Sub-workflows

# 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. Creating sub-workflows uses the Execute Workflow and Execute Sub-workflow Trigger nodes.

## Set up and use a sub-workflow#

This section walks through setting up both the parent workflow and sub-workflow.

### Create the sub-workflow#

• Create a new workflow.  
  
Create sub-workflows from existing workflows  
  
You can optionally create a sub-workflow directly from an existing parent workflow using the Execute Sub-workflow node. In the node, select the Database and From list options and select Create a sub-workflow in the list.

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Create sub-workflows from existing workflows

You can optionally create a sub-workflow directly from an existing parent workflow using the Execute Sub-workflow node. In the node, select the Database and From list options and select Create a sub-workflow in the list.

• Optional: configure which workflows can call the sub-workflow:  
  
Select the Options menu > Settings. n8n opens the Workflow settings modal.  
Change the This workflow can be called by setting. Refer to Workflow settings for more information on configuring your workflows.

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• Select the Options menu > Settings. n8n opens the Workflow settings modal.

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• Add the Execute Sub-workflow trigger node (if you are searching under trigger nodes, this is also titled When Executed by Another Workflow).

• 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.  
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.

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• 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.

• Add other nodes as needed to build your sub-workflow functionality.

• Save the sub-workflow.

Sub-workflow mustn't contain errors

If there are errors in the sub-workflow, the parent workflow can't trigger it.

Load data into sub-workflow before building

This requires the ability to load data from previous executions, 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:

• Create the sub-workflow and add the Execute Sub-workflow Trigger.

• 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.

• In the sub-workflow settings, set Save successful production executions to Save.

• Skip ahead to setting up the parent workflow, and run it.

• Follow the steps to load data from previous executions.

• 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#

• Open the workflow where you want to call the sub-workflow.

• Add the Execute Sub-workflow node.

• 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.  
  
Find your workflow ID  
  
Your sub-workflow's ID is the alphanumeric string at the end of its URL.

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Find your workflow ID

Your sub-workflow's ID is the alphanumeric string at the end of its URL.

• Fill in the required input items defined by the sub-workflow.

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• 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.

## How data passes between workflows#

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:

• 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.

• The last node of Workflow B sends the data back to the Execute Sub-workflow node in Workflow A.