8n@0.221.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.221.2...n8n@0.221.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-04-11

This is a bug fix release.

### Bug fixes

\* Code node: Update vm2 to address CVE-2023-29017.

\* Core: Update xml2js to address CVE-2023-0842.

### Contributors

[Loganaden Velvindron](https://github.com/loganaden){:target=\_blank .external-link}

## n8n@0.221.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.221.1...n8n@0.221.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-24

This is a bug fix release. It fixes an issue with `properties.success` that was causing `executionStatus` to sometimes be incorrect.

## n8n@0.221.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.221.0...n8n@0.221.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-23

This is a bug fix release. It ensures the job queue is initiated before starting the webhook server.

## n8n@0.221.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.220.1...n8n@0.221.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-23

### New features

\* Core: n8n now augments data rather than copying it in the Code node. This is a performance improvement.

\* Editor: you can now move the canvas by holding `Space` and dragging with the mouse, or by holding the middle mouse button and dragging.

\* Editor: add authentication type recommendations in the credentials modal.

\* Editor: add the SSO login button.

### New nodes

This release adds a node for [QuickChart](https://quickchart.io/){:target=\_blank .external-link}, an open source chart generation tool.

### Bug fixes

\* Core: ensure n8n calls available error workflows in main mode recovery.

\* Core: fix telemetry execution status for manual workflows executions.

\* Core: return SAML attributes after connection test.

\* Editor: disable mapping tooltip for display modes that don't support mapping.

\* Editor: fix execution list item selection.

\* Editor: fix for large notifications being cut off.

\* Editor: fix redo in code and expression editor.

\* Editor: fix the canvas node distance when automatically injecting manual trigger.

\* HTTP Request Node: fix AWS credentials to automatically deconstruct the URL.

\* Split In Batches Node: roll back changes in v1 and create v2.

## n8n@0.220.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.220.0...n8n@0.220.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-22

This is a bug fix release. It reverts changes to version 1 of the Split In Batches node, and creates a version 2 containing the updates.

## n8n@0.220.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.219.1...n8n@0.220.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-16

This release adds schema view to the node output panel, and includes node enhancements and bug fixes.

### New features

\* Core: improve SAML connection test.

\* Editor: add basic Datatable and Pagination components.

\* Editor: add support for schema view in the NDV output.

\* Editor: don't show actions panel for single-action nodes.

### Node enhancements

\* Item Lists Node: update actions text.

\* OpenAI Node: add support for GPT4 on chat completion.

\* Split In Batches Node: make it easier to combine processed data.

### Bug fixes

\* Core: initialize license and LDAP in the correct order.

\* Editor: display correct error message for `$env` access.

\* Editor: fix autocomplete for complex expressions.

\* Editor: fix owner set-up checkbox wording.

\* Editor: properly handle mapping of dragged expression if it contains hyphen.

\* Metabase Node: fix issue with question results not correctly being returned.

## n8n@0.219.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.219.0...n8n@0.219.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-10

This is a bug fix release. It resolves an issue with the HTTP Request node by removing the streaming response.

## n8n@0.219.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.218.0...n8n@0.219.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-09

### New features

\* Core: add `advancedFilters` feature flag.

\* Core: add SAML post and test endpoints.

\* Core: add SAML XML validation.

\* Core: limit user changes when SAML is enabled.

\* Core: refactor and add SAML preferences for service provider instance.

\* Editor: don't automatically add the manual trigger when the user adds another node.

\* Editor: redirect users to canvas if they don't have any workflows.

### Node enhancements

\* Cal Trigger Node: update to support v2 webhooks.

\* HTTP Request Node: move from binary buffer to binary streaming.

\* Mattermost Node: add self signed certificate support.

\* Microsoft SQL Node: add support for self signed certificates.

\* Mindee Node: add support for v4 API.

\* Slack Node: move from binary buffer to binary streaming.

### Bug fixes

\* Core: allow serving icons for custom nodes with npm scoped names.

\* Core: rename `advancedFilters` to `advancedExecutionFilters`.

\* Editor: fix ElButton overrides.

\* Editor: only fetch new versions at app launch.

\* Fetch credentials on workflows view to include in duplicated workflows.

\* Fix color discrepancies for executions list items.

\* OpenAI Node: fix issue with expressions not working with chat complete.

\* OpenAI Node: simplify code.

### Contributors

[Syed Ali Shahbaz](https://github.com/alishaz-polymath){:target=\_blank .external-link}

## n8n@0.218.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.217.2...n8n@0.218.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-02

This release contains node enhancements, bug fixes, and new features that lay groundwork for upcoming releases, along with some UX improvements.

### New features

\* Add distribution test tracking.

\* Add events to enable onboarding checklist.

\* Core: add SAML login setup (for upcoming feature).

\* Core: add SAML settings and consolidate LDAP under SSO (for upcoming feature).

\* Editor: add missing documentation to autocomplete items for inline code editor.

\* Editor: Show parameter hint on multiline inputs.

### Node enhancements

\* JIRA node: support binary streaming for very large binary files.

\* OpenAI node: add support for ChatGPT.

\* Telegram node: add parse mode option to Send Document operation.

### Bug fixes

\* Core: fix execution pruning queries.

\* Core: fix filtering workflow by tags.

\* Core: revert isPending check on the user entity.

\* Fix issues with nodes missing in nodes panel.

\* Fix mapping paths when appending to empty expression.

\* Item Lists Node: tweak item list summarize field naming.

\* Prevent executions from displaying as running forever.

\* Show Execute Workflow node in the nodes panel.

\* Show RabbitMQ node in the nodes panel.

\* Stop showing mapping hint after mapping.

## n8n@0.217.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.217.1...n8n@0.217.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-27

This is a bug fix release.

### Bug fixes

\* Core: fix issue with execution pruning queries.

\* Core: fix for workflow filtering by tag.

\* Core: revert isPending check on the user entity.

## n8n@0.217.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.217.0...n8n@0.217.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-24

This is a bug fix release.

### Bug fixes

Prevent executions appearing to run forever.

## n8n@0.217.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.216.1...n8n@0.217.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-23

This release contains new features and bug fixes. It includes improvements to the nodes panel and executions list. It also deprecates the Read Binary File node.

### New features

\* Add new event hooks to support telemetry around the new onboarding experience.

\* Update nodes to set required path type.

\* Core: add configurable execution history limit. Use this to improve performance when self-hosting. Refer to [Execution Data | Enable data pruning ](/hosting/scaling/execution-data.md#enable-data-pruning) for more information.

\* Core: add execution runData recovery and status field. This allows us to show execution statuses on the \*\*Executions\*\* list.

\* Core: add SAML feature flag. This is preparatory for an upcoming feature.

\* Editor: improvements to the nodes panel search. When searching in root view, n8n now displays results from both trigger and regular nodes. When searching in a category view, n8n shows results from the category, and also suggests results from other categories.

\* Hide sensitive value in authentication header credentials and authentication query credentials.

\* Support feature flag evaluation server side.

\* Deprecate the Read Binary File node. Use the [Read Binary Files](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md) node instead.

### Bug fixes

\* Baserow Node: fix issue with \*\*Get All\*\* not correctly using filters.

\* Compare Datasets Node: UI tweaks and fixes.

\* Core: don't allow arbitrary path traversal in BinaryDataManager.

\* Core: don't allow arbitrary path traversal in the credential-translation endpoint.

\* Core: don't explicitly bypass authentication on URLs containing `.svg`.

\* Core: don't remove empty output connections arrays in PurgeInvalidWorkflowConnections migration.

\* Core: fix execution status filters.

\* Core: user update endpoint should only allow updating email, firstName, and lastName.

\* Discord Node: fix wrong error message being displayed.

\* Discourse Node: fix issue with credential test not working.

\* Editor: apply correct IRunExecutionData to finished workflow.

\* Editor: fix an issue with zoom and canvas nodes connections.

\* Editor: fix unexpected date rendering on front-end.

\* Editor: remove `crashed` status from filter.

\* Fix typo in error messages when a property doesn't exist.

\* Fixes an issue when saving an active workflow without triggers would cause n8n to be stuck.

\* Google Calendar Node: fix incorrect labels for start and end times when getting all events.

\* Postgres Node: fix for tables containing field named JSON.

\* AWS S3 Node: fix issue with get many buckets not outputting data.

--8<-- "\_snippets/update-n8n.md"

## n8n@0.216.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.216.2...n8n@0.216.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-09

This is a bug fix release. It reverts the `isPending` check on the user entity, resolving an issue with displaying user options when user management is disabled.

## n8n@0.216.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.216.1...n8n@0.216.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-23

This is a bug fix release.

### Bug fixes

Core: don't remove empty output connections arrays in PurgeInvalidWorkflowConnections migration.

## n8n@0.215.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.215.3...n8n@0.215.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-14

This is a bug fix release. It reverts the `isPending` check on the user entity, resolving an issue with displaying user options when user management is disabled.

--8<-- "\_snippets/update-n8n.md"

## n8n@0.215.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.215.2...n8n@0.215.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-23

This is a bug fix release. It contains an important security fix.

### Bug fixes

\* Core: don't allow arbitrary path traversal in BinaryDataManager.

\* Core: don't allow arbitrary path traversal in the credential-translation endpoint.

\* Core: don't explicitly bypass authentication on URLs containing `.svg`.

\* Core: don't remove empty output connections arrays in PurgeInvalidWorkflowConnections migration.

\* Core: the user update endpoint should only allow updating email, first name, and last name.

## n8n@0.214.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.214.4...n8n@0.214.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-03-14

This is a bug fix release. It reverts the `isPending` check on the user entity, resolving an issue with displaying user options when user management is disabled.

--8<-- "\_snippets/update-n8n.md"

## n8n@0.214.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.214.3...n8n@0.214.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-23

This is a bug fix release. It contains an important security fix.

### Bug fixes

\* Core: don't allow arbitrary path traversal in BinaryDataManager.

\* Core: don't allow arbitrary path traversal in the credential-translation endpoint.

\* Core: don't explicitly bypass authentication on URLs containing `.svg`.

\* Core: don't remove empty output connections arrays in PurgeInvalidWorkflowConnections migration.

\* Core: the user update endpoint should only allow updating email, first name, and last name.

## n8n@0.216.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.216.0...n8n@0.216.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-21

This is a bug fix release.

### Bug fixes

\* Core: don't allow arbitrary path traversal in BinaryDataManager.

\* Core: don't allow arbitrary path traversal in the credential-translation endpoint.

\* Core: don't explicitly bypass auth on URLs containing `.svg`.

\* Core: user update endpoint should only allow updating email, firstName, and lastName.

## n8n@0.216.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.215.2...n8n@0.216.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-16

This release contains new features, node enhancements, and bug fixes.

### New features

\* Add workflow and credential sharing access e2e tests.

\* Editor: add correct credential owner contact details for readonly credentials.

\* Editor: add most important native properties and methods to autocomplete.

\* Editor: update to personalization survey v4.

\* Update telemetry API endpoints.

### Node enhancements

\* GitHub node: update code to use resource locator component.

\* GitHub Trigger node: update code to use resource locator component.

\* Notion node: add option to set icons when creating pages or database pages.

\* Slack node: add support for manually inputting a channel name for channel operations.

### Bug fixes

\* Core: fix data transformation functions.

\* Core: remove unnecessary info from GET `/workflows` response.

\* Bubble node: fix pagination issue when returning all objects.

\* HTTP Request Node: ignore empty body when auto-detecting JSON.

### Contributors

[feelgood-interface](https://github.com/feelgood-interface){:target=\_blank .external-link}

## n8n@0.215.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.215.1...n8n@0.215.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-14

This is a bug fix release. It solves an issue that was causing webhooks to be removed when they shouldn't be.

## n8n@0.215.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.215.0...n8n@0.215.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-11

This is a bug fix release.

### Bug fixes

\* Core: fix issue causing worker and webhook service to close on start.

\* Core: handle versioned custom nodes correctly.

## n8n@0.215.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.214.3...n8n@0.215.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-10

This release contains new features, node enhancements, and bug fixes.

### New features

\* Refactor the n8n Desktop user management experience.

\* Core: add support for WebSockets as an alternative to server-sent events. This introduces a new way for n8n's backend to push changes to the UI. The default is still server-sent events. If you're experiencing issues with the UI not updating, try changing to WebSockets by setting the `N8N\_PUSH\_BACKEND` environment variable to `websocket`.

\* Editor: add autocomplete for objects.

\* Editor: add autocomplete for expressions to the HTML editor component.

### Node enhancements

\* Edit Image node: add support for WebP image format.

\* HubSpot Trigger node: add conversation events.

### Bug fixes

\* Core: disable transactions on SQLite migrations that use PRAGMA foreign\_keys.

\* Core: ensure expression extension doesn't fail with optional chaining.

\* Core: fix import command for workflows with old format (affects workflows created before user management was introduced).

\* Core: stop copying icons to cache.

\* Editor: prevent creation of input connections for nodes without input slot.

\* Error workflow now correctly checks for subworkflow permissions.

\* ActiveCampaign Node: fix additional fields not being sent when updating account contacts.

\* Linear Node: fix issue with Issue States not loading correctly.

\* MySQL migration parses database contents if necessary (fix for MariaDB).

### Contributors

[Kirill](https://github.com/chrtkv){:target=\_blank .external-link}

## n8n@0.214.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.214.2...n8n@0.214.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-09

This is a bug fix release.

### Bug fixes

Editor: prevent creation of input connections for nodes without input slot.

## n8n@0.214.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.214.1...n8n@0.214.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-06

This is a bug fix release.

### Bug fixes

\* Editor: correctly show OAuth reconnect button.

\* Editor: fix resolvable highlighting for HTML editor.

## n8n@0.214.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.214.0...n8n@0.214.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-06

This is a bug fix release. It also contains an overhaul of the Slack node.

### Node enhancements

This release includes an overhaul of the Slack node, adding new operations and a better user interface.

### Bug fixes

\* Editor: fix an issue with mapping to empty expression input.

\* Editor: fix merge node connectors.

\* Editor: fix multiple-output endpoints success style after connection is detached.

## n8n@0.214.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.213.0...n8n@0.214.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-02-03

This release contains new features, node enhancements, and bug fixes. The expressions editor now supports autocomplete for some [built in data transformation functions](/code/builtin/data-transformation-functions/index.md). The new features also include two of interest to node builders: a way to allow users to drag and drop data keys, and the new HTML editor component.

/// warning | Breaking changes

Please note that this version contains a breaking change to Luxon. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#02140){:target=\_blank .external-link}.

///

### New features

<div class="n8n-new-features" markdown>

#### Autocomplete in the Extension editor

[Data transformation functions](/code/builtin/data-transformation-functions/index.md) now have autocomplete support in the Expression editor.

</div>

\* Core: export OpenAPI spec for external tools.

\* Core: set custom Cache-Control headers for static assets.

\* Core: simplify pagination in declarative node design.

\* Editor: support mapping keys with drag and drop. Any field with the hint \*\*Enter the field name as text\*\* should now support mapping a data key using drag and drop. Node builders can enable this in their own nodes. Refer to [Creating nodes | UI elements](/integrations/creating-nodes/build/reference/ui-elements.md#support-drag-and-drop-for-data-keys) for more information.

\* Editor: add the [HTML editor component](/integrations/creating-nodes/build/reference/ui-elements.md#html) for use in parameters. This means node builders can now use the HTML editor that n8n uses in the HTML node as a UI component.

\* Editor: append expressions in fixed values when mapping to string and JSON inputs.

\* Editor: continue to show mapping tooltip after dismiss.

\* Editor: roll out schema view.

### Node enhancements

\* FTP Node: stream binary data for uploads and downloads.

\* Notion Node: add support for image blocks.

\* OpenAI Node: add \*\*Frequency Penalty\*\* and \*\*Presence Penalty\*\* to the node options for the text resource.

\* Salesforce Node: add \*\*Has Opted Out Of Email\*\* field to lead resource options.

\* SSH Node: stream binary data for uploads and downloads.

\* Write Binary File Node: stream binary data for writes.

\* YouTube Node: switch upload operation over to streaming and resumable uploads API.

### Bug fixes

\* Add paired item to the most used nodes.

\* Core: fix OAuth2 client credentials not always working.

\* Core: fix populating of node custom API call options.

\* Core: fix value resolution in declarative node design.

\* Core: prevent shared user details being saved alongside execution data.

\* Core: revert custom API option injecting.

\* Editor: add SMTP info translation link slot.

\* Editor: change executions title to match menu.

\* Editor: fix JSON field completions while typing.

\* Editor: handling router errors when navigation is canceled by user.

\* Editor: set max width for executions list.

\* Editor: stop unsaved changes popup display when navigating away from an untouched workflow.

\* Editor: fix workflow executions view.

\* Invoice Ninja Node: fix line items not being correctly set for quotes and invoices.

\* Linear Node: fix pagination issue for get all issues.

\* Mailchimp Trigger Node: fix webhook recreation.

\* Prevent unnecessarily touching `updatedAt` when n8n starts.

\* Schedule Trigger Node: change scheduler behaviour for intervals days and hours.

\* Set Node: fix behaviour when selecting `continueOnFail` and `pairedItem`.

## n8n@0.213.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.212.1...n8n@0.213.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-27

This release introduces LDAP, and a new node for working with HTML in n8n. It also contains node enhancements and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### LDAP

This release introduces support for LDAP on Self-hosted Enterprise and Cloud Enterprise plans. Refer to [LDAP](/user-management/ldap.md) for more information on this feature.

</div>

\* Simplify the Node Details View by moving authentication details to the Credentials modal.

\* Improve workflow list performance.

### New nodes

<div class="n8n-new-features" markdown>

#### HTML node

n8n has a new [HTML node](/integrations/builtin/core-nodes/n8n-nodes-base.html.md). This replaces the HTML Extract node, and adds new functionality to generate HTML templates.

</div>

### Node enhancements

\* GitLab node: add file resource and operations.

\* JIRA Software node: introduce the resource locator component to improve UX.

\* Send Email node: this node has been overhauled.

### Bug fixes

\* Core: don't crash express app on unhandled rejected promises.

\* Core: handle missing binary metadata in download URLs.

\* Core: upsert (update and insert) credentials and workflows in the `import:` commands.

\* Core: validate numeric IDs in the public API.

\* Editor: don't request workflow data twice when opening a workflow.

\* Editor: execution list micro optimization.

\* Editor: fix node authentication options ordering and hiding options based on node version.

\* Editor: fix save modal appearing after duplicating a workflow.

\* Editor: prevent workflow execution list infinite no network error.

\* Extension being too eager and making calls when it shouldn't.

\* Google Drive Node: use the correct MIME type on converted downloads.

\* HelpScout Node: fix tag search not working when getting all conversations.

\* Notion (Beta) Node: fix create database page with multiple relation IDs not working.

\* Update \*\*Sign in with Google\*\* button to properly match design guidelines.

### Contributors

\* [Devin Buhl](https://github.com/onedr0p){:target=\_blank .external-link}

\* [Sven Ziegler](https://github.com/svzi){:target=\_blank .external-link}

## n8n@0.212.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.212.0...n8n@0.212.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-23

This release includes an overhaul of the Google Analytics node, and bug fixes.

### Node enhancements

This release includes an overhaul of the Google Analytics node. This brings the node's code and components in line with n8n's latest node building styles, and adds support for GA4 properties.

### Bug fixes

\* Add schema to Postgres migrations.

\* Core: fix execute-once incoming data handling.

\* Core: fix expression extension miss-detection.

\* Core: fix onWorkflowPostExecute not being called.

\* Core: fix URL in error handling for the error Trigger.

\* Core: make pinned data with webhook responding on last node manual-only.

\* Editor: making parameter input components label configurable.

\* Editor: remove infinite loading in not found workflow level execution.

\* Linear Node: fix issue with single item not being returned.

\* Notion (Beta) Node: fix create database page fails if relation parameter is empty/undefined.

## n8n@0.212.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.211.2...n8n@0.212.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-19

This release contains enhancements to the Item Lists node, and bug fixes.

### New features

This release adds experimental support for more Prometheus metrics. Self-hosting users can configure Prometheus using [environment variables](/hosting/configuration/environment-variables/index.md).

### Node enhancements

<div class="n8n-new-features" markdown>

The Item Lists node now supports a Summarize operation. This acts similarly to generating pivot tables in Excel, allowing you to aggregate and compare data.

</div>

### Bug fixes

\* Core: revert a lint rule `@typescript-eslint/prefer-nullish-coalescing`.

\* Editor: allow special characters in node selector completion.

\* GitLab Node: update the credential test endpoint.

\* Gmail Trigger Node: resolve an issue that was preventing filter by labels from working.

\* HTTP Request Node: ensure node enforces the requirement for valid JSON input.

\* HTTP Request Node: convert responses to text for all formats, including JSON.

### Contributors

[Sven Ziegler](https://github.com/svzi){:target=\_blank .external-link}

## n8n@0.211.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.211.1...n8n@0.211.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-17

This release contains a bug fix for community nodes, and a new trigger node.

### New nodes

<div class="n8n-new-features" markdown>

#### Google Sheets Trigger node

This release adds a new [Google Sheets Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlesheetstrigger/index.md). You can now start workflows in response to row changes or new rows in a Google Sheet.

</div>

### Bug fixes

Fixes an issue that was preventing users from installing community nodes.

## n8n@0.211.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.211.0...n8n@0.211.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-16

This is a bug fix release. It resolves major issues with 0.211.0.

### New features

Editor: suppress validation errors for freshly added nodes.

### Node enhancements

\* Google Ads node: update the API version to 11.

\* Google Drive Trigger node: start using the resource locator component.

### Bug fixes

\* Build CLI to fix Postgres and MySQL test runs.

\* Extend date functions clobbering plus/minus.

\* Extension deep comparen't quite working for some primitives.

\* Upgrade jsonwebtoken to address CVE-2022-23540.

## n8n@0.211.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.210.2...n8n@0.211.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-13

/// warning | Don't use this version

Upgrade directly to 0.211.1.

///

### New features

\* Add demo experiment to help users activate.

\* Editor: Improvements to the \*\*Executions\*\* page.

\* Editor: Remove prevent-ndv-auto-open feature flag.

\* Editor: Update callout component design.

\* Add the expression extension framework.

### Bug fixes

\* Core: Fixes event message confirmations if no subscribers present.

\* Core: Remove threads package, rewrite log writer worker.

\* Core: Throw error in UI on expression referencing missing node but don't fail execution.

\* DB revert command shouldn't run full migrations before each revert.

\* Editor: Disable data pinning on multiple output node types.

\* Editor: Don't overwrite `window.onerror` in production.

\* Editor: Execution page bug fixes.

\* Editor: Fixes event bus test.

\* Editor: Hide data pinning discoverability tooltip in execution view.

\* Editor: Mapping tooltip dismiss.

\* Editor: Recover from unsaved finished execution.

\* Editor: Setting NDV session ID.

\* First/last being extended on proxy objects.

\* Handle memory issues gracefully.

\* PayPal Trigger Node: Omit verification in sandbox environment.

\* Report app startup and database migration errors to Sentry.

\* Run every database migration inside a transaction.

\* Upgrade class-validator to address CVE-2019-18413.

\* Zoom Node: Add notice about deprecation of Zoom JWT app support.

### Known issues

You may encounter errors when using the [optional chaining operator](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators/Optional\_chaining){:target=\_blank .external-link} in expressions. If this happens, avoid using the operator for now.

## n8n@0.210.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.210.1...n8n@0.210.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-09

### New features

<div class="n8n-new-features" markdown>

#### Typeahead for expressions

When using [expressions](/code/expressions.md), n8n will now offer you suggestions as you type.

!["Animated GIF showing typeahead in action"](/\_images/reference/release-notes/0.210.2-expressions-type-ahead.gif)

</div>

### Bug fixes

\* Core: fix crash of manual workflow executions for unsaved workflows.

\* Editor: omit pairedItem from proxy completions.

\* Editor: prevent refresh on submit in credential edit modal.

\* Google Sheets Node: fix for auto-range detection.

\* Read Binary File Node: don't crash the execution when the source file doesn't exist.

\* Remove anonymous ID from tracking calls.

\* Stop OOM crashes in Execution Data pruning.

\* Update links for user management and SMTP help.

## n8n@0.210.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.210.0...n8n@0.210.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-05

This is a bug fix release. It also contains a new feature to support user management without SMTP set up.

### New features

#### Invite link for users on self-hosted n8n

In earlier versions of self-hosted n8n, you needed SMTP set up on your n8n instance for user management to work. User management required SMTP to sent invitation emails.

0.210.1 introduces an invite link, which you can copy and send to users manually. n8n still recommends setting up SMTP, as this is needed for password resets.

### Bug fixes

\* Google Sheets node: fix an issue that was causing append and update operations to fail for numeric values.

\* Resolve issues with external hooks.

## n8n@0.210.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.209.4...n8n@0.210.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2023-01-05

This release introduces two major new features: log streaming and security audits. It also contains node enhancements, bug fixes, and performance improvements.

### New features

<div class="n8n-new-features" markdown>

#### Log streaming

This release introduces [log streaming](/log-streaming.md) for users on Enterprise self-hosted plans and custom Cloud plans. Log streaming allows you to send events from n8n to your own logging tools. This allows you to manage your n8n monitoring in your own alerting and logging processes.

</div>

<div class="n8n-new-features" markdown>

#### Security audit

This release adds a [security audit](/hosting/securing/security-audit.md) feature. You can now run a security audit on your n8n instance, to detect common security issues.

</div>

\* Core: add support for Redis 6+ ACLs system using username in queue mode. Add the `QUEUE\_BULL\_REDIS\_USERNAME` environment variable.

### Node enhancements

\* Compare Datasets node: add an option for fuzzy compare.

### Bug fixes

\* Apply credential overwrites recursively. This ensures that overwrites defined for a parent credential type also apply to all credentials extending it.

\* Core: enable full manual execution of a workflow using the error trigger.

\* Core: fix OAuth credential creation using the API.

\* Core: fix an issue with workflow lastUpdated field.

\* Editor: clear node creator and scrim on workspace reset.

\* Editor: fix an infinite loop while loading executions that aren't on the current executions list.

\* Editor: make node title non-editable in executions view.

\* Editor: prevent scrim on executable triggers.

\* Editor: support tabbing away from inline expression editor.

\* Fix executions bulk deletion.

\* Google Sheets Node: fix exception when no \*\*Values to Send\*\* are set.

\* Respond to Webhook Node: fix issue that caused the content-type header to be overwritten.

\* Slack Node: add missing channels:read OAuth2 scope.

### Performance improvements

\* Lazy-load public API dependencies to reduce baseline memory usage.

\* Lazy-load queue mode and analytics dependencies.

### Contributors

[Thomas S.](https://github.com/intel44){:target=\_blank .external-link}

## n8n@0.209.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.209.3...n8n@0.209.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-28

This is primarily a bug fix release.

### Bug fixes

\* Editor: add sticky note without manual trigger.

\* Editor: display default missing value in table view as undefined.

\* Editor: fix displaying of some trigger nodes in the creator panel.

\* Editor: fix trigger node type identification on add to canvas.

\* Editor: add the usage and plans page to Desktop.

### New features

Editor: pressing \*\*=\*\* in an empty parameter input switches to expression mode.

## n8n@0.209.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.209.2...n8n@0.209.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-27

This is primarily a bug fix release.

### Bug fixes

\* Core: don't send credentials to browser console.

\* Core: permit a workflow user who isn't the owner to use their own credentials.

\* Editor: fix for loading executions that aren't on the current executions list.

\* Editor: make the tertiary button on the \*\*Usage\*\* page transparent.

\* Editor: update credential owner warning when sharing.

### New features

Editor: Improve UX for brace completion in the inline expressions editor.

### Node enhancements

Webhook node: when test the node by selecting \*\*Listen For Test Event\*\* then dispatching a call to the webhook, n8n now only runs the Webhook node. Previously, n8n ran the entire workflow. You can still test the full workflow by selecting \*\*Test Workflow\*\*, then dispatching a test call.

## n8n@0.209.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.209.1...n8n@0.209.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-23

This is a bug fix release.

### Bug fixes

\* Editor: ensure full tree on expression editor parse. This resolves an issue with the expressions editor cutting off results.

\* Fix automatic credential selection when credentials are shared.

### Performance improvements

Improvements to the workflows list performance.

## n8n@0.209.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.209.0...n8n@0.209.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-22

This is a bug fix release.

### Bug fixes

\* Editor: fix for executions preview scroll load bug and wrong execution being displayed.

\* Editor: force parse on long expressions.

\* Editor: restore trigger to the nodes panel.

\* Nodes: AWS DynamoDB Node Fix issue pagination and simplify issue.

\* Nodes: fix DynamoDB node type issues.

\* Resolve an issue with credentials and workflows not being matched correctly due to incorrect typing.

\* Restore missing tags when retrieving a workflow.

### Contributors

[Nathan Apter](https://github.com/napter){:target=\_blank .external-link}

## n8n@0.209.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.208.1...n8n@0.209.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-21

This release introduces workflow sharing, and changes to licensing and payment plans.

### New features

<div class="n8n-new-features" markdown>

#### Workflow sharing

This release introduces workflow sharing for users on some plans. With workflow sharing, users can invite other users on the same n8n instance to use and edit their workflows. Refer to [Workflow sharing](/workflows/sharing.md) for details.

</div>

### Bug fixes

\* Editor: Correctly display trigger nodes without actions and with related regular node in the "On App Events" category.

\* Fix stickies resize.

\* Hide trigger tooltip for nodes with static test output.

\* Keep expression when dropping mapped value.

\* Prevent keyboard shortcuts in expression editor modal.

\* Redirect home to workflows always.

\* Update mapping GIFs.

\* Upgrade amqplib to address CVE-2022-0686.

\* View option for binary-data shouldn't download the file on Chrome/Edge.

## n8n@0.208.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.208.0...n8n@0.208.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-19

This is a bug fix release.

### Bug fixes

\* Always retain original errors in the error chain on NodeOperationError.

\* BinaryDataManager should store metadata when saving from buffer.

\* Editor: fix for wrong execution data displayed in executions preview.

\* Pick up credential test functions from versioned nodes.

## n8n@0.208.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.207.1...n8n@0.208.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-16

This release introduces a new inline expressions editor, and a new node: OpenAI. It also contains updates and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Inline expression editor

You can now quickly write expressions inline in a node parameter. You can still choose to open the full expressions editor.

!["Screenshot of the inline expressions editors"](/\_images/reference/release-notes/0.208.0-inline-expressions.png)

</div>

\* Add workflow sharing telemetry.

\* Core: allow for hiding page usage with environment variables (for upcoming feature)

\* Editor: update UI copy for user management setup when sharing is disabled.

\* Editor: hide credentials password values.

\* Editor: set \*\*All workflows\*\* view as default view on the \*\*Workflows\*\* page.

\* Editor: update UI copy for workflow overwriting message.

### New nodes

<div class="n8n-new-features" markdown>

#### Open AI node

This release adds an integration with OpenAI. Refer to the [OpenAI node documentation](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) for details.

</div>

### Node enhancements

Send Email node: add support for a "Reply to" email address.

### Bug fixes

\* Core: fix for Google and Microsoft generic OAuth2 credentials.

\* Core: fix HTTP Digest Auth for responses without an opaque parameter.

\* Disqus node: fix thread parameter for "Get All Threads" operation.

\* Don't crash the server when Telemetry is blocked using DNS.

\* Editor: allow mapping onto expression editor with selection range.

\* Editor: don't show actions dialog for actionless triggers when selected using keyboard.

\* Editor: fix an issue where some node actions wouldn't select default parameters correctly.

\* Editor: fix typo in retry-button option "Retry with original workflow".

\* Update permission for showing workflow caller policy.

\* Update pnpm-lock to fix build.

### Contributors

[Daemonxiao](https://github.com/Daemonxiao){:target=\_blank .external-link}

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## n8n@0.207.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.207.0...n8n@0.207.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-13

This is a bug fix release. It resolves an issue with undo.

## n8n@0.207.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.206.1...n8n@0.207.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-12

This release adds support for undo/redo actions on the canvas, and includes bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Undo/redo

You can now undo and redo actions on the canvas.

Use `ctrl`/`cmd` + `z` to undo, `ctrl`/`cmd` + `shift` + `z` to redo.

Currently, n8n supports undo/redo for the following canvas actions:

- Adding nodes

- Deleting nodes

- Adding connections

- Deleting connections

- Moving nodes

- Moving connections

- Import workflow (from file/from URL)

- Copy/paste nodes

- Renaming nodes

- Duplicating nodes

- Disabling/enabling nodes

</div>

\* App integration actions are now displayed in the nodes pane.

\* Add sharing permissions info for workflow sharees.

\* Handle sharing features when the user skips instance owner setup.

\* Update the credential test error message for credential sharees.

### Bug fixes

\* Core: remove nodeGetter.

\* Core: Increase workflow reactivation max timeout to one day.

\* Core: Resolve an issue listing executions with Postgres.

\* Core: Remove foreign credentials when copying nodes or duplicating workflow.

\* Core: upgrade sse-channel to mitigate CVE-2019-10744.

\* Core: use license-sdk v1.6.1.

\* Editor: avoid adding Manual Trigger node when webhook node is added.

\* Editor: fix credential sharing issues handler when no matching ID or name.

\* Editor: fix for broken tab navigation.

\* Editor: schema view shows checkbox in case of empty data.

\* Editor: Stop returning UNKNOWN ERROR in the response if an actual error message is available.

\* Editor: update duplicate workflow action.

\* Move Binary Data Node: stringify objects before encoding them in MoveBinaryData.

\* Split In Batches Node: fix issue with pairedItem.

## n8n@0.206.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.206.0...n8n@0.206.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-06

This is a bug fix release.

### Bug fixes

\* Core: make expression resolution improvements.

\* Editor: schema unit test stub for Font Awesome icons.

\* Remove unnecessary console message.

## n8n@0.206.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.205.0...n8n@0.206.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-06

This release contains bug fixes, node enhancements, and a new node input view: schema view.

### New features

<div class="n8n-new-features" markdown>

#### Schema view

Schema view is a new node input view. It helps you browse the structure of your data, using the first input item.

</div>

\* Core: add workflow execution statistics.

\* Editor: add the alert design system component.

\* Editor: fix checkbox line hight and make checkbox label clickable.

\* Nodes: add a message for read-only nodes.

\* Nodes: add a prompt to overwrite changes when concurrent editing occurs.

### Node enhancements

KoBo Toolbox node: add support for the media file API.

### Bug fixes

\* Core: fix linter error.

\* Core: fix partial execution with pinned data on child node run.

\* Core: OAuth2 scopes now save.

\* Enable source-maps on WorkflowRunnerProcess in own mode.

\* Handle error when workflow doesn'texist or is inaccessible.

\* Make nodes.exclude and nodes.include work with lazy-loaded nodes.

\* Code Node: restore `pairedItem` to required n8n item keys.

\* Execute Workflow Node: update Execute Workflow node info notice text.

\* Gmail Trigger Node: trigger node missing some emails.

\* Local File Trigger Node: fix issue that causes a crash if the ignore field is empty.

### Contributors

[Marcel](https://github.com/marzn){:target=\_blank .external-link}

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## n8n@0.205.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.204.0...n8n@0.205.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-12-02

This release contains an overhaul of the expressions editor, node enhancements, and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Expressions editor usability overhaul

This release contains usability enhancements for the expressions editor. The editor now includes color signals to indicate when syntax is valid or invalid, and better error messages and tips.

</div>

### Node enhancements

\* Facebook Graph APInode: update to support API version 15.

\* Google Calendar node: introduce the resource locator component to help users retrieve calendar parameters.

\* Postmark Trigger node: update credentials so they can be used with the HTTP Request node (for custom API calls).

\* Todoist node: update to use API version 2.

### Bug fixes

\* Core: ensure executions list is properly filtered for all users.

\* Core: fix `$items().length` in Execute Once mode.

\* Core: mark binary data to be deleted when pruning executions.

\* Core: OAuth2 scope saved to database fix.

\* Editor: fix slots rendering of NodeCreator's NoResults component.

\* Editor: JSON view values can be mapped like keys.

\* AWS SNS Node: fix a pagination issue.

\* Google Sheets Node: fix exception if no matching rows are found.

\* Google Sheets Node: fix for append operation if no empty rows in sheet.

\* Microsoft Outlook Node: fix binary attachment upload.

\* Pipedrive Node: resolve properties not working.

\* Lazy load nodes for credentials testing.

\* Credential overwrites should take precedence over credential default values.

\* Remove background for resource ownership selector.

\* Update padding for resource filters dropdown.

\* Update size of select components in filters dropdown.

\* Update workflow save button type and design and share button type.

## n8n@0.204.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.203.1...n8n@0.204.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-11-24

This release contains performance enhancements and bug fixes.

### New features

\* Core: lazy-load nodes and credentials to reduce baseline memory usage.

\* Core: use longer stack traces when error reporting is enabled.

\* Dev: add credentials E2E test suite and page object.

### Bug fixes

\* Core: fix $items().length behavior in executeOnce mode.

\* Core: fix for unused imports.

\* Core: use CredentialsOverwrites when testing credentials.

\* Core: disable workflow locking due to issues.

\* Editor: fix for missing node connections in dev environment.

\* Editor: fix missing resource locator component.

\* Editor: prevent node-creator tabs from showing when toggled by CanvasAddButton.

\* Editor: table view column limit tooltip.

\* Editor: fix broken n8n-info-tip slots.

\* IF Node: fix "Is Empty" and "Is Not Empty" operation failures for date objects.

\* Remove redundant `await` in nodes API request functions without try/catch.

\* Schedule Trigger Node: fixes inconsistent behavior with cron and weekly intervals.

\* Workflow activation shouldn't crash if one of the credential is invalid.

## n8n@0.203.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.203.0...n8n@0.203.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-11-18

This is a bug fix release. It resolves an issue with the Google Sheets node versioning.

## n8n@0.203.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.202.1...n8n@0.203.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-11-17

This release includes an overhaul of the Google Sheets node, as well as other new features, node enhancements, and bug fixes.

### New features

\* Add duplicate workflow error handler.

\* Add workflow data reset action.

\* Add credential runtime checks and prevent tampering during a manual run.

### Node enhancements

\* Compare Datasets: UI copy changes to improve usability.

\* Google Sheets: n8n has overhauled this node, including improved lookup for document and sheet selection.

\* Notion (beta) node: use the resource locator component for database and page parameters.

### Bug fixes

\* Core: deduplicate error handling in nodes.

\* Editor: show back mapping hint when parameter is focused.

\* Editor: add \*\*Stop execution\*\* button to execution preview.

\* Editor: curb direct item access linting.

\* Editor: fix expression editor variable selector filter.

\* Editor: fix for execution retry dropdown not closing.

\* Editor: fix for logging error on user logout.

\* Editor: fix zero treated as missing value in resource locator.

\* Editor: hide pin data in production executions.

\* Editor: skip optional chaining operators in Code Node editor linting.

\* Editor: update to \*\*Expression/Fixed\*\* toggle - keep expression when switching to \*\*Fixed\*\*.

\* Editor: fix foreign credentials being shown for new nodes.

\* Editor: store copy of workflow in `workflowsById` to prevent node data bugs.

\* Editor: fix user redirect to signin bug.

## n8n@0.202.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.202.0...n8n@0.202.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-11-10

This is a bug fix release. It removes some error tracking.

## n8n@0.202.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.201.0...n8n@0.202.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-11-10

This release contains core product improvements and bug fixes.

### New features

\* API: report unhandled app crashes using Sentry.

\* API: set up error tracking using Sentry.

\* Core: Add ownership, sharing and credential details to `GET /workflows` in n8n's internal API.

\* Editor: when building nodes, you can now add a property with type `notice` to your credentials `properties`.This was previously available in nodes but not credentials. Refer to [Node UI elements](/integrations/creating-nodes/build/reference/ui-elements.md) for more information.

### Bug fixes

\* API: Don't use names for type ORM connections.

\* Core: Fix manual execution of pinned trigger on main mode.

\* Core: Streamline multiple pinned triggers behavior.

\* Editor: Curb argument linting for `$input.first()` and `$input.last()`

\* Editor: Fix duplicate bug when new workflow is open.

\* Editor: Fix for incorrect execution saving indicator in executions view.

\* Editor: Fix for OAuth authorization.

\* Editor: Fix workflow activation from the Workflows view.

\* Editor: Fix workflow back button navigation.

\* Editor: Prevent adding of the start node when importing workflow in the demo mode.

\* Editor: Show string numbers and null properly in JSON view.

\* Editor: Switch CodeNodeEditor linter parser to esprima-next.

\* Editor: Tweak dragged mapping state.

\* Editor: Update workflow buttons spacings.

\* Editor: Use base path in workflow preview component URL.

\* HTTP Request Node: Show error cause in the output.

\* HTTP Request Node: Use the data in \*\*Put Output in Field\*\* field.

\* HubSpot Node: Add notice to HubSpot credentials about API Key Sunset.

\* Notion Trigger (Beta) Node: Fix Notion trigger polling strategy.

\* Raindrop Node: Update access token URL.

\* SendInBlue Trigger Node: Fix typo in credential name.

\* Update E2E testing ENV variables.

### Contributors

[feelgood-interface](https://github.com/feelgood-interface){:target=\_blank .external-link}

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## n8n@0.201.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.200.1...n8n@0.201.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-11-02

This release contains workflow and node enhancements, and bug fixes.

### New features

\* Core: reimplement blocking workflow updates on interim changes.

\* Editor: block the UI in node details view when the workflow is listening for an event.

\* Performance improvements

### Node enhancements

Venafi TLS Protect Cloud node: make issuing template depend on application.

### Bug fixes

\* Core: fix wokflow hashing for MySQL.

\* Core: make `deepCopy` backward compatible.

\* Editor: ensure `displayOptions` received the value from the resource locator component.

\* Editor: disable the settings link in executions view for unsaved workflows.

\* Editor: ensure forms reliably save.

\* Editor: fix issues with interim updates in executions view.

\* Editor: fix for node creator search.

\* Editor: limit columns in table view to prevent the UI becoming unresponsive in the node details view.

## n8n@0.200.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.200.0...n8n@0.200.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-28

This is a bug fix release.

### Bug fixes

\* API: do not reset the auth cookie on every request to GET `/login`.

\* AWS SNS Trigger node: add missing jsonParse import.

\* Core: avoid callstack with circular dependencies.

\* Editor: resolve issues with the executions list auto-refresh, and with saving new workflows.

\* Editor: redirect the outdated `/workflow` path.

\* Editor: remove a filter that prevented display of running executions.

## n8n@0.200.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.199.0...n8n@0.200.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-27

This release contains improvements to the editor, node enhancements and bug fixes.

### New features

\* Core, editor: introduce workflow caller policy.

\* Core: block workflow update on interim change.

\* Editor: add a read-only state for nodes.

\* Editor: add execution previews using the new \*\*Executions\*\* tab in the node view.

\* Editor: improvements to node panel search.

### Node enhancements

\* Airtable Trigger node: add the resource locator component.

\* HTTP Request node: add options for raw JSON headers and queries.

\* InvoiceNinja node: add support for V5.

\* Write Binary File node: add option to append to a file.

### Bug fixes

\* API: validate executions and workflow filter parameters.

\* Core: amend typing for `jsonParse()` options.

\* Core: fix `predefinedCredentialType` in node graph item.

\* Core: fix canvas node execution skipping parent nodes.

\* Core: fix single node execution failing in `main` mode.

\* Core: set JWT authentication token `sameSite` policy to `lax`.

\* Core: update to imports in helpers.

\* Editor: curb item method linting in single-item mode.

\* Editor: stop rendering expressions as HTML.

\* Email Trigger node: backport V2 mark-seen-after processing to V1.

\* Email Trigger node: improve connection handling and credentials.

\* HTTP Request node: fix sending previously selected credentials.

\* TheHive node: small fixes.

### Contributors

[Bram Kn](https://github.com/bramkn){:target=\_blank .external-link}

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## n8n@0.199.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.198.2...n8n@0.199.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-21

This release includes new nodes, an improved workflow UI, performance improvements, and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### New workflow experience

This release brings a collection of UI changes, aimed at improving the workflow experience for users. This includes:

\* Removing the Start node, and adding help to guide users to find a trigger node.

\* Improved node search.

\* New nodes: Manual Trigger and Execute Workflow Trigger.

</div>

\* Core: block workflow updates on interim changes.

\* Core: enable sending client credentials in the body of API calls.

\* Editor: add automatic credential selection for new nodes.

### New nodes

<div class="n8n-new-features" markdown>

#### Compare node

The Compare Datasets node helps you compare data from two input streams. You can find documentation for the new node [here](/integrations/builtin/core-nodes/n8n-nodes-base.comparedatasets.md).

</div>

<div class="n8n-new-features" markdown>

#### Execute Workflow Trigger node

The Execute Workflow Trigger starts a workflow in response to another workflow. You can find documentation for the new node [here](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflowtrigger.md).

</div>

<div class="n8n-new-features" markdown>

#### Manual Trigger node

The Manual Trigger allows you to start a workflow by clicking \*\*Test Workflow\*\*, without any option to run it automatically. You can find documentation for the new node [here](/integrations/builtin/core-nodes/n8n-nodes-base.manualworkflowtrigger.md).

</div>

<div class="n8n-new-features" markdown>

#### Schedule Trigger node

This release introduces the Schedule Trigger node, replacing the Cron node. You can find documentation for the new node [here](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md).

</div>

### Node enhancements

\* HubSpot node: you can now use your HubSpot credentials in the HTTP Request node to make a [custom API call](/integrations/custom-operations.md).

\* Rundeck node: you can now use your Rundeck credentials in the HTTP Request node to make a [custom API call](/integrations/custom-operations.md).

### Bug fixes

\* Editor: fix a hover bug in the bottom menu.

\* Editor: resolve performance issues when opening a node, or editing a code node, with a large amount of data.

\* Editor: ensure workflows always stop when clicking the stop button.

\* Editor: fix a bug that was causing text highlighting when mapping data in Firefox.

\* Editor: ensure correct linting in the Code node editor.

\* Editor: handle null values in table view.

\* Elasticsearch node: fix a pagination issue.

\* Google Drive node: fix typo.

\* HTTP Request node: avoid errors when a response doesn't provide a content type.

\* n8n node: fix a bug that was preventing the resource locator component from returning all items.

### Contributors

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## n8n@0.198.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.198.1...n8n@0.198.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-14

This release fixes a bug affecting scrolling through parameter lists.

## n8n@0.198.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.198.0...n8n@0.198.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-14

This is a bug fix release.

### Bug fixes

\* Editor: change the initial position of the Start node.

\* Editor: align JSON view properties with their values.

\* Editor: fix `BASE\_PATH` for Vite dev mode.

\* Editor: fix data pinning success source.

### Contributor

[Bram Kn](https://github.com/bramkn){:target=\_blank .external-link}

## n8n@0.198.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.197.1...n8n@0.198.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-14

/// warning | Breaking changes

Please note that this version contains breaking changes to the Merge node. You can read more about them [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01980){:target=\_blank .external-link}.

///

### New features

\* Editor: update the expressions display.

\* Editor: update the n8n-menu component.

### New nodes

<div class="n8n-new-features" markdown>

#### Code node

This release introduces the Code node. This node replaces both the Function and Function Item nodes. Refer to the [Code node](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) documentation for more information.

</div>

<div class="n8n-new-features" markdown>

#### Venafi TLS Protect Cloud Trigger node

Start a workflow in response to events in your Venafi Cloud service.

</div>

### Node enhancements

\* Citrix ADC node: add Certificate Install operation.

\* Kafka node: add a \*\*Use key\*\* option for messages.

\* MySQL node: use the resource locator component for table parameters, making it easier for users to browse and select their database fields from within n8n.

### Bug fixes

\* Core, Editor: prevent overlap between running and pinning data.

\* Core: expression evaluation of processes now respects `N8N\_BLOCK\_ENV\_ACCESS\_IN\_NODE`.

\* Editor: ensure the Axios base URL still works when hosted in a subfolder.

\* Editor: fixes for horizontal scrollbar rendering.

\* Editor: ensure the menu closes promptly when loading a credentials page.

\* Editor: menu UI fixes.

\* Box node: fix an issue that was causing the Create Folder operation to show extra items.

\* GSuite Admin node: resolve issue that was causing the User Update operation to fail.

\* GitLab Trigger node: ensure this node activates reliably.

\* HTTP Request node: ensure OAuth credentials work properly with predefined credentials.

\* KoboToolbox node: fix the hook logs.

\* SeaTable node: ensure link items show in response.

\* Zoom node: resolve an issue that was causing missing output items.

### Contributors

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## n8n@0.197.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.197.0...n8n@0.197.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-10

This is a bug fix release. It resolves an issue with display width on the resource locator UI component.

## n8n@0.197.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.196.0...n8n@0.197.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-10-10

This release includes six new nodes, focused around infrastructure management. It also adds support for drag and drop data mapping in the JSON input view, and includes bug fixes.

### New features

\* Core: improve light versioning support in declarative node design.

\* Editor UI: data mapping for JSON view. You can now map data using drag and drop from JSON view, as well as table view.

### New nodes

<div class="n8n-new-features" markdown>

#### AWS Certificate Manager

A new integration with AWS Certificate Manager. You can find the documentation [here](/integrations/builtin/app-nodes/n8n-nodes-base.awscertificatemanager.md).

</div>

<div class="n8n-new-features" markdown>

#### AWS Elastic Load Balancing

Manage your AWS load balancers from your workflow using the new AWS Elastic Load Balancing node. You can find the documentation [here](/integrations/builtin/app-nodes/n8n-nodes-base.awselb.md).

</div>

<div class="n8n-new-features" markdown>

#### Citrix ADC

Citrix ADC is an application delivery and load balancing solution for monolithic and microservices-based applications. You can find the documentation [here](/integrations/builtin/app-nodes/n8n-nodes-base.netscaleradc.md).

</div>

<div class="n8n-new-features" markdown>

#### Cloudflare

Cloudflare provides a range of services to manage and protect your websites. This new node allows you to manage zone certificates in Cloudflare from your workflows. You can find the documentation [here](/integrations/builtin/app-nodes/n8n-nodes-base.cloudflare.md).

</div>

<div class="n8n-new-features" markdown>

#### Venafi nodes

This release includes two new Venafi nodes, to integrate with their Protect TLS service.

</div>

### Node enhancements

Crypto node: add SHA3 support.

### Bug fixes

\* CLI: cache generated assets in a user-writeable directory.

\* Core: prevent excess runs when data is pinned in a trigger node.

\* Core: ensure hook URLs always added correctly.

\* Editor: a fix for an issue affecting linked items in combination with data pinning.

\* Editor: resolve a bug with the binary data view.

\* GitHub Trigger node: ensure trigger executes reliably.

\* Microsoft Excel node: fix pagination issue.

\* Microsoft ToDo node: fix pagination issue.

### Contributors

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## n8n@0.196.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.195.5...n8n@0.196.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-30

This release includes major new features:

\* Better item linking

\* New built-in variables and methods

\* A redesigned main navigation

\* New nodes, as well as an overhaul of the HTTP Request node

It also contains bug fixes and node enhancements.

### New features

<div class="n8n-new-features" markdown>

#### Improved item linking

Introducing improved support for item linking (paired items). Item linking is a key concept in the n8n data flow. Learn more in [Data item linking](/data/data-mapping/data-item-linking/index.md).

</div>

<div class="n8n-new-features" markdown>

#### Overhauled built-in variables

n8n's [built-in methods and variables](/code/index.md) have been overhauled, introducing new variables, and providing greater consistency in behavior and naming.

</div>

<div class="n8n-new-features" markdown>

#### Redesigned main navigation

We've redesigned the main navigation (the left hand menu) to create a simpler user experience.

</div>

#### Other new features

\* Improved error text when loading options in a node.

\* On reset, share unshared credentials with the instance owner.

### New nodes

<div class="n8n-new-features" markdown>

#### n8n node

The [n8n node](/integrations/builtin/core-nodes/n8n-nodes-base.n8n.md) allows you to consume the n8n API in your workflows.

</div>

<div class="n8n-new-features" markdown>

#### WhatsApp Business Platform node

The [WhatsApp Business Platform](/integrations/builtin/app-nodes/n8n-nodes-base.whatsapp/index.md) node allows you to use the WhatsApp Business Platform Cloud API in your workflows.

</div>

### Node enhancements

\* HTTP Request node: a major overhaul. It's now much simpler to build a custom API request. Refer to the [HTTP Request node documentation](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) for more information.

\* RabbitMQ Trigger node: now automatically reconnects on disconnect.

\* Slack node: add the 'get many' operation for users.

### Bug fixes

\* Build: add typing for SSE channel.

\* Build: fix lint issue.

\* CLI: add git to all Docker images

\* CLI: disable X-Powered-By: Express header.

\* CLI: disable CORS on SSE connections in production.

