

Node-red Creation

Brief: This tutorial will guide you in creating a device in the IBM IoT platform

Outcome:

In this tutorial, you will learn the following activities and tasks.

- Creating a node-red application
- Launch and configure the node-red application

Activity:

Log in to Your IBM account using <https://cloud.ibm.com/>. Upon successful login to the cloud, you will be on the dashboard page. If you are a new user you won't have any resources listed. For a returning user, you will have your previous resources listed.

The screenshot displays the IBM Cloud Dashboard interface. At the top, there is a navigation bar with the IBM Cloud logo, search, and links to Catalog, Docs, Support, and Manage. The user's account name, Divya Nemuri's Account, is also visible. The main dashboard area is titled "Dashboard" and includes a "Create resource" button. Below this, there are several sections: "Resource summary" with a "View resources" link and a green checkmark indicating 1 resource; "Planned maintenance" with a "View events" link and details about a feature update for IBM Blockchain Platform; "Location status" with a "View status" link and a table showing status for Asia Pacific, Europe, North America, and South America; and "For you" recommendations, including Watson Studio and starter kits. A vertical "FEEDBACK" button is located on the right side of the dashboard.

Location	Status
Asia Pacific	✓
Europe	✓
North America	✓
South America	✓

Task-1: Create Node-red application

- Click on the catalog on the dashboard.
- Click on the software to find the application
- Search for node-red in the search bar provided.
- Click on the node-red application to create.

The screenshot shows the IBM Cloud Catalog interface. At the top, the 'Catalog' link in the navigation bar is highlighted with a red box and labeled '1'. Below the navigation bar, a search bar contains the text 'node', which is highlighted with a red box and labeled '3'. To the left of the search bar, the 'Software (7)' filter is highlighted with a red box and labeled '2'. The main content area displays a list of software offerings. The 'Node-RED App' is highlighted with a red box and labeled '4'. The left sidebar shows various categories and offering types, including 'All Categories (7)', 'Compute', 'Networking', 'Storage', 'AI (2)', 'Analytics', 'Databases (2)', 'Developer Tools (2)', 'Integration', 'Security and Identity', 'Web and Application (4)', 'Offering type' (Cloud Paks (6), Helm charts (67), Terraform (4), Starter kits (12)), and 'Deployment target'.

- After clicking on the node-red app you will be redirected to the node-red application starter kit page. Click on create

The screenshot shows the 'Node-RED' starter kit details page. The 'Create app' button is highlighted with a red box. The page includes a 'Details' section with metadata (AUTHOR: IBM, UPDATED: 2/11/2020, TYPE: Starter kit), a 'Source code' link to GitHub, and 'Helpful links' including a Tutorial. The 'Overview' section describes the starter kit and lists benefits: 'This starter kit will help you' (Generate an application with Node-RED, Generate an application with files for deploying to Cloud Foundry or a DevOps Pipeline, Connect to provisioned services) and 'What's included?' (Cloudant). The 'Services (1)' section lists 'Cloudant' with links for 'Free to start', 'View pricing', and 'View docs'.

- To create the node-red application give the App name. The name should be unique. One may use the default name provided or can be of their choice. Select the region as Dallas for avoiding the conflicts on installing the nodes in the future. Then click on create

IBM Cloud Catalog / Starter kit details / Create app

Node-RED

Cancel Create

App details

1

App name
Accept the default name, or enter a value up to 128 characters.

Node RED BRZHK

Resource group
Default

Tags ⓘ
Examples: env:dev, version-1

Platform
☒ Node.js

2

Chennai
Washington DC
Seoul
Dallas
Sydney
Frankfurt
Tokyo
London
Chennai

Resource group
Default

Getting started with apps

[View source code](#)

After you create your app, you can add services and use a DevOps toolchain to set up Continuous Delivery for deploying your app to IBM Cloud.

