

Create Node-Red Service

Project Title	Smart Farmer – IoT Enabled Smart FarmingApplication
Team ID	PNT2022TMID04704
Content	Node-Red Service

Search Node-Red on cloud.ibm.com and click on it.

The screenshot shows a web browser window with multiple tabs open, including 'Welcome to Proje...', 'IBM', 'IBM-21962-1662...', 'IBM-EPBL/IBM-Pr...', 'IBM-EPBL/IBM-Pr...', 'IBM-EPBL/IBM-Pr...', 'IBM Watson IoT P...', and 'Catalog - IBM Clo...'. The address bar shows the URL 'cloud.ibm.com/catalog?search=Node%20Red#search_results'. The browser's taskbar at the bottom includes icons for Windows, search, Edge, File Explorer, Chrome, and several applications like EDT and Word.

The IBM Cloud Catalog interface is displayed. The header includes the 'IBM Cloud' logo, a search bar with the text 'Search resources and products...', and navigation links for 'Catalog', 'Manage', and 'Ramya T's Account'. The main content area is titled 'Catalog' and features a search bar with the text 'Node Red'. Below the search bar, the results are categorized by 'Category' on the left, showing options like 'Compute (4)', 'Networking (5)', 'Storage (1)', 'AI / Machine Learning (2)', 'Databases (10)', 'Developer tools (5)', 'Migration (1)', 'Integration (1)', and 'Security (2)'. The main search results area is titled 'Search results for 'Node Red'' and shows 'Viewing 31 products'. Three product cards are visible: 'Node-RED App' by IBM, 'CloudHedge App Modernization Platform' by CloudHedge Technologies Inc., and 'Email Delivery, powered by Sendgrid' by Third Party. The 'Node-RED App' card includes the text 'Start building your next Node-RED app on IBM Cloud.' and 'Starter kits • IBM Cloud Kubernetes Service • Red Hat OpenShift'. The 'CloudHedge App Modernization Platform' card includes 'Helm charts • IBM Cloud Kubernetes Service • Third party supported'. The 'Email Delivery, powered by Sendgrid' card includes 'Integrate and Deliver via SMTP or API in 5 Minutes or Less Our SMTP relay setup and flexible Web and SMTP APIs provide a customizable integration approach for...' and 'Third party supported'. The bottom of the screen shows a Windows taskbar with the time '10:08 AM' and date '19-11-2022'.

Now click on Get Started. After choose node-red in pricing plan or you can choose Lite. Then click on create option.

The screenshot shows the IBM Cloud Developer console interface. At the top, there's a navigation bar with the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user's account (Ramya T's Account). Below this, the breadcrumb trail shows 'Catalog / Create app / Node-RED'. The main content area has two tabs: 'About' and 'Create', with 'Create' being the active tab. Under the 'Create' tab, there's a section titled 'App details' with the following fields:

- App name:** A text input field containing 'Node RED SMZYF 2022-11-19'. Below it, a note says 'Accept the default name, or enter a value between 2 and 128 characters.'
- Resource group:** A dropdown menu currently showing 'Default'.
- Tags:** A text input field with a help icon and the text 'Examples: env:dev, version-1'.
- Platform:** A radio button selection with 'Node.js' selected.

Below the 'App details' section, there's a 'Service details' section which is currently empty. On the right side of the page, there's a vertical button labeled 'ASK A QUESTION'. At the bottom of the screen, there's a Windows taskbar showing various application icons, a 75% battery indicator, and the system clock displaying '10:10 AM 19-11-2022'.

Welcome to Proje x IBM x IBM-21962-1662 x IBM-EPBL/IBM-Pr x IBM-EPBL/IBM-Pr x IBM-EPBL/IBM-Pr x IBM Watson IoT P x IBM App Develop x

cloud.ibm.com/developer/appservice/create-app?starterKit=59c9d5bd-4d31-3611-897a-f94eea80dc9f&defaultLanguage=undefined

Placement Mail WhatsApp YouTube Learning & Assess... GDB online Debug... LeetCode SWAYAM EDA Edit code - EDA Pla... Geeks CodeChef InfyTQ AICTE - SLA Microstrip Patch An...