\* Core: remove commented out lines.

\* Core: delete unused dependencies.

\* Core: fix and harmonize documentation links for nodes.

\* Core: remove the --forceExit flag from CLI tests.

\* Editor: add missing event handler to accordion component.

\* Editor: fix Storybook setup.

\* Editor: ensure BASE\_URL replacement works correctly on Windows.

\* Editor: fix parameter input field focus.

\* Editor: make lodash aliases work on case-sensitive file systems.

\* Editor: fix an issue affecting copy-pasting workflows into pinned data in the code editor.

\* Editor: ensure the run data pagination selector displays when appropriate.

\* Editor: ensure the run selector can open.

\* Editor: tidy up leftover i18n references in the node view.

\* Editor: correct an i18n string.

\* Editor: resolve slow loading times for node types, node creators, and push connections in the settings view.

\* Nodes: update descriptions in the Merge node

\* Nodes: ensure the card ID property displays for completed checklists in the Trello node.

\* Nodes: fix authentication for the new verions of WeKan.

\* Nodes: ensure form names list correctly in the Wufoo Trigger node.

### Contributors

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## n8n@0.195.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.195.4...n8n@0.195.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-23

This is a bug fix release. It fixes an issue with extracting values in expressions.

## n8n@0.195.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.195.3...n8n@0.195.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-22

This release:

\* Adds the ability to resize the main node panel.

\* Resolves an issue with resource locator in expressions.

## n8n@0.195.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.195.2...n8n@0.195.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-22

This is a bug fix release.

\* Editor: fix an expressions bug affecting numbers and booleans.

\* Added support for setting the TDS version in Microsoft SQL credentials.

## n8n@0.195.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.195.1...n8n@0.195.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-22

This is a bug fix release. It resolves an issue with MySQL migrations.

## n8n@0.195.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.195.0...n8n@0.195.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-21

This is a bug fix release. It resolves an issue with Postgres migrations.

## n8n@0.195.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.194.0...n8n@0.195.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-21

This release introduces user management and credential sharing for n8n's Cloud platform. It also contains other enhancements and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### User management and credential sharing for Cloud

This release adds support for n8n's existing [user management](/user-management/index.md) functionality to Cloud, and introduces a new feature: [credential sharing](/credentials/credential-sharing.md). Credential sharing is currently only available on Cloud.

</div>

Also in this release:

\* Added a `resourceLocator` parameter type for nodes, and started upgrading n8n's built-in nodes to use it. This new option helps users who need to specify the ID of a record or item in an external service. For example, when using the Trello node, you can now search for a specific card by ID, URL, or do a free text search for card titles. Node builders can learn more about working with this new UI element in n8n's [UI elements](/integrations/creating-nodes/build/reference/ui-elements.md) documentation.

\* Cache npm dependencies to improve performance on self-hosted n8n

### Bug fixes

\* Box node: fix an issue that sometimes prevented response data from being returned.

\* CLI: prevent n8n from crashing when it encounters an error in poll method.

\* Core: prevent calls to constructor, to forbid arbitrary code execution.

\* Editor: fix the output panel for Wait node executions.

\* HTTP node: ensure instance doesn't crash when batching enabled.

\* Public API: corrections to the OAuth schema.

\* Xero node: fix an issue that was causing line amount types to be ignored when creating new invoices.

### Contributors

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## n8n@0.194.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.193.5...n8n@0.194.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-15

This release includes new nodes: a Gmail trigger, Google Cloud Storage, and Adalo. It also contains major overhauls of the Gmail and Merge nodes.

### New features

\* CLI: load all nodes and credentials code in isolation.

\* Core, Editor UI: introduce support for node deprecation.

\* Editor: implement HTML sanitization for Notification and Message components.

\* Editor: display the input number on multi-input nodes.

### New nodes

<div class="n8n-new-features" markdown>

#### Adalo

Adalo is a low code app builder. Refer to n8n's [Adalo node documentation](/integrations/builtin/app-nodes/n8n-nodes-base.adalo.md) for more information.

</div>

<div class="n8n-new-features" markdown>

#### Google Cloud Storage

n8n now has a [Google Cloud Storage node](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudstorage.md).

</div>

<div class="n8n-new-features" markdown>

#### Gmail Trigger

n8n now has a [Gmail Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.gmailtrigger/index.md). This allows you to trigger workflows in response to a Gmail account receiving an email.

</div>

### Node enhancements

\* Gmail node: this release includes an overhaul of the [Gmail node](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md), with updated resources and operations.

\* Merge node: a major overhaul. Merge mode's have new names, and have been simplified. Refer to the [Merge node documentation](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) to learn more.

\* MongoDB node: updated the Mongo driver to 4.9.1.

### Bug fixes

\* CLI: core: address Dependabot warnings.

\* CLI: avoid scanning unnecessary directories on Windows.

\* CLI: load nodes and directories on Windows using the correct file path.

\* CLI: ensure password reset triggers internal and external hooks.

\* CLI: use absolute paths for loading custom nodes and credentials.

\* Core: returnJsonArray helper no longer breaks nodes that return no data.

\* Core: fix an issue with node renaming and expressions.

\* Core: update OAuth endpoints to use the instance base URL.

\* Nodes: resolved an issue that was preventing versioned nodes from loading.

\* Public API: better error handling for bad requests.

\* AWS nodes: fixed an issue with credentials testing.

\* GoogleBigQuery node: fix for empty responses when creating records.

\* HubSpot node: correct the node name on the canvas.

### Contributors

[Rhys Williams](https://github.com/rhyswilliamsza){:target=\_blank .external-link}

## n8n@0.193.5

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.193.4...n8n@0.193.5){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-07

This is a bug fix release.

### Bug fixes

\* Editor: prevent editing in the Function nodes in executions view.

\* Editor: ensure button widths are correct.

\* Editor: fix a popup title.

\* Gmail node: fix an issue introduced due to incorrect automatic data formatting.

## n8n@0.193.4

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.193.3...n8n@0.193.4){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-06

This release contains new features that lay the groundwork for upcoming releases, and bug fixes.

### New features

\* It's now possible to configure the stop time for workers.

\* CLI: Added external hooks for when members are added or deleted.

\* Editor: Use the i18n component for localization (replacing v-html)

### Bug fixes

\* CLI: include "auth-excluded" endpoints on the history middleware as well.

\* Core: fix MySQL migration issue with table prefix.

\* Correct spelling.

\* Fix n8n-square-button import.

\* AWS nodes: handle query string and body properly for AWS related requests.

\* AWS Lambda node: fix JSON data being sent to AWS Lambda as string.

\* Beeminder node: fix request ID not being sent when creating a new data point.

\* GitHub node: fix binary data not being returned.

\* GraphQL node: fix issue with return items.

\* Postgres node: fix issue with Postgres insert and paired item.

\* Kafka Trigger node: fix Kafka trigger not working with default max requests value.

\* MonicaCrm node: fix pagination when using return all.

\* Gmail node: fix bug related to paired items.

\* Raindrop node: fix issue refreshing OAuth2 credentials.

\* Shopify node: fix pagination when empty fields are sent.

### Contributors

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## n8n@0.193.3

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.193.2...n8n@0.193.3){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-01

This release contains bug fixes and node enhancements.

### Node enhancements

MongoDB node: add credential testing and two new operations.

### Bug fixes

\* CLI: only initialize the mailer if the connection can be verified.

\* Core: fix an issue with disabled parent outputs in partial executions.

\* Nodes: remove duplicate wrapping of paired item data.

## n8n@0.193.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.193.1...n8n@0.193.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-09-01

This is a bug fix release. It resolves an issue that was causing errors with OAuth2 credentials.

## n8n@0.193.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.193.0...n8n@0.193.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-31

This is a bug fix release. It resolves an issue that was preventing column headings from displaying correctly in the editor.

## n8n@0.193.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.192.2...n8n@0.193.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-31

This release contains a new node, feature enhancements, and bug fixes.

### New nodes

This release adds an integration for [HighLevel](/integrations/builtin/app-nodes/n8n-nodes-base.highlevel.md), an all-in-one sales and marketing platform.

### Enhancements

\* Docker: reduce the size of Alpine Docker images.

\* Editor: improve mapping tooltip behavior.

### Bug fixes

\* Core: make digest auth work with query parameters.

\* Editor: send data as query on DELETE requests.

\* Fix credentials\_entity table migration for MySQL.

\* Improve `.npmignore` to reduce the size of the published packages.

### Contributors

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## n8n@0.192.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.192.1...n8n@0.192.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-25

This is a bug fix release.

### Bug fixes

\* Editor: fix the feature flag check when PostHog is unavailable.

\* Editor: fix for a mapping bug that occured when value is null.

## n8n@0.192.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.192.0...n8n@0.192.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-25

This is a bug fix release.

### Bug fixes

Account for non-array types in `pinData` migration.

## n8n@0.192.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.191.1...n8n@0.192.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-24

This release contains new features and enhancements, as well as bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Map nested fields

n8n@0.187.0 saw the first release of [data mapping](/data/data-mapping/index.md), allowing you to drag and drop top level data from a node's \*\*INPUT\*\* panel into parameter fields. With this release, you can now drag and drop data from any level.

</div>

\* Core and editor: support `pairedItem` for pinned data.

\* Core and editor: integrate PostHog.

\* Core: add a command to scripts making it easier to launch n8n with tunnel.

\* CLI: notify external hooks about user profile and password changes.

### Bug fixes

\* Core: account for the enabled state in the first pinned trigger in a workflow.

\* Core: fix pinned trigger execution.

\* CLI: handle unparseable strings during JSON key migration.

\* CLI: fix the excessive instantiation type error for flattened executions.

\* CLI: initiate the nodes directory to ensure `npm install` succeeds.

\* CLI: ensure tsc build errors also cause Turbeorepo builds to fail.

\* Nextcloud node: fix an issue with credential verification.

\* Freshdesk node: fix an issue where the getAll operation required non-existant options.

## n8n@0.191.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.191.0...n8n@0.191.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-19

This is a bug fix release. It resolves an issue that was causing node connectors to disappear after a user renamed them.

## n8n@0.191.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.190.0...n8n@0.191.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-17

This release lays the groundwork for wider community nodes support. It also includes some bug fixes.

### New features

\* Community nodes are now enabled based on npm availability on the host system. This allows n8n to introduce community nodes to the Desktop edition in a future release.

\* Improved in-app guidance on mapping data.

### Bug fixes

\* CLI: fix the community node tests on Postgres and MySQL.

\* Core: fix an issue preventing child workflow executions from displaying.

\* Editor: handle errors when opening settings and executions.

\* Editor: improve expression and parameters performance.

\* Public API: fix executions pagination for n8n instances using Postgres and MySQL.

## n8n@0.190.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.189.1...n8n@0.190.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-10

This is a bug fix release.

### Bug fixes

\* Core: fix a crash caused by parallel calls to test webhooks.

\* Core: fix an issue preventing static data being saved for poll triggers.

\* Public API: fix a pagination issue.

\* GitHub Trigger: typo fix.

### Contributors

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## n8n@0.189.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.189.0...n8n@0.189.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-05

This is a bug fix release.

### Bug fixes

Fixed an issue with MySQL and MariaDB migrations.

## n8n@0.189.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.188.0...n8n@0.189.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-08-03

This release includes a new node, Sendinblue, as well as bug fixes.

### New nodes

[Sendinblue node](/integrations/builtin/app-nodes/n8n-nodes-base.brevo.md) and Sendinblue Trigger node: introducing n8n's [Sendinblue](https://www.sendinblue.com/){:target=\_blank .external-link} integration.

### Node enhancements

[NocoDB node](/integrations/builtin/app-nodes/n8n-nodes-base.nocodb.md): add support for v0.90.0+

### Bug fixes

\* Editor: fix a label cut off.

\* Fix an issue with saving workflows when tags are disabled.

\* Ensure support for community nodes on Windows.

### Contributors

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## n8n@0.188.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.187.2...n8n@0.188.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-07-27

This release contains a new node for Metabase, bug fixes, and node and product enhancements.

### New nodes

<div class="n8n-new-features" markdown>

#### Metabase

This release includes a new [Metabase node](/integrations/builtin/app-nodes/n8n-nodes-base.metabase.md). [Metabase](https://www.metabase.com/){:target=\_blank .external-link} is a business data analysis tool.

</div>

### Enhancements

This release includes improvements to n8n's core pairedItems functionality.

### Node enhancements

\* Item Lists node: add an operation to create arrays from input items.

\* [Kafka Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.kafkatrigger.md): add more option fields.

### Bug fixes

\* Core: add Windows support to `import:credentials --separate`.

\* Editor: correct linking buttons color.

\* Editor: ensure data pinning works as expected when `pinData` is null.

\* Editor: fix a bug with spaces.

\* Editor: resolve an issue with sticky note duplication and positioning.

\* Editor: restore missing header colors.

\* AWS DynamoDB node: fix for errors with expression attribute names.

\* Mautic node: fix an authentication issue.

\* Rocketchat node: fix an authentication issue.

### Contributors

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## n8n@0.187.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.187.1...n8n@0.187.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-07-21

This is a bug fix release.

\* Editor: fix for a console issue.

\* Editor: fix a login issue for non-admin users.

\* Editor: fix problems with the credentials modal that occured when no node is open.

\* NocoDB node: fix for an authentication issue.

## n8n@0.187.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.187.0...n8n@0.187.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-07-20

This release fixes a bug that was preventing new nodes from reliably displaying in all browsers.

## n8n@0.187.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.186.1...n8n@0.187.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-07-20

This release includes several major new features, including:

\* The community nodes repository: a new way to build and share nodes.

\* Data pinning and data mapping: accelerate workflow development with better data manipulation functionality.

### New features

<div class="n8n-new-features" markdown>

#### Community nodes repository

This release introduces the [community node repository](/integrations/community-nodes/installation/index.md). This allows developers to build and share nodes as npm packages. Users can install community-built nodes directly in n8n.

</div>

<div class="n8n-new-features" markdown>

#### Data pinning

[Data pinning](/data/data-pinning.md) allows you to freeze and edit data during workflow development. Data pinning means saving the output data of a node, and using the saved data instead of fetching fresh data in future workflow executions. This avoids repeated API calls when developing a workflow, reducing calls to external systems, and speeding up workflow development.

</div>

<div class="n8n-new-features" markdown>

#### Data mapping

This release introduces a drag and drop interface for [data mapping](/data/data-mapping/index.md), as a quick way to map data without using expressions.

</div>

<div class="n8n-new-features" markdown>

#### Simplify authentication setup for node creators

This release introduces a simpler way of handling authorization when building a node. All credentials should now contain an `authenticate` property that dictates how the credential is used in a request.

n8n has also simplified authentication types: instead of specifying an authentication type and using the correct interface, you can now set the type as `"generic"`, and use the `IAuthenticateGeneric` interface.

You can use this approach for any authentication method where data is sent in the header, body, or query string. This includes methods like bearer and basic auth. You can't use this approach for more complex authentication types that require multiple calls, or for methods that don't pass authentication data. This includes OAuth.

For an example of the new authentication syntax, refer to n8n's [Asana node](https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/credentials/AsanaApi.credentials.ts){:target=\_blank .external-link}.

```js

// in AsanaApi.credentials.ts

import {

IAuthenticateGeneric,

ICredentialType,

INodeProperties,

} from 'n8n-workflow';

export class AsanaApi implements ICredentialType {

name = 'asanaApi';

displayName = 'Asana API';

documentationUrl = 'asana';

properties: INodeProperties[] = [

{

displayName: 'Access Token',

name: 'accessToken',

type: 'string',

default: '',

},

];

authenticate: IAuthenticateGeneric = {

type: 'generic',

properties: {

headers: {

Authorization: '=Bearer {{$credentials.accessToken}}',

},

},

};

}

```

</div>

#### Other new features

\* Added a `preAuthentication` method to credentials.

\* Added more credentials tests.

\* Introduce automatic fixing for paired item information in some scenarios.

### Node enhancements

\* [ERPNext node](/integrations/builtin/app-nodes/n8n-nodes-base.erpnext.md): add credential tests, and add support for unauthorized certs.

\* [Google Drive node](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md): add support for move to trash.

\* [Mindee node](/integrations/builtin/app-nodes/n8n-nodes-base.mindee.md): support new version.

\* [Notion node](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md): support ignoring the Notion URL property if empty.

\* [Shopify node](/integrations/builtin/app-nodes/n8n-nodes-base.shopify.md): add OAuth support.

### Bug fixes

\* API: add missing node settings parameters.

\* API: validate static data value for resource workflow.

\* Baserow Node: fix an issue preventing table names from loading.

\* Editor: hide the \*\*Execute previous node\*\* button when in read-only mode.

\* Editor: hide tabs if there's only one branch.

\* Roundup of link fixes in nodes.

### Contributors

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## n8n@0.186.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.186.0...n8n@0.186.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-07-14

This is a bug fix release. It includes a fix for an issue with the Airtable node.

## n8n@0.186.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.185.0...n8n@0.186.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-07-13

This release contains bug fixes and node enhancements.

### New features

\* Add item information to more node errors.

\* Update multiple credentials with tests, and add support for custom operations.

### Node enhancements

\* [AWS DynamoDB node](/integrations/builtin/app-nodes/n8n-nodes-base.awsdynamodb.md): improve error handling and add an optional GetAll Scan FilterExpression.

\* [Customer.io node](/integrations/builtin/app-nodes/n8n-nodes-base.customerio.md): add support for tracking region selection.

\* [Elasticsearch node](/integrations/builtin/app-nodes/n8n-nodes-base.elasticsearch.md): add 'Source Excludes' and 'Source Includes' options to the Document: getAll operation. Add credential tests, index pipelines, and index refresh.

\* [Freshworks CRM node](/integrations/builtin/app-nodes/n8n-nodes-base.freshworkscrm.md): add search and lookup functionality.

\* [JIRA node](/integrations/builtin/trigger-nodes/n8n-nodes-base.jiratrigger.md): add optional query authentication.

\* [Postgres node](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md): improve handling of large numbers.

\* [Redis node](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md): add push and pop operations.

\* [Rename node](/integrations/builtin/core-nodes/n8n-nodes-base.renamekeys.md): add regex replace.

\* [Spreadsheet file node](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md): allow skipping headers when writing spreadsheets.

### Bug fixes

\* Editor: Fix an error that occured after repeated executions.

\* [EmailReadImap node](/integrations/builtin/core-nodes/n8n-nodes-base.emailimap.md): improve handling of network problems.

\* [Google Drive node](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md): process input items using the list operation.

\* [Telegram node](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md): fix for a bug affecting sending binary data (images, documents and so on).

### Contributors

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## n8n@0.185.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.184.0...n8n@0.185.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-07-05

This release adds a new node, Google Ads. It also contains bug fixes and node enhancements, as well as a small addition to core.

### New features

Core: add the `action` parameter to INodePropertyOptions. This parameter is now available when building nodes.

### New nodes

[Google Ads node](/integrations/builtin/app-nodes/n8n-nodes-base.googleads.md): n8n now provides a Google Ads node, allowing you to get data from Google Ad campaigns.

### Node enhancements

\* [DeepL node](/integrations/builtin/app-nodes/n8n-nodes-base.deepl.md): Add support for longer text fields, and add credentials tests.

\* [Facebook Graph API node](/integrations/builtin/app-nodes/n8n-nodes-base.facebookgraphapi.md): Add support for Facebook Graph API 14.

\* [JIRA node](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md): Add support for the simplified option with rendered fields.

\* [Webflow Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.webflowtrigger.md): Reduce the chance of webhook duplication. Add a credentials test.

\* [WordPress node](/integrations/builtin/app-nodes/n8n-nodes-base.wordpress.md): Add a post template option.

### Bug fixes

\* [HubSpot node](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md): Fix for search endpoints.

\* [KoboToolbox node](/integrations/builtin/app-nodes/n8n-nodes-base.kobotoolbox.md): Improve attachment matching logic and GeoJSON Polygon format.

\* [Odoo node](/integrations/builtin/app-nodes/n8n-nodes-base.odoo.md): Prevent possible issues with some custom fields.

\* Sticky note node: Fix an issue that was causing the main header to hide.

\* [Todoist node](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md): Improve multi-item support.

### Contributors

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## n8n@0.184.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.183.0...n8n@0.184.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-29

This release includes:

\* New core features

\* Enhancements to the Clockify node.

\* Bug fixes.

### New features

\* You can now access `getBinaryDataBuffer` in the pre-send method.

\* n8n now exposes the item index being processed by a node.

\* Migrated the expressions templating engine to [n8n's fork of riot-tmpl](https://github.com/n8n-io/tmpl){:target=\_blank .external-link}.

### Node enhancements

[Clockify node](/integrations/builtin/app-nodes/n8n-nodes-base.clockify.md): added three new resources: Client, User, and Workspace. Also added support for custom API calls.

### Bug fixes

\* Core: fixed an error with logging circular links in JSON.

\* Editor UI: now display the full text of long error messages.

\* Editor UI: fix for an issue with credentials rendering when the node has no parameters.

\* [Cortex node](/integrations/builtin/app-nodes/n8n-nodes-base.cortex.md): fix an issue preventing all analyzers being returned.

\* [HTTP Request node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md): ensure all OAuth2 credentials work with this node.

\* [LinkedIn node](/integrations/builtin/app-nodes/n8n-nodes-base.linkedin.md): fix an issue with image preview.

\* [Salesforce node](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md): fix an issue that was causing the lead status to not use the new name when name is updated.

\* Fixed an issue with required/optional parameters.

### Contributors

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## n8n@0.183.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.182.1...n8n@0.183.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-21

This release contains node enhancements and bug fixes, as well as an improved trigger nodes panel.

### New features

Enhancements to the \*\*Trigger\*\* inputs panel: When using a trigger node, you will now see an \*\*INPUT\*\* view that gives guidance on how to load data into your trigger.

### Node enhancements

\* [HubSpot node](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md){:target=\_blank}: you can now assign a stage on ticket update.

\* [Todoist node](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md){:target=\_blank}: it's now possible to move tasks between sections.

\* [Twake node](/integrations/builtin/app-nodes/n8n-nodes-base.twake.md){:target=\_blank}: updated icon, credential test added, and added support for custom operations.

### Bug fixes

\* Core: don't allow OPTIONS requests from any source.

\* Core: GET `/workflows/:id` now returns tags.

\* Core: ensure predefined credentials show up in the HTTP Request node.

\* Core: return the correct error message on Axios error.

\* Core: updates to the expressions allow-list and deny-list.

### Contributors

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## n8n@0.182.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.182.0...n8n@0.182.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-16

This is a bug fix release. It resolves an issue with restarting waiting executions.

## n8n@0.182.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.181.2...n8n@0.182.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-14

This release contains enhancements to the Twilio and Wise integrations, and adds support for a new grant type for OAuth2. It also includes some bug fixes.

### New features

Added support for the client\_credentials grant type for OAuth2.

### Node enhancements

\* [Twilio node](/integrations/builtin/app-nodes/n8n-nodes-base.twilio.md){:target=\_blank}: added the ability to make a voice call using TTS.

\* [Wise node](/integrations/builtin/app-nodes/n8n-nodes-base.wise.md){:target=\_blank}: added support for downloading statements as JSON, CSV, or PDF.

### Bug fixes

\* Core: fixes an issue that was causing parameters to get lost in some edge cases.

\* Core: fixes an issue with combined expressions not resolving if one expression was invalid.

\* Core: fixed an issue that was causing the public API to fail to build on Windows.

\* Editor: ensure errors display correctly.

\* [HTTP Request node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md){:target=\_blank}: better handling for requests that return null.

\* [Pipedrive node](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md){:target=\_blank}: fixes a limits issue with the GetAll operation on the Lead resource.

\* [Postbin node](/integrations/builtin/app-nodes/n8n-nodes-base.postbin.md){:target=\_blank}: remove a false error.

### Contributors

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## n8n@0.181.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.181.1...n8n@0.181.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-09

This is a bug fix release. It resolves an issue that was sometimes causing nodes to error when they didn't return data.

## n8n@0.181.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.181.0...n8n@0.181.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-09

This is a bug fix release. It fixes two issues with multi-input nodes.

## n8n@0.181.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.180.0...n8n@0.181.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-08

This release introduces the public API.

### New feature highlights

<div class="n8n-new-features" markdown>

#### The n8n public API

This release introduces the n8n public REST API. Using n8n's public API, you can programmatically perform many of the same tasks as you can in the GUI. The API includes a built-in Swagger UI playground. Refer to the [API documentation](/api/index.md){:target=\_blank} for more information.

</div>

### Other new features

\* \*\*Core\*\*: you can now block user access to environment variables using the `N8N\_BLOCK\_ENV\_ACCESS\_IN\_NODE` variable.

### Bug fixes

\* \*\*Core\*\*: properly resolve expressions in declarative style nodes.

## n8n@0.180.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.179.0...n8n@0.180.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-06-07

This release adds a new node for Cal.com, support for tags in workflow import and export, UI improvements, node enhancements, and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Tags in workflow import and export

When importing or exporting a workflow, the JSON can now include workflow tags.

</div>

<div class="n8n-new-features" markdown>

#### Improved handling of activation errors

n8n now supports running an error workflow in response to an activation error.

</div>

### New nodes

<div class="n8n-new-features" markdown>

#### Cal.com trigger

This release adds a new trigger node for Cal.com. Refer to the [Cal Trigger documentation](/integrations/builtin/trigger-nodes/n8n-nodes-base.caltrigger.md){:target=\_blank} for more guidance.

</div>

### Node enhancements

\* [GitHub node](/integrations/builtin/app-nodes/n8n-nodes-base.github.md){:target=\_blank}: add the Get All operation to the Organization resource.

\* [QuickBooks node](/integrations/builtin/app-nodes/n8n-nodes-base.quickbooks.md){:target=\_blank}: add a new optional field for tax items.

### Bug fixes

\* Restore support for `window` in expressions.

\* Fix to the `user-management:reset` command.

\* Resolve crashes in queue mode.

\* Correct delete button hover spacing.

\* Resolve a bug causing stuck loading states.

\* [EmailReadImap node](/integrations/builtin/core-nodes/n8n-nodes-base.emailimap.md){:target=\_blank}: improve error handling.

\* [HubSpot node](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md){:target=\_blank}: fix contact loading.

### Contributors

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## n8n@0.179.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.178.2...n8n@0.179.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-05-30

This release features a new node for PostBin, as well as various node enhancements and bug fixes.

### New nodes

<div class="n8n-new-features" markdown>

#### PostBin node

PostBin serves as a wrapper for standard HTTP libraries which can be used to test arbitrary API/Webhooks by sending requests and providing more advanced ways to analyze the responses.

</div>

### Node enhancements

\* [RabbitMQ Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.rabbitmqtrigger.md): Made message acknowledgement and parallel processing configurable.

\* [ServiceNow node](/integrations/builtin/app-nodes/n8n-nodes-base.servicenow.md): Added support for attachments.

\* [Todoist node](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md): Added support for specifying the parent task when adding and listing tasks.

### Bug fixes

\* \*\*Core\*\*: Fixed migrations on non-public Postgres schema.

\* \*\*Core\*\*: Mitigated possible XSS vulnerability when importing workflow templates.

\* \*\*Editor UI\*\*: fixed erroneous hover state detection close to the sticky note button.

\* \*\*Editor UI\*\*: fixed display behavior of credentials assigned to versioned nodes.

\* [Discord node](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md){:target=\_blank}: Fixed rate limit handling.

\* [Gmail node](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md){:target=\_blank}: Fixed sending attachments in filesystem data mode.

\* [Google Sheets node](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md){:target=\_blank}: Fixed an error preventing the \*Use Header Names as JSON Paths\* option from working as expected.

\* [Nextcloud node](/integrations/builtin/app-nodes/n8n-nodes-base.nextcloud.md){:target=\_blank}: Updated the node so the list:folder operation works with Nextcloud version 24.

\* [YouTube node](/integrations/builtin/app-nodes/n8n-nodes-base.youtube.md){:target=\_blank}: Fixed problem with uploading large files.

## n8n@0.178.2

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.178.1...n8n@0.178.2){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-05-25

This is a bug fix release. It solves an issue with loading parameters when making custom operations calls.

## n8n@0.178.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.178.0...n8n@0.178.1){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-05-24

This is a bug fix release. It solves an issue with setting credentials in the HTTP Request node.

## n8n@0.178.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.177.0...n8n@0.178.0){:target=\_blank .external-link} for this version.<br />

\*\*Release date:\*\* 2022-05-24

This release adds support for reusing existing credentials in the HTTP Request node, making it easier to do custom operation with APIs where n8n already has an integration.

The release also includes improvements to the nodes view, giving better detail about incoming data, as well as some bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Credential reuse for custom API operations

n8n supplies hundreds of nodes, allowing you to create workflows that link multiple products. However, some nodes don't include all the possible operations supported by a product's API. You can work around this by making a custom API call using the HTTP Request node.

One of the most complex parts of setting up API calls is managing authentication. To simplify this, n8n now provides a way to use existential credential types (credentials associated with n8n nodes) in the HTTP Request node.

For more information, refer to [Custom API operations](/integrations/custom-operations.md){:target=\_blank}.

#### Node details view

An improved node view, showing more detail about node inputs.

</div>

### Node enhancements

[Salesforce Node](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md){:target=\_blank}: Add the \*\*Country\*\* field.

### Bug fixes

\* \*\*Editor UI\*\*: don't display the dividing line unless necessary.

\* \*\*Editor UI\*\*: don't display the 'Welcome' sticky in template workflows.

\* [Slack Node](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md){:target=\_blank}: Fix the kick operation for the channel resource.

## n8n@0.177.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.176.0...n8n@0.177.0){:target="\_blank" .external-link} for this version.<br />

\*\*Release date:\*\* 2022-05-17

This release contains node enhancements, an improved welcome experience, and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Improved welcome experience

A new [introductory video](https://youtu.be/RpjQTGKm-ok){:target="\_blank" .external-link}, automatically displayed for new users.

#### Automatically convert Luxon dates to strings

n8n now automatically converts Luxon DateTime objects to strings.

</div>

### Node enhancements

\* [Google Drive Node](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md){:target="\_blank"}: Drive upload, delete, and share operations now support shared Drives.

\* [Microsoft OneDrive](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md){:target="\_blank"}: Add the rename operation for files and folders.

\* [Trello](/integrations/builtin/app-nodes/n8n-nodes-base.trello.md){:target="\_blank"}: Add support for operations relating to board members.

### Bug fixes

\* \*\*core:\*\* Fix call to `/executions-current` with unsaved workflow.

\* \*\*core:\*\* Fix issue with fixedCollection having all default values.

\* [Edit Image Node](/integrations/builtin/core-nodes/n8n-nodes-base.editimage.md){:target="\_blank"}: Fix font selection.

\* [Ghost Node](/integrations/builtin/app-nodes/n8n-nodes-base.ghost.md){:target="\_blank"}: Fix post tags and add credential tests.

\* [Google Calendar Node](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md){:target="\_blank"}: Make it work with public calendars and clean up.

\* [KoBoToolbox Node](/integrations/builtin/app-nodes/n8n-nodes-base.kobotoolbox.md){:target="\_blank"}: Fix query and sort + use question name in attachments.

\* [Mailjet Trigger Node](/integrations/builtin/app-nodes/n8n-nodes-base.mailjet.md){:target="\_blank"}: Fix issue that node couldn't get activated.

\* [Pipedrive Node](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md){:target="\_blank"}: Fix resolve properties when using multi option field.

### Contributors

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## n8n@0.176.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.175.1...n8n@0.176.0) for this version.<br />

\*\*Release date:\*\* 2022-05-10

This release contains bug fixes and node enhancements.

### Node enhancements

\* [Pipedrive node](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md): adds support for filters to the Organization: Get All operation.

\* [Pushover node](/integrations/builtin/app-nodes/n8n-nodes-base.pushover.md): adds an HTML formatting option, and a credential test.

\* [UProc node](/integrations/builtin/app-nodes/n8n-nodes-base.uproc.md): adds new tools.

### Bug fixes

\* \*\*core\*\*: a fix for filtering the executions list by waiting status.

\* \*\*core\*\*: improved webhook error messages.

\* [Edit Image node](/integrations/builtin/core-nodes/n8n-nodes-base.editimage.md): node now works correctly with the binary-data-mode 'filesystem'.

### Contributors

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## n8n@0.175.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.175.0...n8n@0.175.1) for this version.<br />

\*\*Release date:\*\* 2022-05-03

This is a bug fix release.

### Bug fixes

Fixes a bug in the editor UI related to node versioning.

## n8n@0.175.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.174.0...n8n@0.175.0) for this version.<br />

\*\*Release date:\*\* 2022-05-02

This release adds support for node versioning, along with node enhancements and bug fixes.

### New features

<div class="n8n-new-features" markdown>

#### Node versioning

0.175.0 adds support for a lightweight method of node versioning. One node can contain multiple versions, allowing small version increments without code duplication. To use this feature, change the `version` parameter in your node to an array, and add your version numbers, including your existing version. You can then access the version parameter with `@version` in your `displayOptions` (to control which version n8n displays). You can also query the version in your `execute` function using `const nodeVersion = this.getNode().typeVersion;`.

</div>

### Node enhancements

\* [Google Sheets node](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md): n8n now handles header names formatted as JSON paths.

\* [Microsoft Dynamics CRM node](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftdynamicscrm.md): add support for regions other than North America.

\* [Telegram node](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md): add support for querying chat administrators.

### Bug fixes

\* \*\*core\*\*: fixed an issue that was causing n8n to apply authentication checks, even when user management was disabled.

\* \*\*core\*\*: n8n now skips credentials checks for disabled nodes.

\* \*\*editor\*\*: fix a bug affecting touchscreen monitors.

\* [HubSpot node](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md): fix for search operators.

\* [SendGrid node](/integrations/builtin/app-nodes/n8n-nodes-base.sendgrid.md): fixed an issue with sending attachments.

\* [Wise node](/integrations/builtin/app-nodes/n8n-nodes-base.wise.md): respect the time parameter on `get: exchangeRate`.

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## n8n@0.174.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.173.1...n8n@0.174.0) for this version.<br />

\*\*Release date:\*\* 2022-04-25

### New features

<div class="n8n-new-features" markdown>

#### Sticky Notes

This release adds Sticky Notes, a new feature that allows you to annotate and comment on your workflows. Refer to the [Sticky Notes](/workflows/components/sticky-notes.md) for more information.

</div>

### Enhancements

\* \*\*core\*\*: allow external OAuth connection. This enhancement adds support for connecting OAuth apps without access to n8n.

\* All AWS nodes now support AWS temporary credentials.

\* [Google Sheets node](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md): Added upsert support.

\* [Microsoft Teams node](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftteams.md): adds several enhancements:

\* An option to limit groups to "member of", rather than retrieving the whole directory.

\* An option to get all tasks from a plan instead of just a group member.

\* Autocompletion for plans, buckets, labels, and members in update fields for tasks.

\* [MongoDB node](/integrations/builtin/app-nodes/n8n-nodes-base.mongodb.md): you can now parse dates using dot notation.

### Bug fixes

\* [Calendly Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.calendlytrigger.md): updated the logo.

\* [Microsoft OneDrive node](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md): fixed an issue that was preventing upload of files with special characters in the file name.

\* [QuickBooks node](/integrations/builtin/app-nodes/n8n-nodes-base.quickbooks.md): fixed a pagination issue.

### Contributors

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## n8n@0.173.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.173.0...n8n@0.173.1) for this version.<br />

\*\*Release date:\*\* 2022-04-19

Fixes a bug with the Discord node icon name.

## n8n@0.173.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.172.0...n8n@0.173.0) for this version.<br />

\*\*Release date:\*\* 2022-04-19

### New nodes

<div class="n8n-new-features" markdown>

#### Markdown node

[Markdown node](/integrations/builtin/core-nodes/n8n-nodes-base.markdown.md): added a new Markdown node to convert between Markdown and HTML.

</div>

### Enhancements

\*\*editor\*\*: you can now drag and drop nodes from the nodes panel onto the canvas.

### Node enhancements

\* [Discord node](/integrations/builtin/app-nodes/n8n-nodes-base.discord/index.md): additional fields now available when sending a message to Discord.

\* [GoogleBigQuery](/integrations/builtin/app-nodes/n8n-nodes-base.googlebigquery.md): added support for service account authentication.

\* [Google Cloud Realtime Database node](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudrealtimedatabase.md): you can now select a region.

\* [PagerDuty node](/integrations/builtin/app-nodes/n8n-nodes-base.pagerduty.md): now supports more detail in incidents.

\* [Slack node](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md): added support for blocks in Slack message update.

### Bug fixes

\* \*\*core\*\*: make the email for user management case insensitive.

\* \*\*core\*\*: add `rawBody` for XML requests.

\* \*\*editor\*\*: fix a glitch that caused dropdowns to break after adding expressions.

\* \*\*editor\*\*: reset text input value when closed with `Esc`.

\* [Discourse node](/integrations/builtin/app-nodes/n8n-nodes-base.discourse.md): fix an issue that was causing incomplete results when getting posts. Added a credentials test.

\* [Zendesk Trigger node](/integrations/builtin/trigger-nodes/n8n-nodes-base.zendesktrigger.md): remove deprecated targets, replace with webhooks.

\* [Zoho node](/integrations/builtin/app-nodes/n8n-nodes-base.zohocrm.md): fix pagination issue.

### Contributors

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## n8n@0.172.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.171.1...n8n@0.172.0) for this version.<br />

\*\*Release date:\*\* 2022-04-11

### Enhancements

\* Changes to the data output display in nodes.

### Node enhancements

<br>

[Magento 2 Node:](/integrations/builtin/app-nodes/n8n-nodes-base.magento2.md) Added credential tests.

[PayPal Node:](/integrations/builtin/app-nodes/n8n-nodes-base.paypal.md) Added credential tests and updated the API URL.

### Bug fixes

\*\*core\*\*: Luxon now applies the correct timezone. Refer to [Luxon](/code/cookbook/luxon.md) for more information.<br>

\*\*core\*\*: fixed an issue with localization that was preventing i18n files from loading.<br>

[Action Network Node:](/integrations/builtin/app-nodes/n8n-nodes-base.actionnetwork.md) Fix a pagination issue and add credentials test.

### Contributors

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## n8n@0.171.1

View the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.171.0...n8n@0.171.1) for this version.<br />

\*\*Release date:\*\* 2022-04-06

This is a small bug fix release.

### Bug fixes

\* \*\*core\*\*: fix issue with current executions not displaying.<br>

\* \*\*core\*\*: fix an issue causing n8n to falsely skip some authentication.<br>

\* [WooCommerce Node:](/integrations/builtin/app-nodes/n8n-nodes-base.woocommerce.md) Fix a pagination issue with the GetAll operation.

## n8n@0.171.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.170.0...n8n@0.171.0) for this version.<br />

\*\*Release date:\*\* 2022-04-03

/// warning | Breaking changes

Please note that this version contains breaking changes. You can read more about them [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01710).

///

This release focuses on bug fixes and node enhancements, with one new feature, and one breaking change to the GraphQL node.

### Breaking change to GraphQL node

The GraphQL node now errors when the response includes an error. If you use this node, you can choose to:

\* Do nothing: a GraphQL response containing an error will now cause the workflow to fail.

\* Update your GraphQL node settings: set \*\*Continue on Fail\*\* to true to allow the workflow to continue even when the GraphQL response contains an error.

### New features

You can now download binary data from individual nodes in your workflow.

### Enhanced nodes

\* [Emelia Node:](/integrations/builtin/app-nodes/n8n-nodes-base.emelia.md) Add Campaign > Duplicate functionality.

\* [FTP Node:](/integrations/builtin/core-nodes/n8n-nodes-base.ftp.md) Add option to recursively create directories on rename.

\* [Mautic Node:](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md) Add credential test and allow trailing slash in host.

\* [Microsoft Teams Node:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftteams.md) Add chat message support.

\* [Mocean Node:](/integrations/builtin/app-nodes/n8n-nodes-base.mocean.md) Add 'Delivery Report URL' option and credential tests.

\* [ServiceNow Node:](/integrations/builtin/app-nodes/n8n-nodes-base.servicenow.md) Add basicAuth support and fix getColumns loadOptions.

\* [Strava Node:](/integrations/builtin/app-nodes/n8n-nodes-base.strava.md) Add 'Get Streams' operation.

### Bug fixes

\* \*\*core:\*\* Fix crash on webhook when last node did not return data

\* [EmailReadImap Node:](/integrations/builtin/core-nodes/n8n-nodes-base.emailimap.md) Fix issue that crashed process if node was configured wrong.

\* [Google Tasks Node:](/integrations/builtin/app-nodes/n8n-nodes-base.googletasks.md) Fix 'Show Completed' option and hide title field where not needed.

\* [NocoDB Node:](/integrations/builtin/app-nodes/n8n-nodes-base.nocodb.md) Fix pagination.

\* [Salesforce Node:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Fix issue that 'status' did not get used for Case => Create & Update

### Contributors

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## n8n@0.170.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.169.0...n8n@0.170.0) for this version.<br />

\*\*Release date:\*\* 2022-03-27

This release focuses on bug fixes and adding functionality to existing nodes.

### Enhanced nodes

\* [Crypto Node:](/integrations/builtin/core-nodes/n8n-nodes-base.crypto.md) Add Generate operation to generate random values.

\* [HTTP Request Node:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Add support for OPTIONS method.

\* [Jira Node:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Add Simplify Output option to Issue > Get.

\* [Reddit Node:](/integrations/builtin/app-nodes/n8n-nodes-base.reddit.md) Add possibility to query saved posts.

\* [Zendesk Node:](/integrations/builtin/app-nodes/n8n-nodes-base.zendesk.md) Add ticket status On-hold.

### Bug fixes

\* \*\*core:\*\* Add logs and error catches for possible failures in queue mode.<br>

\* [AWS Lambda Node:](/integrations/builtin/app-nodes/n8n-nodes-base.awslambda.md) Fix Invocation Type > Continue Workflow.

\* [Supabase Node:](/integrations/builtin/app-nodes/n8n-nodes-base.supabase/index.md) Send token also using Authorization Bearer; fix Row > Get operation.

\* [Xero Node:](/integrations/builtin/app-nodes/n8n-nodes-base.xero.md) Fix some operations and add support for setting address and phone number.

\* [Wise Node:](/integrations/builtin/app-nodes/n8n-nodes-base.wise.md) Fix issue when executing a transfer.

### Contributors

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## n8n@0.169.0

View the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.168.2...n8n@0.169.0) for this version.<br />

\*\*Release date:\*\* 2022-03-20

This release includes:

\* New functionality for existing nodes

\* A new node for Linear

\* Bug fixes

\* And a license change!

### New license

This release changes n8n's license, from [Apache 2.0 with Commons Clause](https://github.com/n8n-io/n8n/blob/181ba3c4e236279b65d102a8a33ae6896f160487/LICENSE.md) to [Sustainable Use License](https://github.com/n8n-io/n8n/blob/master/LICENSE.md).

This change aims to clarify n8n's license terms, and n8n's position as a fair-code project.

Read more about the new license in [License](/sustainable-use-license.md).

### New nodes

\* [Linear Node:](/integrations/builtin/app-nodes/n8n-nodes-base.linear.md) Add Linear Node.

### Enhanced nodes

\* [HTTP Request Node:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Allow Delete requests with body.

\* [KoBoToolbox Node:](/integrations/builtin/app-nodes/n8n-nodes-base.kobotoolbox.md) Add KoBoToolbox Regular and Trigger Node.

\* [Mailjet Node:](/integrations/builtin/app-nodes/n8n-nodes-base.mailjet.md) Add credential tests and support for sandbox, JSON parameters & variables.

\* [Mattermost Node:](/integrations/builtin/app-nodes/n8n-nodes-base.mattermost.md) Add support for Channel search.

### Other improvements

- Add support for reading IDs from file with executeBatch command.

### Bug fixes

\* [GitHub node:](/integrations/builtin/app-nodes/n8n-nodes-base.github.md) Fix credential tests and File List operation.

\* [Telegram node:](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) Fix sending binary data when disable notification is set.

### Contributors

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## n8n@0.168.2

For a comprehensive list of changes, view the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.168.1...n8n@0.168.2) for this version.<br />

\*\*Release date:\*\* 2022-03-16

This release contains an important bug fix for 0.168.0. Users on 0.168.0 or 0.168.1 should upgrade to this.

## n8n@0.168.1

For a comprehensive list of changes, view the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.168.0...n8n@0.168.1) for this version.<br />

\*\*Release date:\*\* 2022-03-15

A bug fix for user management: fixed an issue with email templates that was preventing owners from inviting members.

## n8n@0.168.0

For a comprehensive list of changes, view the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.167.0...n8n@0.168.0) for this version.<br />

\*\*Release date:\*\* 2022-03-14

### New feature: user management

User management in n8n allows you to invite people to work in your self-hosted n8n instance. It includes:

\* Login and password management

\* Adding and removing users

\* Two account types: owner and member

Check out the [user management documentation](/user-management/index.md) for more information.

## n8n@0.167.0

For a comprehensive list of changes, view the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.166.0...n8n@0.167.0) for this version.<br />

\*\*Release date:\*\* 2022-03-13

### Highlights

#### Luxon and JMESPath

0.167.0 adds support for two new libraries:

\* [Luxon](https://moment.github.io/luxon/#/): a JavaScript library for working with date and time

\* [JMESPath](https://jmespath.org/): a query language for JSON

You can use Luxon and JMESPath in the code editor and in expressions.

#### New expressions variables

We've added two new variables to simplify working with date and time in expressions:

\* `$now`: a Luxon object containing the current timestamp. Equivalent to DateTime.now().

\* `$today`: a Luxon object containing the current timestamp, rounded down to the day. Equivalent to DateTime.now().set({ hour: 0, minute: 0, second: 0, millisecond: 0 }).

#### Negative operations in If and Switch nodes

Made it easier to perform negative operations on strings.

This release adds one new operation for numbers:

\* Is Not Empty

And the following new operations for strings:

\* Not Ends With

\* Regex Not Match

\* Not Starts With

\* Is Not Empty

Additionally, Regex is now labelled Regex Match.

#### New node: Redis Trigger

Added a Redis Trigger node, so you can now start workflows based on a Redis event.

\* [Redis Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.redistrigger.md) Added a Redis Trigger node.

### Core functionality

- Added support for [Luxon](https://moment.github.io/luxon/#/) and [JMESPath](https://jmespath.org/).

- Added two new expressions variables, `$now` and `$today`.

- Added more negative operations for numbers and strings.

- Added a link to the course from the help menu.

### Nodes

\* [Facebook Graph API:](/integrations/builtin/app-nodes/n8n-nodes-base.facebookgraphapi.md) Added suport for Facebook Graph API 13.

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Added suport for private app token authentication.

\* [MongoDB:](/integrations/builtin/app-nodes/n8n-nodes-base.mongodb.md) Added the aggregate operation.

\* [Redis Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.redistrigger.md) Added a Redis Trigger node.

\* [Redis:](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md) Added support for publish operations.

\* [Strapi:](/integrations/builtin/app-nodes/n8n-nodes-base.strapi.md) Added support for Strapi 4.

\* [WordPress:](/integrations/builtin/app-nodes/n8n-nodes-base.wordpress.md) Added status as an option to getAll post requests.

### Bugfixes

- The Google Calendar node now correctly applies timezones when creating, updating, and scheduling all day events.

- Fixed a bug that occasionally caused n8n to crash, or shut down workflows unexpectedly.

- You can now use long credential type names with Postgres.

### Contributors

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## n8n@0.166.0

For a comprehensive list of changes, view the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.165.1...n8n@0.166.0) for this version.<br />

\*\*Release date:\*\* 2022-03-08

### New nodes

\* [Odoo](/integrations/builtin/app-nodes/n8n-nodes-base.odoo.md)

### Enhanced nodes

\* [Function:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) Added support for items without a JSON key.

### Core functionality

- Added new environment variable `N8N\_HIRING\_BANNER\_ENABLED` to enable/disable the hiring banner.

- Fixed a bug preventing keyboard shortcuts from working as expected.

- Fixed a bug causing tooltips to be hidden behind other elements.

- Fixed a bug causing some credentials to be hidden from the credentials list.

### Bug fixes

\* [Baserow:](/integrations/builtin/app-nodes/n8n-nodes-base.baserow.md) Fixed a bug preventing the Sorting option of the Get All operation from working as expected.

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Fixed a bug causing Digest Authentication to fail in some scenarios.

\* [Wise:](/integrations/builtin/app-nodes/n8n-nodes-base.wise.md) Fixed a bug causing API requests requiring Strong Customer Authentication (SCA) to fail.

### Contributors

[pemontto](https://github.com/pemontto)

## n8n@0.165.0

For a comprehensive list of changes, view the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.164.1...n8n@0.165.0) for this version.<br />

\*\*Release date:\*\* 2022-02-28

/// warning | Breaking changes

Please note that this version contains breaking changes. You can read more about them [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01650).

///

### New nodes

\* [Onfleet](/integrations/builtin/app-nodes/n8n-nodes-base.onfleet.md)

### Enhanced nodes

\* [Asana:](/integrations/builtin/app-nodes/n8n-nodes-base.asana.md) Added Create operation to the Project resource.

\* [Mautic:](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md) Added Edit Contact Points, Edit Do Not Contact List, Send Email operations to Contact resource. Also added new Segment Email resource.

\* [Notion (Beta):](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Added support for rollup fields to the Simplify Output option. Also added the Parent ID to the Get All operation of the Block resource.

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added Marketing Status field to the Create operation of the Person resource, also added User ID field to the Create and Update operations of the Person resource.

### Core functionality

- Added support for workflow templates.

- Fixed a bug causing credentials tests to fail for versioned nodes.

- Fixed a build problem by addind dependencies `@types/lodash.set` to the `workflow` package and `@types/uuid` to the `core` package.

- Fixed an error causing some resources to ignore a non-standard `N8N\_PATH` value.

- Fixed an error preventing the placeholder text from being shown when entering credentials.

- Improved error handling for telemetry-related errors.

### Bug fixes

\* Orbit: Fixed a bug causing API requests to use an incorrect workspace identifier.

\* [TheHive:](/integrations/builtin/app-nodes/n8n-nodes-base.thehive.md) Fixed a bug causing the Ignore SSL Issues option to be applied incorrectly.

### Contributors

[alexwitkowski](https://github.com/awitkowski0), [Iñaki Breinbauer](https://github.com/quansenB), [lsemaj](https://github.com/jamesliupenn), [Luiz Eduardo de Oliveira Fonseca](https://github.com/luizeof), [Rodrigo Correia](https://github.com/rodrigoscdc), [Santiago Botero Ruiz](https://github.com/yoky-devsavant), [Saurabh Kashyap](https://github.com/saurabharch), [Ugo Bataillard](https://github.com/knshiro)

## n8n@0.164.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.164.0...n8n@0.164.1) for this version.<br />

\*\*Release date:\*\* 2022-02-20

### Core Functionality

- Fixed a bug preventing webhooks from working as expected in some scenarios.

## n8n@0.164.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.163.1...n8n@0.164.0) for this version.<br />

\*\*Release date:\*\* 2022-02-20

### New nodes

\* [Google Chat](/integrations/builtin/app-nodes/n8n-nodes-base.googlechat.md)

### Enhanced nodes

\* [Grist:](/integrations/builtin/app-nodes/n8n-nodes-base.grist.md) Added support for self-hosted Grist instances.

\* [Telegram Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) Added new Extra Large option to Image Size field.

\* [Webhook:](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) Added new No Response Body option. Also added support for DELETE, PATCH and PUT methods.

### Core Functionality

- Added new database indices to improve the performance when querying past executions.

- Fixed a bug causing the base portion of a URL not to be prepended as expected in some scenarios.

- Fixed a bug cuasing expressions to resolve incorrectly when referencing non-existent nodes or parameters.

### Contributors

[Jhalter5Stones](https://github.com/Jhalter5Stones), [Valentina Lilova](https://github.com/valentina98), [thorstenfreitag](https://github.com/thorstenfreitag)

## n8n@0.163.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.163.0...n8n@0.163.1) for this version.<br />

\*\*Release date:\*\* 2022-02-13

### Core Functionality

- Fixed a bug preventing OAuth2 authentication from working as expected in some scenarios.

## n8n@0.163.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.162.0...n8n@0.163.0) for this version.<br />

\*\*Release date:\*\* 2022-02-13

### New nodes

\* [HaloPSA](/integrations/builtin/app-nodes/n8n-nodes-base.halopsa.md)

\* [Linear Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.lineartrigger.md)

\* [Zammad](/integrations/builtin/app-nodes/n8n-nodes-base.zammad.md)

### Enhanced nodes

\* [GitHub:](/integrations/builtin/app-nodes/n8n-nodes-base.github.md) Added Reference option to the Get operation of the File resource.

\* [Twilio:](/integrations/builtin/app-nodes/n8n-nodes-base.twilio.md) Added Status Callbacks option.