FEEDBACK
ASK A QUESTION

- To create the app it will take some time meanwhile the cloudant service will be created.

cloud.ibm.com/developer/appservice/apps/688137d6-7271-40bf-bf90-016cae81a9f5

Apps Gmail YouTube Maps Translate

IBM Cloud Catalog Docs Support Manage Divya Nemuri's Account

Resource list / App details

Node RED BRZHK

Resource group: Default Download code

App details Developer resources

Services (1) Connect existing services Create service

Name	Resources	Actions
Cloudant	Provisioning service credentials	

Configure Continuous Delivery

Continuous Delivery is not enabled for this app. Enable Continuous Delivery to automate builds, tests, and deployments through Delivery Pipeline, GitLab, and more.

Deploy your app

Credentials Show

Knowledge Guide

Next steps

To enable Continuous Delivery and deploy to IBM Cloud:

- Click **Deploy your app**.
- Select a deployment target, select the toolchain settings, and click **Create**. The deployment starts automatically.
- Check the deployment status in the **Delivery Pipeline** section.

Download your app for local development:

- Install the IBM Cloud CLI. [Learn more](#)
- Run the `ibmcloud dev code <APPNAME>` command to download your app. If you are unsure of the app name or would like to download another app, you can list all the IBM Cloud apps that are in a space by running the `ibmcloud dev list` command.

[Learn more about deploying your app](#)

FEEDBACK ASK A QUESTION

- After the successful creation of cloudant service, click on deploy your app button

IBM Cloud Catalog Docs Support Manage Divya Nemuri's Account

Resource list / App details

Node RED BRZHK

Resource group: Default Download code

App details Developer resources

Services (1) Connect existing services Create service

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[Learn more about deploying your app](#)

FEEDBACK ASK A QUESTION

- In the process of deploying you will be prompted for the IBM cloud API key. Click on new to generate the one.

Resource list / App details

Node RED BRZHK

Cancel Create

Deploy your app

Select your deployment target and configure your DevOps toolchain. After you click **Create**, the toolchain is created, and the deployment process is started automatically.

Deployment target

IBM Cloud Foundry
Deploy and run your applications without managing servers or clusters. A Lite plan is available for quick and easy deployment.

IBM Cloud API key

IBM Cloud API key New +

The value is required.

Number of instances

1

Memory allocation per instance

64 MB 2000 MB 128

Step 1. Select the deployment target

Select your deployment target, and then provide the configuration information.

IBM Cloud Foundry

Cloud Foundry is the premier industry standard Platform-as-a-Service (PaaS) that ensures fast, easy, and reliable deployment of cloud-native apps. Cloud Foundry ensures that the build and deploy aspects of coding remain carefully coordinated with any attached services — resulting in quick, consistent and reliable iterating of applications. Cloud Foundry has a Lite plan that allows quick deployments for testing purposes.

Before you begin

- If your account doesn't have a Cloud Foundry org, you must create one. [Create org.](#)

Steps

- Select the number of instances, memory allocation, region, org, and space.
- Select the domain and provide a host name.

- At the time of API key generation click OK on the popup.

Resource list / App details

Node RED BRZHK

Cancel Create

Deploy your app

Select your deployment target and configure your DevOps toolchain. After you click **Create**, the toolchain is created, and the deployment process is started automatically.

Deployment target

IBM Cloud Foundry
Deploy and run your applications without managing servers or clusters. A Lite plan is available for quick and easy deployment.

IBM Cloud API key

IBM Cloud API key

The value is required.

Number of instances

1

Memory allocation per instance

64 MB 2000 MB 256

Create a new API key with full access

Warning: This will create a new API key that allows anyone who has it the ability to do anything you could do. You can improve your security posture by using the [IAM UI to create a service ID API key](#) that limits access to only what your pipeline requires, and then pasting that into the template UI instead.

For more information on API keys and access see the [IAM documentation](#).

Key will be called: API Key for NodeREDBRZHK

☐ Save this key in a secrets store for reuse

Cancel OK

Step 1. Select the deployment target

Select your deployment target, and then provide the configuration information.

IBM Cloud Foundry

Cloud Foundry is the premier industry standard Platform-as-a-Service (PaaS) that ensures fast, easy, and reliable deployment of cloud-native apps. Cloud Foundry ensures that the build and deploy aspects of coding remain carefully coordinated with any attached services — resulting in quick, consistent and reliable iterating of applications. Cloud Foundry has a Lite plan that allows quick deployments for testing purposes.