IBM Cloud Search resources and products... Catalog Manage Ramya T's Account

Node.js

Service details

Cloudant★

★ = You have existing instances of this service available to use in this kit. If you wish to use the existing service, select it from the pricing plan menu.

Region London Resource group Default

Warning

Only one instance of a Lite plan per service is allowed. To create a new service instance, either delete your existing Lite plan service instance, or select a paid plan before continuing. You can also use your existing Lite plan service instance with the application.

Pricing plan Lite

[Pricing details](#) [Terms](#)

Cancel Create

ASK A QUESTION

74% 10:11 AM 19-11-2022

Now you will be redirected to your node-red app page.

The screenshot shows the IBM Cloud Developer console interface. At the top, there's a browser window with multiple tabs, including 'Welcome to P...', 'IBM', and several 'IBM-EPBL/IBM' tabs. The address bar shows the URL 'cloud.ibm.com/developer/appservice/apps/78f4abf0-b824-455a-841c-9229052e7fcf'. Below the browser, the IBM Cloud header is visible with a search bar and navigation links like 'Catalog', 'Manage', and 'Ramya T's Account'. The main content area is titled 'Node RED SMZYF 2022-11-19' with an 'Add tags' link and an 'Actions...' dropdown. The 'Details' section on the left lists app information: App URL (empty), Source (with a 'Download code' button), Resource group (Default), Deployment target (empty), and Created (11/19/2022). The 'Services' section below shows 'Cloudant' with links to 'Open dashboard', 'Documentation', and 'API reference', along with a 'Credentials' dropdown and buttons to 'Connect existing services' and 'Create service'. On the right, the 'Deployment Automation' section features a 'Configure Continuous Delivery' card with a message that it's not enabled and a 'Deploy your app' button. A vertical 'ASK A QUESTION' button is on the far right. The Windows taskbar at the bottom shows various icons and the system clock at 10:15 AM on 19-11-2022.

Resource list / App details /

Node RED SMZYF 2022-11-19 [Add tags](#)

[Actions...](#)

Details

App URL	You must deploy your app first
Source	Download code
Resource group	Default
Deployment target	You must deploy your app first
Created	11/19/2022

Services

Cloudant

[Open dashboard](#) [Documentation](#) [API reference](#)

Credentials

[Connect existing services](#) [Create service](#)

Deployment Automation

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](#)

[ASK A QUESTION](#)

71% 10:15 AM 19-11-2022

Now click Deploy your app option.

Welcome to P x IBM x IBM-21962-16 x IBM-EPBL/IBM x IBM-EPBL/IBM x IBM-EPBL/IBM x IBM Watson Ic x IBM App Deve x History x + - x

cloud.ibm.com/developer/appservice/apps/78f4abf0-b824-455a-841c-9229052e7fcf

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IBM Cloud Search resources and products... Catalog Manage Ramya T's Account

Resource list / App details /


Node RED SMZYF 2022-11-19


Select the deployment target Configure the DevOps toolchain


Deployment Automation


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

**Kubernetes Service**
IBM
Deploy, scale, and manage your containerized application workloads to highly available clusters.

**Red Hat OpenShift**
IBM
Deploy your apps on highly available clusters that come installed with Red Hat OpenShift on IBM Cloud.

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


**Code Engine**
IBM
Run your app, job, or container on a managed serverless platform. Auto-scale workloads, and pay only for the resources that you consume.

IBM Cloud API key

IBM Cloud API key

The value is required.

New +

**Getting started with apps**

Step 1. Select the deployment target

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

IBM Cloud Kubernetes Service

Kubernetes is an open source platform for managing containerized workloads and services across multiple hosts, and offers management tools for deploying, automating, monitoring, and scaling containerized apps with minimal to no manual intervention. [Learn more.](#)

Before you begin

- One free Kubernetes cluster is available per account.
- If you don't have an available cluster, you must create one before continuing. Allow 10-20 minutes for the cluster to be provisioned. [Create cluster.](#)

Steps

- Create an IBM Cloud API key, or select an existing one from a secrets store.