\* [uProc:](/integrations/builtin/app-nodes/n8n-nodes-base.uproc.md) Sanitized Data Webhook field description.

### Core Functionality

- Added automatic sorting by relative position to the node list inside the expression editor.

- Added new `/workflows/demo` page to allow read-only rendering of workflows inside an iframe.

- Added optional `/healthz` health check endpoint to worker instances.

- Fixed unwanted list autofill behaviour inside the expression editor.

- Improved the GitHub actions used by the nightly Docker image.

### Bug fixes

\* [Function:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) Fixed a bug leaving the code editor size unchanged after resizing the window.

\* [Function Item:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) Fixed a bug leaving the code editor size unchanged after resizing the window.

\* [IF:](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) Removed the empty sections left after removing a condition.

\* Item Lists: Fixed an erroneous placeholder text.

### Contributors

[Iñaki Breinbauer](https://github.com/quansenB), [Manuel](https://github.com/tennox), [pemontto](https://github.com/pemontto)

## n8n@0.162.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.161.1...n8n@0.162.0) for this version.<br />

\*\*Release date:\*\* 2022-02-06

### Enhanced nodes

\* [GitHub:](/integrations/builtin/app-nodes/n8n-nodes-base.github.md) Added new List operation to File resource.

### Core Functionality

- Added configurable debug logging for telemetry.

- Added support for defining nodes through JSON. This functionality is in alpha state and breaking changes to the interface can take place in upcoming versions.

- Added telemetry support to page events occuring before telemetry is initialized.

- Fixed a bug preventing errors in sub-workflows from appearing in parent executions.

- Fixed a bug where node versioning would not work as expected.

- Fixed a bug where remote parameters would not load as expected.

- Fixed a bug where unkown node types would not work as expected.

- Prevented the node details view from opening automatically after duplicating a node.

- Removed dependency `fibers` which is incompatible with the current LTS version 16 of Node.js.

### Bug fixes

\* [XML:](/integrations/builtin/core-nodes/n8n-nodes-base.xml.md) Fixed a bug causing the node to alter incoming data.

### Contributors

[pemontto](https://github.com/pemontto)

## n8n@0.161.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.161.0...n8n@0.161.1) for this version.<br />

\*\*Release date:\*\* 2022-02-01

### Core Functionality

- Added optional debug logging to health check functionality.

## n8n@0.161.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.160.0...n8n@0.161.0) for this version.<br />

\*\*Release date:\*\* 2022-01-30

### Core Functionality

- Added default polling interval for trigger nodes using polling.

- Added support for additional hints below parameter fields.

- Fixed a bug preventing default values from being used when testing credentials.

- Improved the wording in the \*Save your Changes?\* dialog.

### Bug fixes

\* [Airtable:](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md) Improved field description.

\* [Airtable Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.airtabletrigger.md) Improved field description.

\* [erpNext:](/integrations/builtin/app-nodes/n8n-nodes-base.erpnext.md) Prevented the node from throwing an error when no data is found.

\* [Gmail:](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) Fixed a bug causing the BCC field to be ignored.

\* [Move Binary Data:](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) Fixed a bug causing the binary data to JSON conversion to fail when using filesystem-based binary data handling.

\* [Slack:](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) Fixed a typo in the Type field.

### Contributors

[fabian wohlgemuth](https://github.com/wohfab)

## n8n@0.160.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.159.1...n8n@0.160.0) for this version.<br />

\*\*Release date:\*\* 2022-01-22

### New nodes

\* [BambooHR](/integrations/builtin/app-nodes/n8n-nodes-base.bamboohr.md)

### Core Functionality

- Fixed a bug preventing the binary data preview from using the full available height and width.

- Fixed a build problem by pinning chokidar version 3.5.2.

- Prevent workflow activation when no trigger is presentand introduced a modal explaining production data handling.

- Fixed \*Filter by tags\* placeholder text used in the Open Workflow modal.

### Bug fixes

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Fixed a bug causing custom headers from being ignored.

\* [Mautic:](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md) Fixed a bug preventing all items from being returned in some situations.

\* [Microsoft OneDrive:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md) Fixed a bug preventing more than 200 items from being returned.

\* [Spotify:](/integrations/builtin/app-nodes/n8n-nodes-base.spotify.md) Fixed a bug causing the execution to fail if there are more than 1000 search results, also fixed a bug preventing the Get New Releases operation of the Album resource from working as expected.

### Contributors

[fabian wohlgemuth](https://github.com/wohfab)

## n8n@0.159.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.159.0...n8n@0.159.1) for this version.<br />

\*\*Release date:\*\* 2022-01-18

### Core Functionality

- Temporarily removed debug logging for Axios requests.

## n8n@0.159.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.158.0...n8n@0.159.0) for this version.<br />

\*\*Release date:\*\* 2022-01-16

### New nodes

\* [Jenkins](/integrations/builtin/app-nodes/n8n-nodes-base.jenkins.md)

### Enhanced nodes

\* [GraphQL:](/integrations/builtin/core-nodes/n8n-nodes-base.graphql.md) Added support for additional authentication methods Basic Auth, Digest Auth, OAuth1, OAuth2, and Query Auth.

### Core Functionality

- Added support for executing workflows without an ID through the CLI.

- Fixed a build problem.

- Fixed a bug preventing the tag description from being shown on the canvas.

- Improved build performance by skipping the `node-dev` package during build.

### Bug fixes

\* [Box:](/integrations/builtin/app-nodes/n8n-nodes-base.box.md) Fixed a bug causing some files to be corrupted during download.

\* [Philips Hue:](/integrations/builtin/app-nodes/n8n-nodes-base.philipshue.md) Fixed a bug preventing the node from connecting to Philips Hue.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Fixed a bug preventing filters on date and datetime fields from working as expected.

\* [Supabase:](/integrations/builtin/app-nodes/n8n-nodes-base.supabase/index.md) Fixed an errorneous documentation link.

### Contributors

[Phil Clifford](https://github.com/philclifford)

## n8n@0.158.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.157.1...n8n@0.158.0) for this version.<br />

\*\*Release date:\*\* 2022-01-09

### New nodes

\* [Microsoft Graph Security](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftgraphsecurity.md)

\* [SyncroMSP](/integrations/builtin/app-nodes/n8n-nodes-base.syncromsp.md)

\* [Supabase](/integrations/builtin/app-nodes/n8n-nodes-base.supabase/index.md)

### Enhanced nodes

\* [Edit Image:](/integrations/builtin/core-nodes/n8n-nodes-base.editimage.md) Added Transparent operation.

\* [Kafka:](/integrations/builtin/app-nodes/n8n-nodes-base.kafka.md) Added Use Schema Registry option.

\* [Kafka Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.kafkatrigger.md) Added Use Schema Registry option.

\* [Redis:](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md) Added database field to credentials.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added Account Number field.

### Core Functionality

- Added new external hook when active workflows finished initializing.

- Fixed a bug preventing the personalisation survey from showing up.

- Improved telemetry.

### Bug fixes

\* [Edit Image:](/integrations/builtin/core-nodes/n8n-nodes-base.editimage.md) Fixed a bug causing two items to be returned.

\* [iCalendar:](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) Fixed a bug preventing dates in January from working as expected.

\* [Merge:](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) Fixed causing empty binary data to overwrite other binary data on merge.

### Contributors

[Ricardo Georgel](https://github.com/rgeorgel), [Pierre](https://github.com/hnb2), [Vahid Sebto](https://github.com/sebto)

## n8n@0.157.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.157.0...n8n@0.157.1) for this version.<br />

\*\*Release date:\*\* 2022-01-03

### Core Functionality

- Fixed a bug where not all nodes could use the new binary data handling.

## n8n@0.157.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.156.0...n8n@0.157.0) for this version.<br />

\*\*Release date:\*\* 2022-01-02

### Enhanced nodes

\* [Function:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) The node now prevents unsupported data from being returned.

\* [Function Item:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) The node now prevents unsupported data from being returned.

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Added Engagement resource with Create, Delete, Get, and Get All operations.

\* [Notion (Beta):](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Upgraded the Notion node: Added Search operation for the Database resource, Get operation for Database Page resource, Archive operation for the Page resource. Also added Simplify Output option and test for credential validity.

\* [Wait:](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) Added new Ignore Bots option.

\* [Webhook:](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) Added new Ignore Bots option.

### Core Functionality

- Fixed a bug where a wrong number suffix was used after duplicating nodes.

### Bug fixes

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Fixed a bug where using Digest Auth would fail.

### Contributors

[pemontto](https://github.com/pemontto)

## n8n@0.156.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.155.2...n8n@0.156.0) for this version.<br />

\*\*Release date:\*\* 2021-12-25

### Enhanced nodes

\* [GitLab Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.gitlabtrigger.md) Added new trigger events: Confidential Issue, Confidential Comment, Deployment, Release.

\* [Google Drive:](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) Added support for downloading and converting native Google files.

\* [Kitemaker:](/integrations/builtin/app-nodes/n8n-nodes-base.kitemaker.md) Added Space ID field to Create operation of Work Item resource.

\* [Raindrop:](/integrations/builtin/app-nodes/n8n-nodes-base.raindrop.md) Added Parse Metadata option to Create, Update operations of the Bookmark resource.

### Core Functionality

- Added execution ID to workflow.postExecute hook

- Added response body to UI for failed Axios requests

- Added support for automatically removing new lines from Google Service Account credentials

- Added support for disabling the UI using environment variable

- Fixed a bug causing the wrong expression result to be shown for items from an output other than the first

- Improved binary data management

- Introduced Monaco as new UI code editor

### Contributors

[Arpad Gabor](https://github.com/arpadgabor), [Leo Lou](https://github.com/l4u), [Manuel](https://github.com/tennox)

## n8n@0.155.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.154.0...n8n@0.155.2) for this version.<br />

\*\*Release date:\*\* 2021-12-19

### Core Functionality

- Added support for internationalization (i18n). This functionality is currently in alpha status and breaking changes are to be expected.

## n8n@0.154.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.153.0...n8n@0.154.0) for this version.<br />

\*\*Release date:\*\* 2021-12-19

### Enhanced nodes

\* [Plivo:](/integrations/builtin/app-nodes/n8n-nodes-base.plivo.md) Added user agent to all API requests.

### Core Functionality

- Allow deletion of nodes from the canvas using the backspace key

- Fixed an issue causing clicks in the value survey to impact the main view

- Fixed an issue preventing the update panel from closing

### Bug fixes

\* [Todoist:](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md) Fixed a bug where using the additional field Due Date Time on the Task resource would cause the Create operation to fail.

### Contributors

[Mohammed Huzaif](https://github.com/huzaif-plivo), [Лебедев Иван](https://github.com/X-pech)

## n8n@0.153.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.152.0...n8n@0.153.0) for this version.<br />

\*\*Release date:\*\* 2021-12-11

### New nodes

\* [Figma Trigger (Beta)](/integrations/builtin/trigger-nodes/n8n-nodes-base.figmatrigger.md)

\* [Workable Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.workabletrigger.md)

### Enhanced nodes

\* [Google Contacts:](/integrations/builtin/app-nodes/n8n-nodes-base.googlecontacts.md) Added Query option to Get All operation, also prevented the node from failing when no contacts are found.

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Added support for query-based authentication.

\* [Home Assistant:](/integrations/builtin/app-nodes/n8n-nodes-base.homeassistant.md) Added support for loading possible options in the Domain, Service, and Entity ID fields.

\* [One Simple API:](/integrations/builtin/app-nodes/n8n-nodes-base.onesimpleapi.md) Added support for Social Profile resources.

\* [PagerDuty:](/integrations/builtin/app-nodes/n8n-nodes-base.pagerduty.md) Write scope is now requested upon authentication against the PagerDuty OAuth2 API.

### Core Functionality

- Added frontend for value surveys

- Fixed an issue preventing the recommendation logic from working as expected after selecting a work area

- Fixed an issue where a wrong exit code was sent when running n8n on an unsupported version of Node.js

- Fixed an issue where node options would disappear on hovering when a node isn't selected

- Fixed an issue where the execution id was missing when running n8n in queue mode

- Fixed an issue where execution data was missing when waiting for a webhook in queue mode

- Improved error handling when the n8n port is already in use

- Improved diagnostic events

- Removed toast notification on webhook deletion, added toast notification after node is copied

- Removed default trigger tooltip for polling trigger nodes

### Bug fixes

\* [APITemplate.io:](/integrations/builtin/app-nodes/n8n-nodes-base.apitemplateio.md) Fixed a bug where the Create operation on the Image resource would fail when the Download option isn't enabled.

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Fixed authentication for new HubSpot applications by using granular scopes when authenticating against the HubSpot OAuth2 API.

\* [HubSpot Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.hubspottrigger.md) Fixed authentication for new HubSpot applications by using granular scopes when authenticating against the HubSpot Developer API.

\* [Jira Software:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Fixed an issue where the Reporter field would not work as expected on Jira Server instances.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Fixed a typo preventing the value in the amount field of from being saved.

### Contributors

[pemontto](https://github.com/pemontto), [Jascha Lülsdorf](https://github.com/buelsenfrucht), [Jonathan Bennetts](https://github.com/Joffcom)

## n8n@0.152.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.151.0...n8n@0.152.0) for this version.<br />

\*\*Release date:\*\* 2021-12-04

### New nodes

\* [Google Calendar Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlecalendartrigger.md)

### Enhanced nodes

\* [Telegram Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.telegramtrigger/index.md) Added support for downloading images to channel\_post updates.

### Core Functionality

- Added a plus (+) connector to end nodes

- Allowed opening workflows and executions in a new window when using Ctrl + Click

- Enforced type checking for all node parameters

- Fixed a build issue in the custom n8n docker image

- Fixed a memory leak in the UI which could occur when renaming nodes or navigate to another workflow

- Improved stability of internal test workflows

- Improved expression security

- Introduced redirect to a new page and UI error message when trying to open a deleted workflow

- Introduced support for multiple arguments when logging

- Updated the onboarding survey

### Bug fixes

\* [Google BigQuery:](/integrations/builtin/app-nodes/n8n-nodes-base.googlebigquery.md) Fixed a bug preventing pagination from working as expected when the Return All option is enabled.

\* [RabbitMQ Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.rabbitmqtrigger.md) Added Trigger to the name of the trigger node.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Fixed a typo affecting the Type field of the Opportunity resource.

### Contributors

[Zvonimir Erdelja](https://github.com/zvonimir-ebot7), [m2scared](https://github.com/m2scared)

## n8n@0.151.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.150.0...n8n@0.151.0) for this version.<br />

\*\*Release date:\*\* 2021-11-26

### New nodes

\* [DHL](/integrations/builtin/app-nodes/n8n-nodes-base.dhl.md)

\* [Grafana](/integrations/builtin/app-nodes/n8n-nodes-base.grafana.md)

### Core Functionality

- Fixed a bug causing connections between nodes to disappear when renaming a newly added node after drawing a connection to its endpoints.

- Fixed a build issue by adding TypeScript definitions for validator.js to CLI package, also fixed a linting issue by removing an unused import.

- Improved the waiting state of trigger nodes to explain when an external event is required.

- Loops are now drawn below their source node.

### Bug fixes

\* [Edit Image:](/integrations/builtin/core-nodes/n8n-nodes-base.editimage.md) Fixed an issue preventing the Composite operation from working correctly in some cases.

### Contributors

[Jonathan Bennetts](https://github.com/Joffcom)

## n8n@0.150.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.149.0...n8n@0.150.0) for this version.<br />

\*\*Release date:\*\* 2021-11-19

### Enhanced nodes

\* [Jira Software:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Added Components as an additional field.

### Core Functionality

- Fixed a build issue by pinning rudder-sdk-node version 1.0.6 in CLI package.

- Fixed an issue preventing the `n8n import:workflow --separate` CLI command from finding workflows on Windows.

- Further improved the expression security.

- Moved all nodes into separate directories in preparation for internationalization.

- Removing default headers for PUT and PATCH operations when using Axios.

- Revamped the workflow canvas.

### Bug fixes

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Fixed an issue causing the wrong Content-Type header to be set when downloading a file.

\* [ServiceNow:](/integrations/builtin/app-nodes/n8n-nodes-base.servicenow.md) Fixed incorrect mapping of incident urgency and impact values.

\* [Start:](/integrations/builtin/core-nodes/n8n-nodes-base.manualworkflowtrigger.md) Fixed an issue causing the node to be disabled in a new workflow.

\* [Xero:](/integrations/builtin/app-nodes/n8n-nodes-base.xero.md) Fixed an issue causing the node to only fetch the first page when querying the Xero API.

## n8n@0.149.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.148.0...n8n@0.149.0) for this version.<br />

\*\*Release date:\*\* 2021-11-13

### New nodes

\* [One Simple API](/integrations/builtin/app-nodes/n8n-nodes-base.onesimpleapi.md)

### Enhanced nodes

\* [Edit Image:](/integrations/builtin/core-nodes/n8n-nodes-base.editimage.md) Added Circle Primitive to Draw operation. Also added Composite operation.

\* [Zendesk:](/integrations/builtin/app-nodes/n8n-nodes-base.zendesk.md) Added check for API credentials validity.

\* [Zulip:](/integrations/builtin/app-nodes/n8n-nodes-base.zulip.md) Added additional field Role to the Update operation of the User resource.

### Core Functionality

- Fixed an issue causing an error message to be thrown when executing a workflow through the CLI.

- Improved expression security by limiting the available process properties.

- Improved the behaviour of internal tests executed through the CLI.

- Updated the owner of the node user's home directory in the custom docker image.

### Bug fixes

\* [Google Tasks:](/integrations/builtin/app-nodes/n8n-nodes-base.googletasks.md) Fixed an issue where the Due Date field had no effect (Update operation) or was unavailable (Create operation).

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Fixed an issue where the Content-Length header was not calculated and sent when using the a Body Content Type of Form-Data Multipart.

\* [Stripe Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.stripetrigger.md) Fixed an issue preventing the node from being activated when a previously created webhook no longer exists.

\* [Toggl Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.toggltrigger.md) Updated the API URL used by the node.

### Contributors

[GeylaniBerk](https://github.com/GeylaniBerk), [Jonathan Bennetts](https://github.com/Joffcom)

## n8n@0.148.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.147.1...n8n@0.148.0) for this version.<br />

\*\*Release date:\*\* 2021-11-05

### New nodes

\* [Dropcontact](/integrations/builtin/app-nodes/n8n-nodes-base.dropcontact.md)

\* [Respond to Webhook](/integrations/builtin/core-nodes/n8n-nodes-base.respondtowebhook.md)

### Enhanced nodes

\* [Lemlist:](/integrations/builtin/app-nodes/n8n-nodes-base.lemlist.md) Added additional fields to Create operation of Lead resource.

\* [Slack:](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) Added User Group resource.

\* [Todoist:](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md) Added Update operation to Task resource.

\* [Wait:](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) Improved descriptions of available Respond options.

\* [WooCommerce:](/integrations/builtin/app-nodes/n8n-nodes-base.woocommerce.md) Added password field to Crate operation of Customer resource.

### Core Functionality

- Added a hook after workflow creation.

- Fixed a build issue with npm v7 by overriding unwanted behaviour through the .npmrc file.

- Fixed an issue preventing unknown node types from being imported.

- Fixed an issue with the UI falsely indicating a credential can't be selected when using SQLite and multiple credentials with the same name exist.

### Bug fixes

\* [Stripe:](/integrations/builtin/app-nodes/n8n-nodes-base.stripe.md) Fixed an issue where setting additional Metadata fields would not have the expected effect. Also fixed an issue where pagination would not work as expected.

\* [Zendesk:](/integrations/builtin/app-nodes/n8n-nodes-base.zendesk.md) Fixed an issue preventing the additional field External ID from being evaulated correctly.

### Contributors

[mizzimizzi](https://github.com/mizzimizzi), [nikozila](https://github.com/nikozila), [Pauline](https://github.com/PaulineDropcontact)

## n8n@0.147.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.147.0...n8n@0.147.1) for this version.<br />

\*\*Release date:\*\* 2021-11-03

### Core Functionality

- Fixed a build issue by moving the `chokidar` dependency to a regular dependency.

## n8n@0.147.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.146.0...n8n@0.147.0) for this version.<br />

\*\*Release date:\*\* 2021-11-03

### New nodes

\* [Local File Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.localfiletrigger.md)

### Core Functionality

- Improved the database migration process to reduce memory footprint.

- Fixed an issue with telemetry by adding an anonymous ID.

## n8n@0.146.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.145.0...n8n@0.146.0) for this version.<br />

\*\*Release date:\*\* 2021-10-29

### New nodes

\* [Microsoft Dynamics CRM](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftdynamicscrm.md)

### Enhanced nodes

\* [Agile CRM:](/integrations/builtin/app-nodes/n8n-nodes-base.agilecrm.md) Added Filters to Get All operation of Contact and Company resources.

\* [Date & Time:](/integrations/builtin/core-nodes/n8n-nodes-base.datetime.md) Ensuring the return values are always of type string.

\* [IF:](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) Added support for moment types to Date & Time condition.

### Core Functionality

- Added name and ID of a workflow to its settings.

- Added parameter inputs to be multi-line.

- Fixed an issue with declaring proxies when Axios is used.

- Fixed an issue with serializing arrays and special characters.

- Fixed an issue with updating expressions after renaming a node.

### Bug fixes

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Fixed an issue with the Full Response option not taking effect when used with the Ignore Response Code option.

### Contributors

[Valentina Lilova](https://github.com/valentina98), [Oliver Trajceski](https://github.com/SchnapsterDog)

## n8n@0.145.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.144.0...n8n@0.145.0) for this version.<br />

\*\*Release date:\*\* 2021-10-22

### New nodes

\* [AWS Textract](/integrations/builtin/app-nodes/n8n-nodes-base.awstextract.md)

\* [Google Drive Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.googledrivetrigger/index.md)

### Enhanced nodes

\* [Bitbucket Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.bitbuckettrigger.md) Added check for credentials validity. Removed deprecated User and Team resources, and added the Workspace resource.

\* [GitHub:](/integrations/builtin/app-nodes/n8n-nodes-base.github.md) Added check for API credentials validity.

\* [Home Assistant:](/integrations/builtin/app-nodes/n8n-nodes-base.homeassistant.md) Added check for credentials validity.

\* [Jira Software:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Added check for credentials validity.

\* [Microsoft OneDrive:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md) Added functionality to create folder hierarchy automatically upon subfolder creation.

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added All Users option to Get All operation of Activity resource.

\* [Slack:](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) Increase the Slack default query limit from 5 to 100 in order to reduce number of requests.

\* [Twitter:](/integrations/builtin/app-nodes/n8n-nodes-base.twitter.md) Added Tweet Mode additional field to the Search operation of Tweet resource.

### Core Functionality

- Changed `vm2` library version from `3.9.3` to `3.9.5`.

- Fixed an issue with ignoring the response code.

- Fixed an issue with overwriting credentials using environment variables.

- Fixed an issue with using query strings combined with the `x-www-form-urlencoded` content type.

- Introduced telemetry.

### Bug fixes

\* [Jira Software:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Fixed an issue with the Expand option for the Issue resource. Also fixed an issue with using custom fields on Jira Server.

\* [Slack:](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) Fixed an issue with pagination when loading more than 1,000 channels.

\* [Strapi:](/integrations/builtin/app-nodes/n8n-nodes-base.strapi.md) Fixed an issue using the Where option of the Get All operation.

\* [WooCommerce:](/integrations/builtin/app-nodes/n8n-nodes-base.woocommerce.md) Fixed an issue where a wrong postcode field name was used for the Order resource.

### Contributors

[pemontto](https://github.com/pemontto), [rdd2](https://github.com/rdd2), [robertodamiani](https://github.com/robertodamiani), [Rodrigo Correia](https://github.com/rodrigoscdc)

## n8n@0.144.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.143.0...n8n@0.144.0) for this version.<br />

\*\*Release date:\*\* 2021-10-15

### Enhanced nodes

\* [Nextcloud:](/integrations/builtin/app-nodes/n8n-nodes-base.nextcloud.md) Added Share operation to the File and Folder resources.

\* [Zendesk:](/integrations/builtin/app-nodes/n8n-nodes-base.zendesk.md) Added support for deleting, listing, getting, and recovering suspended tickets. Added the query option for regular tickets. Added assignee emails, internal notes, and public replies options to the update ticket operation.

### Core Functionality

- Improved the autofill behaviour on Google Chrome when entering credentials.

### Bug fixes

\* [Airtable:](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md) Fixed an issue with the sort field.

\* [Cron:](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) Set the version of the cron library to 1.7.2.

### Contributors

[Jonathan Bennetts](https://github.com/Joffcom)

## n8n@0.143.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.142.0...n8n@0.143.0) for this version.<br />

\*\*Release date:\*\* 2021-10-14

### Enhanced nodes

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added support for getting activities from deal ID.

\* [Facebook Graph API:](/integrations/builtin/app-nodes/n8n-nodes-base.facebookgraphapi.md) Added support for Facebook Graph API versions 11 and 12.

### Core Functionality

- Fixed a build issue affecting a number of AWS nodes.

- Changed workflows to use credential ids primarily (instead of names), allowing users to have different credentials with the same name.

### Bug fixes

\* [ FTP:](/integrations/builtin/core-nodes/n8n-nodes-base.ftp.md) Fixed error when opening FTP/SFTP credentials.

### Contributors

[Rodrigo Correia](https://github.com/rodrigoscdc)

## n8n@0.142.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.141.1...n8n@0.142.0) for this version.<br />

\*\*Release date:\*\* 2021-10-07

### New nodes

\* [Stop and Error](/integrations/builtin/core-nodes/n8n-nodes-base.stopanderror.md)

### Core Functionality

- Fixed overlapping buttons when viewing on mobile.

- Fixed issue with partial workflow executions when Wait node was last.

- Fixed issue with broken non-JSON requests.

- Node errors now only displayed for executing nodes, not disconnected nodes.

- Automatic save when executing new workflows with Webhook node.

- Fixed an issue with how arrays were serialized for certain nodes.

- Fixed an issue where executions could not be cancelled when running in Main mode.

- Duplicated workflows now open in a new window.

### Bug fixes

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Fixed 'Ignore response code' flag.

\* [Rundeck:](/integrations/builtin/app-nodes/n8n-nodes-base.rundeck.md) Fixed issue with async loading of credentials.

\* [SeaTable:](/integrations/builtin/app-nodes/n8n-nodes-base.seatable.md) Fixed issue when entering a Baser URI with a trailing slash.

### Contributors

[Günther](https://github.com/erbg), [Tom Klingenberg](https://github.com/ktomk)

## n8n@0.141.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.141.0...n8n@0.141.1) for this version.<br />

\*\*Release date:\*\* 2021-10-01

### Core Functionality

- Fixed issue with body formatting of `x-form-www-urlencoded` requests.

## n8n@0.141.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.140.0...n8n@0.141.0) for this version.<br />

\*\*Release date:\*\* 2021-09-30

### New nodes

\* [Grist](/integrations/builtin/app-nodes/n8n-nodes-base.grist.md)

\* [SeaTable](/integrations/builtin/app-nodes/n8n-nodes-base.seatable.md)

\* [SeaTable Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.seatabletrigger.md)

\* [urlscan.io](/integrations/builtin/app-nodes/n8n-nodes-base.urlscanio.md)

### Core Functionality

- Performance improvements in Editor UI

- Improved error reporting

### Contributors

[Alex Hall](https://github.com/alexmojaki), [Tom Klingenberg](https://github.com/ktomk)

## n8n@0.140.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.139.1...n8n@0.140.0) for this version.<br />

\*\*Release date:\*\* 2021-09-29

### New nodes

\* [Splunk](/integrations/builtin/app-nodes/n8n-nodes-base.splunk.md)

### Enhanced nodes

\* [Telegram:](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) Added binary data support to the Send Animation, Send Audio, Send Document, Send Photo, Send Video, and Send Sticker operations.

### Core Functionality

- Fixed startup behavior when running n8n in scaled mode (i.e. `skipWebhoooksDeregistrationOnShutdown` is enabled).

- Fixed behavior around handling empty response bodies.

- Fixed an issue with handling of refresh tokens.

### Contributors

[pemontto](https://github.com/pemontto)

## n8n@0.139.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.139.0...n8n@0.139.1) for this version.<br />

\*\*Release date:\*\* 2021-09-23

### Core Functionality

- Bug fixes and improvements for Editor UI.

## n8n@0.139.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.138.0...n8n@0.139.0) for this version.<br />

\*\*Release date:\*\* 2021-09-22

### New nodes

\* [Elastic Security](/integrations/builtin/app-nodes/n8n-nodes-base.elasticsecurity.md)

\* [Misp](/integrations/builtin/app-nodes/n8n-nodes-base.misp.md)

\* [Netlify](/integrations/builtin/app-nodes/n8n-nodes-base.netlify.md)

\* [Netlify Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.netlifytrigger.md)

### Enhanced nodes

\* [HubSpot Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.hubspottrigger.md) Authentication method changed to OAuth2.

\* [Wait:](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) Added improved status messages for Wait behavior.

### Core Functionality

- Updated node design to include support for versioned nodes.

### Bug fixes

\* [SendGrid:](/integrations/builtin/app-nodes/n8n-nodes-base.sendgrid.md) Fixed issue with adding contacts to lists.

### Contributors

[Matías Aguirre](https://github.com/omab)

## n8n@0.138.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.137.0...n8n@0.138.0) for this version.<br />

\*\*Release date:\*\* 2021-09-15

### New nodes

\* Item Lists

\* [Magento 2](/integrations/builtin/app-nodes/n8n-nodes-base.magento2.md)

### Enhanced nodes

\* [Baserow:](/integrations/builtin/app-nodes/n8n-nodes-base.baserow.md) Added the following filter options: Contains, Contains Not, Date Before Date, Date After Date, Filename Contains, Is Empty, Is Not Empty, Link Row Has, Link Row Does Not Have, Single Select Equal, and Single Select Not Equal.

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added support for Notes on Leads.

\* [WeKan:](/integrations/builtin/app-nodes/n8n-nodes-base.wekan.md) Added Sort field to the Card resource.

### Core Functionality

- General UX improvements to the Editor UI.

- Fixed an issue with the `PayloadTooLargeError`.

### Bug fixes

\* [Lemlist:](/integrations/builtin/app-nodes/n8n-nodes-base.lemlist.md) Fixed issue where events were not sent in the correct property.

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Fixed issue listed unnamed databases.

### Contributors

[bramknuever](https://github.com/bramknuever), [Chris Magnuson](https://github.com/ChrisMagnuson)

## n8n@0.137.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.136.0...n8n@0.137.0) for this version.<br />

\*\*Release date:\*\* 2021-09-05

### New nodes

\* [Freshservice](/integrations/builtin/app-nodes/n8n-nodes-base.freshservice.md)

### Enhanced nodes

\* [Clockify:](/integrations/builtin/app-nodes/n8n-nodes-base.clockify.md) Added Task resource.

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Added dropdown selection for Properties and Properties with History filters for Get All Deals operations.

\* [Mautic:](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md) Added Campaign Contact resource.

\* [MongoDB:](/integrations/builtin/app-nodes/n8n-nodes-base.mongodb.md) Added ability to query documents by '\_id'.

\* [MQTT:](/integrations/builtin/app-nodes/n8n-nodes-base.mqtt.md) Added SSL/TLS support to authentication.

\* [MQTT Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.mqtttrigger.md) Added SSL/TLS support to authentication.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added File Extension option to the Document resource. Added Type field to Task resource.

\* [Sms77:](/integrations/builtin/app-nodes/n8n-nodes-base.sms77.md) Added Voice Call resource. Added the following options to SMS resource: Debug, Delay, Foreign ID, Flash, Label, No Reload, Performance Tracking, TTL.

\* [Zendesk:](/integrations/builtin/app-nodes/n8n-nodes-base.zendesk.md) Added Organization resource. Added Get Organizations and Get Related Data operations to User resource.

### Core Functionality

- Added execution ID to logs of queue processes.

- Added description to operation errors.

- Added ability for webhook processes to wake waiting executions.

### Bug fixes

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Fixed issue with 'RequestAllItems' API.

\* [WordPress:](/integrations/builtin/app-nodes/n8n-nodes-base.wordpress.md) Fixed issue with 'RequestAllItems' API only returning the first 10 items.

### Contributors

[André Matthies](https://github.com/matthiez), DeskYT, [Frederic Alix](https://github.com/fredericalix), [Jonathan Bennetts](https://github.com/Joffcom), [Ketan Somvanshi](https://github.com/KetanSomvanshi), [Luiz Eduardo de Oliveira Fonseca](https://github.com/luizeof), [TheFSilver](https://github.com/TheFSilver)

## n8n@0.136.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.135.3...n8n@0.136.0) for this version.<br />

\*\*Release date:\*\* 2021-08-30

### Enhanced nodes

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Added handling of Rich Text when simplifying data.

### Core Functionality

- General UI design improvements.

- Improved errors messages during debugging of custom nodes.

- All packages upgraded to TypeScript 4.3.5, improved linting and formatting.

### Bug fixes

\* [FTP:](/integrations/builtin/core-nodes/n8n-nodes-base.ftp.md) Fixed issue where incorrect paths were displayed when using the node.

\* [Wait:](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) Fixed issue when receiving multiple files using On Webhook Call operation.

\* [Webhook:](/integrations/builtin/core-nodes/n8n-nodes-base.webhook/index.md) Fixed issue when receiving multiple files.

## n8n@0.135.3

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.135.2...n8n@0.135.3) for this version.<br />

\*\*Release date:\*\* 2021-08-27

### Core Functionality

- Fixed Canvas UI inconsistencies when duplicating workflows.

- Added log message during upgrade to indicate database migration has started.

- General improvements to parameter labels and tooltips.

### Contributors

[Kyle Mohr](https://github.com/kylefmohr)

## n8n@0.135.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.135.1...n8n@0.135.2) for this version.<br />

\*\*Release date:\*\* 2021-08-26

### Core Functionality

- Added expression support for credentials.

- Fixed performance issues when loading credentials.

## n8n@0.135.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.135.0...n8n@0.135.1) for this version.<br />

\*\*Release date:\*\* 2021-08-23

### Core Functionality

- Fixed an issue where if n8n was shutdown during database migration while upgrading versions, errors would result upon next startup.

## n8n@0.135.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.134.0...n8n@0.135.0) for this version.<br />

\*\*Release date:\*\* 2021-08-22

/// warning | Breaking changes

Please note that this version contains breaking changes. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01350).

The features that introduced the breaking changes have been flagged below.

///

### New nodes

\* [Form.io Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.formiotrigger.md)

\* [Formstack Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.formstacktrigger.md)

\* [Wait](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md)

### Core Functionality

- In-node method for accessing binary data is now asynchronous and a helper function for this has been implemented. [](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01350)

- Credentials are now loaded from the database on-demand. [](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01350)

- Webhook UUIDs are automatically updated when duplicating a workflow.

- Fixed an issue when referencing values before loops.

### Bug fixes

\* [Interval:](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) Fixed issue where entering too large a value (> 2147483647ms) resulted in an interval of 1sec being used rather than an error.

### Contributors

[Aniruddha Adhikary](https://github.com/aniruddha-adhikary), [lublak](https://github.com/lublak), [parthibanbalaji](https://github.com/parthibanbalaji)

## n8n@0.134.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.133.0...n8n@0.134.0) for this version.<br />

\*\*Release date:\*\* 2021-08-15

### Enhanced nodes

\* [AWS DynamoDB:](/integrations/builtin/app-nodes/n8n-nodes-base.awsdynamodb.md) Added Scan option to Item > Get All operation.

\* [Google Drive:](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) Added File Name option to File > Update operation.

\* [Mautic:](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md) Added the following fields to Company resource: Address, Annual Revenue, Company Email, Custom Fields, Description, Fax, Industry, Number of Employees, Phone, Website.

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Added Timezone option when inserting Date fields.

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added the following Filters options to the Deal > Get All operation: Predefined Filter, Stage ID, Status, and User ID.

\* [QuickBooks:](/integrations/builtin/app-nodes/n8n-nodes-base.quickbooks.md) Added the Transaction resource and Get Report operation.

### Core Functionality

- Integrated [Nodelinter](/integrations/creating-nodes/test/node-linter.md) in n8n.

- Fix to add a trailing slash (`/`) to all webhook URLs for proper functionality.

### Bug fixes

\* [AWS SES:](/integrations/builtin/app-nodes/n8n-nodes-base.awsses.md) Fixed issue where special characters in the message were not encoded.

\* [Baserow:](/integrations/builtin/app-nodes/n8n-nodes-base.baserow.md) Fixed issue where Create operation inserted null values.

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Fixed issue when sending context parameter.

### Contributors

[calvintwr](https://github.com/calvintwr), [CFarcy](https://github.com/CFarcy), [Jeremie Dokime](https://github.com/dokime7), [Michael Hirschler](https://github.com/mvhirsch), [Rodrigo Correia](https://github.com/rodrigoscdc), [sol](https://github.com/5pecia1)

## n8n@0.133.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n%400.132.2...n8n@0.133.0) for this version.<br />

\*\*Release date:\*\* 2021-08-08

### New nodes

\* [Monica CRM](/integrations/builtin/app-nodes/n8n-nodes-base.monicacrm.md)

### Enhanced nodes

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Added Follow All Redirects option.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added Record Type ID field.

### Core Functionality

- Fixed UI lag when editing large workflows.

### Bug fixes

\* [Nextcloud:](/integrations/builtin/app-nodes/n8n-nodes-base.nextcloud.md) Fixed issue where List operation on an empty Folder returned an error.

\* [Spotify:](/integrations/builtin/app-nodes/n8n-nodes-base.spotify.md) Fixed issues with pagination and infinite executions.

### Contributors

[Jacob Burrell](https://github.com/jacobburrell), [Лебедев Иван](https://github.com/X-pech)

## n8n@0.132.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.132.1...n8n@0.132.2) for this version.<br />

\*\*Release date:\*\* 2021-08-02

### Bug fixes

\* [Interval:](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md) Fixed issue with infinite executions.

### Contributors

[Лебедев Иван](https://github.com/X-pech)

## n8n@0.132.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.132.0...n8n@0.132.1) for this version.<br />

\*\*Release date:\*\* 2021-08-02

### Core Functionality

- Changed TypeORM version to 0.2.34

## n8n@0.132.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.131.0...n8n@0.132.0) for this version.<br />

\*\*Release date:\*\* 2021-08-01

### New nodes

\* [Freshworks CRM](/integrations/builtin/app-nodes/n8n-nodes-base.freshworkscrm.md)

\* [Google Perspective](/integrations/builtin/app-nodes/n8n-nodes-base.googleperspective.md)

\* [Marketstack](/integrations/builtin/app-nodes/n8n-nodes-base.marketstack.md)

\* [NocoDB](/integrations/builtin/app-nodes/n8n-nodes-base.nocodb.md)

### Enhanced nodes

\* [Facebook Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.facebooktrigger/index.md) Added Fields parameter.

\* [Gmail:](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) Added Sender Name parameter.

\* [Home Assistant:](/integrations/builtin/app-nodes/n8n-nodes-base.homeassistant.md) Added Event resource.

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added Deal Product resource.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added Document resource with Upload operation.

\* [WooCommerce:](/integrations/builtin/app-nodes/n8n-nodes-base.woocommerce.md) Added Customer resource.

### Core Functionality

- Fixed an issue for large internal values.

### Contributors

[Ed Linklater](https://github.com/edlinklater), [Rodrigo Correia](https://github.com/rodrigoscdc)

## n8n@0.131.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.130.0...n8n@0.131.0) for this version.<br />

\*\*Release date:\*\* 2021-07-24

/// warning | Breaking change

Please note that this version contains a breaking change. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01310).

The features that introduced the breaking changes have been flagged below.

///

### New nodes

\* [Webex by Cisco](/integrations/builtin/app-nodes/n8n-nodes-base.ciscowebex.md)

\* [Webex by Cisco Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.ciscowebextrigger.md)

### Enhanced nodes

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added Lead resource. Added Search operation to Organization resource.

\* [Taiga Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.taigatrigger.md) Added Resource and Operations filters.

### Core Functionality

- Added Continue-on-fail support to all nodes.

- Added new version notifications.

- Added Refresh List for remote options lists.

- Added `$position` expression variable to return the index of an item within a list.

### Bug fixes

\* [Spreadsheet File:](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) Fixed issue when saving dates.

### Contributors

[Anthr@x](https://github.com/AnthraX1), [Felipe Cecagno](https://github.com/fcecagno)

## n8n@0.130.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.129.0...n8n@0.130.0) for this version.<br />

\*\*Release date:\*\* 2021-07-18

/// warning | Breaking change

Please note that this version contains a breaking change. You can read more about it [here](https://github.com/n8n-io/n8n/ blob/master/packages/cli/BREAKING-CHANGES.md#01300).

The features that introduced the breaking changes have been flagged below.

///

### New nodes

\* [AWS DynamoDB](/integrations/builtin/app-nodes/n8n-nodes-base.awsdynamodb.md)

\* [Elasticsearch](/integrations/builtin/app-nodes/n8n-nodes-base.elasticsearch.md)

\* [ServiceNow](/integrations/builtin/app-nodes/n8n-nodes-base.servicenow.md)

### Enhanced nodes

\* [Kafka Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.kafkatrigger.md) Added Read Messages From Beginning option.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added Sandbox Environment Type for OAuth2 credentials.

\* [Taiga:](/integrations/builtin/app-nodes/n8n-nodes-base.taiga.md) Added Epic, Task, and User Story operations.

\* [TheHive:](/integrations/builtin/app-nodes/n8n-nodes-base.thehive.md) Added Custom Fields option to the available Additional Fields.

### Core Functionality

- Fixed an issue where failed workflows were displayed as "running".

- Fixes issues with uncaught errors.

### Bug fixes

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Fixed issue when filtering field data type.

### Contributors

[Michael Hirschler](https://github.com/mvhirsch), [Mika Luhta](https://github.com/mluhta), [Pierre Lanvin](https://github.com/planvin)

## n8n@0.129.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.128.0...n8n@0.129.0) for this version.<br />

\*\*Release date:\*\* 2021-07-12

### New nodes

\* [Baserow](/integrations/builtin/app-nodes/n8n-nodes-base.baserow.md)

### Bug fixes

\* [SSH:](/integrations/builtin/core-nodes/n8n-nodes-base.ssh.md) Fixed issue with access rights when downloading files.

### Contributors

[Jérémie Pardou-Piquemal](https://github.com/jrmi)

## n8n@0.128.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.127.0...n8n@0.128.0) for this version.<br />

\*\*Release date:\*\* 2021-07-11

### New nodes

\* [Home Assistant](/integrations/builtin/app-nodes/n8n-nodes-base.homeassistant.md)

\* [Stripe](/integrations/builtin/app-nodes/n8n-nodes-base.stripe.md)

### Enhanced nodes

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Added support for arrays in Querystring. Any parameter appearing multiple times with the same name is grouped into an array.

\* [Mautic:](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md) Added Contact Segment resource.

\* [Telegram:](/integrations/builtin/app-nodes/n8n-nodes-base.telegram/index.md) Added Delete operation to the Message resource.

### Core Functionality

- Performance improvement for loading of historical executions (> 3mil) when using Postgres.

- Fixed error handling for unending workflows and display of "unknown" workflow status.

- Fixed format of Workflow ID when downloading from UI Editor to enable compatibility with importing from CLI.

### Bug fixes

\* [Microsoft SQL:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftsql.md) Fixed an issue with sending the connectionTimeout parameter, and creating and updating data using columns with spaces.

### Contributors

[Kaito Udagawa](https://github.com/umireon), [Rodrigo Correia](https://github.com/rodrigoscdc)

## n8n@0.127.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.126.1...n8n@0.127.0) for this version.<br />

\*\*Release date:\*\* 2021-07-04

/// warning | Breaking change

Please note that this version contains a breaking change. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01270).

The features that introduced the breaking changes have been flagged below.

///

### Enhanced nodes

\* [Airtable:](/integrations/builtin/app-nodes/n8n-nodes-base.airtable/index.md) Added Bulk Size option to all Operations.

\* [Box:](/integrations/builtin/app-nodes/n8n-nodes-base.box.md) Added Share operation to File and Folder resources.

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added Last Name field to Update operation on Contact resource.

\* [Zoho CRM:](/integrations/builtin/app-nodes/n8n-nodes-base.zohocrm.md) Added Account, Contact, Deal, Invoice, Product, Purchase, Quote, Sales Order, and Vendor resources.

### Core Functionality

- Added a workflow testing framework using a new CLI command to execute all desired workflows. Run `n8n executeBatch --help` for details.

- Added support to display binary video content in Editor UI.

### Bug fixes

\* [Google Sheets:](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) Fixed an issue with handling 0 value that resulted in empty cells.

\* [SSH:](/integrations/builtin/core-nodes/n8n-nodes-base.ssh.md) Fixed an issue with setting passphrases.

### Contributors

[flybluewolf](https://github.com/flybluewolf), [Kaito Udagawa](https://github.com/umireon)

## n8n@0.126.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.126.0...n8n@0.126.1) for this version.<br />

\*\*Release date:\*\* 2021-06-29

### Core Functionality

- Fixed issues with keyboard shortcuts when a modal was open.

### Bug fixes

\* [Microsoft SQL:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftsql.md) Fixed an issue with handling of Boolean values when inserting.

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Fixed an issue with the node icon.

## n8n@0.126.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.125.0...n8n@0.126.0) for this version.<br />

\*\*Release date:\*\* 2021-06-27

### New nodes

\* [Action Network](/integrations/builtin/app-nodes/n8n-nodes-base.actionnetwork.md)

\* [Google Docs](/integrations/builtin/app-nodes/n8n-nodes-base.googledocs.md)

### Enhanced nodes

\* [AWS S3:](/integrations/builtin/app-nodes/n8n-nodes-base.awss3.md) Added Delete operation to the Bucket Resource.

\* [Google Analytics:](/integrations/builtin/app-nodes/n8n-nodes-base.googleanalytics.md) Added Dimension Filters to the available Additional Fields.

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Added Split Into Items option.

\* [MQTT:](/integrations/builtin/app-nodes/n8n-nodes-base.mqtt.md) Added mqqts protocol for MQTT credentials.

\* [QuickBooks:](/integrations/builtin/app-nodes/n8n-nodes-base.quickbooks.md) Added Purchase resource with Get and Get All operations.

### Core Functionality

- Templates from the [n8n Workflows](https://n8n.io/workflows) page can now be directly imported by appending `/workflows/templates/<templateId>` to your instance base URL. For example, `localhost:5678/workflows/templates/1142`.

- Added new Editor UI shortcuts. See [Keyboard Shortcuts](/keyboard-shortcuts.md) for details.

- Fixed an issue causing console errors when deleting a node from the canvas.

### Bug fixes

\* [Ghost:](/integrations/builtin/app-nodes/n8n-nodes-base.ghost.md) Fixed an issue with the Get All operation functionality.

\* [Google Analytics:](/integrations/builtin/app-nodes/n8n-nodes-base.googleanalytics.md) Fixed an issue that caused an error when attempting to sort with no data present.

\* [Microsoft SQL:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftsql.md) Fixed an issue when escaping single quotes and mapping empty fields.

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Fixed an issue with pagination of databases and users.

### Contributors

[calvintwr](https://github.com/calvintwr), [Jan Baykara](https://github.com/janbaykara)

## n8n@0.125.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.124.1...n8n@0.125.0) for this version.<br />

\*\*Release date:\*\* 2021-06-20

### Enhanced nodes

\* [Spotify:](/integrations/builtin/app-nodes/n8n-nodes-base.spotify.md) Added Search operation to Album, Artist, Playlist, and Track resources, and Resume and Volume operations to Player resource.

### Core Functionality

- Implemented new design of the Nodes Panel, adding categories and subcategories, along with improved search. For full details, see the [commits](https://github.com/n8n-io/n8n/commit/0470740737c5ee199447a68b7277c43be2042976).

### Bug fixes

\* [MySQL:](/integrations/builtin/app-nodes/n8n-nodes-base.mysql/index.md) Fixed an issue where n8n was unable to save data due to collation, resulting in workflows ending with Unknown status.