Before you begin

- If your account doesn't have a Cloud Foundry org, you must create one. [Create org.](#)

Steps

- Select the number of instances, memory allocation, region, org, and space.
- Select the domain and provide a host name.

- Increase your memory allocation per instance to 256

- Upon successful creation of the node-red app, you will be prompted with success message popup.

Task-2: Launch the node-red application and customization

- To launch the node-red application click on cloud foundry apps in the dashboard

- If it is stopped click on start to start the application. Click on the service to launch

Resource list

Create resource

Collapse all | Expand all

Name	Group	Location	Status	Tags
Filter by name or IP address...	Filter by group or org...	Filter...	Filter...	Filter...
Devices (0)				
VPC infrastructure (0)				
Clusters (0)				
Cloud Foundry apps (1)				
Node RED BRZHK	divya@thesmartbridge.com / dev	London	Stopped	
Cloud Foundry services (1)				
node-red-brzhk-cloudant-15846075...	divya@thesmartbridge.com / dev	London	Provisioned	
Services (3)				
Storage (0)				
Network (0)				
Cloud Foundry enterprise environments (0)				
Functions namespaces (0)				
Apps (1)				
Developer tools (1)				
VMware (0)				
Schematics workspaces (0)				

Start

Edit name

Add tags

Delete

- Click on visit app URL to launch the app

Resource list /

Node RED BRZHK This app is awake. Visit App URL

Org: divya@thesmartbridge.com Location: London Space: dev Add tags

Runtime

BUILDPACK SDK for Node.js™

INSTANCES All instances are running Health is 100%

MB MEMORY PER INSTANCE

TOTAL MB ALLOCATION OMB still available

Connections (1)