### Contributors

[Amudhan Manivasagam](https://github.com/smamudhan), [Carlos Alexandro Becker](https://github.com/caarlos0), [Kaito Udagawa](https://github.com/umireon)

## n8n@0.124.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.124.0...n8n@0.124.1) for this version.<br />

\*\*Release date:\*\* 2021-06-16

### Core Functionality

- Improved error log messages

- Fixed an issue where the tags got removed when deactivating the workflow or updating settings

- Removed the circular references for the error caused by the request library

## n8n@0.124.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.123.1...n8n@0.124.0) for this version.<br />

\*\*Release date:\*\* 2021-06-13

### Enhanced nodes

\* [Google Drive:](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) Added APP Properties and Properties options to the Upload operation of the File resource

\* [HTTP Request:](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) Added the functionality to log the request to the browser console for testing

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Added the Include Time parameter date field types

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added Upsert operation to Account, Contact, Custom Object, Lead, and Opportunity resources

\* [Todoist:](/integrations/builtin/app-nodes/n8n-nodes-base.todoist.md) Added the Description option to the Task resource

### Core Functionality

- Implemented the functionality to display the error details in a toast message for trigger nodes

- Improved error handling by removing circular references from API errors

### Bug fixes

\* [Jira:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Fixed an issues with the API version and fixed an issue with fetching the custom fields for the Issue resource

### Contributors

[Jean M](https://github.com/jemos), [romaincolombo-daily](https://github.com/romaincolombo-daily), [Thomas Jost](https://github.com/Schnouki), [Vincent](https://github.com/vbouchet31)

## n8n@0.123.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.123.0...n8n@0.123.1) for this version.<br />

\*\*Release date:\*\* 2021-06-06

### Core Functionality

- Fixed a build issue for missing node icons

## n8n@0.123.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.122.3...n8n@0.123.0) for this version.<br />

\*\*Release date:\*\* 2021-06-06

### New nodes

\* [Git](/integrations/builtin/core-nodes/n8n-nodes-base.git.md)

\* [Microsoft To Do](/integrations/builtin/app-nodes/n8n-nodes-base.microsofttodo.md)

### Enhanced nodes

\* [Pipedrive:](/integrations/builtin/app-nodes/n8n-nodes-base.pipedrive.md) Added a feature to fetch data from the Pipedrive API, added Search operation to the Deals resource, and added custom fields option

\* [Spotify:](/integrations/builtin/app-nodes/n8n-nodes-base.spotify.md) Added My Data resource

### Core Functionality

- Fixed issues with NodeViewNew navigation handling

- Fixed an issue with the view crashing with large requests

### Bug fixes

\* [ASW Transcribe:](/integrations/builtin/app-nodes/n8n-nodes-base.awstranscribe.md) Fixed issues with options

### Contributors

[Rodrigo Correia](https://github.com/rodrigoscdc), [Sam Roquitte](https://github.com/samr28)

## n8n@0.122.3

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.122.2...n8n@0.122.3) for this version.<br />

\*\*Release date:\*\* 2021-06-04

### Core Functionality

- Fixed error messages for the text area field

- Added the missing `winston` dependency

- Fixed an issue with adding values using the Variable selector. The deleted values don't reappear

- Fixed an issue with the Error Workflows not getting executed in the queue mode

### Bug fixes

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Fixed an issue with parsing the last edited time

## n8n@0.122.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.122.1...n8n@0.122.2) for this version.<br />

\*\*Release date:\*\* 2021-05-31

### Enhanced nodes

\* [Function:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) Added console.log support for writing to browser console

\* [Function Item:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) Added console.log support for writing to browser console

### Core Functionality

- Fixed an issue that enables clicks on tags

- Fixed an issue with escaping workflow name

- Fixed an issue with selecting variables in the Expression Editor

## n8n@0.122.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.122.0...n8n@0.122.1) for this version.<br />

\*\*Release date:\*\* 2021-05-30

### Core Functionality

- Fixed an issue with the order in migration rollback

## n8n@0.122.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.121.0...n8n@0.122.0) for this version.<br />

\*\*Release date:\*\* 2021-05-30

### New nodes

\* [AWS Transcribe](/integrations/builtin/app-nodes/n8n-nodes-base.awstranscribe.md)

\* [SSH](/integrations/builtin/core-nodes/n8n-nodes-base.ssh.md)

\* [UptimeRobot](/integrations/builtin/app-nodes/n8n-nodes-base.uptimerobot.md)

### Enhanced nodes

\* [DeepL:](/integrations/builtin/app-nodes/n8n-nodes-base.deepl.md) Added support for Free API

\* [Function:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) Added the functionality to log console.log messages to the browser console

\* [Function Item:](/integrations/builtin/core-nodes/n8n-nodes-base.code/index.md) Added the functionality to log console.log messages to the browser console

### Core Functionality

- Changed `bcrypt` library from `@node-rs/bcrypt` to `bcryptjs`

- Fixed an issue with optional parameters that have the same name

- Added the functionality to tag workflows

- Fixed errors in the Expression Editor

- Fixed an issue with nodes that only get connected to the second input. This solves the issue of copying and pasting the workflows where only one output of the IF node gets connected to a node

### Bug fixes

\* [Google Drive:](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) Fixed an issue with the Drive resource

\* [Notion:](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md) Fixed an issue with the filtering fields type and fixed an issue with the link option

\* [Switch:](/integrations/builtin/core-nodes/n8n-nodes-base.switch.md) Fixed an issue with the Expression mode

### Contributors

[Alexander Mustafin](https://github.com/sashker)

## n8n@0.121.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.121.0...n8n@0.121.1) for this version.<br />

\*\*Release date:\*\* 2021-06-01

### Core Functionality

- Fixed an issue with copying the output values

- Fixed issues with the Expression Editor

- Made improvements to the Expression Editor

## n8n@0.121.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.120.0...n8n@0.121.0) for this version.<br />

\*\*Release date:\*\* 2021-05-20

### New nodes

\* [Notion](/integrations/builtin/app-nodes/n8n-nodes-base.notion/index.md)

\* [Notion Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.notiontrigger.md)

### Enhanced nodes

\* [GraphQL:](/integrations/builtin/core-nodes/n8n-nodes-base.graphql.md) Added Header Auth authentication method

\* [Twilio:](/integrations/builtin/app-nodes/n8n-nodes-base.twilio.md) Added API Key authentication method

### Bug fixes

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Fixed an issue with pagination for Deals resource

\* [Keap:](/integrations/builtin/app-nodes/n8n-nodes-base.keap.md) Fixed an issue with the data type of the Order Title field

\* Orbit: Fixed an issue with the activity type in Post operation

\* [Slack:](/integrations/builtin/app-nodes/n8n-nodes-base.slack.md) Fixed an issue with the Get Profile operation

\* [Strava:](/integrations/builtin/app-nodes/n8n-nodes-base.strava.md) Fixed an issue with the paging parameter

### Contributors

[Jacob Spizziri](https://github.com/jspizziri)

## n8n@0.120.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.119.0...n8n@0.120.0) for this version.<br />

\*\*Release date:\*\* 2021-05-17

### New nodes

\* [iCalendar](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md)

### Enhanced nodes

\* [Google Cloud Firestore:](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudfirestore.md) Added the functionality for GeoPoint parsing and added ISO-8601 format for date validation

\* [IMAP Email:](/integrations/builtin/core-nodes/n8n-nodes-base.emailimap.md) Added the Force reconnect option

\* [Paddle:](/integrations/builtin/app-nodes/n8n-nodes-base.paddle.md) Added the Use Sandbox environment API parameter

\* [Spotify:](/integrations/builtin/app-nodes/n8n-nodes-base.spotify.md) Added the Position parameter to the Add operation of the Playlist resource

\* [WooCommerce:](/integrations/builtin/app-nodes/n8n-nodes-base.woocommerce.md) Added the Include Credentials in Query parameter

### Core Functionality

- Added await to hooks to fix issues with the `Unknown` status of the workflows

- Changed the data type of the `credentials\_entity` field for MySQL database to fix issues with long credentials

- Fixed an issue with the ordering of the executions when the list is auto-refreshed

- Added the functionality that allows reading sibling parameters

### Bug fixes

\* [Clockify Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.clockifytrigger.md) Fixed an issue that occurred when the node returned an empty array

\* [Google Cloud Firestore:](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudfirestore.md) Fixed an issue with parsing empty document, and an issue with the detection of date

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.hubspot.md) Fixed an issue with the Return All option

### Contributors

DeskYT, Daniel Lazaro, [DerEnderKeks](https://github.com/DerEnderKeks), [mdasmendel](https://github.com/mdasmendel)

## n8n@0.119.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.118.1...n8n@0.119.0) for this version.<br />

\*\*Release date:\*\* 2021-05-09

### Enhanced nodes

\* [AWS Comprehend:](/integrations/builtin/app-nodes/n8n-nodes-base.awscomprehend.md) Added the Detect Entities operation

\* [AWS Lambda:](/integrations/builtin/app-nodes/n8n-nodes-base.awslambda.md) Added the ability to list functions recursively if the number of functions exceeds 50

\* [Google Analytics:](/integrations/builtin/app-nodes/n8n-nodes-base.googleanalytics.md) Added pagination to the Report resource

\* [Mailjet:](/integrations/builtin/app-nodes/n8n-nodes-base.mailjet.md) Added Reply To parameter

\* [Redis:](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md) Added the Increment operation

\* [Spreadsheet File:](/integrations/builtin/core-nodes/n8n-nodes-base.converttofile.md) Added the Header Row option

\* [Webflow Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.webflowtrigger.md) Added Collection Item Created, Collection Item Updated, and Collection Item Deleted events

### Core Functionality

- Implemented timeout for subworkflows

- Removed the deregistration webhooks functionality from the webhook process

### Bug fixes

\* [Google Cloud Firestore:](/integrations/builtin/app-nodes/n8n-nodes-base.googlecloudfirestore.md) Fixed an issue with parsing null value

\* [Google Sheets:](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) Fixed an issue with the Key Row parameter

\* [HubSpot:](/integrations/builtin/app-nodes/n8n-nodes-base.zohocrm.md) Fixed an issue with the authentication

### Contributors

[Nikita](https://github.com/Rirush)

## n8n@0.118.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.118.0...n8n@0.118.1) for this version.<br />

\*\*Release date:\*\* 2021-05-05

### Core Functionality

- Fixed an issue with error workflows

## n8n@0.118.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.117.0...n8n@0.118.0) for this version.<br />

\*\*Release date:\*\* 2021-05-02

/// warning | Breaking change

Please note that this version contains a breaking change. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01180).

The features that introduced the breaking changes have been flagged below.

///

### New nodes

\* [Kitemaker](/integrations/builtin/app-nodes/n8n-nodes-base.kitemaker.md)

\* [MQTT](/integrations/builtin/app-nodes/n8n-nodes-base.mqtt.md)

### Enhanced nodes

\* [CrateDB:](/integrations/builtin/app-nodes/n8n-nodes-base.cratedb.md) Added query parameters. The Execute Query operation returns the result from all queries executed instead of just one of the results.

\* [ERPNext:](/integrations/builtin/app-nodes/n8n-nodes-base.erpnext.md) Added support for self-hosted ERPNext instances

\* [FTP:](/integrations/builtin/core-nodes/n8n-nodes-base.ftp.md) Added the functionality to delete folders

\* [Google Calendar:](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md) Added the Continue on Fail functionality

\* [Google Drive:](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) Added the functionality to add file name when downloading files

\* [Gmail:](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md) Added functionality to handle multiple binary properties

\* [Microsoft Outlook:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftoutlook.md) Added Is Read and Move option to the Message resource

\* [Postgres:](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md) Added query parameters. The Execute Query operation returns the result from all queries executed instead of just one of the results.

\* [QuestDB:](/integrations/builtin/app-nodes/n8n-nodes-base.questdb.md) Added query parameters. The Execute Query operation returns the result from all queries executed instead of just one of the results.

\* [QuickBase:](/integrations/builtin/app-nodes/n8n-nodes-base.quickbase.md) Added option to use Field IDs

\* [TimescaleDB:](/integrations/builtin/app-nodes/n8n-nodes-base.timescaledb.md) Added query parameters. The Execute Query operation returns the result from all queries executed instead of just one of the results.

\* [Twist:](/integrations/builtin/app-nodes/n8n-nodes-base.twist.md) Added Get, Get All, Delete, and Update operations to the Message Conversation resource. Added Archive, Unarchive, and Delete operations to the Channel resource. Added Thread and Comment resource

### Core Functionality

- Implemented the native `fs/promise` library where possible

- Added the functionality to output logs to the console or a file

- We have updated the minimum required version for Node.js to v14.15. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01180) page

### Bug fixes

\* [GetResponse Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.getresponsetrigger.md) Fixed an issue with error handling

\* [GitHub Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.githubtrigger.md) Fixed an issue with error handling

\* [GitLab Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.gitlabtrigger.md) Fixed an issue with error handling

\* [Google Sheets:](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) Fixed an issue with the Lookup operation for returning empty rows

\* Orbit: Fixed issues with the Post resource

\* [Redis:](/integrations/builtin/app-nodes/n8n-nodes-base.redis.md) Fixed an issue with the node not returning an error

\* [Xero:](/integrations/builtin/app-nodes/n8n-nodes-base.xero.md) Fixed an issue with the Create operation for the Contact resource

### Contributors

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## n8n@0.117.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.116.1...n8n@0.117.0) for this version.<br />

\*\*Release date:\*\* 2021-04-24

/// warning | Breaking change

Please note that this version contains a breaking change. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01170).

The features that introduced the breaking changes have been flagged below.

///

### New nodes

\* [Mailcheck](/integrations/builtin/app-nodes/n8n-nodes-base.mailcheck.md)

\* [n8n Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.n8ntrigger.md)

\* [Workflow Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.workflowtrigger.md)

### Enhanced nodes

\* [CrateDB:](/integrations/builtin/app-nodes/n8n-nodes-base.cratedb.md) Added the Mode option that allows you to execute queries as transactions

\* [Nextcloud:](/integrations/builtin/app-nodes/n8n-nodes-base.nextcloud.md) Added Delete, Get, Get All, and Update operation to the User resource

\* [Postgres:](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md) Added the Mode option that allows you to execute queries as transactions

\* [QuestDB:](/integrations/builtin/app-nodes/n8n-nodes-base.questdb.md) Added the Mode option that allows you to execute queries as transactions

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Added Owner option to the Case and Lead resources. Added custom fields to Create and Update operations of the Case resource

\* [Sentry.io:](/integrations/builtin/app-nodes/n8n-nodes-base.sentryio.md) Added Delete and Update operations to Project, Release, and Team resources

\* [TimescaleDB:](/integrations/builtin/app-nodes/n8n-nodes-base.timescaledb.md) Added the Mode option that allows you to execute queries as transactions

\* [Zendesk Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.zendesktrigger.md) Added support to retrieve custom fields

### Core Functionality

- The Activation Trigger node has been deprecated. It has been replaced by two new nodes - the n8n Trigger and the Workflow Trigger node. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01170) page

- Added the functionality to open the New Credentials dropdown by default

### Bug fixes

\* [Google Sheets:](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) Fixed an issue with the Lookup operation for returning multiple empty rows

\* [Intercom:](/integrations/builtin/app-nodes/n8n-nodes-base.intercom.md) Fixed an issue with the User operation in the Company resource

\* [Mautic:](/integrations/builtin/app-nodes/n8n-nodes-base.mautic.md) Fixed an issue with sending the lastActive parameter

### Contributors

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## n8n@0.116.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.116.0...n8n@0.116.1) for this version.<br />

\*\*Release date:\*\* 2021-04-20

### Core Functionality

- Fixed a timeout issue with the workflows in the main process

## n8n@0.116.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.115.0...n8n@0.116.0) for this version.<br />

\*\*Release date:\*\* 2021-04-17

### New nodes

\* [Google BigQuery](/integrations/builtin/app-nodes/n8n-nodes-base.googlebigquery.md)

\* [Webflow](/integrations/builtin/app-nodes/n8n-nodes-base.webflow.md)

### Enhanced nodes

\* [Date & Time:](/integrations/builtin/core-nodes/n8n-nodes-base.datetime.md) Added Calculate a Date action that allows you to add or subtract time from a date

\* [GitLab:](/integrations/builtin/app-nodes/n8n-nodes-base.gitlab.md) Added Get, Get All, Update, and Delete operations to the Release resource

\* [Microsoft OneDrive:](/integrations/builtin/app-nodes/n8n-nodes-base.microsoftonedrive.md) Added Delete operation to the Folder resource

\* [Monday:](/integrations/builtin/app-nodes/n8n-nodes-base.mondaycom.md) Added support for OAuth2 authentication

\* [MongoDB:](/integrations/builtin/app-nodes/n8n-nodes-base.mongodb.md) Added Limit, Skip, and Sort options to the Find operation and added Upsert parameter to the Update operation. Added the functionality to close the connection after use

\* [MySQL:](/integrations/builtin/app-nodes/n8n-nodes-base.mysql/index.md) Added support for insert modifiers and added support for SSL

\* [RabbitMQ:](/integrations/builtin/app-nodes/n8n-nodes-base.rabbitmq.md) Added the functionality to close the connection after use and added support for AMPQS

### Core Functionality

- Changed `bcrypt` library from `bcryptjs` to `@node-rs/bcrypt`

- Improved node error handling. Status codes and error messages in API responses have been standardized

- Added global timeout setting for all HTTP requests (except HTTP Request node)

- Implemented timeout for workers and corrected timeout for sub workflows

### Bug fixes

\* [AWS SQS:](/integrations/builtin/app-nodes/n8n-nodes-base.awssqs.md) Fixed an issue with API version and casing

\* [IMAP:](/integrations/builtin/core-nodes/n8n-nodes-base.emailimap.md) Fixed re-connection issue

\* [Keap:](/integrations/builtin/app-nodes/n8n-nodes-base.keap.md) Fixed an issue with the Opt In Reason parameter

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Fixed an issue with loading custom fields

### Contributors

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## n8n@0.115.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.114.0...n8n@0.115.0) for this version.<br />

\*\*Release date:\*\* 2021-04-10

### New nodes

\* [Google Slides](/integrations/builtin/app-nodes/n8n-nodes-base.googleslides.md)

### Enhanced nodes

\* [GitHub:](/integrations/builtin/app-nodes/n8n-nodes-base.github.md) Added Release resource

\* [TheHive:](/integrations/builtin/app-nodes/n8n-nodes-base.thehive.md) Added support to fetch observable data types

\* [RabbitMQ:](/integrations/builtin/app-nodes/n8n-nodes-base.rabbitmq.md) Added header parameters

### Core Functionality

- Fixed an issue with expressions not being displayed in read-only mode

- Fixed an issue that didn't allow editing JavaScript code in read-only mode

- Added support for configuring the maximum payload size

- Added support to dynamically add menu items

### Bug fixes

\* [Jira:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Fixed an issue with loading issue types with classic project type

\* [RabbitMQ Trigger:](/integrations/builtin/trigger-nodes/n8n-nodes-base.rabbitmqtrigger.md) Fixed an issue with the node reusing the same item

\* [SendGrid:](/integrations/builtin/app-nodes/n8n-nodes-base.sendgrid.md) Fixed an issue with the dynamic field generation

### Contributors

[Mika Luhta](https://github.com/mluhta), [Loran](https://github.com/loranmutafov), [stwonary](https://github.com/stwonary)

## n8n@0.114.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.113.0...n8n@0.114.0) for this version.<br />

\*\*Release date:\*\* 2021-04-03

### New nodes

\* [AWS SQS](/integrations/builtin/app-nodes/n8n-nodes-base.awssqs.md)

\* [Copper](/integrations/builtin/app-nodes/n8n-nodes-base.copper.md)

\* [ERPNext](/integrations/builtin/app-nodes/n8n-nodes-base.erpnext.md)

\* [Oura](/integrations/builtin/app-nodes/n8n-nodes-base.oura.md)

### Enhanced nodes

\* [Google Drive:](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md) Added support for creating folders for shared drives

\* [Google Sheets:](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md) Added Create and Remove operation to the Sheet resource

\* [Harvest:](/integrations/builtin/app-nodes/n8n-nodes-base.harvest.md) Added Update operation to the Task resource

\* [Jira:](/integrations/builtin/app-nodes/n8n-nodes-base.jira.md) Added Reporter field to the Issue resource

\* [Postgres:](/integrations/builtin/app-nodes/n8n-nodes-base.postgres/index.md) Added support for type casting

### Core Functionality

- Fixed an issue with the Redis connection to prevent memory leaks

### Bug fixes

\* [Bitwarden:](/integrations/builtin/app-nodes/n8n-nodes-base.bitwarden.md) Fixed an issue with the Update operation of the Group resource

\* [Cortex:](/integrations/builtin/app-nodes/n8n-nodes-base.cortex.md) Fixed an issue where only the last item got returned

\* [Invoice Ninja:](/integrations/builtin/app-nodes/n8n-nodes-base.invoiceninja.md) Fixed an issue with the Project parameter

\* [Salesforce:](/integrations/builtin/app-nodes/n8n-nodes-base.salesforce.md) Fixed an issue with the Get All operation of the Custom Object resource

### Contributors

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## n8n@0.113.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.112.0...n8n@0.113.0) for this version.<br />

\*\*Release date:\*\* 2021-03-26

- New nodes

- Activation Trigger

- Plivo

- Enhanced nodes

- ClickUp: Added Space Tag, Task List, and Task Tag resource

- GitHub: Added pagination to Get Issues and Get Repositories operations

- Mattermost: Added Reaction resource and Post Ephemeral operation

- Move Binary Data: Added Encoding and Add BOM option to JSON to Binary mode and Strip BOM to Binary to JSON mode

- SendGrid: Added Mail resource

- Spotify: Added Library resource

- Telegram: Added Answer Inline Query operation to the Callback resource

- uProc: Added Get ASIN code by EAN code, Get EAN code by ASIN code, Get Email by Social Profile, Get Email by Full name and Company's domain, and Get Email by Full name and Company's name operations

- Bug fixes

- Clearbit: Fixed an issue with the autocomplete URI

- Dropbox: Fixed an issue with the Dropbox credentials by adding the APP Access Type parameter in the credentials. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01130) page

- Spotify: Fixed an issue with the Delete operation of the Playlist resource

- The variable selector now displays empty arrays

- Fixed a permission issue with the Raspberry Pi Docker image

## n8n@0.112.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.111.0...n8n@0.112.0) for this version.<br />

\*\*Release date:\*\* 2021-03-19

- New nodes

- DeepL

- Enhanced nodes

- TheHive: Added Mark as Read and Mark as Unread operations and added Ignore SSL Issues parameter to the credentials

- Bug fixes

- AWS SES: Fixed an issue to map CC addresses correctly

- Salesforce: Fixed an issue with custom object for Get All operations and fixed an issue with the first name field for the Create and Update operations for the Lead resource

- Strava: Fixed an issue with the access tokens not getting refreshed

- TheHive: Fixed an issue with the case resolution status

- Fixed an issue with importing separate decrypted credentials

- Fixed issues with the sub-workflows not finishing

- Fixed an issue with the sub-workflows running on the main process

- Fixed concurrency issues with sub-workflows

## n8n@0.111.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.110.3...n8n@0.111.0) for this version.<br />

\*\*Release date:\*\* 2021-03-12

- New nodes

- Autopilot

- Autopilot Trigger

- Wise

- Wise Trigger

- Enhanced nodes

- Box: Added Get operation to the Folder resource

- Dropbox: Added Search operation to the File resource. All operations are now performed relative to the user's root directory. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01110) page

- Facebook Graph API: Added new API versions

- Google Drive: Added Update operation to the File resource

- HubSpot: Added the Deal Description option

- Kafka: Added the SASL mechanism

- Monday.com: Added Move operation to Board Item resource

- MongoDB: Added Date field to the Insert and Update operations

- Micrsoft SQL: Added connection timeout parameter to credentials

- Salesforce: Added Mobile Phone field to the Lead resource

- Spotify: Added Create a Playlist operation to Playlist resource and Get New Releases to the Album resource

- Bug fixes

- Airtable: Fixed a bug with updating and deleting records

- Added the functionality to expose metrics to Prometheus. Read more about that [here](/hosting/configuration/environment-variables/index.md)

- Updated fallback values to match the value type

- Added the functionality to display debugging information for pending workflows on exit

- Fixed an issue with queue mode for the executions that shouldn't be saved

- Fixed an issue with workflows crashing and displaying `Unknown` status in the execution list

- Fixed an issue to prevent crashing while saving execution data when the `data` field has over 64KB in MySQL

- Updated `jws-rsa` to version `1.12.1`

## n8n@0.110.3

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.110.0...n8n@0.110.3) for this version.<br />

\*\*Release date:\*\* 2021-03-04

- Bug fixes

- APITemplate.io: Fixed an issue with the naming of the node

## n8n@0.110.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.109.0...n8n@0.110.0) for this version.<br />

\*\*Release date:\*\* 2021-03-04

- New nodes

- APITemplate.io

- Bubble

- Lemlist

- Lemlist Trigger

- Enhanced nodes

- Microsoft Teams: Added option to reply to a message

- Bug fixes

- Dropbox: Fixed an issue with parsing the response with the Upload operation

- Gmail: Fixed an issue with the scope for the Service Account authentication method and fixed an issue with the label filter

- Google Drive: Fixed an issue with the missing Parent ID field for the Create operation and fixed an issue with the Permissions field

- HelpScout: Fixed an issue with sending tags when creating a conversation

- HTTP Request: Fixed an issue with the raw data and file response

- HubSpot: Fixed an issue with the OAuth2 credentials

- Added support for Date & Time in the IF node and the Switch node

- Fixed an issue with mouse selection when zooming in or out

- Fixed an issue with current executing workflows when using queues for Postgres

- Fixed naming and description for the `N8N\_SKIP\_WEBHOOK\_DEREGISTRATION\_SHUTDOWN` environment variable

- Fixed an issue with auto-refresh of the execution list

## n8n@0.109.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.108.0...n8n@0.109.0) for this version.<br />

\*\*Release date:\*\* 2021-02-22

- New nodes

- Bitwarden

- Emelia

- Emelia Trigger

- GoToWebinar

- Raindrop

- Enhanced nodes

- AWS Rekognition: Added the Detect Text type to the Analyze operation for the Image resource

- Google Calendar: Added RRULE parameter to the Get All operation for the Event resource

- Jira: Added User resource and operations

- Reddit: Added the Search operation for the Post resource

- Telegram: Added the Send Location operation

- Bug fixes

- RocketChat: Fixed error responses

- Fixed the issue which caused the execution history of subworkflows (workflows started using the Execute Workflow node) not to be saved

- Added an option to export the credential data in plain text format using the CLI

## n8n@0.108.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.107.0...n8n@0.108.0) for this version.<br />

\*\*Release date:\*\* 2021-02-15

- New nodes

- Demio

- PostHog

- QuickBooks

- Enhanced nodes

- Trello: Added Create Checklist Item operation to the Checklist resource

- Webhook: Removed trailing slash in routes and updated logic to select dynamic webhook

- Bug fixes

- Google Drive: Fixed an issue with returning the fields the user selects for the Folder and File resources

- Twitter: Fixed a typo in the description

- Webhook: Fixed logic for static route matching

- Added the functionality to sort the values that you add in the IF node, Rename node, and the Set node

- Added the functionality to optionally save execution data after each node

- Added queue mode to scale workflow execution

- Separated webhook from the core to scale webhook separately

- Fixed an issue with current execution query for unsaved running workflows

- Fixed an issue with the regex that detected node names

- n8n now generates a unified execution ID instead of two separate IDs for currently running and saved executions

## n8n@0.107.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.106.0...n8n@0.107.0) for this version.<br />

\*\*Release date:\*\* 2021-02-08

- New nodes

- AWS Comprehend

- GetResponse Trigger

- Peekalink

- Stackby

- Enhanced nodes

- AWS SES: Added Custom Verification Email resource

- Microsoft Teams: Added Task resource

- Twitter: Added Delete operation to the Tweet resource

- Bug fixes

- Google Drive: Fixed an issue with the Delete and Share operations

- FileMaker: Fixed an issue with the script list parsing

- Updated Node.js version of Docker images to `14.15`

- Added a shortcut `CTRL + scroll` to zoom

## n8n@0.106.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.105.0...n8n@0.106.0) for this version.<br />

\*\*Release date:\*\* 2021-02-05

- New nodes

- Reddit

- Tapfiliate

- Enhanced nodes

- Airtable Trigger: Added Download Attachment option

- HubSpot: Added Custom Properties option to the Create and Update operations of the Company resource

- MySQL: Added Connection Timeout parameter to the credentials

- Telegram: Added Pin Chat Message and Unpin Chat Message operations for the Message resource

- Bug fixes

- Typeform: Fixed an issue with the OAuth2 authentication method

- Added support for `s` and `u` flags for regex in the IF node and the Switch node

## n8n@0.105.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.104.2...n8n@0.105.0) for this version.<br />

\*\*Release date:\*\* 2021-02-01

- New nodes

- Discourse

- SecurityScorecard

- TimescaleDB

- Enhanced nodes

- Affinity: Added List and List Entry resource

- Asana: Added Project IDs option to the Create operation of the Task resource

- HubSpot Trigger: Added support for multiple subscriptions

- Jira: Added Issue Attachment resource and added custom fields to Create and Update operations of the Issue resource

- Todoist: Added Section option

- Bug fixes

- SIGNL4: Fixed an issue with the attachment functionality

- Added variable `$mode` to check the mode in which the workflow is being executed

## n8n@0.104.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.104.1...n8n@0.104.2) for this version.<br />

\*\*Release date:\*\* 2021-01-27

- Fixed an issue with the credentials parameters that have the same name

## n8n@0.104.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.104.0...n8n@0.104.1) for this version.<br />

\*\*Release date:\*\* 2021-01-26

- Fixed a bug with expressions in credentials

## n8n@0.104.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.103.1...n8n@0.104.0) for this version.<br />

\*\*Release date:\*\* 2021-01-26

- New nodes

- Compression

- Enhanced nodes

- GitHub: Added Invite operation to the User resource

- EmailReadImap: Increased the authentication timeout

- Mautic: Added Custom Fields option to the Create and Update operations of the Contact resource. Also, the Mautic OAuth credentials have been updated. Now you don't have to enter the Authorization URL and the Access Token URL

- Nextcloud: Added User resource

- Slack: Added Get Permalink and Delete operations to the Message resource

- Webhook: Added support for request parameters in webhook paths

- Bug fixes

- Google Drive: Fixed the default value for the Send Notification Email option

- Added support for expressions to credentials

- Removed support for MongoDB as a database for n8n. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01040) page

## n8n@0.103.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.103.0...n8n@0.103.1) for this version.<br />

\*\*Release date:\*\* 2021-01-21

- Bug fixes

- Trello: Fixed the icon

## n8n@0.103.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.102.0...n8n@0.103.0) for this version.<br />

\*\*Release date:\*\* 2021-01-21

- New nodes

- SendGrid

- Enhanced nodes

- AMQP: Added Container ID, Reconnect, and Reconnect limit options

- AMQP Trigger: Added Container ID, Reconnect, and Reconnect Limit options

- GitHub: Added Review resource

- Google Drive: Added Drive resource

- Trello: Added Get All and Get Cards operation to the List resource

- Bug fixes

- AWS Lambda: Fixed an issue with signature

- AWS SNS: Fixed an issue with signature

- Fixed an issue with nodes not executing if two input gets passed and one of them didn't return any data

- The code editor doesn'tget closed when clicked anywhere outside the editor

- Added CLI commands to [export](/hosting/cli-commands.md#export-workflows-and-credentials) and [import](/hosting/cli-commands.md#import-workflows-and-credentials) credentials and workflows

- The title in the browser tab now resets for new workflows

## n8n@0.102.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.101.0...n8n@0.102.0) for this version.<br />

\*\*Release date:\*\* 2021-01-15

- New nodes

- Beeminder

- Enhanced nodes

- Crypto: Added hash type `SHA384`

- Google Books: Added support for user impersonation

- Google Drive: Added support for user impersonation

- Google Sheets: Added support for user impersonation

- Gmail: Added support for user impersonation

- Microsoft Outlook: Added support for a shared mailbox

- RabbitMQ: Added Exchange mode

- Salesforce: Added filters to all Get All operations

- Slack: Made changes to the properties `As User` and `Ephemeral`. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01020) page

- Typeform Trigger: The node now displays the recall information in the question in square brackets. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#01020) page

- Zendesk: Removed the `Authorization URL` and `Access Token URL` fields from the OAuth2 credentials. The node now uses the subdomain passed by a user to connect to Zendesk.

- Bug fixes

- CoinGecko: Fixed an issue to process multiple input items correctly

## n8n@0.101.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.100.0...n8n@0.101.0) for this version.<br />

\*\*Release date:\*\* 2021-01-07

- New nodes

- Google Analytics

- PhantomBuster

- Enhanced nodes

- AWS: Added support for custom endpoints

- Gmail: Added an option to send messages formatted as HTML

- Philips Hue: Added Room/Group name to Light name to make it easier to identify lights

- Slack: Added ephemeral message option

- Telegram: Removed the Bot resource as the endpoint is no longer supported

- Bug fixes

- E-goi: Fixed the name of the node

- Edit Image: Fixed an issue with the Border operation

- HTTP Request: Fixed batch sizing to work when `batchSize = 1`

- PayPal: Fixed a typo in the Environment field

- Split In Batches: Fixed a typo in the description

- Telegram: Fixed an issue with the Send Audio operation

- Based on your settings, vacuum runs on SQLite on startup

- Updated Axios to version `0.21.1`

## n8n@0.100.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.99.1...n8n@0.100.0) for this version.<br />

\*\*Release date:\*\* 2020-12-30

- New nodes

- Microsoft Outlook

- Enhanced nodes

- ActiveCampaign: The node loads more options for the fields

- Asana: Added Subtask resource and Get All operation for the Task resource

- Edit Image: Added Multi Step operation

- HTTP Request: Added Use Querystring option

- IF: Added Ends With and Starts With operations

- Jira: Added Issue Comment resource

- Switch: Added Ends With and Starts With operations

- Telegram: Added File resource

- Bug fixes

- Box Trigger: Fixed a typo in the description

- Edit Image: Fixed an issue with multiple composite operations

- HTTP Request: Fixed an issue with the binary data getting used by multiple nodes

- S3: Fixed an issue with uploading files

- Stripe Trigger: Fixed an issue with the existing webhooks

- Telegram: Fixed an issue with the Send Audio operation

- Binary data stays visible if a node gets re-executed

## n8n@0.99.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.99.0...n8n@0.99.1) for this version.<br />

\*\*Release date:\*\* 2020-12-24

- Fixed a bug that caused HTML to render in JSON view

## n8n@0.99.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.98.0...n8n@0.99.0) for this version.<br />

\*\*Release date:\*\* 2020-12-24

- New nodes

- e-goi

- RabbitMQ

- RabbitMQ Trigger

- uProc

- Enhanced nodes

- ActiveCampaign: Added the functionality to load the tags for a user

- FTP: Added Delete and Rename operation

- Google Cloud Firestore: The node now gives the Collection ID in response

- Iterable: Added User List resource

- MessageBird: Added Balance resource

- TheHive Trigger: Added support for the TheHive3 webhook events, and added Log Updated and Log Deleted events

- Bug fixes

- Dropbox: Fixed an issue with the OAuth credentials

- Google Sheets: Fixed an issue with the parameters getting hidden for other operations

- Added functionality to copy the data and the path from the output

- Fixed an issue with the node getting selected after it was duplicated

## n8n@0.98.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.97.0...n8n@0.98.0) for this version.<br />

\*\*Release date:\*\* 2020-12-16

- New nodes

- Brandfetch

- Pushcut

- Pushcut Trigger

- Enhanced nodes

- Google Sheets: Added Spreadsheet resource

- IF: Added Is Empty option

- Slack: Added Reaction and User resource, and Member operation to the Channel resource

- Spreadsheet File: Added the option Include Empty Cell to display empty cells

- Webhook: Added option to send a custom response body. The node can now also return string data

- Bug fixes

- GitLab: Fixed an issue with GitLab OAuth credentials. You can now specify your GitLab server to configure the credentials

- Mautic: Fixed an issue with the OAuth credentials

- If a workflow is using the Error Trigger node, by default, the workflow will use itself as the Error Workflow

- Fixed a bug that caused the Editor UI to display an incorrect (save) state upon activating or deactivating a workflow

## n8n@0.97.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.96.0...n8n@0.97.0) for this version.<br />

\*\*Release date:\*\* 2020-12-10

- New nodes

- Ghost

- NASA

- Snowflake

- Twist

- Enhanced nodes

- Automizy: Added options to add and remove tabs for the Update operation of the Contact resource

- Pipedrive: Added label field to Person, Organization, and Deal resources. Also added Update operation for the Organization resource

- Bug fixes

- Fixed a bug that caused OAuth1 requests to break

- Fixed Docker user mount path

## n8n@0.96.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.95.1...n8n@0.96.0) for this version.<br />

\*\*Release date:\*\* 2020-12-03

- New nodes

- Cortex

- Iterable

- Kafka Trigger

- TheHive

- TheHive Trigger

- Yourls

- Enhanced nodes

- HubSpot: Added Contact List resource and Search operation for the Deal resource

- Google Calendar: You can now add multiple attendees in the Attendees field

- Slack: The node now loads both private and public channels

- Bug Fixes

- MQTT: Fixed an issue with the connection. The node now uses `mqtt@4.2.1`

- Fixed a bug which caused the Trigger-Nodes to require data from the first output

- Added configuration to load only specific nodes

## n8n@0.95.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.95.0...n8n@0.95.1) for this version.<br />

\*\*Release date:\*\* 2020-11-25

- Bug Fixes

- Airtable Trigger: Fixed the icon of the node

## n8n@0.95.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.94.1...n8n@0.95.0) for this version.<br />

\*\*Release date:\*\* 2020-11-25

- New nodes

- Airtable Trigger

- LingvaNex

- OpenThesaurus

- ProfitWell

- Quick Base

- Spontit

- Enhanced nodes

- Airtable: The Application ID field has been renamed to Base ID, and the Table ID field has been renamed to Table. The List operation now downloads attachments automatically

- Harvest: Moved the account field from the credentials to the node parameters. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#0950) page

- Bug Fixes

- Slack: Fixed an issue with creating channels and inviting users to a channel

## n8n@0.94.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.94.0...n8n@0.94.1) for this version.<br />

\*\*Release date:\*\* 2020-11-20

- Bug Fixes

- GraphQL: Fixed an issue with the variables

- WooCommerce Trigger: Fixed an issue with the webhook. The node now reuses a webhook if it already exists.

## n8n@0.94.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.93.0...n8n@0.94.0) for this version.<br />

\*\*Release date:\*\* 2020-11-19

- New nodes

- Google Cloud Natural Language

- Google Firebase Cloud Firestore

- Google Firebase Realtime Database

- Humantic AI

- Enhanced nodes

- ActiveCampaign: Added Contact List and List resource

- Edit Image: Added support for drawing, font selection, creating a new image, and added the Composite resource

- FTP: Added Private Key and Passphrase fields to the SFTP credentials and made the directory creation more robust

- IMAP: Increased the timeout

- Matrix: Added option to send notice, emote, and HTML messages

- Segment: Made changes to the properties `traits` and `properties`. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#0940) page

- Bug Fixes

- GraphQL: Fixed an issue with the variables

- Mailchimp: Fixed an issue with the OAuth credentials. The credentials are now sent with the body instead of the header

- YouTube: Fixed a typo for the Unlisted option

- Added horizontal scrolling

## n8n@0.93.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.92.0...n8n@0.93.0) for this version.<br />

\*\*Release date:\*\* 2020-11-11

- New nodes

- GetResponse

- Gotify

- Line

- Strapi

- Enhanced nodes

- AMQP: Connection is now closed after a message is sent

- AMQP Trigger: Added Message per Cycle option to retrieve the specified number of messages from the bus for every cycle

- HubSpot: Added Custom Properties for the Deal resource as Additional Fields

- Jira: The node retrieves all the projects for the Project field instead of just 50

- Mattermost: Improved the channel selection

- Microsoft SQL: Added TLS parameter for the credentials

- Pipedrive Trigger: Added OAuth authentication method. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#0930) page

- Segment: Added Custom Traits option for the Traits field

- Bug Fixes

- Shopify Trigger: Fixed an issue with activating the workflow

- For custom nodes, you can now set custom documentation URLs

## n8n@0.92.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.91.0...n8n@0.92.0) for this version.<br />

\*\*Release date:\*\* 2020-11-04

- New nodes

- Facebook Trigger

- Google Books

- Orbit

- Storyblok

- Enhanced nodes

- Google Drive: Removed duplicate parameters

- Twitter: Added Direct Message resource

- Bug Fixes

- Gmail: Fixed an issue with the encoding for the subject field

- Improved the Editor UI for the save workflow functionality

## n8n@0.91.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.90.0...n8n@0.91.0) for this version.<br />

\*\*Release date:\*\* 2020-10-23

- New nodes

- Kafka

- MailerLite

- MailerLite Trigger

- Pushbullet

- Enhanced nodes

- Airtable: Added Ignore Fields option for the Update operation

- AMQP Sender: Added Azure Service Bus support

- Google Calendar: Added Calendar resource and an option to add a conference link

- G Suite Admin: Added Group resource

- HTTP Request: Added Batch Size and Batch Interval option

- Mautic: Added Company resource

- Salesforce: Added OAuth 2.0 JWT authentication method

- Bug Fixes

- IF: Fixed an issue with undefined expression

- Paddle: Fixed an issue with the Return All parameter

- Switch: Fixed an issue with undefined expression

- Added CLI commands to deactivate the workflow

- Added an option to get the full execution data from the server

- The Editor UI gives an alert if you redirect without saving a workflow

- The Editor UI now indicates if a workflow is saved or not

- Improved support for touch devices

- Node properties now load on demand

- Updated the Node.js version for the Docker images

## n8n@0.90.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.89.2...n8n@0.90.0) for this version.<br />

\*\*Release date:\*\* 2020-10-23

- Added a check for the Node.js version on startup. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#0900) page

- Bug Fixes

- Google Translate: Fixed an issue with the rendering of the image in n8n.io

## n8n@0.89.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.89.1...n8n@0.89.2) for this version.<br />

\*\*Release date:\*\* 2020-10-22

- Bug Fixes

- Strava Trigger: Fixed a typo in the node name

## n8n@0.89.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.89.0...n8n@0.89.1) for this version.<br />

\*\*Release date:\*\* 2020-10-22

- Removed debug messages

## n8n@0.89.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.88.1...n8n@0.89.0) for this version.<br />

\*\*Release date:\*\* 2020-10-22

- New Nodes

- Pushover

- Strava

- Strava Trigger

- Google Translate

- Bug Fixes

- HTTP Request: Fixed an issue with the POST request method for the 'File' response format

- Fixed issue with displaying non-active workflows as active

- Fixed an issue related to multiple-webhooks

## n8n@0.88.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.88.0...n8n@0.88.1) for this version.<br />

\*\*Release date:\*\* 2020-10-16

- Bug Fixes

- HTTP Request: Fixed an issue with the Form-Data Multipart and the RAW/Custom Body Content Types

## n8n@0.88.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.87.2...n8n@0.88.0) for this version.<br />

\*\*Release date:\*\* 2020-10-16

- Enhanced Fixes

- Matrix: Added support for specifying a Matrix Homeserver URL

- Salesforce: Added Custom Object resource and Custom Fields and Sort options

- Bug Fixes

- AWS SES: Fixed an issue with the Send Template operation for the Email resource

- AWS SNS Trigger: Fixed an issue with the Subscriptions topic

## n8n@0.87.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.87.1...n8n@0.87.2) for this version.<br />

\*\*Release date:\*\* 2020-10-15

- Bug Fixes

- Google Sheets: Fixed an issue with spaces in sheet names

- Automizy: Fixed an issue with the default resource

## n8n@0.87.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.87.0...n8n@0.87.1) for this version.<br />

\*\*Release date:\*\* 2020-10-15

- Bug Fixes

- Gmail: Fixed an issue with the Message ID

- HTTP Request: Fixed an issue with the GET Request

- Added `HMAC-SHA512` signature method for OAuth 1.0

## n8n@0.87.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.86.1...n8n@0.87.0) for this version.<br />

\*\*Release date:\*\* 2020-10-14

- New nodes

- Automizy

- AWS Rekognition

- Matrix

- Sendy

- Vonage

- WeKan

- Enhanced nodes

- AWS SES: Added Send Template operation for the Email resource and added the Template resource

- ClickUp: Added Time Entry and Time Entry Tag resources

- Function: The Function field is now called the JavaScript Code field

- Mailchimp: Added Campaign resource

- Mindee: Added currency to the simplified response

- OneDrive: Added Share operation

- OpenWeatherMap: Added Language parameter

- Pipedrive: Added additional parameters to the Get All operation for the Note resource

- Salesforce: Added Flow resource

- Spreadsheet File: Added Range option for the Read from file operation

- Bug Fixes

- ClickUp Trigger: Fixed issue with creating credentials

- Pipedrive Trigger: Fixed issue with adding multiple webhooks to Pipedrive

- The link.fish Scrape node has been removed from n8n. For more details, check out the entry in the [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#0870) page

## n8n@0.86.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.86.0...n8n@0.86.1) for this version.<br />

\*\*Release date:\*\* 2020-10-06

- Enhanced nodes

- CoinGecko: Small fixes to the CoinGecko node

## n8n@0.86.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.85.0...n8n@0.86.0) for this version.<br />

\*\*Release date:\*\* 2020-10-05

- New nodes

- Clockify

- CoinGecko

- G Suite Admin

- Mindee

- Wufoo Trigger

- Enhanced nodes

- Slack: Added User Profile resource

- Mattermost: Added Create and Invite operations for the User resource

- Bug Fixes

- S3: Fixed issue with uploading files

- Webhook ID gets refreshed on node duplication

## n8n@0.85.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.84.4...n8n@0.85.0) for this version.<br />

\*\*Release date:\*\* 2020-09-30

- Enhanced nodes

- Postgres: Added Schema parameter for the Update operation

- Bug Fixes

- Jira: Fixed a bug with the Issue Type field

- Pipedrive Trigger: Fixed issues with the credentials

- Changed the bcrypt library to `bcrypt.js` to make it compatible with Windows

- The OAuth callback URLs are now generated in the backend

## n8n@0.84.4

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.84.3...n8n@0.84.4) for this version.<br />

\*\*Release date:\*\* 2020-09-23

- Bug Fixes

- Google Sheets: Fixed issues with the update and append operations

## n8n@0.84.3

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.84.2...n8n@0.84.3) for this version.<br />

\*\*Release date:\*\* 2020-09-23

- Fixed an issue with the build by setting `jwks-rsa` to an older version

## n8n@0.84.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.84.1...n8n@0.84.2) for this version.<br />

\*\*Release date:\*\* 2020-09-23

- Fixed an issue with the OAuth window. The OAuth window now closes after authentication is complete

## n8n@0.84.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.84.0...n8n@0.84.1) for this version.<br />

\*\*Release date:\*\* 2020-09-23

- Additional endpoints can be excluded from authentication checks. Multiple endpoints can be added separated by colons

## n8n@0.84.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.83.0...n8n@0.84.0) for this version.<br />

\*\*Release date:\*\* 2020-09-23

- Enhanced nodes

- Twitter: Added support for auto mention of users in reply tweets

- Bug Fixes

- Google Sheets: Fixed issue with non-Latin sheet names

- HubSpot: Fixed naming of credentials

- Microsoft: Fixed naming of credentials

- Mandrill: Fixed attachments with JSON parameters

- Expressions now use short variables when selecting input data for the current node

- Fixed issue with renaming credentials for active workflows

## n8n@0.83.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.82.1...n8n@0.83.0) for this version.<br />

\*\*Release date:\*\* 2020-09-18

- New nodes

- LinkedIn

- Taiga

- Taiga Trigger

- Enhanced nodes

- ActiveCampaign: Added multiple functions, read more [here](https://github.com/n8n-io/n8n/commit/a552febab494f8ecc022391f046752f1f9f5a4cc)

- Airtable: Added typecast functionality

- Asana: Added OAuth2 support

- ClickUp: Added OAuth2 support

- Google Drive: Added share operation

- IMAP Email: Added support for custom rules when checking emails

- Sentry.io: Added support for self-hosted version

- Twitter: Added retweet, reply, and like operations

- WordPress: Added author field to the post resource

- Bug Fixes

- Asana Trigger: Webhook validation has been deactivated

- Paddle: Fixed `returnData` format and coupon description

- The ActiveCampaign node has [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#0830)

- Fixed issues with test-webhook registration

## n8n@0.82.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.82.0...n8n@0.82.1) for this version.<br />

\*\*Release date:\*\* 2020-09-14

- Speed for basic authentication with hashed password has been improved

## n8n@0.82.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.81.0...n8n@0.82.0) for this version.<br />

\*\*Release date:\*\* 2020-09-14

- New nodes

- Microsoft Teams

- Enhanced nodes

- Freshdesk: Added Freshdesk contact resource

- HTTP Request: Run parallel requests in HTTP Request Node

- Bug Fixes

- Philips Hue: Added `APP ID` to Philips Hue node credentials

- Postmark Trigger: Fixed parameters for the node

- The default space between nodes has been increased to two units

- Expression support has been added to the credentials

- Passwords for your n8n instance can now be hashed

## n8n@0.81.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.80.0...n8n@0.81.0) for this version.<br />

\*\*Release date:\*\* 2020-09-09

- New nodes

- Sentry.io

- Enhanced nodes

- Asana

- ClickUp

- Clockify

- Google Contacts

- Salesforce

- Segment

- Telegram

- Telegram Trigger

## n8n@0.80.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.79.0...n8n@0.80.0) for this version.<br />

\*\*Release date:\*\* 2020-09-02

- New nodes

- Customer.io

- MQTT Trigger

- S3

- Enhanced nodes

- Acuity Scheduling

- AWS S3

- ClickUp

- FTP

- Telegram Trigger

- Zendesk

## n8n@0.79.3

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.79.2...n8n@0.79.3) for this version.<br />

\*\*Release date:\*\* 2020-08-30

- The bug that caused the workflows to not get activated correctly has been fixed

## n8n@0.79.2

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.79.1...n8n@0.79.2) for this version.<br />

\*\*Release date:\*\* 2020-08-28

- Added missing rawBody for "application/x-www-form-urlencoded"

## n8n@0.79.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.79.0...n8n@0.79.1) for this version.<br />

\*\*Release date:\*\* 2020-08-28

- Enhanced nodes

- Contentful

- HTTP Request

- Postgres

- Webhook

- Removed Test-Webhook also in case checkExists fails

- HTTP Request node doesn'toverwrite accept header if it's already set

- Add rawBody to every request so that n8n doesn'tgive an error if body is missing

## n8n@0.79.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.79.2...n8n@0.79.3) for this version.<br />

\*\*Release date:\*\* 2020-08-27

- New nodes

- Contentful

- ConvertKit

- ConvertKit Trigger

- Paddle

- Enhanced nodes

- Airtable

- Coda

- Gmail

- HubSpot

- IMAP Email

- Postgres

- Salesforce

- SIGNL4

- Todoist

- Trello

- YouTube

- The Todoist node has [breaking changes](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#0790)

- Added dynamic titles on workflow execution

- Nodes will now display a link to associated credential documentation

## n8n@0.78.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.76.0...n8n@0.78.0) for this version.<br />

\*\*Release date:\*\* 2020-08-18

- New nodes

- Gmail

- Google Contacts

- Unleashed Software

- YouTube

- Enhanced nodes

- AMQP

- AMQP Trigger

- Bitly

- Function Item

- Google Sheets

- Shopify

- Todoist

- Enhanced support for [JWT based authentication](/integrations/builtin/core-nodes/n8n-nodes-base.jwt.md)

- Added an option to execute a node once, using data of only the first item

## n8n@0.76.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.75.0...n8n@0.76.0) for this version.<br />

\*\*Release date:\*\* 2020-08-05

- New nodes

- Customer.io Trigger

- FTP

- Medium

- Philips Hue

- TravisCI

- Twake

- Enhanced nodes

- CrateDB

- Move Binary Data

- Nodes will now display a link to associated documentation

## n8n@0.75.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.74.0...n8n@0.75.0) for this version.<br />

\*\*Release date:\*\* 2020-07-26

- New nodes

- Box

- Box Trigger

- CrateDB

- Jira Trigger

- Enhanced nodes

- GitLab

- Nextcloud

- Pipedrive

- QuestDB

- Webhooks now support OPTIONS request

## n8n@0.74.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.73.1...n8n@0.74.0) for this version.<br />

\*\*Release date:\*\* 2020-07-15

- New nodes

- Hacker News

- QuestDB

- Xero

- Enhanced nodes

- Affinity Trigger

- HTTP Request

- Mailchimp

- MongoDB

- Pipedrive

- Postgres

- UpLead

- Webhook

- Webhook URLs are now handled independently of the workflow ID by `https://{hostname}/webhook/{path}` instead of the older `https://{hostname}/webhook/{workflow\_id}/{node\_name}/{path}`.

## n8n@0.73.1

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.73.0...n8n@0.73.1) for this version.<br />

\*\*Release date:\*\* 2020-07-08

- Enhanced nodes

- Microsoft SQL

## n8n@0.73.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.72.0...n8n@0.73.0) for this version.<br />

\*\*Release date:\*\* 2020-07-08

- New nodes

- CircleCI

- Microsoft SQL

- Zoom

- Enhanced nodes

- Postmark Trigger

- Salesforce

- It's now possible to set default values for credentials that get prefilled, and the user can't change.

## n8n@0.72.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.71.0...n8n@0.72.0) for this version.<br />

\*\*Release date:\*\* 2020-07-02

- Enhanced nodes

- Drift

- Eventbrite Trigger

- Facebook Graph API

- Pipedrive

- Fixed credential issue for the Execute Workflow node

## n8n@0.71.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.70.0...n8n@0.71.0) for this version.<br />

\*\*Release date:\*\* 2020-06-25

- New nodes

- Google Tasks

- SIGNL4

- Spotify

- Enhanced nodes

- HubSpot

- Mailchimp

- Typeform

- Webflow

- Zendesk

- Added Postgres SSL support

- It's now possible to deploy n8n under a subfolder

## n8n@0.70.0

For a comprehensive list of changes, check out the [commits](https://github.com/n8n-io/n8n/compare/n8n@0.69.1...n8n@0.70.0) for this version.<br />

\*\*Release date:\*\* 2020-06-13

- Enhanced nodes

- GitHub

- Mautic Trigger

- Monday.com

- MongoDB

- Fixed the issue with multiuser-setup

<!-- vale on -->

## create-environments.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Tutorial - Create environments with source control

description: How to use n8n's source control feature to create environments.

contentType: tutorial

---

# Tutorial: Create environments with source control

--8<-- "\_snippets/source-control-environments/feature-availability.md"

This tutorial walks through the process of setting up environments end-to-end. You'll create two environments: development and production. It uses GitHub as the Git provider. The process is similar for other providers.

n8n has built its environments feature on top of Git, a version control software. You link an n8n instance to a Git branch, and use a push-pull pattern to move work between environments. You should have some understanding of environments and Git. If you need more information on these topics, refer to:

\* [Environments in n8n](/source-control-environments/understand/environments.md): the purpose of environments, and how they work in n8n.

\* [Git and n8n](/source-control-environments/understand/git.md): Git concepts and source control in n8n.

## Choose your source control pattern

Before setting up source control and environments, you need to plan your environments, and how they relate to Git branches. n8n supports different [Branch patterns](/source-control-environments/understand/patterns.md). For environments, you need to choose between two patterns: multi-instance, multi-branch, or multi-instance, single-branch. This tutorial covers both patterns.

--8<-- "\_snippets/source-control-environments/one-direction.md"

### Multiple instances, multiple branches

![Diagram](/\_images/source-control-environments/vc-multi-multi.png)

--8<-- "\_snippets/source-control-environments/multi-instance-multi-branch-pros-cons.md"

### Multiple instances, one branch

![Diagram](/\_images/source-control-environments/vc-multi-one.png)

--8<-- "\_snippets/source-control-environments/multi-instance-one-branch-pros-cons.md"

## Set up your repository

Once you've chosen your pattern, you need to set up your GitHub repository.

=== "Multi-branch"

1. [Create a new repository](https://docs.github.com/en/repositories/creating-and-managing-repositories/creating-a-new-repository){:target=\_blank .external-link}.

\* Make sure the repository is private, unless you want your workflows, tags, and variable and credential stubs exposed to the internet.

\* Create the new repository with a README so you can immediately create branches.

1. Create one branch named `production` and another named `development`. Refer to [Creating and deleting branches within your repository](https://docs.github.com/en/pull-requests/collaborating-with-pull-requests/proposing-changes-to-your-work-with-pull-requests/creating-and-deleting-branches-within-your-repository){:target=\_blank .external-link} for guidance.

=== "Single-branch"

[Create a new repository](https://docs.github.com/en/repositories/creating-and-managing-repositories/creating-a-new-repository){:target=\_blank .external-link}.

\* Make sure the repository is private, unless you want your workflows, tags, and variable and credential stubs exposed to the internet.

\* Create the new repository with a README. This creates the `main` branch, which you'll connect to.

## Connect your n8n instances to your repository

Create two n8n instances, one for development, one for production.

### Configure Git in n8n

--8<-- "\_snippets/source-control-environments/configure-git-in-n8n.md"

### Set up a deploy key

Set up SSH access by creating a deploy key for the repository using the SSH key from n8n. The key must have write access. Refer to [GitHub | Managing deploy keys](https://docs.github.com/en/authentication/connecting-to-github-with-ssh/managing-deploy-keys){:target=\_blank .external-link} for guidance.

### Connect n8n and configure your instance

=== "Multi-branch"

1. In \*\*Settings\*\* > \*\*Environments\*\* in n8n, select \*\*Connect\*\*. n8n connects to your Git repository.

1. Under \*\*Instance settings\*\*, choose which branch you want to use for the current n8n instance. Connect the production branch to the production instance, and the development branch to the development instance.

1. Production instance only: select \*\*Protected instance\*\* to prevent users editing workflows in this instance.

1. Select \*\*Save settings\*\*.

=== "Single-branch"

1. In \*\*Settings\*\* > \*\*Environments\*\* in n8n, select \*\*Connect\*\*.

1. Under \*\*Instance settings\*\*, select the main branch.

1. Production instance only: select \*\*Protected instance\*\* to prevent users editing workflows in this instance.

1. Select \*\*Save settings\*\*.

## Push work from development

In your development instance, create a few workflows, tags, variables, and credentials.

--8<-- "\_snippets/source-control-environments/push.md"

## Pull work to production

Your work is now in GitHub. If you're using a multi-branch setup, it's on the development branch. If you chose the single-branch setup, it's on main.

=== "Multi-branch"

1. In GitHub, create a pull request to merge development into production.

1. Merge the pull request.

1. In your production instance, select \*\*Pull\*\* <span class="inline-image">![Pull icon](/\_images/source-control-environments/pull-icon.png){.off-glb}</span> in the main menu.

=== "Single-branch"

In your production instance, select \*\*Pull\*\* <span class="inline-image">![Pull icon](/\_images/source-control-environments/pull-icon.png){.off-glb}</span> in the main menu.

--8<-- "\_snippets/source-control-environments/push-pull-menu-state.md"

### Optional: Use a GitHub Action to automate pulls

If you want to avoid logging in to your production instance to pull, you can use a [GitHub Action](https://docs.github.com/en/actions/creating-actions/about-custom-actions){:target=\_blank .external-link} and the [n8n API](/api/index.md) to automatically pull every time you push new work to your production or main branch.

--8<-- "\_snippets/source-control-environments/github-action.md"

## Next steps

Learn more about:

\* [Environments in n8n](/source-control-environments/understand/environments.md) and [Git and n8n](/source-control-environments/understand/git.md)

\* [Source control patterns](/source-control-environments/understand/patterns.md)

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Source control and environments

description: Overview of source control and environments in n8n

contentType: overview

hide:

- toc

---

# Source control and environments

--8<-- "\_snippets/source-control-environments/feature-availability.md"

n8n uses Git-based source control to support environments. Linking your n8n instances to a Git repository lets you create multiple n8n environments, backed by Git branches.

In this section:

\* [Understand](/source-control-environments/understand/index.md):

\* [Environments in n8n](/source-control-environments/understand/environments.md): The purpose of environments, and how they work in n8n.

\* [Git and n8n](/source-control-environments/understand/git.md): How n8n uses Git.

\* [Branch patterns](/source-control-environments/understand/patterns.md): The possible relationships between n8n instances and Git branches.

\* [Set up source control for environments](/source-control-environments/setup.md): How to connect your n8n instance to Git.

\* [Using](/source-control-environments/using/index.md):

\* [Push and pull](/source-control-environments/using/push-pull.md): Send work to Git, and fetch work from Git to your instance.

\* [Copy work between environments](/source-control-environments/using/copy-work.md): How to copy work between different n8n instances.

\* [Tutorial: Create environments with source control](/source-control-environments/create-environments.md): An end-to-end tutorial, setting up environments using n8n's recommended configurations.

Related sections:

\* [Variables](/code/variables.md): reusable values.

\* [External secrets](/external-secrets.md): manage [credentials](/glossary.md#credential-n8n) with an external secrets vault.

## setup.md

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#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Set up source control

description: Link n8n to your Git provider.

contentType: howto

---

# Set up source control for environments

Link a Git repository to an n8n instance and configure your source control.

n8n uses source control to provide environments. Refer to [Environments in n8n](/source-control-environments/understand/environments.md) for more information.

## Prerequisites

To use source control with n8n, you need a Git repository that allows SSH access.

This document assumes you are familiar with Git and your Git provider.

## Step 1: Set up your repository and branches

For a new setup:

1. Create a new repository for use with n8n.

1. Create the branches you need. For example, if you plan to have different environments for test and production, set up a branch for each.

To help decide what branches you need for your use case, refer to [Branch patterns](/source-control-environments/understand/patterns.md).

## Step 2: Configure Git in n8n

--8<-- "\_snippets/source-control-environments/configure-git-in-n8n.md"

## Step 3: Set up a deploy key

Set up SSH access by creating a deploy key for the repository using the SSH key from n8n. The key must have write access.

The steps depend on your Git provider. Help links for common providers:

\* [GitHub | Managing deploy keys](https://docs.github.com/en/authentication/connecting-to-github-with-ssh/managing-deploy-keys){:target=\_blank .external-link}

\* [GitLab | Deploy keys](https://docs.gitlab.com/ee/user/project/deploy\_keys/){:target=\_blank .external-link}

## Step 4: Connect n8n and configure your instance

1. In \*\*Settings\*\* > \*\*Environments\*\* in n8n, select \*\*Connect\*\*. n8n connects to your Git repository.

1. Under \*\*Instance settings\*\*, choose which branch you want to use for the current n8n instance.

1. \*\*Optional\*\*: select \*\*Protected instance\*\* to prevent users editing workflows in this instance. This is useful for protecting production instances.

1. \*\*Optional\*\*: choose a custom color for the instance. This will appear in the menu next to the source control push and pull buttons. It helps users know which instance they're in.

1. Select \*\*Save settings\*\*.

## environments.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Environments in n8n

description: Understand the concepts behind environments in n8n.

contentType: explanation

---

# Environments in n8n

n8n has built its environments feature on top of Git, a version control software. This document helps you understand:

\* The purpose of environments.

\* How environments work in n8n.

## Environments: What and why

In software development, the environment is all the infrastructure and tooling around the code, including the tools that run the software, and the specific configuration of those tools. For a more detailed introduction to environments in software development, refer to [Codecademy | Environments](https://www.codecademy.com/article/environments){:target=\_blank .external-link}.

Low-code development in n8n is similar. n8n is where you build and run your workflows. Your instance may have particular configurations: on Cloud, n8n determines the configuration. On self-hosted instances, there are extensive [configuration options](/hosting/configuration/configuration-methods.md). You may also have made changes to the settings of your instance. This combination of n8n and your instance's specific configuration and settings is the environment your workflows run in.

There are advantages to having more than one environment. A common pattern is to have different environments for development and production:

\* Development: do work and make changes.

\* Production: the live environment.

A setup like this helps you make changes to workflows without breaking workflows that are in use.

## Environments in n8n

In n8n, an environment comprises two parts, an n8n instance and a Git branch:

\* The n8n instance is where you build and run workflows.

\* The Git branch stores copies of the workflows, as well as tags, and variable and credential stubs.

n8n doesn't sync credentials and variable values with Git. You must set up the credentials and variable values manually when setting up a new instance. For more information, refer to [Push and pull | What gets committed](/source-control-environments/using/push-pull.md#what-gets-committed).

How you copy work between environments depends on your branch and n8n instance configuration:

\* Multiple instances, one branch: you can push from one instance to the Git branch, then pull the work to another instance.

\* Multiple instances, multiple branches: you need to create a pull request and merge in your Git provider. For example, if you have development, test, and production branches, each linked to their own instance, you need to merge the development branch into test to make the work from the development instance available on the test instance. Refer to [Copy work between environments](/source-control-environments/using/copy-work.md) for more information, including steps to partially automate the process.

For detailed guidance on pushing and pulling work, refer to [Push and pull](/source-control-environments/using/push-pull.md).

Refer to [Set up source control](/source-control-environments/setup.md) to learn more about linking your n8n instance to Git, or follow the [Tutorial: Create environments with source control](/source-control-environments/create-environments.md) to set up your environments using one of n8n's recommended configurations.

## git.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Git and n8n

description: Git concepts and limitations in n8n.

contentType: explanation

---

# Git and n8n

n8n uses Git to provide source control. To use this feature, it helps to have some knowledge of basic Git concepts. n8n doesn't implement all Git functionality: you shouldn't view n8n's source control as full version control.

/// note | New to Git and source control?

If you're new to Git, don't panic. You don't need to learn Git to use n8n. This document explains the concepts you need. You do need some Git knowledge to set up the source control, as this involves work in your Git provider.

///

/// note | Familiar with Git and source control?

If you're familiar with Git, don't rely on behaviors matching exactly. In particular, be aware that source control in n8n doesn't support a pull request-style review and merge process, unless you do this outside n8n in your Git provider.

///

This page introduces the Git concepts and terminology used in n8n. It doesn't cover everything you need to set up and manage a repository. The person doing the [Setup](/source-control-environments/setup.md) should have some familiarity with Git and with their Git hosting provider.

/// note | This is a brief introduction

Git is a complex topic. This section provides a brief introduction to the key terms you need when using environments in n8n. If you want to learn about Git in depth, refer to [GitHub | Git and GitHub learning resources](https://docs.github.com/en/get-started/quickstart/git-and-github-learning-resources){:target=\_blank .external-link}.

///

## Git overview

[Git](https://git-scm.com/){:target=\_blank .external-link} is a tool for managing, tracking, and collaborating on multiple versions of documents. It's the basis for widely used platforms such as [GitHub](https://github.com/){:target=\_blank .external-link} and [GitLab](https://about.gitlab.com/){:target=\_blank .external-link}.

## Branches: Multiple copies of a project

Git uses branches to maintain multiple copies of a document alongside each other. Every branch has its own version. A common pattern is to have a main branch, and then everyone who wants to contribute to the project works on their own branch (copy). When they finish their work, their branch is merged back into the main branch.

![Diagram](/\_images/source-control-environments/simple-git-branch.png)

## Local and remote: Moving work between your machine and a Git provider

A common pattern when using Git is to install Git on your own computer, and use a Git provider such as GitHub to work with Git in the cloud. In effect, you have a Git repository (project) on GitHub, and work with copies of it on your local machine.

n8n uses this pattern for source control: you'll work with your workflows on your n8n instance, but send them to your Git provider to store them.

## Push, pull, and commit

n8n uses three key Git processes:

\* \*\*Push\*\*: send work from your instance to Git. This saves a copy of your workflows and tags, as well as credential and variable stubs, to Git. You can choose which workflows you want to save.

\* \*\*Pull\*\*: get the workflows, tags, and variables from Git and load it into n8n. You will need to populate any credentials or variable stubs included in the refreshed items.

/// warning | Pulling overwrites your work

If you have made changes to a workflow in n8n, you must push the changes to Git before pulling. When you pull, it overwrites any changes you've made if they aren't stored in Git.

///

\* \*\*Commit\*\*: a commit in n8n is a single occurrence of pushing work to Git. In n8n, commit and push happen at the same time.

Refer to [Push and pull](/source-control-environments/using/push-pull.md) for detailed information about how n8n interacts with Git.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Understand source control and environments

description: Understand how source control and environments work in n8n.

contentType: overview

hide:

- toc

---

# Understand source control and environments

--8<-- "\_snippets/source-control-environments/feature-availability.md"

\* [Environments in n8n](/source-control-environments/understand/environments.md): The purpose of environments, and how they work in n8n.

\* [Git in n8n](/source-control-environments/understand/git.md): How n8n uses Git.

\* [Branch patterns](/source-control-environments/understand/patterns.md): The possible relationships between n8n instances and Git branches.

## patterns.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Branch patterns

description: Understand the different relationships between n8n instances and Git branches that are possible with source control.

contentType: explanation

---

# Branch patterns

The relationship between n8n instances and Git branches is flexible. You can create different setups depending on your needs.

--8<-- "\_snippets/source-control-environments/one-direction.md"

## Multiple instances, multiple branches

This pattern involves having multiple n8n instances, each one linked to its own branch.

You can use this pattern for environments. For example, create two n8n instances, development and production. Link them to their own branches. Push work from your development instance to its branch, do a pull request to move work to the production branch, then pull to the production instance.

--8<-- "\_snippets/source-control-environments/multi-instance-multi-branch-pros-cons.md"

![Diagram](/\_images/source-control-environments/vc-multi-multi.png)

## Multiple instances, one branch

Use this pattern if you want the same workflows, tags, and variables everywhere, but want to use them in different n8n instances.

You can use this pattern for environments. For example, create two n8n instances, development and production. Link them both to the same branch. Push work from development, and pull it into production.

This pattern is also useful when testing a new version of n8n: you can create a new n8n instance with the new version, connect it to the Git branch and test it, while your production instance remains on the older version until you're confident it's safe to upgrade.

--8<-- "\_snippets/source-control-environments/multi-instance-one-branch-pros-cons.md"

![Diagram](/\_images/source-control-environments/vc-multi-one.png)

## One instance, multiple branches

The instance owner can change which Git branch connects to the instance. The full setup in this case is likely to be a [Multiple instances, multiple branches](#multiple-instances-multiple-branches) pattern, but with one instance switching between branches.

This is useful to review work. For example, different users could work on their own instance and push to their own branch. The reviewer could work in a review instance, and switch between branches to load work from different users.

/// note | No cleanup

n8n doesn't clean up the existing contents of an instance when changing branches. Switching branches in this pattern results in all the workflows from each branch being in your instance.

///

![Diagram](/\_images/source-control-environments/vc-one-multi.png)

## One instance, one branch

This is the simplest pattern.

![Diagram](/\_images/source-control-environments/vc-one-one.png)

## copy-work.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Copy work between environments

description: How to get changes from one environment into another.

contentType: howto

---

# Copy work between environments

The steps to send work from one n8n instance to another are different depending on whether you use a single Git branch or multiple branches.

## Single branch

If you have a single Git branch the steps to copy work are:

1. Push work from one instance to the Git branch.

1. Log in to the other instance to pull the work from Git. You can [automate pulls](#automatically-send-changes-to-n8n).

## Multiple branches

If you have more than one Git branch, you need to merge the branches in your Git provider to copy work between environments. You can't copy work directly between environments in n8n.

A common pattern is:

1. Do work in your developments instance.

1. Push the work to the development branch in Git.

1. Merge your development branch into your production branch. Refer to the documentation for your Git provider for guidance on doing this:

\* [GitHub: Creating a pull request](https://docs.github.com/en/pull-requests/collaborating-with-pull-requests/proposing-changes-to-your-work-with-pull-requests/creating-a-pull-request){:target=\_blank .external-link}

\* [GitLab: Creating merge requests](https://docs.gitlab.com/ee/user/project/merge\_requests/creating\_merge\_requests.html){:target=\_blank .external-link}

\* [Git: Basic branching and merging](https://git-scm.com/book/en/v2/Git-Branching-Basic-Branching-and-Merging){:target=\_blank .external-link}

1. In your production n8n instance, pull the changes. You can [automate pulls](#automatically-send-changes-to-n8n).

## Automatically send changes to n8n

You can automate parts of the process of copying work, using the `/source-control/pull` API endpoint. Call the API after merging the changes:

```curl

curl --request POST \

--location '<YOUR-INSTANCE-URL>/api/v1/source-control/pull' \

--header 'Content-Type: application/json' \

--header 'X-N8N-API-KEY: <YOUR-API-KEY>' \

--data '{"force": true}'

```

This means you can use a GitHub Action or GitLab CI/CD to automatically pull changes to the production instance on merge.

--8<-- "\_snippets/source-control-environments/github-action.md"

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Using source control and environments

description: How to use source control and environments in n8n.

contentType: overview

hide:

- toc

---

# Using source control and environments

--8<-- "\_snippets/source-control-environments/feature-availability.md"

\* [Push and pull](/source-control-environments/using/push-pull.md): Send work to Git, and fetch work from Git to your instance. Understand what gets committed, and how n8n handles merge conflicts.

\* [Copy work between environments](/source-control-environments/using/copy-work.md): How to copy work between different n8n instances.

## push-pull.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Push and pull

description: Send work to Git, and fetch work from Git to your instance.

contentType: howto

---

# Push and pull

If your n8n instance connects to a Git repository, you need to keep your work in sync with Git.

This document assumes some familiarity with Git concepts and terminology. Refer to [Git and n8n](/source-control-environments/understand/git.md) for an introduction to how n8n works with Git.

--8<-- "\_snippets/source-control-environments/one-direction.md"

## Fetch other people's work

/// note | n8n roles control which users can pull (fetch) changes

You must be an instance owner or instance admin to pull changes from git.

///

To pull work from Git, select \*\*Pull\*\* <span class="inline-image">![Pull icon](/\_images/source-control-environments/pull-icon.png){.off-glb}</span> in the main menu.

--8<-- "\_snippets/source-control-environments/push-pull-menu-state.md"

n8n may display a warning about overriding local changes. Select \*\*Pull and override\*\* to override your local work with the content in Git.

When the changes include new variable or credential stubs, n8n notifies you that you need to populate the values for the items before using them.

/// info | How deleted resources are handled

When workflows, credentials, variables, and tags are deleted from the repository, your local versions of these resources aren't deleted automatically. Instead, when you pull repository changes, n8n notifies you about any outdated resources and asks if you'd like to delete them.

///

### Workflow and credential owner may change on pull

When you pull from Git to an n8n instance, n8n tries to assign workflows and credentials to a matching user or project.

If the original owner is a user:

If the same owner is available on both instances (matching email), the owner remains the same. If the original owner isn't on the new instance, n8n sets the user performing the pull as the workflow owner.

If the original owner is a [project](/user-management/rbac/index.md):

n8n tries to match the original project name to a project name on the new instance. If no matching project exists, n8n creates a new project with the name, assigns the current user as project owner, and imports the workflows and credentials to the project.

### Pulling may cause brief service interruption

If you pull changes to an active workflow, n8n sets the workflow to inactive while pulling, then reactivates it. This may result in a few seconds of downtime for the workflow.

## Send your work to Git

/// note | n8n roles control which users can push changes

You must be an instance owner, instance admin, or project admin to push changes to git.

///

--8<-- "\_snippets/source-control-environments/push.md"

## What gets committed

n8n commits the following to Git:

\* Workflows, including their tags and the email address of the workflow owner. You can choose which workflows to push.

\* Credential stubs (ID, name, type)

\* Variable stubs (ID and name)

\* Projects

\* Folders

## Merge behaviors and conflicts

n8n's implementation of source control is opinionated. It resolves merge conflicts for credentials and variables automatically. n8n can't detect conflicts on workflows.

### Workflows

You have to explicitly tell n8n what to do about workflows when pushing or pulling. The Git repository acts as the source of truth.

When pulling, you might get warned that your local copy of a workflow differs from Git, and if you accept, your local copy would be overridden. Be careful not to lose relevant changes when pulling.

When you push, your local workflow will override what's in Git, so make sure that you have the most up to date version or you risk overriding recent changes.

To prevent the issue described above, you should immediately push your changes to a workflow once you finish working on it. Then it's safe to pull.

To avoid losing data:

\* Design your source control setup so that workflows flow in one direction. For example, make edits on a development instance, push to Git, then pull to production. Don't make edits on the production instance and push them.

\* Don't push all workflows. Select the ones you need.

\* Be cautious about manually editing files in the Git repository.

### Credentials, variables and workflow tags

Credentials and variables can't have merge issues, as n8n chooses the version to keep.

On pull:

\* If the tag, variable or credential doesn't exist, n8n creates it.

\* If the tag, variable or credential already exists, n8n doesn't update it, unless:

\* You set the value of a variable using the API or externally. The new value overwrites any existing value.

\* The credential name has changed. n8n uses the version in Git.

\* The name of a tag has changed. n8n updates the tag name. Be careful when renaming tags as tag names are unique and this could cause database issues when it comes to uniqueness during the pull process.

On push:

\* n8n overwrites the entire variables and tags files.

\* If a credential already exists, n8n overwrites it with the changes, but doesn't apply these changes to existing credentials on pull.

/// note | Manage credentials with an external secrets vault

If you need different credentials on different n8n environments, use [external secrets](/external-secrets.md).

///

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: The n8n quickstarts.

contentType: overview

---

# Try it out

The best way to learn n8n is by using our tutorials to get familiar with the user interface and the many different types of nodes and integrations available. Here is a selection of material to get you started:

- Looking for a quick introduction? Check out the ["First Workflow" tutorial](/try-it-out/tutorial-first-workflow.md).

- Interested in what you could do with AI? Find out [how to build an AI chat agent with n8n](/advanced-ai/intro-tutorial.md).

- Prefer to work through extensive examples? Maybe the [courses](/courses/index.md) are for you.

## quickstart.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: A quick example to try out n8n.

contentType: tutorial

---

# The very quick quickstart

This quickstart gets you started using n8n as quickly as possible. Its allows you to try out the UI and introduces two key features: [workflow templates](/glossary.md#template-n8n) and [expressions](/glossary.md#expression-n8n). It doesn't include detailed explanations or explore concepts in-depth.

In this tutorial, you will:

\* Load a [workflow](/glossary.md#workflow-n8n) from the workflow templates library

\* Add a node and configure it using expressions

\* Run your first workflow

## Step one: Sign up for n8n

This quickstart uses [n8n Cloud](/manage-cloud/overview.md). A free trial is available for new users. If you haven't already done so, [sign up](https://app.n8n.cloud/register) for an account now.

## Step two: Open a workflow template

n8n provides a quickstart template using training nodes. You can use this to work with fake data and avoid setting up [credentials](/glossary.md#credential-n8n).

1. Go to [Templates | Very quick quickstart](https://n8n.io/workflows/1700-very-quick-quickstart/).

1. Select \*\*Use workflow\*\* to view the options for using the template.

1. Select \*\*Import template to <name> cloud workspace\*\* to load the template into your Cloud instance.

This workflow:

1. Gets example data from the [Customer Datastore](/integrations/builtin/app-nodes/n8n-nodes-base.n8ntrainingcustomerdatastore.md) node.

2. Uses the [Edit Fields](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) node to extract only the desired data and assigns that data to variables. In this example, you map the customer name, ID, and description.

The individual pieces in an n8n workflow are called [nodes](/glossary.md#node-n8n). Double click a node to explore its settings and how it processes data.

## Step three: Run the workflow

Select \*\*Test Workflow\*\*. This runs the workflow, loading the data from the Customer Datastore node, then transforming it with Edit Fields. You need this data available in the workflow so that you can work with it in the next step.

## Step four: Add a node

Add a third node to message each customer and tell them their description. Use the Customer Messenger node to send a message to fake recipients.

1. Select the \*\*Add node\*\* <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> connector on the Edit Fields node.

2. Search for \*\*Customer Messenger\*\*. n8n shows a list of nodes that match the search.

3. Select \*\*Customer Messenger (n8n training)\*\* to add the node to the [canvas](/glossary.md#canvas-n8n). n8n opens the node automatically.

4. Use [expressions](/code/expressions.md) to map in the \*\*Customer ID\*\* and create the \*\*Message\*\*:

1. In the \*\*INPUT\*\* panel select the \*\*Schema\*\* tab.

2. Drag \*\*Edit Fields1\*\* > \*\*customer\_id\*\* into the \*\*Customer ID\*\* field in the node settings.

2. Hover over \*\*Message\*\*. Select the \*\*Expression\*\* tab, then select the expand button <span class="inline-image">![Add node icon](/\_images/common-icons/open-expression-editor.png){.off-glb}</span> to open the full expressions editor.

3. Copy this expression into the editor:

```

Hi {{ $json.customer\_name }}. Your description is: {{ $json.customer\_description }}

```

5. Close the expressions editor, then close the \*\*Customer Messenger\*\* node by clicking outside the node or selecting \*\*Back to canvas\*\*.

6. Select \*\*Test Workflow\*\*. n8n runs the workflow.

The complete workflow should look like this:

[[ workflowDemo("file:///try-it-out/quickstart/very-quick-quickstart-workflow.json") ]]

## Next steps

\* Read n8n's [longer try it out tutorial](/try-it-out/tutorial-first-workflow.md) for a more complex workflow, and an introduction to more features and n8n concepts.

\* Take the [text courses](/courses/index.md) or [video courses](/video-courses.md).

## tutorial-first-workflow.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Create your first workflow in n8n and learn some key concepts.

contentType: tutorial

---

# Your first workflow

This guide will show you how to construct a [workflow](/glossary.md#workflow-n8n) in n8n, explaining key concepts along the way. You will:

\* Create a workflow from scratch.

\* Understand key concepts and skills, including:

\* Starting workflows with trigger nodes

\* Configuring [credentials](/glossary.md#credential-n8n)

\* Processing data

\* Representing logic in an n8n workflow

\* Using [expressions](/glossary.md#expression-n8n)

!["Screenshot of the completed workflow"](/\_images/try-it-out/tutorial-first.png)

This quickstart uses [n8n Cloud](/manage-cloud/overview.md), which is recommended for new users. A free trial is available - if you haven't already done so, [sign up](https://app.n8n.cloud/register) for an account now.

## Step one: Create a new workflow

When you open n8n, you'll see either:

\* A window with a welcome message and two large buttons: Choose \*\*Start from Scratch\*\* to create a new workflow.

\* The \*\*Workflows\*\* list on the \*\*Overview\*\* page. Select the \*\*Create Workflow\*\* to create a new workflow.

## Step two: Add a trigger node

n8n provides two ways to start a workflow:

\* Manually, by selecting \*\*Test Workflow\*\*.

\* Automatically, using a trigger node as the first node. The trigger node runs the workflow in response to an external event, or based on your settings.

For this tutorial, we'll use the [Schedule trigger](/integrations/builtin/core-nodes/n8n-nodes-base.scheduletrigger/index.md). This allows you to run the workflow on a schedule:

1. Select \*\*Add first step\*\*.

1. Search for \*\*Schedule\*\*. n8n shows a list of nodes that match the search.

1. Select \*\*Schedule Trigger\*\* to add the node to the canvas. n8n opens the node.

1. For \*\*Trigger Interval\*\*, select \*\*Weeks\*\*.

1. For \*\*Weeks Between Triggers\*\*, enter `1`.

1. Enter a time and day. For this example, select \*\*Monday\*\* in \*\*Trigger on Weekdays\*\*, select \*\*9am\*\* in \*\*Trigger at Hour\*\*, and enter `0` in \*\*Trigger at Minute\*\*.

1. Close the node details view to return to the canvas.

## Step three: Add the NASA node and set up credentials

The [NASA node](/integrations/builtin/app-nodes/n8n-nodes-base.nasa.md) interacts with NASA's [public APIs](https://api.nasa.gov/){:target=\_blank .external-link} to fetch useful data. We will use the real-time data from the API to find solar events.

??? explanation "Credentials"

Credentials are private pieces of information issued by apps and services to authenticate you as a user and allow you to connect and share information between the app or service and the n8n node. The type of information required varies depending on the app/service concerned. You should be careful about sharing or revealing the credentials outside of n8n.

1. Select the \*\*Add node\*\* <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> connector on the Schedule Trigger node.

1. Search for \*\*NASA\*\*. n8n shows a list of nodes that match the search.

1. Select \*\*NASA\*\* to view a list of operations.

1. Search for and select \*\*Get a DONKI solar flare\*\*. This operation returns a report about recent solar flares. When you select the operation, n8n adds the node to the canvas and opens it.

1. To access the NASA APIs, you need to set up credentials:

1. Select the \*\*Credential for NASA API\*\* dropdown.

1. Select \*\*Create new credential\*\*. n8n opens the credentials view.

1. Go to [NASA APIs](https://api.nasa.gov/){:target=\_blank .external-link} and fill out the form from the \*\*Generate API Key\*\* link. The NASA site generates the key and emails it to the address you entered.

1. Check your email account for the API key. Copy the key, and paste it into \*\*API Key\*\* in n8n.

1. Select \*\*Save\*\*.

1. Close the credentials screen. n8n returns to the node. The new credentials should be automatically selected in \*\*Credential for NASA API\*\*.

1. By default, DONKI Solar Flare provides data for the past 30 days. To limit it to just the last week, use \*\*Additional Fields\*\*:

1. Select \*\*Add field\*\*.

1. Select \*\*Start date\*\*.

1. To get a report starting from a week ago, you can use an expression: next to \*\*Start date\*\*, select the \*\*Expression\*\* tab, then select the expand button <span class="inline-image">![Add node icon](/\_images/common-icons/open-expression-editor.png){.off-glb}</span> to open the full expressions editor.

1. In the \*\*Expression\*\* field, enter the following expression:

```js

{{ $today.minus(7, 'days') }}

```

This generates a date in the correct format, seven days before the current date.

![image showing the expression above generating a date](/\_images/try-it-out/tutorial-date.png)

??? explanation "Date and time formats in n8n..."

n8n uses Luxon to work with date and time, and also provides two variables for convenience: `$now` and `$today`. For more information, refer to [Expressions > Luxon](/code/cookbook/luxon.md).

1. Close the \*\*Edit Expression\*\* modal to return to the NASA node.

1. You can now check that the node is working and returning the expected date: select \*\*Execute step\*\* to run the node manually. n8n calls the NASA API and displays details of solar flares in the past seven days in the \*\*OUTPUT\*\* section.

1. Close the NASA node to return to the workflow canvas.

## Step four: Add logic with the If node

n8n supports complex logic in workflows. In this tutorial we will use the [If node](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) to create two branches that each generate a report from the NASA data. Solar flares have five possible classifications; we will add logic that sends a report with the lower classifications to one output, and the higher classifications to another.

Add the If node:

1. Select the \*\*Add node\*\* <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> connector on the NASA node.

1. Search for \*\*If\*\*. n8n shows a list of nodes that match the search.

1. Select \*\*If\*\* to add the node to the canvas. n8n opens the node.

1. You need to check the value of the `classType` property in the NASA data. To do this:

1. Drag \*\*classType\*\* into \*\*Value 1\*\*.

/// note | Make sure you ran the NASA node in the previous section

If you didn't follow the step in the previous section to run the NASA node, you won't see any data to work with in this step.

///

1. Change the comparison operation to \*\*String > Contains\*\*.

1. In \*\*Value 2\*\*, enter \*\*X\*\*. This is the highest classification of solar flare. In the next step, you will create two reports: one for X class solar flares, and one for all the smaller solar flares.

1. You can now check that the node is working and returning the expected date: select \*\*Execute step\*\* to run the node manually. n8n tests the data against the condition, and shows which results match true or false in the \*\*OUTPUT\*\* panel.

/// note | Weeks without large solar flares

In this tutorial, you are working with live data. If you find there aren't any X class solar flares when you run the workflow, try replacing \*\*X\*\* in \*\*Value 2\*\* with either \*\*A\*\*, \*\*B\*\*, \*\*C\*\*, or \*\*M\*\*.

///

1. Once you are happy the node will return some events, you can close the node to return to the canvas.

## Step five: Output data from your workflow

The last step of the workflow is to send the two reports about solar flares. For this example, you'll send data to [Postbin](https://www.toptal.com/developers/postbin/){:target=\_blank .external-link}. Postbin is a service that receives data and displays it on a temporary web page.

1. On the If node, select the \*\*Add node\*\* <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> connector labeled \*\*true\*\*.

1. Search for \*\*PostBin\*\*. n8n shows a list of nodes that match the search.

1. Select \*\*PostBin\*\*.

1. Select \*\*Send a request\*\*. n8n adds the node to the canvas and opens it.

1. Go to [Postbin](https://www.toptal.com/developers/postbin/){:target=\_blank .external-link} and select \*\*Create Bin\*\*. Leave the tab open so you can come back to it when testing the workflow.

1. Copy the bin ID. It looks similar to `1651063625300-2016451240051`.

1. In n8n, paste your Postbin ID into \*\*Bin ID\*\*.

1. Now, configure the data to send to Postbin. Next to \*\*Bin Content\*\*, select the \*\*Expression\*\* tab (you will need to mouse-over the \*\*Bin Content\*\* for the tab to appear), then select the expand button <span class="inline-image">![Add node icon](/\_images/common-icons/open-expression-editor.png){.off-glb}</span> to open the full expressions editor.

1. You can now click and drag the correct field from the If Node output into the expressions editor to automatically create a reference for this label. In this case the input we want is 'classType'.

1. Once dropped into the expressions editor it will transform into this reference: `{{$json["classType"]}}`. Add a message to it, so that the full expression is:

```js

There was a solar flare of class {{$json["classType"]}}

```

![image showing the expression above generating output](/\_images/try-it-out/tutorial-expression.png)

1. Close the expressions editor to return to the node.

1. Close the Postbin node to return to the canvas.

1. Add another Postbin node, to handle the \*\*false\*\* output path from the If node:

1. Hover over the Postbin node, then select \*\*Node context menu\*\* <span class="inline-image">![Node context menu icon](/\_images/common-icons/node-context-menu.png){.off-glb}</span> > \*\*Duplicate node\*\* to duplicate the first Postbin node.

1. Drag the \*\*false\*\* connector from the If node to the left side of the new Postbin node.

## Step six: Test the workflow

1. You can now test the entire workflow. Select \*\*Test Workflow\*\*. n8n runs the workflow, showing each stage in progress.

1. Go back to your Postbin bin. Refresh the page to see the output.

1. If you want to use this workflow (in other words, if you want it to run once a week automatically), you need to activate it by selecting the \*\*Active\*\* toggle.

/// note | Time limit

Postbin's bins exist for 30 minutes after creation. You may need to create a new bin and update the ID in the Postbin nodes, if you exceed this time limit.

///

## Congratulations

You now have a fully functioning workflow that does something useful! It should look something like this:

[[ workflowDemo("file:///try-it-out/quickstart/tutorial.json") ]]

Along the way you have discovered:

- How to find the nodes you want and join them together

- How to use expressions to manipulate data

- How to create credentials and attach them to nodes

- How to use logic in your workflows

There are plenty of things you could add to this (perhaps add some more credentials and a node to send you an email of the results), or maybe you have a specific project in mind. Whatever your next steps, the resources linked below should help.

## Next steps

- Interested in what you could do with AI? Find out [how to build an AI chat agent with n8n](/advanced-ai/intro-tutorial.md).

- Take n8n's [text courses](/courses/index.md) or [video courses](/video-courses.md).

- Explore more examples in [workflow templates](https://n8n.io/workflows/){:target=\_blank .external-link}.

## account-types.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: n8n account types

contentType: reference

---

# Account types

There are three account types: owner, admin, and member. The account type affects the user permissions and access.

/// info | Feature availability

To use admin accounts, you need a pro or enterprise plan.

///

/// note | Account types and role types

Account types and role types are different things. Role types are part of [RBAC](/user-management/rbac/index.md).

Every account has one type. The account can have different [role types](/user-management/rbac/role-types.md) for different [projects](/user-management/rbac/projects.md).

///

/// note | Create a member-level account for the owner

n8n recommends that owners create a member-level account for themselves. Owners can see and edit all workflows, credentials, and projects. However, there is no way to see who created a particular workflow, so there is a risk of overriding other people's work if you build and edit workflows as an owner.

///

| Permission | Owner | Admin | Member |

| ---------- |------ | ----- | ------ |

| Manage own email and password | :white\_check\_mark: | :white\_check\_mark: | :white\_check\_mark: |

| Manage own workflows | :white\_check\_mark: | :white\_check\_mark: | :white\_check\_mark: |

| View, create, and use tags | :white\_check\_mark: | :white\_check\_mark: | :white\_check\_mark: |

| Delete tags | :white\_check\_mark: | :white\_check\_mark: | :x: |

| View and share all workflows | :white\_check\_mark: | :white\_check\_mark: | :x: |

| View, edit, and share all credentials | :white\_check\_mark: | :white\_check\_mark: | :x: |

| Set up and use [Source control](/source-control-environments/index.md) | :white\_check\_mark: | :white\_check\_mark: | :x: |

| Create [projects](/user-management/rbac/projects.md) | :white\_check\_mark: | :white\_check\_mark: | :x: |

| View all projects | :white\_check\_mark: | :white\_check\_mark: | :x: |

| Add and remove users | :white\_check\_mark: | :white\_check\_mark: | :x: |

| Access the Cloud dashboard | :white\_check\_mark: | :x: | :x: |

## best-practices.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: User management best practices.

contentType: explanation

---

# Best practices for user management

This page contains advice on best practices relating to user management in n8n.

## All platforms

\* n8n recommends that owners create a member-level account for themselves. Owners can see all workflows, but there is no way to see who created a particular workflow, so there is a risk of overriding other people's work if you build and edit workflows as an owner.

\* Users must be careful not to edit the same workflow simultaneously. It's possible to do it, but the users will overwrite each other's changes.

\* To move workflows between accounts, export the workflow as JSON, then import it to the new account. Note that this action loses the workflow history.

\* Webhook paths must be unique across the entire instance. This means each webhook path must be unique for all workflows and all users. By default, n8n generates a long random value for the webhook path, but users can edit this to their own custom path. If two users set the same path value:

\* The path works for the first workflow that's run or activated.

\* Other workflows will error if they try to run with the same path.

## Self-hosted

If you run n8n behind a reverse proxy, set the following environment variables so that n8n generates emails with the correct URL:

\* `N8N\_HOST`

\* `N8N\_PORT`

\* `N8N\_PROTOCOL`

\* `N8N\_EDITOR\_BASE\_URL`

More information on these variables is available in [Environment variables](/hosting/configuration/environment-variables/index.md).

## cloud-setup.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Set up user management on n8n Cloud

contentType: howto

---

# Set up user management on n8n Cloud

To access user management, upgrade to version 0.195.0 or newer.

/// warning | Irreversible upgrade

Once you upgrade your Cloud instance to an n8n version with user management, you can't downgrade your version.

///

## Step one: In-app setup

--8<-- "\_snippets/user-management/in-app-setup.md"

## Step two: Invite users

--8<-- "\_snippets/user-management/invite-users.md"

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: User management in n8n

contentType: overview

---

# User management

User management in n8n allows you to invite people to work in your n8n instance. It includes:

\* Login and password management

\* Adding and removing users

\* Three [account types](/user-management/account-types.md): \*\*Owner\*\* and \*\*Member\*\* (and \*\*Admin\*\* for Pro & Enterprise plans)

/// note | Privacy

The user management feature doesn't send personal information, such as email or username, to n8n.

///

## Setup guides

<!-- vale off -->

This section contains most usage information for user management, and the [Cloud setup guide](/user-management/cloud-setup.md). If you self-host n8n, there are extra steps to configure your n8n instance. Refer to the [Self-hosted guide](/hosting/configuration/user-management-self-hosted.md).

<!-- vale on -->

This section includes guides to configuring [LDAP](/user-management/ldap.md) and [SAML](/user-management/saml/index.md) in n8n.

## ldap.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Using LDAP with n8n.

contentType: howto

---

# Lightweight Directory Access Protocol (LDAP)

/// info | Feature availability

\* Available on Self-hosted Enterprise and Cloud Enterprise plans.

\* You need access to the n8n instance owner account.

///

This page tells you how to enable LDAP in n8n. It assumes you're familiar with LDAP, and have an existing LDAP server set up.

LDAP allows users to sign in to n8n with their organization credentials, instead of an n8n login.

## Enable LDAP

1. Log in to n8n as the instance owner.

2. Select \*\*Settings\*\* <span class="inline-image">![Settings icon](/\_images/common-icons/settings.png){.off-glb}</span> > \*\*LDAP\*\*.

3. Toggle on \*\*Enable LDAP Login\*\*.

4. Complete the fields with details from your LDAP server.

5. Select \*\*Test connection\*\* to check your connection setup, or \*\*Save connection\*\* to create the connection.

After enabling LDAP, anyone on your LDAP server can sign in to the n8n instance, unless you exclude them using the \*\*User Filter\*\* setting.

You can still create non-LDAP users (email users) on the \*\*Settings\*\* > \*\*Users\*\* page.

## Merging n8n and LDAP accounts

If n8n finds matching accounts (matching emails) for email users and LDAP users, the user must sign in with their LDAP account. n8n instance owner accounts are excluded from this: n8n never converts owner accounts to LDAP users.

## LDAP user accounts in n8n

On first sign in, n8n creates a user account in n8n for the LDAP user.

You must manage user details on the LDAP server, not in n8n. If you update or delete a user on your LDAP server, the n8n account updates at the next scheduled sync, or when the user next tries to log in, whichever happens first.

/// note | User deletion

If you remove a user from your LDAP server, they lose n8n access on the next sync.

///

## Turn LDAP off

To turn LDAP off:

1. Log in to n8n as the instance owner.

2. Select \*\*Settings\*\* <span class="inline-image">![Settings icon](/\_images/common-icons/settings.png){.off-glb}</span> > \*\*LDAP\*\*.

3. Toggle off \*\*Enable LDAP Login\*\*.

If you turn LDAP off, n8n converts existing LDAP users to email users on their next login. The users must reset their password.

## manage-users.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

---

# Manage users

The \*\*Settings\*\* > \*\*Users\*\* page shows all users, including ones with pending invitations.

## Delete a user

1. Select the menu icon by the user you want to delete.

2. Confirm you want to delete them.

3. If they're an active user, choose whether to copy their workflow data and credentials to a new user, or permanently delete their workflows and credentials.

## Resend an invitation to a pending user

Click the menu icon by the user, then click \*\*Resend invite\*\*.

## two-factor-auth.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: How to enable 2FA for your n8n account

contentType: howto

---

# Two-factor authentication (2FA)

Two-factor authentication (2FA) adds a second authentication method on top of username and password. This increases account security. n8n supports 2FA using an authenticator app.

## Enable 2FA

You need an authenticator app on your phone.

To enable 2FA in n8n:

1. Go to you \*\*Settings\*\* > \*\*Personal\*\*.

2. Select \*\*Enable 2FA\*\*. n8n opens a modal with a QR code.

3. Scan the QR code in your authenticator app.

4. Enter the code from your app in \*\*Code from authenticator app\*\*.

5. Select \*\*Continue\*\*. n8n displays recovery codes.

6. Save the recovery codes. You need these to regain access to your account if you lose your authenticator.

## Disable 2FA for your instance

Self-hosted users can configure their n8n instance to disable 2FA for all users by setting `N8N\_MFA\_ENABLED` to false. Note that n8n ignores this if existing users have 2FA enabled. Refer to [Configuration methods](/hosting/configuration/configuration-methods.md) for more information on configuring your n8n instance with environment variables.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

title: Role-based access control (RBAC)

description: Set up and use role-based access control (RBAC) in n8n.

---

# Role-based access control (RBAC)

/// info | Feature availability

RBAC is available on all plans except the Community edition. Different plans have different numbers of projects and roles. Refer to n8n's [pricing page](https://n8n.io/pricing/){:target=\_blank .external-link} for plan details.

///

/// note | Role types and account types

Role types and [account types](/user-management/account-types.md) are different things. Every account has one type. The account can have different role types for different [projects](/user-management/rbac/projects.md).

///

RBAC is a way of managing access to workflows and [credentials](/glossary.md#credential-n8n) based on user roles and projects. You group workflows into projects, and user access depends on the user's project role. This section provides guidance on using RBAC in n8n.

[[% import "\_macros/section-toc.html" as sectionToc %]]

[[ sectionToc.sectionToc(page) ]]

## projects.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RBAC projects

description: Understand how n8n uses project for RBAC. Learn how to create and manage projects.

contentType: howto

---

/// info | Feature availability

RBAC is available on all plans except the Community edition. Different plans have different numbers of projects and roles. Refer to n8n's [pricing page](https://n8n.io/pricing/){:target=\_blank .external-link} for plan details.

///

n8n uses projects to group workflows and [credentials](/glossary.md#credential-n8n), and assigns [roles](/user-management/rbac/role-types.md) to users in each project. This means that a single user can have different roles in different projects, giving them different levels of access.

## Create a project

Instance owners and instance admins can create projects.

To create a project:

1. Select <span class="inline-image">![Plus icon](/\_images/common-icons/plus.png)</span> \*\*Add project\*\*.

1. Fill out the project settings.

1. Select \*\*Save\*\*.

## Add and remove users in a project

Project admins can add and remove users.

To add a user to a project:

1. Select the project.

1. Select \*\*Project settings\*\*.

1. Under \*\*Project members\*\*, browse for users or search by username or email address.

1. Select the user you want to add.

1. Check the [role type](/user-management/rbac/role-types.md) and change it if needed.

1. Select \*\*Save\*\*.

To remove a user from a project:

1. Select the project.

1. Select \*\*Project settings\*\*.

1. In the role type dropdown for the user you want to remove, select \*\*Remove access\*\*.

1. Select \*\*Save\*\*.

## Delete a project

To delete a project:

1. Select the project.

1. Select \*\*Project settings\*\*.

1. Select \*\*Delete project\*\*.

1. Choose what to do with the workflows and credentials. You can select:

\* \*\*Transfer its workflows and credentials to another project\*\*: n8n prompts you to choose a project to move the data to.

\* \*\*Delete its workflows and credentials\*\*: n8n prompts you to confirm that you want to delete all the data in the project.

## Move workflows and credentials between projects or users

Workflow and credential owners can move workflows or credentials (changing ownership) to other users or projects they have access to.

/// warning | Moving revokes sharing

Moving workflows or credentials removes all existing sharing. Be aware that this could impact other workflows currently sharing these resources.

///

1. Select \*\*Workflow menu\*\* <span class="inline-image">![Workflow menu icon](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span> or \*\*Credential menu\*\* <span class="inline-image">![Workflow menu icon](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span> > \*\*Move\*\*.

/// info | Moving workflows with credentials

When moving a workflow with credentials you have permission to share, you can choose to share the credentials as well. This ensures that the workflow continues to have access to the credentials it needs to execute. n8n will note any credentials that can't be moved (credentials you don't have permission to share).

///

1. Select the project or user you want to move to.

1. Select \*\*Next\*\*.

1. Confirm you understand the impact of the move: workflows may stop working if the credentials they need aren't available in the target project, and n8n removes any current individual sharing.

1. Select \*\*Confirm move to new project\*\*.

## Using external secrets in projects

To use [external secrets](/external-secrets.md) in a project, you must have an [instance owner or instance admin](/user-management/account-types.md) as a member of the project.

## role-types.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: RBAC role types

description: Understand the RBAC roles available in n8n, and the access they have.

contentType: reference

---

# RBAC role types

/// info | Feature availability

\* The Project Editor role is available on Pro Cloud and Self-hosted Enterprise plans.

\* The Project Viewer role is only available on Self-hosted Enterprise and Cloud Enterprise plans.

///

Within projects, there are three user roles: Admin, Editor, and Viewer. These roles control what the user can do in a project. A user can have different roles within different projects.

## Project Admin

A Project Admin role has the highest level of permissions. Project admins can:

\* Manage project settings: Change name, delete project.

\* Manage project members: Invite members and remove members, change members' roles.

\* View, create, update, and delete any workflows, credentials, or executions within a project.

## Project Editor

A Project Editor can view, create, update, and delete any workflows, credentials, or executions within a project.

## Project Viewer

A Project Viewer is effectively a `read-only` role with access to all workflows, credentials, and executions within a project.

Viewers aren't able to manually execute any workflows that exist in a project.

/// note | Role types and account types

Role types and [account types](/user-management/account-types.md) are different things. Every account has one type. The account can have different role types for different [projects](/user-management/rbac/projects.md).

///

| Permission | Admin | Editor | Viewer |

| ---------- |------ | ------ | ------ |

| View workflows in the project | :white\_check\_mark: | :white\_check\_mark: | :white\_check\_mark: |

| View credentials in the project | :white\_check\_mark: | :white\_check\_mark: | :white\_check\_mark: |

| View executions | :white\_check\_mark: | :white\_check\_mark: | :white\_check\_mark: |

| Edit credentials and workflows | :white\_check\_mark: | :white\_check\_mark: | :x: |

| Add workflows and credentials | :white\_check\_mark: | :white\_check\_mark: | :x: |

| Execute workflows | :white\_check\_mark: | :white\_check\_mark: | :x: |

| Manage members | :white\_check\_mark: | :x: | :x: |

| Modify the project | :white\_check\_mark: | :x: | :x: |

[Variables](/code/variables.md) and [tags](/workflows/tags.md) aren't affected by RBAC: they're global across the n8n instance.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: overview

---

# Security Assertion Markup Language (SAML)

--8<-- "\_snippets/user-management/saml-overview.md"

## managing.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Manage users with SAML

description: How to manage users and user logins with SAML enabled.

contentType: howto

---

# Manage users with SAML

There are some user management tasks that are affected by SAML.

## Exempt users from SAML

You can allow users to log in without using SAML. To do this:

1. Go to \*\*Settings\*\* > \*\*Users\*\*.

2. Select the menu icon by the user you want to exempt from SAML.

3. Select \*\*Allow Manual Login\*\*.

## Deleting users

If you remove a user from your IdP, they remain logged in to n8n. You need to manually remove them from n8n as well. Refer to [Manage users](/user-management/manage-users.md) for guidance on deleting users.

## okta.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Okta Workforce Identity SAML setup

description: Use Okta Workforce Identity with n8n.

contentType: tutorial

---

# Okta Workforce Identity SAML setup

Set up SAML SSO in n8n with Okta.

/// note | Workforce Identity and Customer Identity

This guide covers setting up Workforce Identity. This is the original Okta product. Customer Identity is Okta's name for Auth0, which they've acquired.

///

## Prerequisites

You need an Okta Workforce Identity account, and the redirect URL and entity ID from n8n's SAML settings.

Okta Workforce may enforce two factor authentication for users, depending on your Okta configuration.

Read the [Set up SAML](/user-management/saml/setup.md) guide first.

## Setup

1. In your Okta admin panel, select \*\*Applications\*\* > \*\*Applications\*\*.

1. Select \*\*Create App Integration\*\*. Okta opens the app creation modal.

1. Select \*\*SAML 2.0\*\*, then select \*\*Next\*\*.

1. On the \*\*General Settings\*\* tab, enter `n8n` as the \*\*App name\*\*.

1. Select \*\*Next\*\* .

1. On the \*\*Configure SAML\*\* tab, complete the following \*\*General\*\* fields:

\* \*\*Single sign-on URL\*\*: the \*\*Redirect URL\*\* from n8n.

\* \*\*Audience URI (SP Entity ID)\*\*: the \*\*Entity ID\*\* from n8n.

\* \*\*Default RelayState\*\*: leave this empty.

\* \*\*Name ID format\*\*: `EmailAddress`.

\* \*\*Application username\*\*: `Okta username`.

\* \*\*Update application username on\*\*: `Create and update`.

1. Create \*\*Attribute Statements\*\*:

| \*\*Name\*\* | \*\*Name format\*\* | \*\*Value\*\* |

| -------- | --------------- | --------- |

| http://schemas.xmlsoap.org/ws/2005/05/identity/claims/firstname | URI Reference | user.firstName |

| http://schemas.xmlsoap.org/ws/2005/05/identity/claims/lastname | URI Reference | user.lastName |

| http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn | URI Reference | user.login |

| http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress | URI Reference | user.email |

1. Select \*\*Next\*\*. Okta may prompt you to complete a marketing form, or may take you directly to your new n8n Okta app.

1. Assign the n8n app to people:

1. On the n8n app dashboard in Okta, select \*\*Assignments\*\*.

1. Select \*\*Assign\*\* > \*\*Assign to People\*\*. Okta displays a modal with a list of available people.

1. Select \*\*Assign\*\* next to the person you want to add. Okta displays a prompt to confirm the username.

1. Leave the username as email address. Select \*\*Save and Go Back\*\*.

1. Select \*\*Done\*\*.

1. Get the metadata XML: on the \*\*Sign On\*\* tab, copy the Metadata URL. Navigate to it, and copy the XML. Paste this into \*\*Identity Provider Settings\*\* in n8n.

1. Select \*\*Save settings\*\*.

1. Select \*\*Test settings\*\*. n8n opens a new tab. If you're not currently logged in, Okta prompts you to sign in. n8n then displays a success message confirming the attributes returned by Okta.

## setup.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Set up SAML

description: Generic setup instructions for using SAML SSO with n8n.

contentType: howto

---

# Set up SAML

/// info | Feature availability

\* Available on Enterprise plans.

\* You need access to the n8n instance owner account to enable and configure SAML

Available from version 0.225.0.

///

This page tells you how to enable SAML SSO (single sign-on) in n8n. It assumes you're familiar with SAML. If you're not, [SAML Explained in Plain English](https://www.onelogin.com/learn/saml){:target=\_blank .external-link} can help you understand how SAML works, and its benefits.

## Enable SAML

1. In n8n, go to \*\*Settings\*\* > \*\*SSO\*\*.

1. Make a note of the n8n \*\*Redirect URL\*\* and \*\*Entity ID\*\*.

1. \*\*Optional\*\*: if your IdP allows you to set up SAML from imported metadata, navigate to the \*\*Entity ID\*\* URL and save the XML.