node-red-brzhk-cloudant-1584607563375-71694

Create connection

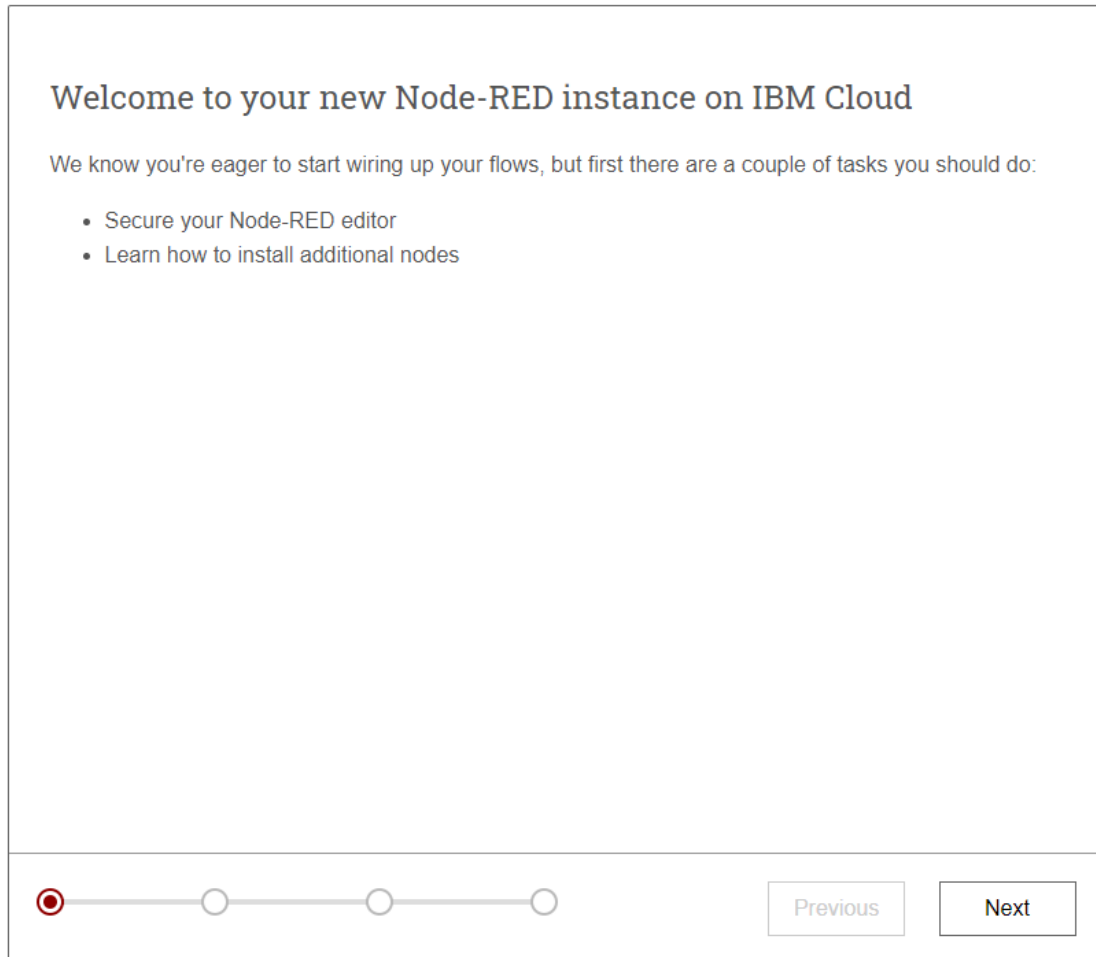
Runtime cost

\$0.00 Current charges for billing period

\$0.00 Estimated total for billing period (Mar 1, 2020 - Mar 31, 2020)

Current and estimated cost excludes connected services.

- Upon launching the app you are redirected to the following page. Click on next



- In the next step, you are asked for securing the node-red app, if you want you can provide the credentials as your wish but remember forgetting those credentials leads to deleting the app and have to be started from the beginning. So better avoid giving credentials.
- Click the two checkboxes as shown in the below image. This step is for not securing the node-red editor.

Secure your Node-RED editor

☒ Secure your editor so only authorised users can access it

Username

Password

Must be at least 8 characters

☒ Allow anyone to view the editor, but not make any changes

☒ *Not recommended:* Allow anyone to access the editor and make changes

PreviousNext

- Then after selecting the not recommended you are asked for confirmation proceed with that and click on next

Secure your Node-RED editor

☐ Secure your editor so only authorised users can access it

☒ *Not recommended:* Allow anyone to access the editor and make changes

Your editor will not be secured. Anyone with the URL will be able to access your flows, data and bound services.

1 ☒ Tick this box to confirm you want your editor to be insecure

Previous2Next

- Click on next and finish for the two further steps to finish the launch of node-red.
 - This procedure is done only for the first time launch.
 - For a returning user, you can directly browse from the cloud foundry apps in the dashboard.
- And click on the visit app URL after getting the app is awake/running.


Learn how to install additional nodes

Node-RED provides a **huge catalog of extra nodes** you can install into the editor.

Many of these nodes can be installed directly from the editor's palette manager feature. However that can cause issues due to the limited memory of the default Node-RED starter application.

The *recommended approach* is to edit your application's `package.json` file to include the additional node modules and then redeploy the application. This can be done using the Continuous Delivery feature on the application's IBM Cloud dashboard.

For more information, follow [this tutorial on IBM Developer](#).

PreviousNext

Finish the install

You have made the following selections:

- *Not recommended*: Allow anyone to access the editor and make changes

You can change these settings at any time by setting the following environment variables via the IBM Cloud console:

- `NODE_RED_USERNAME` - the username
- `NODE_RED_PASSWORD` - the password
- `NODE_RED_GUEST_ACCESS` - if set to `true`, allows anyone read-only access to the editor



Previous

Finish

- After completing the procedure of launching node-red you are asked to go to the editor. Click on go to the editor button to launch the application

Node-RED on IBM Cloud

Node-RED

Flow-based programming for the Internet of Things

Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways.

This instance is running as an IBM Cloud application, giving it access to the wide range of services available on the platform.

More information about Node-RED, including documentation, can be found at nodered.org.

[Go to your Node-RED flow editor](#)

[Learn how to customise Node-RED](#)