2. \*\*Optional\*\*: if you are running n8n behind a load balancer make sure you have `N8N\_EDITOR\_BASE\_URL` configured.

1. Set up SAML with your IdP (identity provider). You need the redirect URL and entity ID. You may also need an email address and name for the IdP user.

1. After completing setup in your IdP, load the metadata XML into n8n. You can use a metadata URL or raw XML:

1. \*\*Metadata URL\*\*: Copy the metadata URL from your IdP into the \*\*Identity Provider Settings\*\* field in n8n.

1. \*\*Raw XML\*\*: Download the metadata XML from your IdP, toggle \*\*Identiy Provider Settings\*\* to \*\*XML\*\*, then copy the raw XML into \*\*Identity Provider Settings\*\*.

1. Select \*\*Save settings\*\*.

1. Select \*\*Test settings\*\* to check your SAML setup is working.

1. Set SAML 2.0 to \*\*Activated\*\*.

/// note | SAML Request Type

Please note, n8n currently doesn't support `POST` binding. Please configure your IdP to use `HTTP` request binding instead.

///

## Generic IdP setup

The steps to configure the IdP vary depending on your chosen IdP. These are some common setup tasks:

\* Create an app for n8n in your IdP.

\* Map n8n attributes to IdP attributes:

| Name | Name format | Value (IdP side) |

| ---- | ----------- | ---------------- |

| `http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress` | URI Reference | User email |

| `http://schemas.xmlsoap.org/ws/2005/05/identity/claims/firstname` | URI Reference | User First Name |

| `http://schemas.xmlsoap.org/ws/2005/05/identity/claims/lastname` | URI Reference | User Last Name |

| `http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn` | URI Reference | User Email |

## Setup resources for common IdPs

Documentation links for common IdPs.

| IdP | Documentation |

| --- | ------------- |

| Auth0 | [Configure Auth0 as SAML Identity Provider: Manually configure SSO integrations](https://auth0.com/docs/authenticate/protocols/saml/saml-sso-integrations/configure-auth0-saml-identity-provider#manually-configure-sso-integrations){:target=\_blank .external-link} |

| Authentik | [Applications](https://goauthentik.io/docs/applications){:target=\_blank .external-link} and the [SAML Provider](https://goauthentik.io/docs/providers/saml/){:target=\_blank .external-link} |

| Azure AD | [SAML authentication with Azure Active Directory](https://learn.microsoft.com/en-us/azure/active-directory/fundamentals/auth-saml){:target=\_blank .external-link} |

| JumpCloud | [How to setup SAML (SSO) applications with JumpCloud](https://jumpcloud.com/support/integrate-with-zoom#configuring-the-sso-integration){:target=\_blank .external-link} (using `Zoom` as an example) |

| Keycloak | Choose a [Getting Started](https://www.keycloak.org/guides#getting-started){:target=\_blank .external-link} guide depending on your hosting. |

| Okta | n8n provides a [Workforce Identity setup guide](/user-management/saml/okta.md) |

| PingIdentity | [PingOne SSO](https://docs.pingidentity.com/pingone/getting\_started\_with\_pingone/p1\_p1sso\_start.html){:target=\_blank .external-link} |

## troubleshooting.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Troubleshooting SAML SSO

description: A list of things to check if you encounter issues with SAML.

contentType: howto

---

# Troubleshooting SAML SSO

If you get an error when testing your SAML setup, check the following:

\* Does the app you created in your IdP support SAML?

\* Did you enter the n8n redirect URL and entity ID in the correct fields in your IdP?

\* Is the metadata XML correct? Check that the metadata you copied into n8n is formatted correctly.

For more support, use the [forum](https://community.n8n.io/){:target=\_blank .external-link}, or contact your support representative if you have a paid support plan.

## create.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Create, run, and activate workflows.

contentType: howto

---

# Create a workflow

A [workflow](/glossary.md#workflow-n8n) is a collection of nodes connected together to automate a process. You build workflows on the [workflow canvas](/glossary.md#canvas-n8n).

## Create a workflow

1. Select the <span class="inline-image">![universal create resource icon](/\_images/common-icons/universal-resource-button.png){.off-glb}</span> \*\*button\*\* in the upper-left corner of the side menu. Select workflow.

2. If your n8n instance supports projects, you'll also need to choose whether to create the workflow inside your \*\*personal space\*\* or a specific \*\*project\*\* you have access to. If you're using the community version, you'll always create workflows inside your personal space.

3. Get started by adding a trigger node: select \*\*Add first step...\*\*

Or:

1. Select the <span class="inline-image">![universal create resource icon](/\_images/common-icons/universal-resource-button.png){.off-glb}</span> \*\*create\*\* button in the upper-right corner from either the \*\*Overview\*\* page or a specific \*\*project\*\*. Select workflow.

2. If you're doing this from the \*\*Overview\*\* page, you'll create the workflow inside your personal space. If you're doing this from inside a project, you'll create the workflow inside that specific project.

3. Get started by adding a trigger node: select \*\*Add first step...\*\*

If it's your first time building a workflow, you may want to use the [quickstart guides](/try-it-out/index.md) to quickly try out n8n features.

## Run workflows manually

You may need to run your workflow manually when building and testing, or if your workflow doesn't have a trigger node.

To run manually, select \*\*Test Workflow\*\*.

## Run workflows automatically

All new workflows are inactive by default.

You need to activate workflows that start with a trigger node or Webhook node so that they can run automatically. When a workflow is inactive, you must run it manually.

To activate or deactivate your workflow, open your workflow and toggle \*\*Inactive\*\* / \*\*Active\*\*.

Once a workflow is active, it runs whenever its trigger conditions are met.

## export-import.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Export and import workflows

description: Different ways to export and import workflows in n8n.

contentType: howto

---

# Export and import workflows

n8n saves workflows in JSON format. You can export your workflows as JSON files or import JSON files into your n8n library.

You can export and import workflows in several ways.

--8<-- "\_snippets/workflows/sharing-credentials.md"

## Copy-Paste

You can copy and paste a workflow or parts of it by selecting the nodes you want to copy to the clipboard (`Ctrl + c` or `cmd +c`) and pasting it (`Ctrl + v` or `cmd + v`) into the Editor UI.

To select all nodes or a group of nodes, click and drag:

![Select a group of nodes](/\_images/workflows/export-import/selectingnodes.gif)

## From the Editor UI menu

From the top navigation bar, select the three dots in the upper right <img alt="Workflow menu icon" class="off-glb" src="/\_images/common-icons/three-dots-horizontal.png"> to see the following options:

<figure><img src="/\_images/courses/level-one/chapter-six/l1-c6-import-export-menu.png" alt="Import/Export menu" style="width:100%"><figcaption align = "center"><i>Import & Export workflows menu</i></figcaption></figure>

\* \*\*Download\*\*: Downloads your current workflow as a JSON file to your computer.

\* \*\*Import from URL\*\*: Imports workflow JSON from a URL, for example, [this workflow JSON file on GitHub](https://raw.githubusercontent.com/n8n-io/demo-setup/main/n8n/backup/workflows/srOnR8PAY3u4RSwb.json){:target=\_blank .external-link}.

\* \*\*Import from File\*\*: Imports a workflow as a JSON file from your computer.

## From the command line

\* Export: See the [full list of commands ](/hosting/cli-commands.md#export-workflows-and-credentials){:target="\_blank" .external} for exporting workflows or credentials.

\* Import: See the [full list of commands ](/hosting/cli-commands.md#import-workflows-and-credentials){:target="\_blank" .external} for importing workflows or credentials.

## history.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Workflow history

description: View and restore previous versions of your workflow.

contentType: howto

---

# Workflow history

/// info | Feature availability

\* Full workflow history is available on Enterprise Cloud and Enterprise Self-hosted.

\* Versions from the last five days are available for Cloud Pro users.

\* Versions from the last 24 hours are available for registered Community users.

///

Use workflow history to view and restore previous versions of your workflows.

## Understand workflow history

n8n creates a new version when you:

\* Save your workflow.

\* Restore an old version. n8n saves the latest version before restoring.

\* Pull from a Git repository using [Source control](/source-control-environments/index.md). Note that n8n saves versions to the instance database, not to Git.

/// note | Workflow history and execution history

Don't confuse workflow history with the [Workflow-level executions list](/workflows/executions/single-workflow-executions.md).

Executions are workflow runs. With the executions list, you can see previous runs of the current version of the workflow. You can copy previous executions into the editor to [Debug and re-run past executions](/workflows/executions/debug.md) in your current workflow.

Workflow history is previous versions of the workflow: for example, a version with a different node, or different parameters set.

///

## View workflow history

To view a workflow's history:

1. Open the workflow.

1. Select \*\*Workflow history\*\* <span class="inline-image">![Workflow history icon](/\_images/common-icons/workflow-history.png){.off-glb}</span>. n8n opens a menu showing the saved workflow versions, and a canvas with a preview of the selected version.

## Restore or copy previous versions

You can restore a previous workflow version, or make a copy of it:

1. On the version you want to restore or copy, select \*\*Options\*\* <span class="inline-image">![Options icon](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span>.

1. Choose what you want to do:

\* \*\*Restore this version\*\*: replace your current workflow with the selected version.

\* \*\*Clone to new workflow\*\*: create a new workflow based on the selected version.

\* \*\*Open version in new tab\*\*: open a second tab displaying the selected version. Use this to compare versions.

\* \*\*Download\*\*: download the version as JSON.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: "Learn about the key components of automation in n8n."

contentType: overview

---

# Workflows

A [workflow](/glossary.md#workflow-n8n) is a collection of nodes connected together to automate a process.

\* [Create](/workflows/create.md) a workflow.

\* Use [Workflow templates](/workflows/templates.md) to help you get started.

\* Learn about the key [components](/workflows/components/index.md) of an automation in n8n.

\* Debug using the [Executions](/workflows/executions/index.md) list.

\* [Share](/workflows/sharing.md) workflows between users.

If it's your first time building a workflow, you may want to use the [quickstart guides](/try-it-out/index.md) to quickly try out n8n features.

## settings.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Manage settings for an individual workflow.

contentType: howto

---

# Workflow settings

You can customize workflow behavior for individual workflows using workflow settings.

To open the settings:

1. Open your workflow.

2. Select the \*\*Options\*\* <span class="inline-image">![Options menu](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span> menu.

3. Select \*\*Settings\*\*. n8n opens the \*\*Workflow settings\*\* modal.

The following settings are available:

\* \*\*Execution order\*\*: choose the execution order for multi-branch workflows. \*\*v0 (legacy)\*\* executes the first node of each branch, then the second node of each branch, and so on. \*\*v1 (recommended)\*\* executes each branch in turn, completing one branch before starting another. n8n orders the branches based on their position on the [canvas](/glossary.md#canvas-n8n), from topmost to bottommost. If two branches are at the same height, the leftmost branch executes first.

\* \*\*Error Workflow\*\*: select a workflow to trigger if the current workflow fails. See [Error workflows](/flow-logic/error-handling.md) for more details.

\* \*\*This workflow can be called by\*\*: choose whether other workflow can call this workflow.

\* \*\*Timezone\*\*: sets the timezone for the workflow to use. The default timezone is EDT (New York). The timezone setting is important for the Schedule Trigger node.

\* \*\*Save failed production executions\*\*: whether n8n should save failed executions for active workflows.

\* \*\*Save successful production executions\*\*: whether n8n should save successful executions for active workflows.

\* \*\*Save manual executions\*\*: whether n8n should save executions for workflows started by the user in the editor.

\* \*\*Save execution progress\*\*: whether n8n should save execution data for each node. If set to \*\*Save\*\*, the workflow resumes from where it stopped in case of an error. This might increase latency.

\* \*\*Timeout Workflow\*\*: toggle to enable setting a duration after which n8n should cancel the current workflow execution.

\* \*\*Timeout After\*\*: Set the time in hours, minutes, and seconds after which the workflow should timeout. For n8n Cloud users n8n enforces a maximum available timeout for each plan.

## sharing.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Share workflows between users.

contentType: howto

---

# Workflow sharing

/// info | Feature availability

Available on Pro and Enterprise Cloud plans, and Enterprise self-hosted plans.

///

Workflow sharing allows you to share workflows between users of the same n8n instance.

Users can share workflows they created. Instance owners, and users with the admin role, can view and share all workflows in the instance. Refer to [Account types](/user-management/account-types.md) for more information about owners and admins.

## Share a workflow

1. Open the workflow you want to share.

2. Select \*\*Share\*\*.

3. In \*\*Add users\*\*, find and select the users you want to share with.

4. Select \*\*Save\*\*.

## View shared workflows

You can browse and search workflows on the \*\*Workflows\*\* list. The workflows in the list depend on the project:

\* \*\*Overview\*\* lists all workflows you can access. This includes:

\* Your own workflows.

\* Workflows shared with you.

\* Workflows in projects you're a member of.

\* If you log in as the instance owner or admin: all workflows in the instance.

\* Other projects: all workflows in the project.

## Workflow roles and permissions

There are two workflow roles: creator and editor. The creator is the user who created the workflow. Editors are other users with access to the workflow.

You can't change the workflow owner, except when deleting the user.

/// note | Credentials

Workflow sharing allows editors to use all [credentials](/glossary.md#credential-n8n) used in the workflow. This includes credentials that aren't explicitly shared with them using [credential sharing](/credentials/credential-sharing.md).

///

### Permissions

| Permissions | Creator | Editor |

| ----------- | ------- | ------ |

| View workflow (read-only) | :white\_check\_mark: | :white\_check\_mark: |

| View executions | :white\_check\_mark: | :white\_check\_mark: |

| Update (including tags) | :white\_check\_mark: | :white\_check\_mark: |

| Run | :white\_check\_mark: | :white\_check\_mark: |

| Share | :white\_check\_mark: | :x: |

| Export | :white\_check\_mark: | :white\_check\_mark: |

| Delete | :white\_check\_mark: | :x: |

## Node editing restrictions with unshared credentials

Sharing in n8n works on the principle of least privilege. This means that if a user shares a workflow with you, but they don't share their credentials, you can't edit the nodes within the workflow that use those credentials. You can view and run the workflow, and edit nodes that don't use unshared credentials.

Refer to [Credential sharing](/credentials/credential-sharing.md) for guidance on sharing credentials.

## subworkflow-conversion.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Sub-workflow conversion

description: Select nodes in your workflow and convert them into a sub-workflow.

contentType: howto

---

# Sub-workflow conversion

/// info | Feature availability

Available on all plans from n8n version 1.97.0.

///

Use sub-workflow conversion to refactor your workflows into reusable parts. Expressions referencing other nodes are automatically updated and added as parameters in the [Execute Workflow Trigger](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflowtrigger.md) node.

See [sub-workflows](/flow-logic/subworkflows.md) for a general introduction to the concept.

## Selecting nodes for a sub-workflow

To convert part of a workflow to a sub-workflow, you must select the nodes in the original workflow that you want to convert.

Do this by selecting a group of valid nodes. The selection must be continuous and must connect to the rest of the workflow from at most one start node and one end node. The selection must fulfill these conditions:

- Must not include trigger nodes.

- Only a single node in the selection can have incoming connections from nodes \*outside\* of the selection.

- That node can have multiple incoming connections, but only a single input \*branch\* (which means it can't be a [Merge node](/integrations/builtin/core-nodes/n8n-nodes-base.merge.md) for example).

- That node can't have incoming connections from other nodes in the selection.

- Only a single node in the selection can have outgoing connections to nodes \*outside\* of the selection.

- That node can have multiple outgoing connections, but only a single output branch (it can't be an [If node](/integrations/builtin/core-nodes/n8n-nodes-base.if.md) for example).

- That node can't have outgoing connections to other nodes in the selection.

- The selection must include all nodes between the input and output nodes.

## How to convert part of a workflow to a sub-workflow

Select the desired nodes on the canvas. Right-click the canvas background and select \*\*Convert to sub-workflow\*\*.

## Things to keep in mind

Most sub-workflow conversions work without issues, but there are some caveats and limitations to keep in mind:

\* \*\*You must set type constraints for input and output manually\*\*: By default, sub-workflow input and output allow all types. You can set expected types in sub-workflow's [Execute Sub-workflow Trigger node](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflowtrigger.md) and [Edit Fields (set) node](/integrations/builtin/core-nodes/n8n-nodes-base.set.md) (labeled as \*\*Return\*\* and only included if the sub-workflow has outputs).

\* \*\*Limited support for AI nodes\*\*: When dealing with sub-nodes like AI tools, you must select them all and may need to duplicate any nodes shared with other AI Agents before conversion.

- \*\*Uses v1 execution ordering:\*\* New workflows use [`v1` execution ordering](/flow-logic/execution-order.md) regardless of the parent workflow's settings - you can change this back in the settings.

\* \*\*Accessor functions like `first()`, `last()`, and `all()` require extra care\*\*: Expressions using these functions don't always translate cleanly to a sub-workflow context. n8n may transform them to try to preserve their functionality, but you should check that they work as intended in their new context.

/// note | Sub-node parameter suffixes

n8n adds suffixes like `\_firstItem`, `\_lastItem`, and `\_allItems` to variable names accessed by these functions. This helps preserve information about the original expression, since item ordering may be different in the sub-workflow context.

///

<!-- vale Vale.Spelling = NO -->

\* \*\*The `itemMatching` function requires a fixed index\*\*: You can't use expressions for the index value when using the [`itemMatching` function](/code/builtin/output-other-nodes.md). You must pass it a fixed number.

<!-- vale Vale.Spelling = YES -->

## tags.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Workflow tags

description: Use tags to label workflows, making it easier to browse your workflows.

contentType: howto

---

# Tags

Workflow tags allow you to label your workflows. You can then filter workflows by tag.

Tags are global. This means when you create a tag, it's available to all users on your n8n instance.

## Add a tag to a workflow

To add a tag to your workflow:

1. In your workflow, select \*\*+ Add tag\*\*.

2. Select an existing tag, or enter a new tag name.

3. Once you select a tag and click away from the tag modal, n8n displays the tag next to the workflow name.

You can add more than one tag.

## Filter by tag

When browsing the workflows on your instance, you can filter by tag.

1. On the \*\*Workflows\*\* page, select \*\*Filters\*\*.

2. Select \*\*Tags\*\*.

3. Select the tag or tags you want to filter by. n8n lists the workflows with that tag.

## Manage tags

You can edit existing tags. Instance owners can delete tags.

1. Select \*\*Manage tags\*\*. This is available from \*\*Filters\*\* > \*\*Tags\*\* on the \*\*Workflows\*\* page, or in the \*\*+ Add tag\*\* modal in your workflow.

2. Hover over the tag you want to change.

3. Select \*\*Edit\*\* <span class="inline-image">![Add node icon](/\_images/common-icons/edit.png){.off-glb}</span> to rename it, or \*\*Delete\*\* <span class="inline-image">![Add node icon](/\_images/common-icons/delete.png){.off-glb}</span> to delete it.

/// warning | Global tags

Tags are global. If you edit or delete a tag, this affects all users of your n8n instance.

///

## templates.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Use workflow templates

contentType: howto

---

# Workflow templates

When creating a new workflow, you can choose whether to start with an empty workflow, or use an existing [template](/glossary.md#template-n8n).

Templates provide:

\* Help getting started: n8n might already have a template that does what you need.

\* Examples of what you can build

\* Best practices for creating your own workflows

## Access templates

Select <span class="inline-image">![View templates icon](/\_images/common-icons/templates.png){.off-glb}</span> \*\*Templates\*\* to view the templates library.

If you use n8n's template library, this takes you to browse [Workflows on the n8n website](https://n8n.io/workflows/){:target=\_blank .external-link}. If you use a custom library provided by your organization, you'll be able to search and browse the templates within the app.

## Add your workflow to the n8n library

--8<-- "\_snippets/workflows/templates/submit-templates.md"

## Self-hosted n8n: Use your own library

--8<-- "\_snippets/workflows/templates/custom-templates-library.md"

## workflow-id.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Find your workflow ID.

contentType: howto

---

# Find your workflow ID

Your workflow ID is available in:

\* The URL of the open workflow.

\* The workflow settings title.

## connections.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: A connection establishes a link between nodes to route data through the workflow.

contentType: howto

---

# Connections

A connection establishes a link between nodes to route data through the workflow. A connection between two nodes passes data from one node's output to another node's input.

![Example of creating and deleting a connection](/\_images/workflows/components/connections/example.gif)

## Create a connection

To create a connection between two nodes, select the grey dot or \*\*Add node\*\* <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> on the right side of a node and slide the arrow to the grey rectangle on the left side of the following node.

## Delete a connection

Hover over the connection, then select \*\*Delete\*\* <span class="inline-image">![Delete connector icon](/\_images/common-icons/delete-connector.png){.off-glb}</span>.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Learn about the building blocks of workflows.

contentType: overview

---

# Workflow components

This section contains:

\* [Nodes](/workflows/components/nodes.md): integrations and operations.

\* [Connections](/workflows/components/connections.md): node connectors.

\* [Sticky notes](/workflows/components/sticky-notes.md): document your workflows.

## nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: A node is an entry point for retrieving data, a function to process data, or an exit for sending data.

contentType: howto

---

# Nodes

[Nodes](/glossary.md#node-n8n) are the key building blocks of a [workflow](/glossary.md#workflow-n8n). They perform a range of actions, including:

\* Starting the workflow.

\* Fetching and sending data.

\* Processing and manipulating data.

n8n provides a collection of built-in nodes, as well as the ability to create your own nodes. Refer to:

\* [Built-in integrations](/integrations/builtin/node-types.md) to browse the node library.

\* [Community nodes](/integrations/community-nodes/installation/index.md) for guidance on finding and installing community-created nodes.

\* [Creating nodes](/integrations/creating-nodes/overview.md) to start building your own nodes.

## Add a node to your workflow

### Add a node to an empty workflow

1. Select \*\*Add first step\*\*. n8n opens the nodes panel, where you can search or browse [trigger nodes](/glossary.md#trigger-node-n8n).

2. Select the trigger you want to use.

/// note | Choose the correct app event

If you select \*\*On App Event\*\*, n8n shows a list of all the supported services. Use this list to browse n8n's integrations and trigger a workflow in response to an event in your chosen service. Not all integrations have triggers. To see which ones you can use as a trigger, select the node. If a trigger is available, you'll see it at the top of the available operations list.

For example, this is the trigger for Asana:

![Screenshot of the Asana node operations list, showing the Recommended section at the top of the list](/\_images/workflows/components/nodes/recommended-trigger.png)

///

### Add a node to an existing workflow

Select the \*\*Add node\*\* <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span> connector. n8n opens the nodes panel, where you can search or browse all nodes.

--8<-- "\_snippets/integrations/builtin/node-operations.md"

## Node controls

To view node controls, hover over the node on the canvas:

\* \*\*Execute step\*\* <span class="inline-image">![Execute step icon](/\_images/common-icons/play-node.png){.off-glb}</span>: Run the node.

\* \*\*Deactivate\*\* <span class="inline-image">![Deactivate node icon](/\_images/common-icons/power-off.png){.off-glb}</span>: Deactivate the node.

\* \*\*Delete\*\* <span class="inline-image">![Delete node icon](/\_images/common-icons/delete-node.png){.off-glb}</span>: Delete the node.

\* \*\*Node context menu\*\* <span class="inline-image">![Node context menu icon](/\_images/common-icons/node-context-menu.png){.off-glb}</span>: Select node actions. Available actions:

\* Open node

\* Execute step

\* Rename node

\* Deactivate node

\* Pin node

\* Copy node

\* Duplicate node

\* Select all

\* Clear selection

\* Delete node

## Node settings

The node settings under the \*\*Settings\*\* tab allow you to control node behaviors and add node notes.

When active or set, they do the following:

\* \*\*Request Options\*\*: Select \*\*Add Option\*\* to view and select these options.

- \*\*Batching\*\*: Control how to batch large numbers of input items.

- \*\*Ignore SSL Issues\*\*: Download the response even if SSL validation isn't possible.

- \*\*Proxy\*\*: Use this if you need to specify an HTTP proxy.

- \*\*Timeout\*\*: Set a timeout for the request in ms.

\* \*\*Always Output Data\*\*: The node returns an empty item even if the node returns no data during execution. Be careful setting this on IF nodes, as it could cause an infinite loop.

\* \*\*Execute Once\*\*: The node executes once, with data from the first item it receives. It doesn't process any extra items.

\* \*\*Retry On Fail\*\*: When an execution fails, the node reruns until it succeeds.

\* \*\*On Error\*\*:

- \*\*Stop Workflow\*\*: Halts the entire workflow when an error occurs, preventing further node execution.

- \*\*Continue\*\*: Proceeds to the next node despite the error, using the last valid data.

- \*\*Continue (using error output)\*\*: Continues workflow execution, passing error information to the next node for potential handling.

You can document your workflow using node notes:

\* \*\*Notes\*\*: Note to save with the node.

\* \*\*Display note in flow\*\*: If active, n8n displays the note in the workflow as a subtitle.

## sticky-notes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Annotate your workflows using sticky notes.

contentType: howto

---

# Sticky Notes

Sticky Notes allow you to annotate and comment on your workflows.

n8n recommends using Sticky Notes heavily, especially on [template workflows](/glossary.md#template-n8n), to help other users understand your workflow.

![Screenshot of a basic workflow with an example sticky note](/\_images/workflows/components/stickies/example-sticky-note.png)

## Create a Sticky Note

Sticky Notes are a core node. To add a new Sticky Note:

1. Open the nodes panel.

2. Search for `note`.

3. Click the \*\*Sticky Note\*\* node. n8n adds a new Sticky Note to the canvas.

## Edit a Sticky Note

1. Double click the Sticky Note you want to edit.

2. Write your note. [This guide](https://commonmark.org/help/) explains how to format your text with Markdown. n8n uses [markdown-it](https://github.com/markdown-it/markdown-it), which implements the CommonMark specification.

3. Click away from the note, or press `Esc`, to stop editing.

## Change the color

To change the Sticky Note color:

1. Hover over the Sticky Note

1. Select \*\*Change color\*\* <span class="inline-image">![Change Sticky Note color icon](/\_images/common-icons/change-color.png){.off-glb}</span>

## Sticky Note positioning

You can:

\* Drag a Sticky Note anywhere on the canvas.

\* Drag Sticky Notes behind nodes. You can use this to visually group nodes.

\* Resize Sticky Notes by hovering over the edge of the note and dragging to resize.

\* Change the color: select \*\*Options\*\* <span class="inline-image">![Options icon](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span> to open the color selector.

## Writing in Markdown

Sticky Notes support Markdown formatting. This section describes some common options.

```

The text in double asterisks will be \*\*bold\*\*

The text in single asterisks will be \*italic\*

Use # to indicate headings:

# This is a top-level heading

## This is a sub-heading

### This is a smaller sub-heading

You can add links:

[Example](https://example.com/)

Create lists with asterisks:

\* Item one

\* Item two

Or created ordered lists with numbers:

1. Item one

2. Item two

```

For a more detailed guide, refer to [CommonMark's help](https://commonmark.org/help/). n8n uses [markdown-it](https://github.com/markdown-it/markdown-it), which implements the CommonMark specification.

## Make images full width

You can force images to be 100% width of the sticky note by appending `#full-width` to the filename:

```markdown

![Source example](https://<IMAGE-URL>/<IMAGE-NAME>.png#full-width)

```

## Embed a YouTube video

To display a YouTube video in a note, use the `@[youtube](<video-id>)` directive with the video's ID. For this to work, the video's creator must allow embedding.

For example:

```markdown

@[youtube](ZCuL2e4zC\_4)

```

To embed your own video, copy the above syntax, replacing `ZCuL2e4zC\_4` with your video ID. The YouTube video ID is the string that follows `v=` in the YouTube URL.

## all-executions.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: View and filter all executions for all workflows.

contentType: howto

---

# All executions

To view \*\*all executions\*\* from an n8n instance, navigate to the \*\*Overview\*\* page and then click into the Executions tab. This will show you all executions from the workflows you have access to.

If your n8n instance supports \*\*projects\*\*, you'll also be able to view the executions tab within projects you have access to. This will show you executions only from the workflows within the specified project.

/// note | Deleted workflows

When you delete a workflow, n8n deletes its execution history as well. This means you can't view executions for deleted workflows.

///

## Filter executions

You can filter the executions list:

1. Select the \*\*Executions\*\* tab either from within the \*\*Overview\*\* page or a specific \*\*project\*\* to open the list.

2. Select \*\*Filters\*\*.

3. Enter your filters. You can filter by:

\* \*\*Workflows\*\*: choose all workflows, or a specific workflow name.

\* \*\*Status\*\*: choose from \*\*Failed\*\*, \*\*Running\*\*, \*\*Success\*\*, or \*\*Waiting\*\*.

\* \*\*Execution start\*\*: see executions that started in the given time.

\* \*\*Saved custom data\*\*: this is data you create within the workflow using the Code node. Enter the key and value to filter. Refer to [Custom executions data](/workflows/executions/custom-executions-data.md) for information on adding custom data.

--8<-- "\_snippets/workflows/executions/custom-execution-data-availability.md"

## Retry failed workflows

If your workflow execution fails, you can retry the execution. To retry a failed workflow:

1. Select the \*\*Executions\*\* tab from within either the \*\*Overview\*\* page or a specific \*\*project\*\* to open the list.

2. On the execution you want to retry, select \*\*Retry execution\*\* <span class="inline-image">![Options menu icon](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span>.

--8<-- "\_snippets/workflows/executions/retry-options.md"

## Load data from previous executions into your current workflow

You can load data from a previous workflow back into the canvas. Refer to [Debug executions](/workflows/executions/debug.md) for more information.

## custom-executions-data.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Add custom data to your workflow executions using the Code node. You can then filter executions by this data.

contentType: howto

---

# Custom executions data

You can set custom data on your workflow using the Code node or the [Execution Data node](/integrations/builtin/core-nodes/n8n-nodes-base.executiondata.md). n8n records this with each execution. You can then use this data when filtering the executions list, or fetch it in your workflows using the Code node.

--8<-- "\_snippets/workflows/executions/custom-execution-data-availability.md"

## Set and access custom data using the Code node

This section describes how to set and access data using the Code node. Refer to [Execution Data node](/integrations/builtin/core-nodes/n8n-nodes-base.executiondata.md) for information on using the Execution Data node to set data. You can't retrieve custom data using the Execution Data node.

### Set custom executions data

Set a single piece of extra data:

=== "JavaScript"

```js

$execution.customData.set("key", "value");

```

=== "Python"

```python

\_execution.customData.set("key", "value");

```

Set all extra data. This overwrites the whole custom data object for this execution:

=== "JavaScript"

```js

$execution.customData.setAll({"key1": "value1", "key2": "value2"})

```

=== "Python"

```python

\_execution.customData.setAll({"key1": "value1", "key2": "value2"})

```

There are limitations:

\* They must be strings

\* `key` has a maximum length of 50 characters

\* `value` has a maximum length of 255 characters

\* n8n supports a maximum of 10 items of custom data

### Access the custom data object during execution

You can retrieve the custom data object, or a specific value in it, during an execution:

<!-- vale off -->

=== "JavaScript"

```js

// Access the current state of the object during the execution

const customData = $execution.customData.getAll();

// Access a specific value set during this execution

const customData = $execution.customData.get("key");

```

=== "Python"

```python

# Access the current state of the object during the execution

customData = \_execution.customData.getAll();

# Access a specific value set during this execution

customData = \_execution.customData.get("key");

```

<!-- vale on -->

## debug.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

contentType: howto

title: Debug and re-run past executions

description: How to copy execution data into your current workflow in order to debug previous executions.

---

# Debug and re-run past executions

/// info | Feature availability

Available on n8n Cloud and registered Community plans.

///

You can load data from a previous execution into your current workflow. This is useful for debugging data from failed production executions: you can see a failed execution, make changes to your workflow to fix it, then re-run it with the previous execution data.

## Load data

To load data from a previous execution:

1. In your workflow, select the \*\*Executions\*\* tab to view the \*\*Executions\*\* list.

1. Select the execution you want to debug. n8n displays options depending on whether the workflow was successful or failed:

\* For failed executions: select \*\*Debug in editor\*\*.

\* For successful executions: select \*\*Copy to editor\*\*.

1. n8n copies the execution data into your current workflow, and [pins the data](/data/data-pinning.md) in the first node in the workflow.

/// note | Check which executions you save

The executions available on the \*\*Executions\*\* list depends on your [Workflow settings](/workflows/settings.md).

///

## dirty-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Dirty nodes

description: What dirty nodes are and how they affect workflow execution.

contentType: explanation

---

# Dirty nodes

A \*\*dirty node\*\* is a node that executed successfully in the past, but whose output n8n now considers stale or unreliable. They're labeled like this to indicate that if the node executes again, the output may be different. It may also be the point where a [partial execution](/workflows/executions/manual-partial-and-production-executions.md#partial-executions) starts from.

## How to recognize dirty node data

In the canvas of the workflow editor, you can identify dirty notes by their different-colored border and a yellow triangle in place of the previous green tick symbol. For example:

!["Image of node displayed with yellow border"](/\_images/workflows/executions/dirty-node-canvas.png)

In the node editor view, the output panel also displays a yellow triangle on the output panel. If you hover over the triangle, a tooltip appears with more information about why n8n considers the data stale:

!["Image of node displayed with yellow border"](/\_images/workflows/executions/dirty-node-editor.png)

## Why n8n marks nodes dirty

There are several reasons why n8n might flag execution data as stale. For example:

- Inserting or deleting a node: labels the first node that follows the inserted node dirty.

- Modifying node parameters: labels the modified node dirty.

- Adding a connector: labels the destination node of the new connector dirty.

- Deactivating a node: labels the first node that follows the deactivated node dirty.

??? explanation "Other reasons n8n marks nodes dirty"

- Unpinning a node: labels the unpinned node dirty.

- Modifying pinned data: labels the node that comes after the pinned data dirty.

- If any of the above actions occur inside a loop, also labels the first node of the loop dirty.

For sub-nodes, also labels any executed parent nodes (up to and including the root) when:

- Editing an executed sub-node

- Adding a new sub-node

- Disconnecting or deleting a sub-node

- Deactivating a sub-node

- Activating a sub-node

<div class="grid cards" markdown>

- When deleting a connected node in a workflow:

!["Image of node displayed with yellow border"](/\_images/workflows/executions/dirty-before.png)

- The next node in the sequence becomes dirty:

!["Image of node displayed with yellow border"](/\_images/workflows/executions/dirty-after.png)

</div>

When using loops (with the [Loop over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) node), when any node within the loop is dirty, the initial node of the loop is also considered dirty:

!["Image of node displayed with yellow border"](/\_images/workflows/executions/dirty-loop.png)

## Resolving dirty nodes

Executing a node again clears its dirty status. You can do this manually by triggering the whole workflow, or by running a [partial execution](/workflows/executions/manual-partial-and-production-executions.md#partial-executions) with \*\*Execute step\*\* on the individual node or any node which follows it.

## index.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: An execution is a single run of a workflow.

contentType: overview

---

# Executions

An execution is a single run of a workflow.

## Execution modes

There are two execution modes:

\* Manual: run workflows manually when testing. Select \*\*Test Workflow\*\* to start a manual execution. You can do manual executions of active workflows, but n8n recommends keeping your workflow set to \*\*Inactive\*\* while developing and testing.

\* Production: a production workflow is one that runs automatically. To enable this, set the workflow to \*\*Active\*\*.

## Execution lists

n8n provides two execution lists:

\* [Workflow-level executions](/workflows/executions/single-workflow-executions.md): this execution list shows the executions for a single workflow.

\* [All executions](/workflows/executions/all-executions.md): this list shows all executions for all your workflows.

n8n supports [adding custom data to executions](/workflows/executions/custom-executions-data.md).

## manual-partial-and-production-executions.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: Manual, partial, and production executions

description: How manual, partial, and automatic workflow executions differ.

contentType: explanation

---

# Manual, partial, and production executions

There are some important differences in how n8n executes workflows manually (by clicking the \*\*Test Workflow\*\* button) and automatically (when the workflow is \*\*Active\*\* and triggered by an event or schedule).

## Manual executions

Manual executions allow you to run workflows directly from the [canvas](/glossary.md#canvas-n8n) to test your workflow logic. These executions are "ad-hoc": they run only when you manually select the \*\*Execute workflow\*\* button.

Manual executions make building workflows easier by allowing you to iteratively test as you go, following the flow logic and seeing data transformations. You can test conditional branching, data formatting changes, and loop behavior by providing different input items and modifying node options.

/// note | Pinning execution data

When performing manual executions, you can use [data pinning](/data/data-pinning.md) to "pin" or "freeze" the output data of a node. You can optionally [edit the pinned data](https://docs.n8n.io/data/data-editing/) as well.

On future runs, instead of executing the pinned node, n8n will substitute the pinned data and continue following the flow logic. This allows you to iterate without operating on variable data or repeating queries to external services. Production executions ignore all pinned data.

///

## Partial executions

Clicking the \*\*Execute workflow\*\* button at the bottom of the workflow in the \*\*Editor\*\* tab manually runs the entire workflow. You can also perform partial executions to run specific steps in your workflow. Partial executions are manual executions that only run a subset of your workflow nodes.

To perform a partial execution, select a node, open its detail view, and select \*\*Execute step\*\*. This executes the specific node and any preceding nodes required to fill in its input data. You can also temporarily disable specific nodes in the workflow chain to avoid interacting with those services while building.

In particular, partial executions are useful when updating the logic of a specific node since they allow you to re-execute the node with the same input data.

### Troubleshooting partial executions

Some common issues you might come across when running partial executions include the following:

<!-- vale from-microsoft.Contractions = NO -->

> The destination node is not connected to any trigger. Partial executions need a trigger.

<!-- vale from-microsoft.Contractions = YES -->

This error message appears when you try to perform a partial execution without connecting the workflow to a trigger. Manual executions, including partial executions, attempt to mimic production executions when possible. Part of this includes requiring a trigger node to describe when the workflow logic should execute.

To work around this, connect a trigger node to the workflow with the node you're trying to execute. Most often, a [manual trigger](/integrations/builtin/core-nodes/n8n-nodes-base.manualworkflowtrigger.md) is the simplest option.

> Please execute the whole workflow, rather than just the node. (Existing execution data is too large.)

This error can appear when performing partial executions on workflows with large numbers of branches. Partial executions involve sending data and workflow logic to the n8n backend in a way that isn't required for full executions. This error occurs when your workflow exceeds the maximum size allowed for these messages.

To work around this, consider using the [limit node](/integrations/builtin/core-nodes/n8n-nodes-base.limit.md) to limit node output while running partial executions. Once the workflow is running as intended, you can disable or delete the limit node before enabling production execution.

## Production executions

Production executions occur when a triggering event or schedule automatically runs a workflow.

To configure production executions, you must attach a [trigger node](/glossary.md#trigger-node-n8n) (any trigger other than the [manual trigger](/integrations/builtin/core-nodes/n8n-nodes-base.manualworkflowtrigger.md) works) and switch workflow's toggle to \*\*Active\*\*. Once activated, the workflow automatically executes whenever the trigger condition occurs.

The execution flow for production executions doesn't display in the Editor tab of the workflow as with manual executions. Instead, you can see executions in the workflow's \*\*Executions\*\* tab according to your [workflow settings](/workflows/settings.md). From there, you can explore and troubleshoot problems using the [debug in editor feature](/workflows/executions/debug.md).

## single-workflow-executions.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: View and filter all executions for the workflow currently open on the canvas.

contentType: howto

---

# Workflow-level executions list

The \*\*Executions\*\* list in a workflow shows all executions for that workflow.

/// note | Deleted workflows

When you delete a workflow, n8n deletes its execution history as well. This means you can't view executions for deleted workflows.

///

/// note | Execution history and workflow history

Don't confuse the execution list with [Workflow history](/workflows/history.md).

Executions are workflow runs. With the executions list, you can see previous runs of the current version of the workflow. You can copy previous executions into the editor to [Debug and re-run past executions](/workflows/executions/debug.md) in your current workflow.

Workflow history is previous versions of the workflow: for example, a version with a different node, or different parameters set.

///

## View executions for a single workflow

In the workflow, select the \*\*Executions\*\* tab in the top menu. You can preview all executions of that workflow.

## Filter executions

You can filter the executions list.

1. In your workflow, select \*\*Executions\*\*.

2. Select \*\*Filters\*\*.

3. Enter your filters. You can filter by:

\* \*\*Status\*\*: choose from \*\*Failed\*\*, \*\*Running\*\*, \*\*Success\*\*, or \*\*Waiting\*\*.

\* \*\*Execution start\*\*: see executions that started in the given time.

\* \*\*Saved custom data\*\*: this is data you create within the workflow using the Code node. Enter the key and value to filter. Refer to [Custom executions data](/workflows/executions/custom-executions-data.md) for information on adding custom data.

--8<-- "\_snippets/workflows/executions/custom-execution-data-availability.md"

## Retry failed workflows

If your workflow execution fails, you can retry the execution. To retry a failed workflow:

1. Open the \*\*Executions\*\* list.

2. For the workflow execution you want to retry, select \*\*Refresh\*\* <span class="inline-image">![Refresh icon](/\_images/common-icons/refresh.png){.off-glb}</span>.

--8<-- "\_snippets/workflows/executions/retry-options.md"

## index.md

# Feature tests

Use this section to quickly check all docs site features are working when upgrading the theme.

For theme upgrade instructions, refer to Notion.

## Snippets

You should see an info box about the embed license:

--8<-- "\_snippets/embed-license.md"

## Admonitions

/// note | This is a note

This is some note contents.

///

/// info | This is an info box

This is some info contents.

///

/// warning | This is a warning

This is some warning contents.

///

/// tip | This is a tip

This is some tip contents.

///

/// danger | This is a danger box

This is some danger box contents.

///

??? Details "This is an expanding details box"

This is some expanding details contents.

## Images

### Inline images

Inline images like this should \*\*not\*\* expand on click: <span class="inline-image">![Add node icon](/\_images/try-it-out/add-node-small.png){.off-glb}</span>

If it expands on click, first check that the `off-glb` class has been applied. Refer to [MkDocs GLightbox | Disable by image](https://blueswen.github.io/mkdocs-glightbox/disable/image/){:target=\_blank .external-link} for more information.

### Other images

Other images like this should expand on click:

![Screenshot of completed quickstart workflow](/\_images/try-it-out/tutorial-first.png)

## Links

[This link should open in a new tab](https://example.com/)

[This link should open in the same tab](/try-it-out/quickstart.md)

## Instant previews

[This link should show a preview of the quickstart on hover](/try-it-out/quickstart.md){ data-preview }

[This link should NOT show a preview on hover](/try-it-out/quickstart.md)

## Embed Workflow

You should see an interactive workflow, similar to the templates pages or forum.

[[ workflowDemo("https://api.n8n.io/workflows/templates/655") ]]

## Templates Widget

You should see a list of three Wait node templates, followed by links to the integrations page on the website, and the templates search.

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget('wait', 'wait') ]]

## Templates Widget Extra Items

You should see a list of 5 HTTP Request templates

[[ templatesWidget('HTTP Request', 'http-request', 5) ]]

## Glossary

You should see the AI Glossary below

--8<-- "\_glossary/ai-glossary.md"

Link to [workflows](/glossary.md#workflow-n8n) glossary definition with preview.

## app-nodes.md

<!--

# How to use this template

1. Make a new branch. If working on an internal ticket, include it at the start of the name. For example, DOC-123-feature-summary.

2. Create a new file, or find the file you want to edit, in integrations/builtin/app-nodes/. If creating a new file, pay attention to the naming conventions: it should match the node name in the codex file. For example, in the Active Campaign node, the codex file (https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/ActiveCampaign/ActiveCampaign.node.json) reads: `"node": "n8n-nodes-base.activeCampaign"`. So the app node file name is n8n-nodes-base.activeCampaign.

3. Copy the template into the file (don't copy this comment).

4. Placeholder text is in \_italic\_ or between <>. Make sure to replace it!

5. Before publishing, delete any comments.

Use the style guide: https://github.com/n8n-io/n8n-docs/wiki

You can find more info on working with the docs project in the README: https://github.com/n8n-io/n8n-docs/blob/main/README.md

-->

<!--

Set the meta title and meta description in the frontmatter

-->

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: \_Name\_ node documentation

description: Learn how to use the \_Name\_ node in n8n. Follow technical documentation to integrate \_Name\_ node into your workflows.

contentType: [integration, reference]

---

<!--

The title should be the name of the integration

Match the brand name exactly. For example, GitHub NOT Github

When you add this node to nav.yml in the navigation, prepend it with the `\_Name\_:` only, for example ActiveCampaign: \_relativepath\_

-->

# \_Name\_ node

<!-- Briefly summarize the node. For example:

Use the \_Name\_ node to automate work in \_Name\_ and integrate \_Name\_ with other applications. n8n has built-in support for a wide range of \_Name\_ features, which includes creating, updating, and deleting events, people, tags, and signatures. -->

On this page, you'll find a list of operations the \_Name\_ node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/\_Name\_.md).

///

## Operations

\* \_Bullet list\_

\* \_Of available operations\_.

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, page) ]]

## Related resources

<!-- provide a link to the trigger node docs, if there is a trigger node for this service -->

n8n provides a trigger node for \_Name\_. You can find the trigger node docs [here](/integrations/builtin/trigger-nodes/n8n-nodes-base.\_Name\_trigger.md).

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [\_Name\_'s documentation]() for more information about the service.

<!-- IF THE NODE SUPPORTS PREDEFINED CREDS

let users know they can use the HTTP node if their operation isn't supported

--8<-- "\_snippets/integrations/builtin/app-nodes/operation-not-supported.md"

-->

## Common issues

<!--

if the node is small enough for a single page, add the sentence below. Create a subheading below this for each error, quirk, pain point, or other complex topic that might trip people up

-->

Here are some common errors and issues with the \_Name\_ node and steps to resolve or troubleshoot them.

<!--

If the node is large enough to warrant subpages, create a separate Common issues page using the common-issues.md template and link to it here using this text:

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/\_filepath\_.md).

-->

## cluster-nodes.md

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: \_Name\_ node documentation

description: Learn how to use the \_Name\_ node in n8n. Follow technical documentation to integrate \_Name\_ node into your workflows.

contentType: [integration, reference]

---

<!--

The title should be the name of the integration

Match the brand name exactly. For example, GitHub NOT Github

When you add this node to nav.yml in the navigation, prepend it with the `\_Name\_:` only, for example ActiveCampaign: \_relativepath\_

-->

# \_Name\_ node

<!-- Briefly summarize the node. For example:

Use the \_Name\_ node to automate work in \_Name\_ and integrate \_Name\_ with other applications. n8n has built-in support for a wide range of \_Name\_ features, which includes creating, updating, and deleting events, people, tags, and signatures. -->

On this page, you'll find a list of operations the \_Name\_ node supports, and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/\_Name\_.md).

///

## Node parameters

Configure the node with the following parameters.

### \_One subheading for each parameter\_

\_Description of parameter\_

<!--

Delete the Node options section and the following subheading if the node doesn't have any options.

-->

## Node options

Use these options to further refine the node's behavior.

### \_One subheading for each option\_

\_Description of node option\_

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, 'integrations-page-slug') ]]

## Related resources

Refer to [\_Name\_'s documentation]() for more information about the service.

--8<-- "\_snippets/integrations/builtin/cluster-nodes/langchain-overview-link.md"

--8<-- "\_glossary/ai-glossary.md"

## Common issues

<!--

if the node is small enough for a single page, add the sentence below. Create a subheading below this for each error, quirk, pain point, or other complex topic that might trip people up

-->

Here are some common errors and issues with the \_Name\_ node and steps to resolve or troubleshoot them.

<!--

If the node is large enough to warrant subpages, create a separate Common issues page using the common-issues.md template and link to it here using this text:

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/\_filepath\_.md).

-->

## common-issues.md

<!--

# How to use this template

1. Make a new branch. If working on an internal ticket, include it at the start of the name. For example, DOC-123-feature-summary.

2. Create a new file, or find the file you want to edit, in integrations/builtin/. If creating a new file, pay attention to the naming conventions: it should match the node name in the codex file. For example, in the Active Campaign node, the codex file (https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/ActiveCampaign/ActiveCampaign.node.json) reads: `"node": "n8n-nodes-base.activeCampaign"`. So the app node file name is n8n-nodes-base.activeCampaign.

3. Copy the template into the file (don't copy this comment).

4. Placeholder text is in \_italic\_ or between <>. Make sure to replace it!

5. Before publishing, delete any comments.

6. Add this page to the nav.yml with a title of "Common Issues".

Use the style guide: https://github.com/n8n-io/n8n-docs/wiki

You can find more info on working with the docs project in the README: https://github.com/n8n-io/n8n-docs/blob/main/README.md

-->

<!--

Set the meta title and meta description in the frontmatter

-->

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: \_Name\_ node common issues

description: Documentation for common issues and questions in the \_Name\_ node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: [integration, reference]

priority: \_priority-from-main-node\_

---

# \_Name\_ node common issues

Here are some common errors and issues with the [\_Name\_ node](/integrations/builtin/\_filepathtonode\_.md) and steps to resolve or troubleshoot them.

<!--

Create a subheading for each error code, issue, or tip.

-->

## \_Error code or issue description\_

This error displays when \_insert explanation\_.

To resolve, \_insert steps or list of suggestions on what to test or try to resolve the issue\_.

## core-nodes.md

<!--

# How to use this template

1. Make a new branch. If working on an internal ticket, include it at the start of the name. For example, DOC-123-feature-summary.

2. Create a new file, or find the file you want to edit, in integrations/builtin/core-nodes/. If creating a new file, pay attention to the naming conventions: it should match the node name in the codex file.

3. Copy the template into the file (don't copy this comment).

4. Placeholder text is in \_italic\_ or between <>. Make sure to replace it!

5. Before publishing, delete any comments.

Use the style guide: https://github.com/n8n-io/n8n-docs/wiki

You can find more info on working with the docs project in the README: https://github.com/n8n-io/n8n-docs/blob/main/README.md

-->

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: \_Name\_ node documentation

description: Documentation for the \_Name\_ node in n8n, a workflow automation platform. Includes guidance on usage and links to examples.

contentType: [integration, reference]

---

<!--

The title should be the name of the node. Add "Trigger" if it's a core trigger node. For example:

Item Lists

Local File Trigger

When you add this node to nav.yml in the navigation, prepend it with the `\_Name\_:` only, for example ActiveCampaign: \_relativepath\_

-->

-->

# \_Name\_ node

\_Briefly summarize the functionality.\_

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/\_Name\_.md).

///

## Node parameters

## Node options

<!--

Add any other sections here.

You should include: quirks, pain points, complex topics that trip people up

You should not include: basic usage examples

-->

## Templates and examples

<!-- see https://www.notion.so/n8n/Pull-in-templates-for-the-integrations-pages-37c716837b804d30a33b47475f6e3780 -->

[[ templatesWidget(page.title, page) ]]

<!--Add the snippet below if the core node includes value1 > data type > value2 comparisons-->

--8<-- "\_snippets/integrations/builtin/core-nodes/data-types.md"

## Common issues

<!--

if the node is small enough for a single page, add the sentence below. Create a subheading below this for each error, quirk, pain point, or other complex topic that might trip people up

-->

Here are some common errors and issues with the \_Name\_ node and steps to resolve or troubleshoot them.

<!--

If the node is large enough to warrant subpages, create a separate Common issues page using the common-issues.md template and link to it here using this text:

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/\_filepath\_.md).

-->

## credentials.md

<!--

# How to use this template

1. Make a new branch. If working on an internal ticket, include it at the start of the name. For example, DOC-123-feature-summary.

2. Create a new file, or find the file you want to edit, in integrations/builtin/credentials/. If creating a new file, the name should be the integration name.

3. Copy the template into the file (don't copy this comment).

4. Placeholder text is in \_italic\_ or between <>. Make sure to replace it!

5. Use the "Low" priority credential section unless you've been told otherwise. Refer to https://docs.google.com/spreadsheets/d/14YVtqhVnKH2d59LmldyqcK2OW3-2KgHYVaDSFx-8oeM/edit?gid=0#gid=0 for priority breakdown from July 2024.

6. Before publishing, delete any comments.

Use the style guide: https://github.com/n8n-io/n8n-docs/wiki

You can find more info on working with the docs project in the README: https://github.com/n8n-io/n8n-docs/blob/main/README.md

-->

<!--

Set the meta title and meta description in the frontmatter

-->

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: \_Name\_ credentials

description: Documentation for the \_Name\_ credentials. Use these credentials to authenticate \_Name\_ in n8n, a workflow automation platform.

contentType: [integration, reference]

---

<!--

The title should be the name of the integration.

Match the brand name exactly. For example, GitHub NOT Github

-->

# \_Name\_ credentials

You can use these credentials to authenticate the following nodes:

\* \_List of apps\_

\* \_That use these credentials\_

<!--if this is a credential-only node, use this snippet instead-->

--8<-- "\_snippets/integrations/builtin/credentials/cred-only-statement.md"

<!-- If this credential has numerous prerequisites, include the Prerequisites section below and remove the account reference in the in the Using\_Auth method\_ section.

If a single prereq. like having an account, delete the Prerequisites section here and just update the intro statement in the Using \_Auth method\_ section -->

## Prerequisites

\_Include info on services they need to sign up for or required account settings/permissions\_

## Supported authentication methods

\* \_List of supported auth methods. Identify if methods should only be used for certain purposes\_

## Related resources

<!-- add a link to the service's documentation. This should usually go directly to the API credential docs. Amend the link text if necessary. -->

Refer to [\_Name\_'s API documentation]() for more information about the service.

<!-- If this is a credential-only node, add a link to the node page on n8n's website. For example: https://n8n.io/integrations/gmail/

This is a credential-only node. Refer to [Custom API operations](/integrations/custom-operations.md) to learn more. View [example workflows and related content](https://n8n.io/integrations/\_Name\_/) on n8n's website. -->

## Using \_Auth method\_

To configure this credential, you'll need a \_add link to account login or app page\_ account and:

- \_List of fields they'll need to fill out within n8n and a brief description of what those fields are\_

<!-- For "Medium," "High," or "Critical" credentials, use this section. For "Low" credentials, delete it. -->

\_Add an intro statement that makes sense. For example: To generate an access token, create a Slack app:\_

1. \_Detailed numbered instructions to configure credential. Add links to specific docs here if there are any that are relevant.\_

<!-- For all credentials, include a link to the service's documentation on this type of authentication. This usually goes directly to API credentials, OAuth, etc.

Amend the link/sentence text as necessary. -->

Refer to [\_Name\_'s API documentation]() for more information about authenticating to the service.

<!-- IF OAUTH FOR CLOUD-HOSTED DOESN'T REQUIRE ANY SETUP, use the section below. Otherwise omit -->

--8<-- "\_snippets/integrations/builtin/credentials/cloud-oauth-button.md"

<!-- If OAuth method, self-hosted usually needs to configure OAuth from scratch. -->

<!-- For low or unprioritized credentials, use this statement and delete the next one -->

If you're [self-hosting](/hosting/index.md) n8n, you'll need to \_create an app\_ to configure OAuth2. Refer to [\_Name\_'s OAuth documentation]() for more information about setting up OAuth2.

<!-- For Medium, High, or Critical credentials, use this section: -->

If you're [self-hosting](/hosting/index.md) n8n, you'll need to \_create an app\_ to configure OAuth2. To do so:

1. \_Detailed numbered instructions to create app for OAuth2 and configure credential. Add links to specific docs here if there are any that are relevant.\_

Refer to [\_Name\_'s OAuth documentation]() for more information about setting up OAuth2.

## Common issues

<!--

if the node is small enough for a single page, add the sentence below. Create a subheading below this for each error, quirk, pain point, or other complex topic that might trip people up

-->

Here are some common errors and issues with the \_Name\_ node and steps to resolve or troubleshoot them.

<!--

If the node is large enough to warrant subpages, create a separate Common issues page using the common-issues.md template and link to it here using this text:

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/\_filepath\_.md).

-->

## feature.md

<!--

# How to use this template

1. Make a new branch. If working on an internal ticket, include it at the start of the name. For example, DOC-123-feature-summary.

2. Create a new file, or find the file you want to edit, in the `docs` directory. If creating a new file, use a short but descriptive filename since this will impact the URL slug of the page.

3. Copy the template into the file.

4. Placeholder text is in \_italic\_ or between <>. Make sure to replace it!

5. Before publishing, delete any comments.

6. Add this page to the `nav.yml` file, using the same title as the one defined below (in the `title` front matter or the H1) or a shortened title if you want a more compact navigation title.

Use the style guide: https://github.com/n8n-io/n8n-docs/wiki

You can find more info on working with the docs project in the README: https://github.com/n8n-io/n8n-docs/blob/main/README.md

-->

<!--

Set the meta title and meta description in the frontmatter

The title here sets the title used in the browser window or tab, or when sharing a link to the content on various platforms.

-->

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: \_Feature\_

description: Documentation for common issues and questions in the \_Name\_ node in n8n, a workflow automation platform. Includes details of the issue and suggested solutions.

contentType: explanation

---

<!--

In most cases, set the H1 heading the same as the `title` field above. This is the title as defined within the page itself.

-->

# \_Feature\_

<!--

Use the first paragraph or two after the title to provide a high-level summary of the feature. Start with a sentence or two of explanation, followed by additional info that hints at use cases, the problems it solves, or contexts where this is most relevant.

If you have a good screenshot of the feature in action, this is a good place to showcase it:

![Screenshot of feature x](/\_images/path/to/screenshot.png)

-->

<!--

If the feature has limited access, this is a good place to include a note, like this:

/// note | Only for self-hosted

\_Feature\_ is only available on [self-hosted n8n instances](/hosting/index.md). Cloud and embed users can optionally...

///

-->

<!--

INDIVIDUAL SECTIONS TO CONSIDER:

The structure of your document is highly dependant on the feature itself, so no two feature pages are likely to have exactly the same needs. Below, each comment block contains a common section type that you should consider including for your features.

These are suggestions, so:

\* Skip any section that isn't a good fit for your feature

\* Don't limit yourself to the suggestions below if you need to include other information.

-->

<!--

## What is \_Feature\_

If the introduction summary is not enough to adequately describe your feature, you might benefit from including a separate section covering what exactly the feature is and what benefits it provides.

Use this to help readers solidify their conceptual understanding of the feature. This section might have overlap with the "How it works" section, so it may make sense to combine.

-->

<!--

## How \_Feature\_ works

This section provides a general user-level overview of how the feature actually works. This shouldn't cover the engineering implementation details, but should instead focus on helping users understand processes and interactions between components.

If the processes and components involved are complex, this section may benefit from diagrams or other visual aids to ensure that the reader can come away with the correct mental model.

-->

<!--

## Requirements

This section is useful for listing any knowledge, version, plan, or access requirements that users must satisfy before using (or in the case of knowledge, understanding) the feature.

This might not be necessary if the information is communicated in a note near the top of page.

-->

<!--

## Using \_Feature\_

This covers basic usage information for the feature. Use sub-sections liberally to make the information more digestible.

You may wish to include the following:

\* Setting up / Configuring \_feature\_: A break down of less-straight-forward parts of configuration or setup. This might be important if it requires you to run or change external services like web server configuration or account access.

\* Basic usage: generalized instructions for how users can use the feature, assuming a [happy path](https://en.wikipedia.org/wiki/Happy\_path)

\* How to \_x\_: how to achieve specific, common goals using the feature

\* Using \_y\_option\_: how to use certain parts of the feature that are not obvious from the UI

Generally, you don't need to include exhaustive guidance on every single thing you can do with a feature. The UI and feature design itself should hopefully make most things easy to learn. Focus your efforts (and the document) on information that's of high importance but low discoverability in the product.

-->

<!--

## Common issues

## Troubleshooting

You can use either of these two section names, depending on how you want to frame the content, to discuss how to resolve problems that users may experience.

Give each issue its own subheading:

### Problem 1

### Problem 2

Try to include specific error messages or descriptions that the user might see. This makes it more likely for users can discover this information through search.

For each issue:

\* describe the observed problem or behavior

\* provide a short explanation as to why this occurs

\* give steps that a user can perform to fix, work around, or refactor their work

The goal of this section is to unblock the user, so try to remain solution-oriented.

-->

<!--

## Related resources

Use this section to link to additional resource. This may include related features, example templates, related nodes, or off-site resources.

Usually a bulleted list works pretty well using one of the following formats:

\* Bare link:

\* [Resource one](https://example.com)

\* Link with explanation:

\* [Resource one](https://example.com): Learn more about what authentication methods Service X supports.

\* Sentence with link:

\* To learn more about the available modules, check out [service X's supported module list](http://example.com).

-->

## release-notes.md

<!--

# How to use this template

1. Make a new branch, including the release number in the name. For example: 0.190.0-release-note

2. Copy the template into the top of the release note file: https://github.com/n8n-io/n8n-docs/blob/main/docs/reference/release-notes.md (don't copy this comment).

3. Add the link to the GitHub change comparison. For example: https://github.com/n8n-io/n8n/compare/n8n@0.189.1...n8n@0.190.0 You can find this link from the GitHub changelog doc: https://github.com/n8n-io/n8n/blob/master/CHANGELOG.md

4. Placeholder text is in <>. Make sure to replace it!

5. Refer to the GitHub changelog to help get started: https://github.com/n8n-io/n8n/blob/master/CHANGELOG.md For minor changes, you may be able to copy directly from that changelog. For larger features, or if anything is unclear, do some research and add more detail.

Make sure to refer to the style guide: https://github.com/n8n-io/n8n-docs/wiki

You can find more info on working with the docs project in the README: https://github.com/n8n-io/n8n-docs/blob/main/README.md

-->

## n8n@<version-number>

View the [commits](<url for GitHub's 'Comparing changes' view, comparing this release to the previous one>) for this version.<br />

\*\*Release date:\*\* <yyyy-MM-dd>

\_One or two sentence summary of release.\_

For full release details, refer to [Releases](https://github.com/n8n-io/n8n/releases) on GitHub.

<!-- if this release contains breaking changes, include the breaking changes warning

/// warning | Breaking changes

Please note that this version contains a breaking change. The minimum Node.js version is now v16. You can read more about it [here](https://github.com/n8n-io/n8n/blob/master/packages/cli/BREAKING-CHANGES.md#02230).

///

-->

<!-- Explain the different versions. This note should go on both the latest and next versions, and be updated as the version status updates. For the next version, add: "Use the next version to try n8n's newest features, and to help test

/// note | <Latest/Next> version

This is the <Latest/Next> version. n8n recommends using the latest version. The next version may be unstable. To report issues, use the [forum](https://community.n8n.io/c/questions/12).

///

-->

### New features

<!-- Use the new feature box for major new features.

This section should only contain new features that are likely to interest users -->

<div class="n8n-new-features" markdown>

#### Feature name

\_Description of new feature. Link to docs if available.\_

</div>

### New nodes

<div class="n8n-new-features" markdown>

#### Node name

\_Description of new feature. Link to new node doc.\_

</div>

### Contributors

\_List external contributors. Don't use a bulleted list here.\_

## trigger-nodes.md

<!--

# How to use this template

1. Make a new branch. If working on an internal ticket, include it at the start of the name. For example, DOC-123-feature-summary.

2. Create a new file, or find the file you want to edit, in integrations/builtin/trigger-nodes/. If creating a new file, pay attention to the naming conventions: it should match the node name in the codex file. For example, in the Active Campaign Trigger node, the codex file (https://github.com/n8n-io/n8n/blob/master/packages/nodes-base/nodes/ActiveCampaign/ActiveCampaignTrigger.node.json) reads: `"node": "n8n-nodes-base.activeCampaignTrigger"`. So the app node file name is n8n-nodes-base.activeCampaignTrigger.

3. Copy the template into the file (don't copy this comment).

4. Placeholder text is in \_italic\_ or between <>. Make sure to replace it!

5. Before publishing, delete any comments.

Use the style guide: https://github.com/n8n-io/n8n-docs/wiki

You can find more info on working with the docs project in the README: https://github.com/n8n-io/n8n-docs/blob/main/README.md

-->

<!--

Set the meta title and meta description in the frontmatter

-->

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

title: \_Name\_ Trigger node documentation

description: Learn how to use the \_Name\_ Trigger node in n8n. Follow technical documentation to integrate \_Name\_ Trigger node into your workflows.

contentType: [integration, reference]

---

<!--

The title should be the name of the integration and capitalized as it is in the UI, most often "Trigger". For example, "Asana Trigger".

Match the brand name exactly. For example, GitHub NOT Github.

-->

# \_Name\_ Trigger node

<!-- Briefly summarize the node. For example:\_

Use the \_Name\_ Trigger node to respond to events in [\_Name\_](\_service-url.com\_) and integrate \_Name\_ with other applications. n8n has built-in support for a wide range of \_Name\_ events, including . . .

-->

On this page, you'll find a list of events the \_Name\_ Trigger node can respond to and links to more resources.

/// note | Credentials

You can find authentication information for this node [here](/integrations/builtin/credentials/\_Name\_.md).

///

## Events

\* \_Bullet list\_

\* \_Of events this node responds to\_.

## Related resources

<!-- provide a link to the app node docs, if there is an app node for this service -->

n8n provides an app node for \_Name\_. You can find the node docs [here](/integrations/builtin/app-nodes/n8n-nodes-base.\_Name\_.md).

<!-- add a link to the node page on n8n's website. For example: https://n8n.io/integrations/356-gmail/ -->

View [example workflows and related content](https://n8n.io/integrations/\_Name\_/) on n8n's website.

<!-- add a link to the service's documentation. This should usually go direct to the API docs -->

Refer to [\_Name\_'s documentation]() for details about their API.

## Common issues

<!--

if the node is small enough for a single page, add the sentence below. Create a subheading below this for each error, quirk, pain point, or other complex topic that might trip people up

-->

Here are some common errors and issues with the \_Name\_ node and steps to resolve or troubleshoot them.

<!--

If the node is large enough to warrant subpages, create a separate Common issues page using the common-issues.md template and link to it here using this text:

For common questions or issues and suggested solutions, refer to [Common issues](/integrations/builtin/\_filepath\_.md).

-->

## tutorial.md

Please include frontmatter indicating a tutorial with a relevant description, for example:

```

---

#https://www.notion.so/n8n/Frontmatter-432c2b8dff1f43d4b1c8d20075510fe4

description: Learn how to build AI workflows with n8n

type: tutorial

---

```

The main title of the page should be an imperative call to action, such as:

```

# Build an AI chat agent with n8n

```

Please include a welcome paragraph with a slightly longer introduction, 30-50 words.

Follow this with a \*\*screenshot\*\* of the work completed.

Embed a link to the video version of the tutorial if available (for now it is sufficient to use the 'embed' link generated by Youtube).

Welcome to the introductory tutorial for building AI workflows with n8n. Whether you have used n8n before, or this is your first time, we will show you how the building blocks of AI workflows fit together and construct a working AI-powered chat agent which you can easily customize for your own purposes.

Every tutorial should start with an unordered list of requirements. Include links in the description where helpful. For example:

```

### What you will need

- \*\*n8n\*\*: For this tutorial we recommend using the [n8n cloud](/manage-cloud/overview.md) service - there is a free trial for new users! For a self hosted service, refer to the [installation pages](/hosting/installation/docker.md).

- \*\*Credentials for a chat model\*\*: This tutorial uses OpenAI, but you can easily use DeepSeek, Google Gemini, Groq, Azure, and others (see the [sub-nodes documentation](/integrations/builtin/cluster-nodes/sub-nodes/index.md) for more).

```

Follow this with a list of concepts, ideas or patterns the user is expected to learn from the tutorial. For example:

```

### What you will learn

- AI concepts in n8n

- How to use the AI Agent node

- Working with Chat input

```

The step-by step instructions should be a numbered sequence of level two headings, followed by numbered lists of the steps. For example:

```

## 2. Add a trigger node

Every workflow needs somewhere to start. In n8n these are called ['trigger nodes'](/glossary.md#trigger-node-n8n). For this workflow, we want to start with a chat node.

1. Select \*\*Add first step\*\* or press ++tab++ to open the node menu.

1. Search for \*\*Chat Trigger\*\*. n8n shows a list of nodes that match the search.

1. Select \*\*Chat Trigger\*\* to add the node to the canvas. n8n opens the node.

...

```

1. Close the node details view (Select \*\*Back to canvas\*\*) to return to the canvas.

The steps should conclude with a heading and brief summary celebrating what has been achieved and summarizing the learnings. For example:

```

## Congratulations!

You have taken your first steps in building useful and effective workflows with AI. In this tutorial we have investigated the basic building blocks of an AI workflow, added an \*\*AI Agent\*\* and a chat model, and adjusted the prompt to get the kind of output we wanted. We also added memory so the chat could retain context between messages.

```

In almost all cases, the tutorial will have resulted in a workflow. You can embed the workflow in the document using Markdown like this:

```

[[ workflowDemo("file:////advanced-ai/tutorials/chat\_complete.json") ]]

```

Note that for longer tutorials it may be useful to provided intermediate workflows. These simply need ot be uploaded as distinct .json files and embedded as above.

The tutorial should end with a section indicating more resources for the user (other tutorials, explanation section in the documentation and so in). It is okay to include external links here where appropriate, but list all internal resources first.

```

## Next steps

Now you have seen how to create a basic AI workflow, there are plenty of resources to build on that knowledge and plenty of examples to give you ideas of where to go next:

\* Learn more about AI concepts and view examples in [Examples and concepts](/advanced-ai/examples/introduction.md).

\* Browse AI [Workflow templates](https://n8n.io/workflows/?categories=25){:target=\_blank .external-link}.

\* Find out how to [enhance the AI agent with tools](/advanced-ai/examples/understand-tools.md).

```

## Useful additions

Tutorials are often used by people with various levels of skill and expertise (they may know a lot about computing, just not n8n specifically). In order to prevent annoying users with 'too much detail', we have implemented a special device particularly useful for tutorials:

```

??? explanation "More about the Chat Trigger node..."

The trigger node generates output when there is an event causing it to trigger. In this case we want to be able to type in text to cause the workflow to run. In production, this trigger can be hooked up to a public chat interface as provided by n8n or embedded into another website. To start this simple workflow we will just use the built-in local chat interface to communicate, so no further setup is required.

```

This renders as a collapsed, clickable box on the page. The quoted text on the first line becomes the title, and the indented text below is the content revealed when clicking. As long as you maintain the indent, any markdown should work in these devices. Don't overuse this device, but do include it when things are more adequately explained in the doc without linking elsewhere.

## accept.txt

ABCorp

accessors?

Adalo

[Aa]ddon

[Aa]gent

[Aa]ggregate

Airtable

Airtop

[Aa]llowlist

Anthropic

APIs

ARNs

Asana

Atlassian

Authentik

[Aa]utodetect(ion)?

[Aa]uto-fixing

Automizy

[Aa]utorenew

Axios

Backblaze

[Bb]ackend

balancer's

Bannerbear

[Bb]asename

Baserow

bcrypt

Beeminder

Bing

Bitly

Bitwarden

blockquote

[Bb]oolean

[Bb]orderless

bot

Brandfetch

Brevo

buildpack

[Bb]urstable

Caddy

Calendly

[Cc]allout

Capterra

cartesian

Chargebee

[Cc]hatbot

ChromeOS

Citrix

Clearbit

Clockify

Codecademy

Cognito('s)?

commenters?

Cohere

Combinator

Contentful

ConvertKit

CPU

CPython

CRM

Cron

[Cc]rypto

[Dd]atacenters?

Datadog

Datastore

[Dd]atetimes?

[Dd]edupe

[Dd]eduplication

DeepL

Demio

[Dd]equeued?

disabled

Disqus

Dockerfile

Dropcontact

Dynatrace

eksctl

[Ee]mbeddable

Emelia

[Ee]nqueued?

Entra

[Ee]num

ERPNext

[Ee]rroring

ESLint

Eventbrite

[Ff]aircode

Fargate

[Ff]avicon

Figma

FileMaker

Firestore

Formhub

Formstack

Fortinet

Freshdesk

Freshservice

Freshworks

gcloud

geocoded

geocodes

[Gg]eospatial

GIMP

Gotify

Grafana

Grok('s)?

Groq

GSuite

Gumroad

[Gg]zip

Hetzner

Homeserver

[Hh]ostname

howto

HubSpot

Humantic

Imperva

indexable

invalid

Infisical

Intuit

IP

[Ii]terable

Jira

Jina

JMESPath

JumpCloud

Keap

Keycloak

Kibana

Kitemaker

kubectl

Kafka

Lemlist

Lenovo

[Ll]inter

LLMs?

Luhn

Luxon

[Mm]agnetopause

Mailcheck

Mailchimp

Mailgun

Mailjet

Malcore

marketstack

Mattermost

Mautic

[Mm]aximum

Meraki

Metabase

[Mm]iddleware

[Mm]illicore

Milvus('s)?

Mindee

[Mm]inimum

Mocean

Motorhead

[Mm]ultiple

[Mm]ultitenan(cy|t)

n8n

nanoids

namespaces?

NASA

Netlify

Netscaler

Nextcloud

[Nn]ginx

ngrok

Nodelinter

npm

NPM

npx

OAuth

Odoo

Okta

Ollama

onboarding

Onfleet

Ortto

Oura

PDFs?

Peekalink

[Pp]erformant

PGVector

PhantomBuster

Pinterest

Pipedrive

Pinecone

[Pp]laintext

Plivo

Pluralsight

Postbin

Postgres

PostHog

[Pp]refilled

[Pp]repopulate

[Pp]roxying

Pushbullet

Pushcut

Pyodide

Qdrant

QRadar

Qualys

[Qq]uickstarts

Realtime

Rekognition

requester

[Rr]erank(er|ing|ed)?

Rundeck

Salesmate

[Ss]andboxed

Sekoia

Sendy

Serp

[Ss]erverless

sheetId

[Ss]hopify

signup

Splunk

Spontit

Spotify

spreadsheetId

Stackby

Stackshare

Storyblok

Strapi

Strava

[Ss]treamable

strikethrough

[Ss]ubfolder

sublist

[Ss]ubreddit

[Ss]ubtask

Supabase

[Ss]ysdig

[Ss]yslog

Tapfiliate

Textract

There are

[Tt]imesheet

Todoist

Toggl

[Tt]ooltips?

[Tt]ouchpad

Traefik

Trellix

Trello

TSLint

Twake

Twilio

[Tt]ypeahead

Typeform

[Uu]narchive

[Uu]ncomment

[Uu]nformatted

([Uu]n)?[Gg]rounded(ness)?

[Uu]noptimized

[Uu]npublish

[Uu]nshare

Untrash

UpLead

uProc

[Uu]psert

[Uu]pvote

URI

URIs

URL

Venafi

VERO

Vhost

VM

Vonage

Vuex

Wasabi's

Weaviate('s)?

Webex

Webflow

[Ww]ebsockets?

WeKan

[Ww]ireframe

WordPress

Wufoo

xAI

Xata

Xero

Zabbix

Zammad

Zapier

Zendesk

Zep

Zoho

Zscaler

## reject.txt

N8n

n8N

N8N

NPM

nPM

NPm

NPX

Npx

## README.md

Based on [write-good](https://github.com/btford/write-good).

> Naive linter for English prose for developers who can't write good and wanna learn to do other stuff good too.

```

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of this software and associated documentation files (the "Software"), to deal

in the Software without restriction, including without limitation the rights

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copies of the Software, and to permit persons to whom the Software is

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THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR

IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,

FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE

AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER

LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,

OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE

SOFTWARE.

```

## change\_link\_style.py

#!/usr/bin/env python3

from pathlib import Path

import argparse

import re

def find\_markdown\_files(directory):

"""Return a list of path objects for all markdown files in the given directory."""

return list(Path(directory).rglob("\*.[mM][dD]"))

def map\_urls\_to\_files(path\_list, root\_dir):

"""Return a dictionary mapping URL link targets to file targets."""

path\_maps = dict()

for path in path\_list:

# Here, we convert file paths to absolute paths from the root\_dir

md\_link\_target = "/" / path.relative\_to(root\_dir)

url\_link\_target = get\_url\_path\_from\_file\_path(md\_link\_target)

path\_maps[url\_link\_target] = str(md\_link\_target)

return path\_maps

def get\_url\_path\_from\_file\_path(file\_path):

"""Return the URL path for a given file path."""

if file\_path.name == "index.md":

return str(file\_path.parent)

else:

return str(file\_path.parent / file\_path.stem)

def main(directory):

"""

Finds Markdown files, calculates URL paths associated with them, then finds and

replaces URL paths with file paths in links throughout the repo.

"""

markdown\_files = find\_markdown\_files(directory)

snippet\_files = find\_markdown\_files("../\_snippets")

link\_maps = map\_urls\_to\_files(markdown\_files, directory)

for file in markdown\_files + snippet\_files:

text = file.read\_text()

for url\_target, file\_target in link\_maps.items():

find\_pattern = fr"]\({url\_target}/?(#[0-9A-Za-z-]+)?\)"

replace\_pattern = fr"]({file\_target}\1)"

text = re.sub(find\_pattern, replace\_pattern, text)

file.write\_text(text)

if \_\_name\_\_ == "\_\_main\_\_":

parser = argparse.ArgumentParser(description="Replace URL style link targets with markdown file targets")

parser.add\_argument("--dir", type=str, default="../docs", help="Directory to scan (default: '../docs')")

args = parser.parse\_args()

main(args.dir)

## pageinfo.py

#!/usr/bin/env python3

import os

import yaml

import argparse

import re

import glob

import csv

OUTPUT\_CSV = "pageinfo.csv"

def extract\_frontmatter\_and\_content(filepath):

"""Extracts frontmatter and main content from a Markdown file."""

with open(filepath, "r", encoding="utf-8") as f:

content = f.read()

# Match YAML frontmatter with regex (--- as delimiter)

match = re.match(r"^---\n(.\*?)\n---\n(.\*)", content, re.DOTALL)

if match:

try:

frontmatter = yaml.safe\_load(match.group(1)) # Parse YAML

except yaml.YAMLError:

frontmatter = None # Invalid YAML

main\_content = match.group(2).strip()

else:

frontmatter = None

main\_content = content.strip()

return frontmatter, main\_content

def count\_words(text):

"""Counts the number of words in the given text."""

# yes, this is fairly simplistic, but a general idea is fine for most uses

return len(text.split())

def find\_markdown\_files(directory):

"""Recursively finds all markdown files in the given directory."""

return glob.glob(os.path.join(directory, "\*\*", "\*.md"), recursive=True)

def save\_to\_csv(data, filename=OUTPUT\_CSV):

"""Saves extracted data to a CSV file with dynamic contentType columns."""

max\_types = max((len(row[1]) if isinstance(row[1], list) else 1) for row in data)

headers = ["Filename", "WordCount"] + [f"ContentType\_{i+1}" for i in range(max\_types)]

with open(filename, "w", newline="", encoding="utf-8") as csvfile:

writer = csv.writer(csvfile)

writer.writerow(headers) # Write CSV header

for filename, content\_type, word\_count in data:

if isinstance(content\_type, list):

row = [filename, word\_count] + content\_type + [""] \* (max\_types - len(content\_type))

else:

row = [filename, word\_count, content\_type] + [""] \* (max\_types - 1)

writer.writerow(row)

def main(directory,print\_output):

"""Finds Markdown files, extracts 'contentType' and word count, then prints and saves results."""

md\_files = find\_markdown\_files(directory)

extracted\_data = []

for file in md\_files:

frontmatter, main\_content = extract\_frontmatter\_and\_content(file)

word\_count = count\_words(main\_content)

if frontmatter and "contentType" in frontmatter:

content\_type = frontmatter["contentType"]

else:

content\_type = ""

# Convert list to comma-separated string for printing

if isinstance(content\_type, list):

content\_str = ", ".join(content\_type)

else:

content\_str = str(content\_type)

if print\_output:

print(f"File: {file}")

print(f"Word Count: {word\_count}")

print(f"contentType: {content\_str}\n")

extracted\_data.append([file, content\_type, word\_count])

if extracted\_data:

save\_to\_csv(extracted\_data)

print(f"Results saved to {OUTPUT\_CSV}")

if \_\_name\_\_ == "\_\_main\_\_":

parser = argparse.ArgumentParser(description="Extract contentType and word count from Markdown files.")

parser.add\_argument("--dir", type=str, default="../docs", help="Directory to scan (default: '../docs')")

parser.add\_argument("--print", action="store\_true", help="Print output to console (default: False, only CSV)")

args = parser.parse\_args()

main(args.dir, args.print)

## ai-glossary.md

## AI glossary

\* \_\_completion\_\_: Completions are the responses generated by a model like GPT.

\* \_\_hallucinations\_\_: Hallucination in AI is when an LLM (large language model) mistakenly perceives patterns or objects that don't exist.

\* \_\_vector database\_\_: A vector database stores mathematical representations of information. Use with embeddings and retrievers to create a database that your AI can access when answering questions.

\* \_\_vector store\_\_: A vector store, or vector database, stores mathematical representations of information. Use with embeddings and retrievers to create a database that your AI can access when answering questions.

## main.md

## embed-license.md

/// info | Feature availability

Embed requires an embed license. For more information about when to use Embed, as well as costs and licensing processes, refer to [Embed](https://n8n.io/embed/){:target=\_blank .external-link} on the n8n website.

///

## examples-color-key.md

To load the template into your n8n instance:

1. Download the workflow JSON file.

1. Open a new workflow in your n8n instance.

1. Copy in the JSON, or select \*\*Workflow menu\*\* <span class="inline-image">![Workflow menu icon](/\_images/common-icons/three-dots-horizontal.png){.off-glb}</span> > \*\*Import from file...\*\*.

The example workflows use Sticky Notes to guide you:

\* Yellow: notes and information.

\* Green: instructions to run the workflow.

\* Orange: you need to change something to make the workflow work.

\* Blue: draws attention to a key feature of the example.

## update-n8n.md

## How to update n8n

The steps to update your n8n depend on which n8n platform you use. Refer to the documentation for your n8n:

\* [Cloud](/manage-cloud/update-cloud-version.md)

\* Self-hosted options:

\* [npm](/hosting/installation/npm.md)

\* [Docker](/hosting/installation/docker.md)

## ai-how-to.md

/// info | Feature availability

AI assistance in the Code node is available to Cloud users. It isn't available in self-hosted n8n.

///

/// note | AI generated code overwrites your code

If you've already written some code on the \*\*Code\*\* tab, the AI generated code will replace it. n8n recommends using AI as a starting point to create your initial code, then editing it as needed.

///

To use ChatGPT to generate code in the Code node:

1. In the Code node, set \*\*Language\*\* to \*\*JavaScript\*\*.

1. Select the \*\*Ask AI\*\* tab.

1. Write your query.

1. Select \*\*Generate Code\*\*. n8n sends your query to ChatGPT, then displays the result in the \*\*Code\*\* tab.

## how-to-pin-data.md

To pin data in a node:

1. Run the node to load data.

2. In the \*\*OUTPUT\*\* view, select \*\*Pin data\*\* <span class="inline-image">![Pin data icon](/\_images/data/data-pinning/data-pinning-button.png){.off-glb}</span>. When data pinning is active, the button is disabled and a "This data is pinned" banner is displayed in the \*\*OUTPUT\*\* view.

/// note | Nodes that output binary data

You can't pin data if the output data includes binary data.

///

## item-linking-code-node.md

Use n8n's item linking to access data from items that precede the current item. It also has implications when using the Code node. Most nodes link every output item to an input item. This creates a chain of items that you can work back along to access previous items. For a deeper conceptual overview of this topic, refer to [Item linking concepts](/data/data-mapping/data-item-linking/item-linking-concepts.md). This document focuses on practical usage examples.

When using the Code node, there are some scenarios where you need to manually supply item linking information if you want to be able to use `$("<node-name>").item` later in the workflow. All these scenarios only apply if you have more than one incoming item. n8n automatically handles item linking for single items.

These scenarios are when you:

\* Add new items: the new items aren't linked to any input.

\* Return new items.

\* Want to manually control the item linking.

[n8n's automatic item linking](/data/data-mapping/data-item-linking/item-linking-concepts.md) handles the other scenarios.

To control item linking, set `pairedItem` when returning data. For example, to link to the item at index 0:

```js

[

{

"json": {

. . .

},

// The index of the input item that generated this output item

"pairedItem": 0

}

]

```

### `pairedItem` usage example

Take this input data:

```json

[

{

"id": "23423532",

"name": "Jay Gatsby"

},

{

"id": "23423533",

"name": "José Arcadio Buendía"

},

{

"id": "23423534",

"name": "Max Sendak"

},

{

"id": "23423535",

"name": "Zaphod Beeblebrox"

},

{

"id": "23423536",

"name": "Edmund Pevensie"

}

]

```

And use it to generate new items, containing just the name, along with a new piece of data:

```js

newItems = [];

for(let i=0; i<items.length; i++){

newItems.push(

{

"json":

{

"name": items[i].json.name,

"aBrandNewField": "New data for item " + i

}

}

)

}

return newItems;

```

`newItems` is an array of items with no `pairedItem`. This means there's no way to trace back from these items to the items used to generate them.

Add the `pairedItem` object:

```js

newItems = [];

for(let i=0; i<items.length; i++){

newItems.push(

{

"json":

{

"name": items[i].json.name,

"aBrandNewField": "New data for item " + i

},

"pairedItem": i

}

)

}

return newItems;

```

Each new item now links to the item used to create it.

## item-linking-node-creators.md

/// note | Programmatic-style nodes only

This guidance applies to programmatic-style nodes. If you're using declarative style, n8n handles paired items for you automatically.

///

Use n8n's item linking to access data from items that precede the current item. n8n needs to know which input item a given output item comes from. If this information is missing, expressions in other nodes may break. As a node developer, you must ensure any items returned by your node support this.

This applies to programmatic nodes (including trigger nodes). You don't need to consider item linking when building a declarative-style node. Refer to [Choose your node building approach](/integrations/creating-nodes/plan/choose-node-method.md) for more information on node styles.

Start by reading [Item linking concepts](/data/data-mapping/data-item-linking/item-linking-concepts.md), which provides a conceptual overview of item linking, and details of the scenarios where n8n can handle the linking automatically.

If you need to handle item linking manually, do this by setting `pairedItem` on each item your node returns:

```typescript

// Use the pairedItem information of the incoming item

newItem = {

"json": { . . . },

"pairedItem": {

"item": item.pairedItem,

// Optional: choose the input to use

// Set this if your node combines multiple inputs

"input": 0

};

// Or set the index manually

newItem = {

"json": { . . . }

"pairedItem": {

"item": i,

// Optional: choose the input to use

// Set this if your node combines multiple inputs

"input": 0

},

};

```

## smartjoin.md

```js

// Input

{{ [{"type":"fruit", "name":"apple"},{"type":"vegetable", "name":"carrot"} ].smartJoin("type","name") }}

// Output

[Object: {"fruit":"apple","vegetable":"carrot"}]

```

## create-set-error-workflow.md

1. Create a new workflow, with the Error Trigger as the first node.

2. Give the workflow a name, for example `Error Handler`.

3. Select \*\*Save\*\*.

4. In the workflow where you want to use this error workflow:

1. Select \*\*Options\*\* <span class="inline-image">![Options menu icon](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span> > \*\*Settings\*\*.

2. In \*\*Error workflow\*\*, select the workflow you just created. For example, if you used the name Error Handler, select \*\*Error handler\*\*.

3. Select \*\*Save\*\*.

Now, when this workflow errors, the related error workflow runs.

## data-flow-nodes.md

Nodes can process multiple items.

For example, if you set the Trello node to `Create-Card`, and create an expression that sets `Name` using a property called `name-input-value` from the incoming data, the node creates a card for each item, always choosing the `name-input-value` of the current item.

For example, this input will create two cards. One named `test1` the other one named `test2`:

```json

[

{

name-input-value: "test1"

},

{

name-input-value: "test2"

}

]

```

## subworkflow-data-flow.md

As an example, imagine you have an Execute Sub-workflow node in \*\*Workflow A\*\*. The Execute Sub-workflow node calls another workflow called \*\*Workflow B\*\*:

1. The Execute Sub-workflow node passes the data to the Execute Sub-workflow Trigger node (titled "When executed by another node" in the canvas) of \*\*Workflow B\*\*.

2. The last node of \*\*Workflow B\*\* sends the data back to the Execute Sub-workflow node in \*\*Workflow A\*\*.

## subworkflow-usage.md

### Create the sub-workflow

1. Create a new workflow.

/// note | Create sub-workflows from existing workflows

You can optionally create a sub-workflow directly from an existing parent workflow using the [Execute Sub-workflow](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md) node. In the node, select the \*\*Database\*\* and \*\*From list\*\* options and select \*\*Create a sub-workflow\*\* in the list.

You can also extract selected nodes directly using [Sub-workflow conversion](/workflows/subworkflow-conversion.md) in the context menu.

///

1. \*\*Optional\*\*: configure which workflows can call the sub-workflow:

1. Select the \*\*Options\*\* <span class="inline-image">![Options menu](/\_images/common-icons/three-dot-options-menu.png){.off-glb}</span> menu > \*\*Settings\*\*. n8n opens the \*\*Workflow settings\*\* modal.

1. Change the \*\*This workflow can be called by\*\* setting. Refer to [Workflow settings](/workflows/settings.md) for more information on configuring your workflows.

1. Add the \*\*Execute Sub-workflow\*\* trigger node (if you are searching under trigger nodes, this is also titled \*\*When Executed by Another Workflow\*\*).

1. Set the \*\*Input data mode\*\* to choose how you will define the sub-workflow's input data:

\* \*\*Define using fields below\*\*: Choose this mode to define individual input names and data types that the calling workflow needs to provide. The [Execute Sub-workflow node](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md) or [Call n8n Workflow Tool node](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.toolworkflow.md) in the calling workflow will automatically pull in the fields defined here.

\* \*\*Define using JSON example\*\*: Choose this mode to provide an example JSON object that demonstrates the expected input items and their types.

\* \*\*Accept all data\*\*: Choose this mode to accept all data unconditionally. The sub-workflow won't define any required input items. This sub-workflow must handle any input inconsistencies or missing values.

1. Add other nodes as needed to build your sub-workflow functionality.

1. Save the sub-workflow.

/// note | Sub-workflow mustn't contain errors

If there are errors in the sub-workflow, the parent workflow can't trigger it.

///

/// note | Load data into sub-workflow before building

This requires the ability to [load data from previous executions](/workflows/executions/debug.md), which is available on n8n Cloud and registered Community plans.

If you want to load data into your sub-workflow to use while building it:

1. Create the sub-workflow and add the \*\*Execute Sub-workflow Trigger\*\*.

1. Set the node's \*\*Input data mode\*\* to \*\*Accept all data\*\* or define the input items using fields or JSON if they're already known.

1. In the sub-workflow [settings](/workflows/settings.md), set \*\*Save successful production executions\*\* to \*\*Save\*\*.

1. Skip ahead to setting up the parent workflow, and run it.

1. Follow the steps to [load data from previous executions](/workflows/executions/debug.md).

1. Adjust the \*\*Input data mode\*\* to match the input sent by the parent workflow if necessary.

You can now pin example data in the trigger node, enabling you to work with real data while configuring the rest of the workflow.

///

### Call the sub-workflow

1. Open the workflow where you want to call the sub-workflow.

1. Add the \*\*Execute Sub-workflow\*\* node.

1. In the \*\*Execute Sub-workflow\*\* node, set the sub-workflow you want to call. You can choose to call the workflow by ID, load a workflow from a local file, add workflow JSON as a parameter in the node, or target a workflow by URL.

/// note | Find your workflow ID

Your sub-workflow's ID is the alphanumeric string at the end of its URL.

///

1. Fill in the required input items defined by the sub-workflow.

1. Save your workflow.

When your workflow executes, it will send data to the sub-workflow, and run it.

You can follow the execution flow from the parent workflow to the sub-workflow by opening the Execute Sub-workflow node and selecting the \*\*View sub-execution\*\* link. Likewise, the sub-workflow's execution contains a link back to the parent workflow's execution to navigate in the other direction.

## credential-only-intro.md

One of the most complex parts of setting up [API](/glossary.md#api) calls is managing authentication. n8n provides [credentials](/glossary.md#credential-n8n) support for operations and services beyond those supported by built-in nodes.

\* Custom operations for existing nodes: n8n supplies hundreds of nodes to create workflows that link multiple products. However, some nodes don't include all the possible operations supported by a product's API. You can work around this by making a custom API call using the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node.

\* Credential-only nodes: n8n includes credential-only nodes. These are integrations where n8n supports setting up credentials for use in the HTTP Request node, but doesn't provide a standalone node. You can find a credential-only node in the nodes panel, as you would for any other integration.

## managed-google-oauth.md

/// note | Note for n8n Cloud users

For the following nodes, you can authenticate by selecting \*\*Sign in with Google\*\* in the OAuth section:

\* [Google Calendar](/integrations/builtin/app-nodes/n8n-nodes-base.googlecalendar/index.md)

\* [Google Contacts](/integrations/builtin/app-nodes/n8n-nodes-base.googlecontacts.md)

\* [Google Drive](/integrations/builtin/app-nodes/n8n-nodes-base.googledrive/index.md)

\* [Google Mail](/integrations/builtin/app-nodes/n8n-nodes-base.gmail/index.md)

\* [Google Sheets](/integrations/builtin/app-nodes/n8n-nodes-base.googlesheets/index.md)

\* [Google Sheets Trigger](/integrations/builtin/trigger-nodes/n8n-nodes-base.googlesheetstrigger/index.md)

\* [Google Tasks](/integrations/builtin/app-nodes/n8n-nodes-base.googletasks.md)

///

## openai-api-issues.md

## The service is receiving too many requests from you

This error displays when you've exceeded [OpenAI's rate limits](https://platform.openai.com/docs/guides/rate-limits){:target=\_blank .external-link}.

There are two ways to work around this issue:

1. Split your data up into smaller chunks using the [Loop Over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) node and add a [Wait](/integrations/builtin/core-nodes/n8n-nodes-base.wait.md) node at the end for a time amount that will help. Copy the code below and paste it into a workflow to use as a template.

```

{

"nodes": [

{

"parameters": {},

"id": "35d05920-ad75-402a-be3c-3277bff7cc67",

"name": "When clicking ‘Execute workflow’",

"type": "n8n-nodes-base.manualTrigger",

"typeVersion": 1,

"position": [

880,

400

]

},

{

"parameters": {

"batchSize": 500,

"options": {}

},

"id": "ae9baa80-4cf9-4848-8953-22e1b7187bf6",

"name": "Loop Over Items",

"type": "n8n-nodes-base.splitInBatches",

"typeVersion": 3,

"position": [

1120,

420

]

},

{

"parameters": {

"resource": "chat",

"options": {},

"requestOptions": {}

},

"id": "a519f271-82dc-4f60-8cfd-533dec580acc",

"name": "OpenAI",

"type": "n8n-nodes-base.openAi",

"typeVersion": 1,

"position": [

1380,

440

]

},

{

"parameters": {

"unit": "minutes"

},

"id": "562d9da3-2142-49bc-9b8f-71b0af42b449",

"name": "Wait",

"type": "n8n-nodes-base.wait",

"typeVersion": 1,

"position": [

1620,

440

],

"webhookId": "714ab157-96d1-448f-b7f5-677882b92b13"

}

],

"connections": {

"When clicking ‘Execute workflow’": {

"main": [

[

{

"node": "Loop Over Items",

"type": "main",

"index": 0

}

]

]

},

"Loop Over Items": {

"main": [

null,

[

{

"node": "OpenAI",

"type": "main",

"index": 0

}

]

]

},

"OpenAI": {

"main": [

[

{

"node": "Wait",

"type": "main",

"index": 0

}

]

]

},

"Wait": {

"main": [

[

{

"node": "Loop Over Items",

"type": "main",

"index": 0

}

]

]

}

},

"pinData": {}

}

```

2. Use the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node with the built-in batch-limit option against the [OpenAI API](https://platform.openai.com/docs/quickstart){:target=\_blank .external-link} instead of using the OpenAI node.

## Insufficient quota

/// note | Quota issues

There are a number of OpenAI issues surrounding quotas, including failures when quotas have been recently topped up. To avoid these issues, ensure that there is credit in the account and issue a new API key from the [API keys screen](https://platform.openai.com/settings/organization/api-keys).

///

This error displays when your OpenAI account doesn't have enough credits or capacity to fulfill your request. This may mean that your OpenAI trial period has ended, that your account needs more credit, or that you've gone over a usage limit.

To troubleshoot this error, on your [OpenAI settings](https://platform.openai.com/settings/organization/billing/overview){:target=\_blank .external-link} page:

\* Select the correct organization for your API key in the first selector in the upper-left corner.

\* Select the correct project for your API key in the second selector in the upper-left corner.

\* Check the organization-level [billing overview](https://platform.openai.com/settings/organization/billing/overview){:target=\_blank .external-link} page to ensure that the organization has enough credit. Double-check that you select the correct organization for this page.

\* Check the organization-level [usage limits](https://platform.openai.com/settings/organization/limits){:target=\_blank .external-link} page. Double-check that you select the correct organization for this page and scroll to the \*\*Usage limits\*\* section to verify that you haven't exceeded your organization's usage limits.

\* Check your OpenAI project's usage limits. Double-check that you select the correct project in the second selector in the upper-left corner. Select \*\*Project\*\* > \*\*Limits\*\* to view or change the project limits.

\* Check that the [OpenAI API](https://status.openai.com/){:target=\_blank .external-link} is operating as expected.

/// note | Balance waiting period

After topping up your balance, there may be a delay before your OpenAI account reflects the new balance.

///

In n8n:

\* check that the [OpenAI credentials](/integrations/builtin/credentials/openai.md) use a valid [OpenAI API key](https://platform.openai.com/api-keys){:target=\_blank .external-link} for the account you've added money to

\* ensure that you connect the [OpenAI node](/integrations/builtin/app-nodes/n8n-nodes-langchain.openai/index.md) to the correct [OpenAI credentials](/integrations/builtin/credentials/openai.md)

If you find yourself frequently running out of account credits, consider turning on auto recharge in your [OpenAI billing settings](https://platform.openai.com/settings/organization/billing/overview){:target=\_blank .external-link} to automatically reload your account with credits when your balance reaches $0.

## Bad request - please check your parameters

This error displays when the request results in an error but n8n wasn't able to interpret the error message from OpenAI.

To begin troubleshooting, try running the same operation using the [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) node, which should provide a more detailed error message.

## predefined-credential-type-how-to.md

To use a predefined credential type:

1. Open your HTTP Request node, or add a new one to your workflow.

2. In \*\*Authentication\*\*, select \*\*Predefined Credential Type\*\*.

3. In \*\*Credential Type\*\*, select the API you want to use.

4. In \*\*Credential for `<API name>`\*\*, you can:

1. Select an existing credential for that platform, if available.

2. Select \*\*Create New\*\* to create a new credential.

## referenced-node-unexecuted.md

<!-- vale off -->

## Referenced node is unexecuted

<!-- vale on -->

This error displays when a previous node in the workflow hasn't executed and isn't providing output that this node needs as input.

The full text of this error will tell you the exact node that isn't executing in this format:

```

An expression references the node '<node-name>', but it hasn’t been executed yet. Either change the expression, or re-wire your workflow to make sure that node executes first.

```

To begin troubleshooting, test the workflow up to the named node.

For nodes that call JavaScript or other custom code, determine if a node has executed before trying to use the value by calling:

```js

$("<node-name>").isExecuted

```

## submit-community-node.md

/// note | Subject to change

The standards described in this document are for the first release of the community nodes repository. These may change in future releases.

///

Community nodes are npm packages, hosted in the npm registry.

When building a node to submit to the community node repository, use the following resources to make sure your node setup is correct:

\* View the [starter node](https://github.com/n8n-io/n8n-nodes-starter){:target=\_blank .external-link} and [n8n's own nodes](https://github.com/n8n-io/n8n/tree/master/packages/nodes-base/nodes){:target=\_blank .external-link} for some examples.

\* Refer to the documentation on [building your own nodes](/integrations/creating-nodes/overview.md).

\* Make sure your node follows the [standards](#standards) for community nodes.

## Standards

To make your node available to the n8n community node repository, you must:

\* Make sure the package name starts with `n8n-nodes-` or `@<scope>/n8n-nodes-`. For example, `n8n-nodes-weather` or `@weatherPlugins/n8n-nodes-weather`.

\* Include `n8n-community-node-package` in your package keywords.

\* Make sure that you add your nodes and credentials to the `package.json` file inside the `n8n` attribute. Refer to the [package.json in the starter node](https://github.com/n8n-io/n8n-nodes-starter/blob/master/package.json){:target=\_blank .external-link} for an example.

\* Check your node using the [linter](/integrations/creating-nodes/test/node-linter.md) and test it locally to ensure it works.

\* Submit the package to the npm registry. Refer to npm's documentation on [Contributing packages to the registry](https://docs.npmjs.com/packages-and-modules/contributing-packages-to-the-registry){:target=\_blank .external-link} for more information.

## Submit your node for verification by n8n

n8n vets verified community nodes. Users can discover and install verified community nodes from the nodes panel in n8n. These nodes need to adhere to certain technical and UX standards and constraints.

Before submitting your node for review by n8n, you must:

\* Make sure that your node follows the [technical guidelines for verified community nodes](/integrations/creating-nodes/build/reference/verification-guidelines.md) and that all automated checks pass. Specifically, verified community nodes aren't allowed to use any run-time dependencies.

\* Ensure that your node follows the [UX guidelines](/integrations/creating-nodes/build/reference/ux-guidelines.md).

\* Make sure that the node has appropriate documentation in the form of a README in the [npm package](https://docs.npmjs.com/about-package-readme-files) or a related public repository.

\* Submit your node to npm as n8n will fetch it from there for final vetting.

If your node meets all the above requirements, [click here to submit your node for verification](https://internal.users.n8n.cloud/form/f0ff9304-f34a-420e-99da-6103a2f8ac5b).

## node-operations.md

## Node operations: Triggers and Actions

When you add a node to a workflow, n8n displays a list of available operations. An operation is something a node does, such as getting or sending data.

There are two types of operation:

\* Triggers start a workflow in response to specific events or conditions in your services. When you select a Trigger, n8n adds a trigger node to your workflow, with the Trigger operation you chose pre-selected. When you search for a node in n8n, Trigger operations have a bolt icon <span class="inline-image">![Trigger icon](/\_images/common-icons/trigger.png){.off-glb}</span>.

\* Actions are operations that represent specific tasks within a workflow, which you can use to manipulate data, perform operations on external systems, and trigger events in other systems as part of your workflows. When you select an Action, n8n adds a node to your workflow, with the Action operation you chose pre-selected.

## poll-modes.md

### Every Hour mode

Enter the \*\*Minute\*\* of the hour to trigger the poll, from `0` to `59`.

### Every Day mode

\* Enter the \*\*Hour\*\* of the day to trigger the poll in 24-hour format, from `0` to `23`.

\* Enter the \*\*Minute\*\* of the hour to trigger the poll, from `0` to `59`.

### Every Week mode

\* Enter the \*\*Hour\*\* of the day to trigger the poll in 24-hour format, from `0` to `23`.

\* Enter the \*\*Minute\*\* of the hour to trigger the poll, from `0` to `59`.

\* Select the \*\*Weekday\*\* to trigger the poll.

### Every Month mode

\* Enter the \*\*Hour\*\* of the day to trigger the poll in 24-hour format, from `0` to `23`.

\* Enter the \*\*Minute\*\* of the hour to trigger the poll, from `0` to `59`.

\* Enter the \*\*Day of the Month\*\* to trigger the poll, from `0` to `31`.

### Every X mode

\* Enter the \*\*Value\*\* of measurement for how often to trigger the poll in either minutes or hours.

\* Select the \*\*Unit\*\* for the value. Supported units are \*\*Minutes\*\* and \*\*Hours\*\*.

### Custom mode

Enter a custom \*\*Cron Expression\*\* to trigger the poll. Use these values and ranges:

\* Seconds: `0` - `59`

\* Minutes: `0` - `59`

\* Hours: `0` - `23`

\* Day of Month: `1` - `31`

\* Months: `0` - `11` (Jan - Dec)

\* Day of Week: `0` - `6` (Sun - Sat)

To generate a Cron expression, you can use [crontab guru](https://crontab.guru){:target=\_blank .external-link}. Paste the Cron expression that you generated using crontab guru in the \*\*Cron Expression\*\* field in n8n.

#### Examples

If you want to trigger your workflow every day at 04:08:30, enter the following in the \*\*Cron Expression\*\* field.

```

30 8 4 \* \* \*

```

If you want to trigger your workflow every day at 04:08, enter the following in the \*\*Cron Expression\*\* field.

```

8 4 \* \* \*

```

#### Why there are six asterisks in the Cron expression

The sixth asterisk in the Cron expression represents seconds. Setting this is optional. The node will execute even if you don't set the value for seconds.

| \* | \* | \* | \* | \* | \* |

|:--:|:--:|:--:|:--:|:--:|:--:|

|second|minute|hour|day of month|month|day of week|

## send-and-wait-operation.md

## Waiting for a response

By choosing the \*\*Send and Wait for a Response\*\* operation, you can send a message and pause the workflow execution until a person confirms the action or provides more information.

### Response Type

You can choose between the following types of waiting and approval actions:

\* \*\*Approval\*\*: Users can approve or disapprove from within the message.

\* \*\*Free Text\*\*: Users can submit a response with a form.

\* \*\*Custom Form\*\*: Users can submit a response with a custom form.

You can customize the waiting and response behavior depending on which response type you choose. You can configure these options in any of the above response types:

\* \*\*Limit Wait Time\*\*: Whether the workflow will automatically resume execution after a specified time limit. This can be an interval or a specific wall time.

\* \*\*Append n8n Attribution\*\*: Whether to mention in the message that it was sent automatically with n8n (turned on) or not (turned off).

### Approval response customization

When using the Approval response type, you can choose whether to present only an approval button or both approval \*and\* disapproval buttons.

You can also customize the button labels for the buttons you include.

### Free Text response customization

When using the Free Text response type, you can customize the message button label, the form title and description, and the response button label.

### Custom Form response customization

When using the Custom Form response type, you build a form using the fields and options you want.

You can customize each form element with the settings outlined in the [n8n Form trigger's form elements](/integrations/builtin/core-nodes/n8n-nodes-base.formtrigger.md#form-elements). To add more fields, select the \*\*Add Form Element\*\* button.

You'll also be able to customize the message button label, the form title and description, and the response button label.

## ai-tools.md

/// note | This node can be used as an AI tool

This node can be used to enhance the capabilities of an AI agent. When used in this way, many parameters can be set automatically, or with information directed by AI - find out more in the [AI tool parameters documentation](/advanced-ai/examples/using-the-fromai-function.md).

///

## operation-not-supported.md

## What to do if your operation isn't supported

If this node doesn't support the operation you want to do, you can use the [HTTP Request node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) to call the service's API.

You can use the credential you created for this service in the HTTP Request node:

1. In the HTTP Request node, select \*\*Authentication\*\* > \*\*Predefined Credential Type\*\*.

1. Select the service you want to connect to.

1. Select your credential.

Refer to [Custom API operations](/integrations/custom-operations.md) for more information.

## node-options.md

- \*\*Cell Format\*\*: Use this option to choose how to format the data in cells. Refer to [Google Sheets API | CellFormat](https://developers.google.com/sheets/api/reference/rest/v4/spreadsheets/cells#CellFormat){:target=\_blank .external-link} for more information.

- \*\*Let Google Sheets format\*\* (default): n8n formats text and numbers in the cells according to Google Sheets' default settings.

- \*\*Let n8n format\*\*: New cells in your sheet will have the same data types as the input data provided by n8n.

- \*\*Data Location on Sheet\*\*: Use this option when you need to specify the data range on your sheet.

- \*\*Header Row\*\*: Specify the row index that contains the column headers.

- \*\*First Data Row\*\*: Specify the row index where the actual data starts.

- \*\*Handling extra fields in input\*\*: When using \*\*Mapping Column Mode > Map Automatically\*\*, use this option to decide how to handle fields in the input data that don't match any existing columns in the sheet.

- \*\*Insert in New Column(s)\*\* (default): Adds new columns for any extra data.

- \*\*Ignore Them\*\*: Ignores extra data that don't match the existing columns.

- \*\*Error\*\*: Throws an error and stops execution.

- \*\*Use Append\*\*: Turn on this option to use the [Google API append endpoint](https://developers.google.com/sheets/api/guides/values#append\_values){:target=\_blank .external-link} for adding new data rows.

- By default, n8n appends empty rows or columns and then adds the new data. This approach can ensure data alignment but may be less efficient. Using the append endpoint can lead to better performance by minimizing the number of API calls and simplifying the process. But if the existing sheet data has inconsistencies such as gaps or breaks between rows and columns, n8n may add the new data in the wrong place, leading to misalignment issues.

- Use this option when performance is a priority and the data structure in the sheet is consistent without gaps.

## cluster-nodes-summary.md

[Cluster nodes](/glossary.md#cluster-node-n8n) are node groups that work together to provide functionality in an n8n workflow. Instead of using a single node, you use a [root node](/glossary.md#root-node-n8n) and one or more [sub-nodes](/glossary.md#sub-node-n8n) that extend the functionality of the node.

![Screenshot of a workflow with a root node and two sub-nodes](/\_images/integrations/builtin/cluster-nodes/root-sub-nodes.png)

## langchain-doc-loaders-link.md

Refer to [LangChain's documentation on document loaders](https://js.langchain.com/docs/modules/data\_connection/document\_loaders/integrations/file\_loaders/){:target=\_blank .external-link} for more information about the service.

## langchain-overview-link.md

View n8n's [Advanced AI](/advanced-ai/index.md) documentation.

## sub-node-expression-resolution.md

/// note | Parameter resolution in sub-nodes

Sub-nodes behave differently to other nodes when processing multiple items using an expression.

Most nodes, including root nodes, take any number of items as input, process these items, and output the results. You can use expressions to refer to input items, and the node resolves the expression for each item in turn. For example, given an input of five `name` values, the expression `{{ $json.name }}` resolves to each name in turn.

In sub-nodes, the expression always resolves to the first item. For example, given an input of five `name` values, the expression `{{ $json.name }}` always resolves to the first name.

///

## tools-link.md

Refer to [LangChain's documentation on tools](https://langchain-ai.github.io/langgraphjs/how-tos/tool-calling/){:target=\_blank .external-link} for more information about tools in LangChain.

## use-with-chat-trigger.md

You can use this agent with the [Chat Trigger](/integrations/builtin/core-nodes/n8n-nodes-langchain.chattrigger/index.md) node. Attach a memory sub-node so that users can have an ongoing conversation with multiple queries. Memory doesn't persist between sessions.

## vector-store-mode-with-update.md

### Operation Mode

This Vector Store node has five modes: \*\*Get Many\*\*, \*\*Insert Documents\*\*, \*\*Retrieve Documents (As Vector Store for Chain/Tool)\*\*, \*\*Retrieve Documents (As Tool for AI Agent)\*\*, and \*\*Update Documents\*\*. The mode you select determines the operations you can perform with the node and what inputs and outputs are available.

<!-- vale off -->

#### Get Many

In this mode, you can retrieve multiple documents from your vector database by providing a prompt. The prompt will be embedded and used for similarity search. The node will return the documents that are most similar to the prompt with their similarity score. This is useful if you want to retrieve a list of similar documents and pass them to an agent as additional context.

<!-- vale on -->

#### Insert Documents

Use Insert Documents mode to insert new documents into your vector database.

#### Retrieve Documents (As Vector Store for Chain/Tool)

Use Retrieve Documents (As Vector Store for Chain/Tool) mode with a vector-store retriever to retrieve documents from a vector database and provide them to the retriever connected to a chain. In this mode you must connect the node to a retriever node or root node.

#### Retrieve Documents (As Tool for AI Agent)

Use Retrieve Documents (As Tool for AI Agent) mode to use the vector store as a tool resource when answering queries. When formulating responses, the agent uses the vector store when the vector store name and description match the question details.

#### Update Documents

Use Update Documents mode to update documents in a vector database by ID. Fill in the \*\*ID\*\* with the ID of the embedding entry to update.

## vector-store-mode.md

### Operation Mode

This Vector Store node has four modes: \*\*Get Many\*\*, \*\*Insert Documents\*\*, \*\*Retrieve Documents (As Vector Store for Chain/Tool)\*\*, and \*\*Retrieve Documents (As Tool for AI Agent)\*\*. The mode you select determines the operations you can perform with the node and what inputs and outputs are available.

<!-- vale off -->

#### Get Many

In this mode, you can retrieve multiple documents from your vector database by providing a prompt. The prompt will be embedded and used for similarity search. The node will return the documents that are most similar to the prompt with their similarity score. This is useful if you want to retrieve a list of similar documents and pass them to an agent as additional context.

<!-- vale on -->

#### Insert Documents

Use Insert Documents mode to insert new documents into your vector database.

#### Retrieve Documents (As Vector Store for Chain/Tool)

Use Retrieve Documents (As Vector Store for Chain/Tool) mode with a vector-store retriever to retrieve documents from a vector database and provide them to the retriever connected to a chain. In this mode you must connect the node to a retriever node or root node.

#### Retrieve Documents (As Tool for AI Agent)

Use Retrieve Documents (As Tool for AI Agent) mode to use the vector store as a tool resource when answering queries. When formulating responses, the agent uses the vector store when the vector store name and description match the question details.

## vector-store-rerank-results.md

### Rerank Results

Enables [reranking](/glossary.md#ai-reranking). If you enable this option, you must connect a reranking node to the vector store. That node will then rerank the results for queries. You can use this option with the `Get Many`, `Retrieve Documents (As Vector Store for Chain/Tool)` and `Retrieve Documents (As Tool for AI Agent)` modes.

## binary-images.md

Use this option to control whether binary images should be automatically passed through to the agent as image type messages (turned on) or not (turned off).

## max-iterations.md

Enter the number of times the model should run to try and generate a good answer from the user's prompt.

Defaults to `10`.

## output-format.md

This parameter controls whether you want the node to require a specific output format. When turned on, n8n prompts you to connect one of these output parsers to the node:

\* [Auto-fixing Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserautofixing.md)

\* [Item List Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparseritemlist.md)

\* [Structured Output Parser](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.outputparserstructured/index.md)

## prompt.md

Select how you want the node to construct the prompt (also known as the user's query or input from the chat).

Choose from:

\* \*\*Take from previous node automatically\*\*: If you select this option, the node expects an input from a previous node called `chatInput`.

\* \*\*Define below\*\*: If you select this option, provide either static text or an expression for dynamic content to serve as the prompt in the \*\*Prompt (User Message)\*\* field.

## return-intermediate-steps.md

Select whether to include intermediate steps the agent took in the final output (turned on) or not (turned off).

This could be useful for further refining the agent's behavior based on the steps it took.

## system-message.md

If you'd like to send a message to the agent before the conversation starts, enter the message you'd like to send.

Use this option to guide the agent's decision-making.

## vector-store-metadata-filter.md

Available in \*\*Get Many\*\* mode. When searching for data, use this to match with metadata associated with the document.

This is an `AND` query. If you specify more than one metadata filter field, all of them must match.

When inserting data, the metadata is set using the document loader. Refer to [Default Data Loader](/integrations/builtin/cluster-nodes/sub-nodes/n8n-nodes-langchain.documentdefaultdataloader.md) for more information on loading documents.

## builtin-methods.md

| Method | Description |

| ------ | ----------- |

| `this.addInputData(inputName, data)` | Populate the data of a specified non-main input. Useful for mocking data.<ul><li>`inputName` is the input connection type, and must be one of: `ai\_agent`, `ai\_chain`, `ai\_document`, `ai\_embedding`, `ai\_languageModel`, `ai\_memory`, `ai\_outputParser`, `ai\_retriever`, `ai\_textSplitter`, `ai\_tool`, `ai\_vectorRetriever`, `ai\_vectorStore`</li><li>`data` contains the data you want to add. Refer to [Data structure](/data/data-structure.md) for information on the data structure expected by n8n.</li></ul> |

| `this.addOutputData(outputName, data)` | Populate the data of a specified non-main output. Useful for mocking data.<ul><li>`outputName` is the input connection type, and must be one of: `ai\_agent`, `ai\_chain`, `ai\_document`, `ai\_embedding`, `ai\_languageModel`, `ai\_memory`, `ai\_outputParser`, `ai\_retriever`, `ai\_textSplitter`, `ai\_tool`, `ai\_vectorRetriever`, `ai\_vectorStore`</li><li>`data` contains the data you want to add. Refer to [Data structure](/data/data-structure.md) for information on the data structure expected by n8n.</li></ul> |

| `this.getInputConnectionData(inputName, itemIndex, inputIndex?)` | Get data from a specified non-main input.<ul><li>`inputName` is the input connection type, and must be one of: `ai\_agent`, `ai\_chain`, `ai\_document`, `ai\_embedding`, `ai\_languageModel`, `ai\_memory`, `ai\_outputParser`, `ai\_retriever`, `ai\_textSplitter`, `ai\_tool`, `ai\_vectorRetriever`, `ai\_vectorStore`</li><li>`itemIndex` should always be `0` (this parameter will be used in upcoming functionality)</li><li>Use `inputIndex` if there is more than one node connected to the specified input.</li></ul> |

| `this.getInputData(inputIndex?, inputName?)` | Get data from the main input. |

| `this.getNode()` | Get the current node. |

| `this.getNodeOutputs()` | Get the outputs of the current node. |

| `this.getExecutionCancelSignal()` | Use this to stop the execution of a function when the workflow stops. In most cases n8n handles this, but you may need to use it if building your own chains or agents. It replaces the [Cancelling a running LLMChain](https://js.langchain.com/docs/modules/chains/foundational/llm\_chain#cancelling-a-running-llmchain){:target=\_blank .external-link} code that you'd use if building a LangChain application normally. |

## chat-memory-manager-purpose.md

This node is useful when you:

\* Can't add a memory node directly.

\* Need to do more complex memory management, beyond what the memory nodes offer. For example, you can add this node to check the memory size of the Agent node's response, and reduce it if needed.

\* Want to inject messages to the AI that look like user messages, to give the AI more context.

## schema-type-structuring.md

1. \*\*Generate from JSON Example\*\*: Input an example JSON object to automatically generate the schema. The node uses the object property types and names. It ignores the actual values. n8n treats every field as mandatory when generating schemas from JSON examples.

2. \*\*Define using JSON Schema\*\*: Manually input the JSON schema. Read the JSON Schema [guides and examples](https://json-schema.org/learn/miscellaneous-examples) for help creating a valid JSON schema. Please note that we don't support references (using `$ref`) in JSON schemas.

## workflow-values.md

Set values to pass to the workflow you're calling.

These values appear in the output data of the trigger node in the workflow you call. You can access these values in expressions in the workflow. For example, if you have:

\* \*\*Workflow Values\*\* with a \*\*Name\*\* of `myCustomValue`

\* A workflow with an Execute Sub-workflow Trigger node as its trigger

The expression to access the value of `myCustomValue` is `{{ $('Execute Sub-workflow Trigger').item.json.myCustomValue }}`.

## code-node.md

Use the Code node to write custom JavaScript or Python and run it as a step in your workflow.

/// note | Coding in n8n

This page gives usage information about the Code node. For more guidance on coding in n8n, refer to the [Code](/code/index.md) section. It includes:

\* Reference documentation on [Built-in methods and variables](/code/builtin/overview.md)

\* Guidance on [Handling dates](/code/cookbook/luxon.md) and [Querying JSON](/code/cookbook/jmespath.md)

\* A growing collection of examples in the [Cookbook](/code/cookbook/code-node/index.md)

///

/// note | Examples and templates

For usage examples and templates to help you get started, refer to n8n's [Code integrations](https://n8n.io/integrations/code/){:target=\_blank .external-link} page.

///

/// note | Function and Function Item nodes

The Code node replaces the Function and Function Item nodes from version 0.198.0. If you're using an older version of n8n, you can still view the [Function node documentation](https://github.com/n8n-io/n8n-docs/blob/67935ad2528e2e30d7984ea917e4af2910a096ec/docs/integrations/builtin/core-nodes/n8n-nodes-base.function.md){:target=\_blank .external-link} and [Function Item node documentation](https://github.com/n8n-io/n8n-docs/blob/67935ad2528e2e30d7984ea917e4af2910a096ec/docs/integrations/builtin/core-nodes/n8n-nodes-base.functionItem.md){:target=\_blank .external-link}.

///

## Usage

How to use the Code node.

### Choose a mode

There are two modes:

\* \*\*Run Once for All Items\*\*: this is the default. When your workflow runs, the code in the code node executes once, regardless of how many input items there are.

\* \*\*Run Once for Each Item\*\*: choose this if you want your code to run for every input item.

## JavaScript

The Code node supports Node.js.

### Supported JavaScript features

The Code node supports:

\* Promises. Instead of returning the items directly, you can return a promise which resolves accordingly.

\* Writing to your browser console using `console.log`. This is useful for debugging and troubleshooting your workflows.

### External libraries

If you self-host n8n, you can import and use built-in and external npm modules in the Code node. To learn how to enable external modules, refer to the [Enable modules in Code node](/hosting/configuration/configuration-examples/modules-in-code-node.md) guide.

If you use n8n Cloud, you can't import external npm modules. n8n makes two modules available for you:

\* [crypto Node.js module](https://nodejs.org/docs/latest-v18.x/api/crypto.html){:target=\_blank .external-link}

\* [moment npm package](https://www.npmjs.com/package/moment){:target=\_blank .external-link}

### Built-in methods and variables

n8n provides built-in methods and variables for working with data and accessing n8n data. Refer to [Built-in methods and variables](/code/builtin/overview.md) for more information.

The syntax to use the built-in methods and variables is `$variableName` or `$methodName()`. Type `$` in the Code node or expressions editor to see a list of suggested methods and variables.

### Keyboard shortcuts

The Code node editing environment supports time-saving and useful keyboard shortcuts for a range of operations from autocompletion to code-folding and using multiple-cursors. A full list can be found in the [list of keyboard shortcuts](/integrations/builtin/core-nodes/n8n-nodes-base.code/keyboard-shortcuts.md).

## Python

n8n added Python support in version 1.0. It doesn't include a Python executable. Instead, n8n provides Python support using [Pyodide](https://pyodide.org/en/stable/){:target=\_blank .external-link}, which is a port of CPython to WebAssembly. This limits the available Python packages to the [Packages included with Pyodide](https://pyodide.org/en/stable/usage/packages-in-pyodide.html#packages-in-pyodide){:target=\_blank .external-link}. n8n downloads the package automatically the first time you use it.

/// note | Slower than JavaScript

The Code node takes longer to process Python than JavaScript. This is due to the extra compilation steps.

///

### Built-in methods and variables

n8n provides built-in methods and variables for working with data and accessing n8n data. Refer to [Built-in methods and variables](/code/builtin/overview.md) for more information.

The syntax to use the built-in methods and variables is `\_variableName` or `\_methodName()`. Type `\_` in the Code node to see a list of suggested methods and variables.

### Keyboard shortcuts

The Code node editing environment supports time-saving and useful keyboard shortcuts for a range of operations from autocompletion to code-folding and using multiple-cursors. A full list can be found in the [list of keyboard shortcuts](/integrations/builtin/core-nodes/n8n-nodes-base.code/keyboard-shortcuts.md).

## File system and HTTP requests

You can't access the file system or make HTTP requests. Use the following nodes instead:

\* [Read/Write File From Disk](/integrations/builtin/core-nodes/n8n-nodes-base.readwritefile.md)

\* [HTTP Request](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md)

## Coding in n8n

There are two places where you can use code in n8n: the Code node and the expressions editor. When using either area, there are some key concepts you need to know, as well as some built-in methods and variables to help with common tasks.

### Key concepts

When working with the Code node, you need to understand the following concepts:

\* [Data structure](/data/data-structure.md): understand the data you receive in the Code node, and requirements for outputting data from the node.

\* [Item linking](/data/data-mapping/data-item-linking/index.md): learn how data items work, and how to link to items from previous nodes. You need to handle item linking in your code when the number of input and output items doesn't match.

### Built-in methods and variables

n8n includes built-in methods and variables. These provide support for:

\* Accessing specific item data

\* Accessing data about workflows, executions, and your n8n environment

\* Convenience variables to help with data and time

Refer to [Built-in methods and variables](/code/builtin/overview.md) for more information.

## Use AI in the Code node

--8<-- "\_snippets/code/ai-how-to.md"

## data-types.md

## Available data type comparisons

<!-- vale off -->

### String

String data type supports these comparisons:

- exists

- does not exist

- is empty

- is not empty

- is equal to

- is not equal to

- contains

- does not contain

- starts with

- does not start with

- ends with

- does not end with

- matches regex

- does not match regex

### Number

Number data type supports these comparisons:

- exists

- does not exist

- is empty

- is not empty

- is equal to

- is not equal to

- is greater than

- is less than

- is greater than or equal to

- is less than or equal to

### Date & Time

Date & Time data type supports these comparisons:

- exists

- does not exist

- is empty

- is not empty

- is equal to

- is not equal to

- is after

- is before

- is after or equal to

- is before or equal to

### Boolean

Boolean data type supports these comparisons:

- exists

- does not exist

- is empty

- is not empty

- is true

- is false

- is equal to

- is not equal to

### Array

Array data type supports these comparisons:

- exists

- does not exist

- is empty

- is not empty

- contains

- does not contain

- length equal to

- length not equal to

- length greater than

- length less than

- length greater than or equal to

- length less than or equal to

### Object

Object data type supports these comparisons:

- exists

- does not exist

- is empty

- is not empty

<!-- vale on -->

## data-section-link.md

Learn more about [data structure and data flow](/data/index.md) in n8n workflows.

## error-data.md

The default error data received by the Error Trigger is:

```json

[

{

"execution": {

"id": "231",

"url": "https://n8n.example.com/execution/231",

"retryOf": "34",

"error": {

"message": "Example Error Message",

"stack": "Stacktrace"

},

"lastNodeExecuted": "Node With Error",

"mode": "manual"

},

"workflow": {

"id": "1",

"name": "Example Workflow"

}

}

]

```

All information is always present, except:

- `execution.id`: requires the execution to be saved in the database. Not present if the error is in the trigger node of the main workflow, as the workflow doesn't execute.

- `execution.url`: requires the execution to be saved in the database. Not present if the error is in the trigger node of the main workflow, as the workflow doesn't execute.

- `execution.retryOf`: only present when the execution is a retry of a failed execution.

If the error is caused by the trigger node of the main workflow, rather than a later stage, the data sent to the error workflow is different. There's less information in `execution{}` and more in `trigger{}`:

```json

{

"trigger": {

"error": {

"context": {},

"name": "WorkflowActivationError",

"cause": {

"message": "",

"stack": ""

},

"timestamp": 1654609328787,

"message": "",

"node": {

. . .

}

},

"mode": "trigger"

},

"workflow": {

"id": "",

"name": ""

}

}

```

## pagination-api-differences.md

/// note | API differences

Different APIs implement pagination in different ways. Check the API documentation for the API you're using for details. You need to find out things like:

\* Does the API provide the URL for the next page?

\* Are there API-specific limits on page size or page number?

\* The structure of the data that the API returns.

///

## pagination-variables.md

| Variable | Description |

| -------- | ----------- |

| `$pageCount` | The pagination count. Tracks how many pages the node has fetched. |

| `$request` | The request object sent by the HTTP node. |

| `$response` | The response object from the HTTP call. Includes `$response.body`, `$response.headers`, and `$response.statusCode`. The contents of `body` and `headers` depend on the data sent by the API. |

## field-value-clash.md

If multiple items at an index have a field with the same name, this is a clash. For example, if all items in both Input 1 and Input 2 have a field named `language`, these fields clash. By default, n8n prioritizes Input 2, meaning if `language` has a value in Input 2, n8n uses that value when merging the items.

You can change this behavior by selecting \*\*Options\*\* > \*\*Clash Handling\*\*:

- \*\*When Field Values Clash\*\*: Choose which input to prioritize, or choose \*\*Always Add Input Number to Field Names\*\* to keep all fields and values, with the input number appended to the field name to show which input it came from.

- \*\*Merging Nested Fields\*\*

- \*\*Deep Merge\*\*: Merge properties at all levels of the items, including nested objects. This is useful when dealing with complex, nested data structures where you need to ensure the merging of all levels of nested properties.

- \*\*Shallow Merge\*\*: Merge properties at the top level of the items only, without merging nested objects. This is useful when you have flat data structures or when you only need to merge top-level properties without worrying about nested properties.

## if-merge-branch-execution.md

/// info | 0.236.0 and below

n8n removed this execution behavior in version 1.0. This section applies to workflows using the \*\*v0 (legacy)\*\* workflow execution order. By default, this is all workflows built before version 1.0. You can change the execution order in your [workflow settings](/workflows/settings.md).

///

If you add a Merge node to a workflow containing an If node, it can result in both output data streams of the If node executing.

One data stream triggers the Merge node, which then goes and executes the other data stream.

For example, in the screenshot below there's a workflow containing an Edit Fields node, If node, and Merge node. The standard If node behavior is to execute one data stream (in the screenshot, this is the \*\*true\*\* output). However, due to the Merge node, both data streams execute, despite the If node not sending any data down the \*\*false\*\* data stream.

![Screenshot of a workflow. The workflow has an Edit Fields node, followed by an If node. It ends with a Merge node.](/\_images/integrations/builtin/core-nodes/merge/if-merge-node.png)

<!-- TODO: remove once v1 is mature -->

## timezone-settings.md

/// note | Timezone settings

The node relies on the timezone setting. n8n uses either:

1. The workflow timezone, if set. Refer to [Workflow settings](/workflows/settings.md) for more information.

2. The n8n instance timezone, if the workflow timezone isn't set. The default is `America/New York` for self-hosted instances. n8n Cloud tries to detect the instance owner's timezone when they sign up, falling back to GMT as the default. Self-hosted users can change the instance setting using [Environment variables](/hosting/configuration/environment-variables/timezone-localization.md). Cloud admins can change the instance timezone in the [Admin dashboard](/manage-cloud/set-cloud-timezone.md).

///

## cloud-oauth-button.md

/// note | Note for n8n Cloud users

Cloud users don't need to provide connection details. Select \*\*Connect my account\*\* to connect through your browser.

///

## cred-only-statement.md

You can use these credentials to authenticate when using the [HTTP Request node](/integrations/builtin/core-nodes/n8n-nodes-base.httprequest/index.md) to make a [Custom API call](/integrations/custom-operations.md).

## microsoft-need-admin-approval.md

### Need admin approval

When attempting to add credentials for a Microsoft360 or Microsoft Entra account, users may see a message when following the procedure that this action requires admin approval.

This message will appear when the account attempting to grant permissions for the credential is managed by a Microsoft Entra. In order to issue the credential, the administrator account needs to grant permission to the user (or "tenant") for that application.

The procedure for this is covered in the [Microsoft Entra documentation](https://learn.microsoft.com/en-us/entra/identity/enterprise-apps/grant-admin-consent).

## open-credential-modal-list.md

1. In n8n, open the \*\*Admin Panel\*\* (left menu)

1. Select \*\*Credentials\*\* > \*\*New\*\*.

## gmail-app-password.md

To generate an app password:

1. In your Google account, go to [App passwords](https://myaccount.google.com/apppasswords){:target=\_blank .external-link}.

2. Enter an \*\*App name\*\* for your new app password, like `n8n credential`.

3. Select \*\*Create\*\*.

4. Copy the generated app password. You'll use this in your n8n credential.

Refer to Google's [Sign in with app passwords documentation](https://support.google.com/accounts/answer/185833?hl=en){:target=\_blank .external-link} for more information.

## gmail-two-step-verification.md

To enable 2-step Verification:

1. Log in to your [Google Account](https://myaccount.google.com/){:target=\_blank .external-link}.

2. Select \*\*Security\*\* from the left navigation.

3. Under \*\*How you sign in to Google\*\*, select \*\*2-Step Verification\*\*.

- If 2-Step Verification is already enabled, skip to the next section.

4. Select \*\*Get started\*\*.

5. Follow the on-screen steps to configure 2-Step Verification.

Refer to [Turn on 2-step Verification](https://support.google.com/accounts/answer/185839){:target=\_blank .external-link} for more information.

If you can't turn on 2-step Verification, check with your email administrator.

## outlook-app-password.md

If you'd prefer to use an app password instead of your email account password:

1. Log into the [My Account](https://myaccount.microsoft.com/) page.

2. If you have a left navigation option for \*\*Security Info\*\*, jump to [Security Info app password](#security-info-app-password). If you don't have an option for \*\*Security Info\*\*, continue with these instructions.

3. Go to the [Additional security verification page](https://account.activedirectory.windowsazure.com/Proofup.aspx){:target=\_blank .external-link}.

4. Select \*\*App passwords\*\* and \*\*Create\*\*.

5. Enter a \*\*Name\*\* for your app password, like `n8n credential`.

6. Use the option to \*\*copy password to clipboard\*\* and enter this as the \*\*Password\*\* in n8n instead of your email account password.

Refer to Outlook's [Manage app passwords for 2-step verification](https://support.microsoft.com/en-us/account-billing/manage-app-passwords-for-two-step-verification-d6dc8c6d-4bf7-4851-ad95-6d07799387e9){:target=\_blank .external-link} page for more information.

### Security Info app password

If you have a left navigation option for \*\*Security Info\*\*:

1. Select \*\*Security Info\*\*. The Security Info page opens.

2. Select \*\*+ Add method\*\*.

3. On the \*\*Add a method\*\* page, select \*\*App password\*\* and then select \*\*Add\*\*.

4. Enter a \*\*Name\*\* for your app password, like `n8n credential`.

5. Copy the \*\*Password\*\* and enter this as the \*\*Password\*\* in n8n instead of your email account password.

Refer to Outlook's [Create app passwords from the Security info (preview)](https://support.microsoft.com/en-us/account-billing/create-app-passwords-from-the-security-info-preview-page-d8bc744a-ce3f-4d4d-89c9-eb38ab9d4137){:target=\_blank .external-link} page for more information.

## yahoo-app-password.md

1. Log in to your Yahoo account [Security page](https://login.yahoo.com/account/security).

2. Select \*\*Generate app password\*\* or \*\*Generate and manage app passwords\*\*.

3. Select \*\*Get Started\*\*.

2. Enter an \*\*App name\*\* for your new app password, like `n8n credential`.

3. Select \*\*Generate password\*\*.

4. Copy the generated app password. You'll use this in your n8n credential.

Refer to Yahoo's [Generate and manage 3rd-party app passwords](https://help.yahoo.com/kb/generate-manage-third-party-passwords-sln15241.html){:target=\_blank .external-link} for more information.

## basic-auth.md

## Using basic auth

Use this generic authentication if your app or service supports basic authentication.

To configure this credential, enter:

- The \*\*Username\*\* you use to access the app or service your HTTP Request is targeting

- The \*\*Password\*\* that goes with that username

## bearer-auth.md

## Using bearer auth

Use this generic authentication if your app or service supports bearer authentication. This authentication type is actually just header authentication with the `Name` set to `Authorization` and the `Value` set to `Bearer <token>`.

To configure this credential, enter:

- The \*\*Bearer Token\*\* you need to pass to the app or service your HTTP request is targeting

Read more about [bearer authentication](https://swagger.io/docs/specification/v3\_0/authentication/bearer-authentication/).

## digest-auth.md

## Using digest auth

Use this generic authentication if your app or service supports digest authentication.

To configure this credential, enter:

- The \*\*Username\*\* you use to access the app or service your HTTP Request is targeting

- The \*\*Password\*\* that goes with that username

## header-auth.md

## Using header auth

Use this generic authentication if your app or service supports header authentication.

To configure this credential, enter:

- The header \*\*Name\*\* you need to pass to the app or service your HTTP request is targeting

- The \*\*Value\*\* for the header

Read more about [HTTP headers](https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers#authentication)

## app-becoming-unauthorized.md

For Google Cloud apps with \*\*Publishing status\*\* set to \*\*Testing\*\* and \*\*User type\*\* set to \*\*External\*\*, consent and tokens expire after seven days. Refer to [Google Cloud Platform Console Help | Setting up your OAuth consent screen](https://support.google.com/cloud/answer/10311615?hl=en#zippy=%2Ctesting){:target=\_blank .external-link} for more information. To resolve this, reconnect the app in the n8n credentials modal.

## create-google-cloud-project.md

1. Log in to your [Google Cloud Console](https://console.cloud.google.com) using your Google credentials.

2. In the top menu, select the project dropdown in the top navigation and select \*\*New project\*\* or go directly to the [New Project](https://console.cloud.google.com/projectcreate) page.

3. Enter a \*\*Project name\*\* and select the \*\*Location\*\* for your project.

4. Select \*\*Create\*\*.

5. Check the top navigation and make sure the project dropdown has your project selected. If not, select the project you just created.

<figure markdown="span">

![The project dropdown in the Google Cloud top navigation](/\_images/integrations/builtin/credentials/google/google-cloud-project-dropdown.png)

<figcaption>Check the project dropdown in the Google Cloud top navigation</figcaption>

</figure>

## enable-apis.md

1. Access your [Google Cloud Console - Library](https://console.cloud.google.com/apis/library){:target=\_blank .external-link}. Make sure you're in the correct project.

<figure markdown="span">

![The project dropdown in the Google Cloud top navigation](/\_images/integrations/builtin/credentials/google/google-cloud-project-dropdown.png)

<figcaption>Check the project dropdown in the Google Cloud top navigation</figcaption>

</figure>

1. Go to \*\*APIs & Services > Library\*\*.

1. Search for and select the API(s) you want to enable. For example, for the Gmail node, search for and enable the Gmail API.

1. Some integrations require other APIs or require you to request access:

\* Google Perspective: [Request API Access](https://developers.perspectiveapi.com/s/docs-get-started){:target=\_blank .external-link}.

\* Google Ads: Get a [Developer Token](https://developers.google.com/google-ads/api/docs/first-call/dev-token){:target=\_blank .external-link}.

/// note | Google Drive API required

The following integrations require the Google Drive API, as well as their own API:

\* Google Docs

\* Google Sheets

\* Google Slides

///

/// note | Google Vertex AI API

In addition to the Vertex AI API you will also need to enable the [Cloud Resource Manager API](https://console.cloud.google.com/apis/api/cloudresourcemanager.googleapis.com/){:target=\_blank .external-link}.

///

1. Select \*\*ENABLE\*\*.

## unverified-app.md

If using the OAuth authentication method, you might see the warning \*\*Google hasn't verified this app\*\*. To avoid this, you can create OAuth credentials from the same account you want to authenticate.

If you need to use credentials generated by another account (by a developer or another third party), follow the instructions in [Google Cloud documentation | Authorization errors: Google hasn't verified this app](https://developers.google.com/nest/device-access/reference/errors/authorization#google\_hasnt\_verified\_this\_app){:target=\_blank .external-link}.

## token-rotation.md

Slack offers \*\*token rotation\*\* that you can turn on for bot and user tokens. This makes every tokens expire after 12 hours. While this may be useful for testing, n8n credentials using tokens with this enabled will fail after expiry. If you want to use your Slack credentials in production, this feature must be \*\*off\*\*.

To check if your Slack app has token rotation turned on, refer to the [Slack API Documentation | Token Rotation](https://api.slack.com/authentication/rotation){:target=\_blank .external-link}.

/// note | If your app uses token rotation

Please note, if your Slack app uses token rotation, you can't turn it off again. You need to create a new Slack app with token rotation disabled instead.

///

## node-icons.md

n8n recommends using an SVG for your node icon, but you can also use PNG. If using PNG, the icon resolution should be 60x60px. Node icons should have a square or near-square aspect ratio.

/// note | Don't reference Font Awesome

If you want to use a Font Awesome icon in your node, download and embed the image.

///

## prerequisites.md

\* [git](https://git-scm.com/downloads)

\* Node.js and npm. Minimum version Node 18.17.0. You can find instructions on how to install both using nvm (Node Version Manager) for Linux, Mac, and WSL [here](https://github.com/nvm-sh/nvm){:target=\_blank class=.external-link}. For Windows users, refer to Microsoft's guide to [Install NodeJS on Windows](https://docs.microsoft.com/en-us/windows/dev-environment/javascript/nodejs-on-windows){:target=\_blank class=.external-link}.

## testing.md

You can test your node as you build it by running it in a local n8n instance.

1. Install n8n using npm:

```shell

npm install n8n -g

```

2. When you are ready to test your node, publish it locally:

```shell

# In your node directory

npm run build

npm link

```

3. Install the node into your local n8n instance:

```shell

# In the nodes directory within your n8n installation

# node-package-name is the name from the package.json

npm link <node-package-name>

```

/// note | Check your directory

Make sure you run `npm link <node-name>` in the nodes directory within your n8n installation. This can be:

\* `~/.n8n/custom/`

\* `~/.n8n/<your-custom-name>`: if your n8n installation set a different name using `N8N\_CUSTOM\_EXTENSIONS`.

///

4. Start n8n:

```

n8n start

```

5. Open n8n in your browser. You should see your nodes when you search for them in the nodes panel.

/// note | Node names

Make sure you search using the node name, not the package name. For example, if your npm package name is `n8n-nodes-weather-nodes`, and the package contains nodes named `rain`, `sun`, `snow`, you should search for `rain`, not `weather-nodes`.

///

### Troubleshooting

- There's no `custom` directory in `~/.n8n` local installation.

You have to create `custom` directory manually and run `npm init`

```shell

# In ~/.n8n directory run

mkdir custom

cd custom

npm init

```

## updating-best-practices.md

\* Update frequently: this avoids having to jump multiple versions at once, reducing the risk of a disruptive update. Try to update at least once a month.

\* Check the [Release notes](/release-notes.md) for breaking changes.

\* Use [Environments](/source-control-environments/index.md) to create a test version of your instance. Test the update there first.

## gdpr-self-hosted.md

If you self-host n8n, you are responsible for deleting user data. If you need to delete data on behalf of one of your users, you can delete the respective execution. n8n recommends configuring n8n to prune execution data automatically every few days to avoid effortful GDPR request handling as much as possible. Configure this using the `EXECUTIONS\_DATA\_MAX\_AGE` environment variable. Refer to [Environment variables](/hosting/configuration/environment-variables/index.md) for more information.

## file-based-configuration.md

/// note | File-based configuration

You can add `\_FILE` to individual variables to provide their configuration in a separate file. Refer to [Keeping sensitive data in separate files](/hosting/configuration/configuration-methods.md#keeping-sensitive-data-in-separate-files) for more details.

///

## warning.md

/// note | Self-hosting knowledge prerequisites

Self-hosting n8n requires technical knowledge, including:

\* Setting up and configuring servers and containers

\* Managing application resources and scaling

\* Securing servers and applications

\* Configuring n8n

n8n recommends self-hosting for expert users. Mistakes can lead to data loss, security issues, and downtime. If you aren't experienced at managing servers, n8n recommends [n8n Cloud](https://n8n.io/cloud/){:target=\_blank .external-link}.

///

## all.md

## docker-compose-updating.md

If you run n8n using a Docker Compose file, follow these steps to update n8n:

```sh

# Navigate to the directory containing your docker compose file

cd </path/to/your/compose/file/directory>

# Pull latest version

docker compose pull

# Stop and remove older version

docker compose down

# Start the container

docker compose up -d

```

## latest-next-version.md

/// note | Latest and Next versions

n8n releases a new minor version most weeks. The `latest` version is for production use. `next` is the most recent release. You should treat `next` as a beta: it may be unstable. To report issues, use the [forum](https://community.n8n.io/c/questions/12){:target=\_blank .external-link}.

Current `latest`: 1.102.4

Current `next`: 1.103.1

///

## server-setups-next-steps.md

\* Learn more about [configuring](/hosting/configuration/environment-variables/index.md) and [scaling](/hosting/scaling/overview.md) n8n.

\* Or explore using n8n: try the [Quickstarts](/try-it-out/index.md).

## suggested-pod-resources.md

- \*\*Start\*\*: 320mb RAM, 10 millicore CPU burstable

- \*\*Pro (10k executions)\*\*: 640mb RAM, 20 millicore CPU burstable

- \*\*Pro (50k executions)\*\*: 1280mb RAM, 80 millicore CPU burstable

## tunnel.md

## n8n with tunnel

/// danger

Use this for local development and testing. It isn't safe to use it in production.

///

To use webhooks for trigger nodes of external services like GitHub, n8n has to be reachable from the web. n8n runs a [tunnel service](https://github.com/localtunnel/localtunnel) that can redirect requests from n8n's servers to your local n8n instance.

## binary-data-pruning.md

/// note | Binary data pruning

Binary data pruning operates on the active binary data mode. For example, if your instance stored data in S3, and you later switched to filesystem mode, n8n only prunes binary data in the filesystem. This may change in future.

///

## reduce-memory-consumption.md

\* Split the data processed into smaller chunks. For example, instead of fetching 10,000 rows with each execution, process 200 rows with each execution.

\* Avoid using the Code node where possible.

\* Avoid manual executions when processing larger amounts of data.

\* Split the workflow up into sub-workflows and ensure each sub-workflow returns a limited amount of data to its parent workflow.

Splitting the workflow might seem counter-intuitive at first as it usually requires adding at least two more nodes: the [Loop Over Items](/integrations/builtin/core-nodes/n8n-nodes-base.splitinbatches.md) node to split up the items into smaller batches and the [Execute Workflow](/integrations/builtin/core-nodes/n8n-nodes-base.executeworkflow.md) node to start the sub-workflow.

However, as long as your sub-workflow does the heavy lifting for each batch and then returns only a small result set to the main workflow, this reduces memory consumption. This is because the sub-workflow only holds the data for the current batch in memory, after which the memory is free again.

## self-hosted-ai-starter-kit.md

## Self-hosted AI Starter Kit

New to working with AI and using self-hosted n8n? Try n8n's [self-hosted AI Starter Kit](/hosting/starter-kits/ai-starter-kit.md) to get started with a proof-of-concept or demo playground using Ollama, Qdrant, and PostgreSQL.

## configure-git-in-n8n.md

1. Go to \*\*Settings\*\* > \*\*Environments\*\*.

1. In \*\*Git repository URL\*\* enter the SSH URL for your repository.

1. n8n supports ED25519 and RSA public key algorithms. ED25519 is the default. Select \*\*RSA\*\* under \*\*SSH Key\*\* if your git host requires RSA.

1. Copy the SSH key.

## feature-availability.md

/// info | Feature availability

\* Available on Enterprise.

\* You must be an n8n instance owner or instance admin to enable and configure source control.

\* Instance owners and instance admins can push changes to and pull changes from the connected repository.

\* Project admins can push changes to the connected repository. They can't pull changes from the repository.

///

## github-action.md

A GitHub Action example:

```yaml

name: CI

on:

# Trigger the workflow on push or pull request events for the "production" branch

push:

branches: [ "production" ]

# Allows you to run this workflow manually from the Actions tab

workflow\_dispatch:

jobs:

run-pull:

runs-on: ubuntu-latest

steps:

- name: PULL

# Use GitHub secrets to protect sensitive information

run: >

curl --location '${{ secrets.INSTANCE\_URL }}/version-control/pull' --header

'Content-Type: application/json' --header 'X-N8N-API-KEY: ${{ secrets.INSTANCE\_API\_KEY }}'

```

## multi-instance-multi-branch-pros-cons.md

The advantages of this pattern are:

\* An added safety layer to prevent changes getting into your production environment by mistake. You have to do a pull request in GitHub to copy work between environments.

\* It supports more than two instances.

The disadvantage is more manual steps to copy work between environments.

## multi-instance-one-branch-pros-cons.md

The advantage of this pattern is that work is instantly available to other environments when you push from one instance.

The disadvantages are:

\* If you push by mistake, there is a risk the work will make it into your production instance. If you [use a GitHub Action to automate pulls](/source-control-environments/create-environments.md#optional-use-a-github-action-to-automate-pulls) to production, you must either use the multi-instance, multi-branch pattern, or be careful to never push work that you don't want in production.

\* Pushing and pulling to the same instance can cause data loss as changes are overridden when performing these actions. You should set up processes to ensure content flows in one direction.

## one-direction.md

/// note | Recommendation: don't push and pull to the same n8n instance

You can push work from an instance to a branch, and pull to the same instance. n8n doesn't recommend this. To reduce the risk of merge conflicts and overwriting work, try to create a process where work goes in one direction: either to Git, or from Git, but not both.

///

## push-pull-menu-state.md

??? Details "View screenshot"

<figure markdown>

![Pull and push buttons when menu is closed](/\_images/source-control-environments/pull-push-menu-closed.png)

<figcaption>Pull and push buttons when menu is closed</figcaption>

</figure>

<figure markdown>

![Pull and push buttons when menu is open](/\_images/source-control-environments/pull-push-menu-open.png)

<figcaption>Pull and push buttons when menu is open</figcaption>

</figure>

## push.md

To push work to Git:

1. Select \*\*Push\*\* <span class="inline-image">![Push icon](/\_images/source-control-environments/push-icon.png){.off-glb}</span> in the main menu.

--8<-- "\_snippets/source-control-environments/push-pull-menu-state.md"

1. In the \*\*Commit and push changes\*\* modal, select which workflows you want to push. You can filter by status (new, modified, deleted) and search for workflows. n8n automatically pushes tags, and variable and credential stubs.

1. Enter a commit message. This should be a one sentence description of the changes you're making.

1. Select \*\*Commit and Push\*\*. n8n sends the work to Git, and displays a success message on completion.

## new-workflow.md

When you open n8n, you'll see either:

\* An empty workflow: if you have no workflows and you're logging in for the first time. Use this workflow.

\* The \*\*Workflows\*\* list on the \*\*Overview\*\* page. Select the <span class="inline-image">![universal create resource icon](/\_images/common-icons/universal-resource-button.png){.off-glb}</span> \*\*button\*\* to create a new workflow.

## in-app-setup.md

When you set up user management for the first time, you create an owner account.

1. Open n8n. The app displays a signup screen.

2. Enter your details. Your password must be at least eight characters, including at least one number and one capital letter.

3. Click \*\*Next\*\*. n8n logs you in with your new owner account.

## invite-users.md

You can now invite other people to your n8n instance.

1. Sign into your workspace with your owner account. (If you are in the Admin Panel open your \*\*Workspace\*\* from the Dashboard)

2. Click the three dots next to your user icon at the bottom left and click \*\*Settings\*\*. n8n opens your \*\*Personal settings\*\* page.

3. Click \*\*Users\*\* to go to the \*\*Users\*\* page.

4. Click \*\*Invite\*\*.

5. Enter the new user's email address.

6. Click \*\*Invite user\*\*. n8n sends an email with a link for the new user to join.

## saml-overview.md

/// info | Feature availability

\* Available on Enterprise plans.

\* You need access to the n8n instance owner account to enable and configure SAML

Available from version 0.225.0.

///

This section provides guidance on using SAML SSO (single sign-on) with n8n. It assumes you're familiar with SAML. If you're not, [SAML Explained in Plain English](https://www.onelogin.com/learn/saml){:target=\_blank .external-link} can help you understand how SAML works, and its benefits.

\* [Set up SAML](/user-management/saml/setup.md): a general guide to setting up SAML in n8n, and links to resources for common IdPs. Start here.

\* [Okta Workforce Identity SAML setup](/user-management/saml/okta.md): step-by-step guidance to configuring Okta.

\* [Troubleshooting](/user-management/saml/troubleshooting.md): a list of things to check if you encounter issues.

\* [Managing users with SAML](/user-management/saml/managing.md): performing user management tasks with SAML enabled.

## sharing-credentials.md

/// warning | Sharing credentials

Exported workflow JSON files include [credential](/glossary.md#credential-n8n) names and IDs. While IDs aren't sensitive, the names could be, depending on how you name your credentials. HTTP Request nodes may contain authentication headers when imported from cURL. Remove or anonymize this information from the JSON file before sharing to protect your credentials.

///

## custom-execution-data-availability.md

/// info | Feature availability

Custom executions data is available on:

\* Cloud: Pro, Enterprise

\* Self-Hosted: Enterprise, registered Community

Available in version 0.222.0 and above.

///

## retry-options.md

3. Select either of the following options to retry the execution:

\* \*\*Retry with currently saved workflow\*\*: Once you make changes to your workflow, you can select this option to execute the workflow with the previous execution data.

\* \*\*Retry with original workflow\*\*: If you want to retry the execution without making changes to your workflow, you can select this option to retry the execution with the previous execution data.

## custom-templates-library.md

In your environment variables, set `N8N\_TEMPLATES\_HOST` to the base URL of your API.

### Endpoints

Your API must provide the same endpoints and data structure as n8n's.

The endpoints are:

| Method | Path |

| ------ | ---- |

| GET | /templates/workflows/`<id>` |

| GET | /templates/search |

| GET | /templates/collections/`<id>` |

| GET | /templates/collections |

| GET | /templates/categories |

| GET | /health |

### Query parameters

The `/templates/search` endpoint accepts the following query parameters:

| Parameter | Type | Description |

|------------|----------------------------------------------|--------------------------------------------------|

| `page` | integer | The page of results to return |

| `rows` | integer | The maximum number of results to return per page |

| `category` | comma-separated list of strings (categories) | The categories to search within |

| `search` | string | The search query |

The `/templates/collections` endpoint accepts the following query parameters:

| Parameter | Type | Description |

|------------|----------------------------------------------|---------------------------------|

| `category` | comma-separated list of strings (categories) | The categories to search within |

| `search` | string | The search query |

### Data schema

You can explore the data structure of the items in the response object returned by endpoints here:

??? note "Show `workflow` item data schema"

```json title="Workflow item data schema"

{

"$schema": "http://json-schema.org/draft-07/schema#",

"title": "Generated schema for Root",

"type": "object",

"properties": {

"id": {

"type": "number"

},

"name": {

"type": "string"

},

"totalViews": {

"type": "number"

},

"price": {},

"purchaseUrl": {},

"recentViews": {

"type": "number"

},

"createdAt": {

"type": "string"

},

"user": {

"type": "object",

"properties": {

"username": {

"type": "string"

},

"verified": {

"type": "boolean"

}

},

"required": [

"username",

"verified"

]

},

"nodes": {

"type": "array",

"items": {

"type": "object",

"properties": {

"id": {

"type": "number"

},

"icon": {

"type": "string"

},

"name": {

"type": "string"

},

"codex": {

"type": "object",

"properties": {

"data": {

"type": "object",

"properties": {

"details": {

"type": "string"

},

"resources": {

"type": "object",

"properties": {

"generic": {

"type": "array",

"items": {

"type": "object",

"properties": {

"url": {

"type": "string"

},

"icon": {

"type": "string"

},

"label": {

"type": "string"

}

},

"required": [

"url",

"label"

]

}

},

"primaryDocumentation": {

"type": "array",

"items": {

"type": "object",

"properties": {

"url": {

"type": "string"

}

},

"required": [

"url"

]

}

}

},

"required": [

"primaryDocumentation"

]

},

"categories": {

"type": "array",

"items": {

"type": "string"

}

},

"nodeVersion": {

"type": "string"

},

"codexVersion": {

"type": "string"

}

},

"required": [

"categories"

]

}

}

},

"group": {

"type": "string"

},

"defaults": {

"type": "object",

"properties": {

"name": {

"type": "string"

},

"color": {

"type": "string"

}

},

"required": [

"name"

]

},

"iconData": {

"type": "object",

"properties": {

"icon": {

"type": "string"

},

"type": {

"type": "string"

},

"fileBuffer": {

"type": "string"

}

},

"required": [

"type"

]

},

"displayName": {

"type": "string"

},

"typeVersion": {

"type": "number"

},

"nodeCategories": {

"type": "array",

"items": {

"type": "object",

"properties": {

"id": {

"type": "number"

},

"name": {

"type": "string"

}

},

"required": [

"id",

"name"

]

}

}

},

"required": [

"id",

"icon",

"name",

"codex",

"group",

"defaults",

"iconData",

"displayName",

"typeVersion"

]

}

}

},

"required": [

"id",

"name",

"totalViews",

"price",

"purchaseUrl",

"recentViews",

"createdAt",

"user",

"nodes"

]

}

```

??? note "Show `category` item data schema"

```json title="Category item data schema"

{

"$schema": "http://json-schema.org/draft-07/schema#",

"type": "object",

"properties": {

"id": {

"type": "number"

},

"name": {

"type": "string"

}

},

"required": [

"id",

"name"

]

}

```

??? note "Show `collection` item data schema"

```json title="Collection item data schema"

{

"$schema": "http://json-schema.org/draft-07/schema#",

"type": "object",

"properties": {

"id": {

"type": "number"

},

"rank": {

"type": "number"

},

"name": {

"type": "string"

},

"totalViews": {},

"createdAt": {

"type": "string"

},

"workflows": {

"type": "array",

"items": {

"type": "object",

"properties": {

"id": {

"type": "number"

}

},

"required": [

"id"

]

}

},

"nodes": {

"type": "array",

"items": {}

}

},

"required": [

"id",

"rank",

"name",

"totalViews",

"createdAt",

"workflows",

"nodes"

]

}

```

You can also interactively explore n8n's API endpoints:

[https://api.n8n.io/templates/categories](https://api.n8n.io/templates/categories)

[https://api.n8n.io/templates/collections](https://api.n8n.io/templates/collections)

[https://api.n8n.io/templates/search](https://api.n8n.io/templates/search)

[https://api.n8n.io/health](https://api.n8n.io/health)

You can [contact us](mailto:help@n8n.io) for more support.

## disable-templates.md

In your environment variables, set `N8N\_TEMPLATES\_ENABLED` to false.

## submit-templates.md

You can submit your workflows to n8n's template library.

n8n is working on a creator program, and developing a marketplace of templates. This is an ongoing project, and details are likely to change.

Refer to [n8n Creator hub](https://www.notion.so/n8n/n8n-Creator-hub-7bd2cbe0fce0449198ecb23ff4a2f76f){:target=\_blank .external-link} for information on how to submit templates and become a creator.