ASK A QUESTION

71% 10:16 AM 19-11-2022

Now choose Kubernetes Service and below you will see IBM Cloud API Key there click on New and then click OK. Your API Key will be generated.

The screenshot shows the IBM Cloud developer console interface. The main page is titled "Kubernetes Service" and includes a description: "Deploy, scale, and manage your containerized application workloads to highly available clusters." Below this, there are fields for "IBM Cloud API key", "Container registry region", "Cluster region", "Cluster resource group", and "Deployment type". The "IBM Cloud API key" field is highlighted with a red border and a message "The value is required." Below the fields, there are dropdown menus for "Cluster region" and "Cluster resource group", and a button "No clusters available".

A modal dialog titled "Create a new API key with full access" is open in the center. It contains a warning: "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." Below the warning, there are input fields for "Name" and "Description". The "Name" field contains the text "API Key for NodeREDSMZFY2022-11-19". There is a checkbox labeled "Save this key in a secrets store for reuse" which is currently unchecked. At the bottom of the modal, there are "Cancel" and "OK" buttons.

On the right side of the console, there is a sidebar with the title "IBM Cloud Kubernetes Service" and a description: "Kubernetes is an open source platform for managing containerized workloads and services across multiple hosts, and offers management tools for deploying, automating, monitoring, and scaling containerized apps with minimal to no manual intervention. Learn more." Below this, there is a section "Before you begin" with a list of steps: "One free Kubernetes cluster is available per account." and "If you don't have an available cluster, you must create one before continuing. Allow 10-20 minutes for the cluster to be provisioned. Create cluster." Below this, there is a section "Steps" with a list of steps: "1. Create an IBM Cloud API key, or select an existing one from a secrets store.", "2. Select the container registry region.", "3. Enter the container registry namespace if it is not already completed.", "4. Select the region where your Kubernetes cluster is located.", "5. Select the resource group, cluster namespace, and the cluster name.", "6. The deployment type of Helm is selected for you."

Now click on Create New below the cluster name. You will be redirected to new page. In new page, choose pricing plan as Free and then click on Create.

The screenshot shows a web browser window with multiple tabs open, including 'Welcome to P...', 'IBM', 'IBM-21962-16', 'IBM-EPBL/IBM', 'IBM-EPBL/IBM', 'IBM-EPBL/IBM', 'IBM Watson lo', 'IBM App Deve', and 'History'. The address bar shows the URL: `cloud.ibm.com/developer/appservice/apps/78f4abf0-b824-455a-841c-9229052e7fcf`. The browser's toolbar includes various icons for placement, mail, WhatsApp, YouTube, learning, GDB, LeetCode, SWAYAM, EDA, Geeks, CodeChef, InfyTQ, AICTE, and Microstrip Patch. The IBM Cloud header is visible with a search bar and navigation links: 'Catalog', 'Manage', and 'Ramya T's Account'. The main content area is titled 'Node RED SMZYF 2022-11-19' and shows two tabs: 'Select the deployment target' (active) and 'Configure the DevOps toolchain'. The 'Configure the DevOps toolchain' tab is selected, and the page instructs the user to 'Give your toolchain a name and select the region to create your toolchain in.' The 'DevOps toolchain name' field contains 'NodeREDSMZYF2022-11-19' and has a note: 'Accept the default name, or enter a value up to 100 characters.' The 'Region' dropdown menu is set to 'Dallas'. At the bottom, there are 'Back' and 'Create' buttons. On the right side, a 'Getting started with apps' sidebar is visible, featuring a lightbulb icon and the text 'Step 2. Configure the DevOps toolchain'. It explains that the DevOps toolchain includes a Delivery Pipeline tool and lists four steps: 1. Provide a name for your toolchain. 2. Select the region where your toolchain is created. 3. Select the resource group that has access to your new toolchain. 4. After you're finished with your selections, click Create. A vertical 'ASK A QUESTION' button is on the far right. The Windows taskbar at the bottom shows the system clock as 10:17 AM on 19-11-2022, with a battery level of 70% and various system icons.

Resource list / App details /

Node RED SMZYF 2022-11-19

Select the deployment target | Configure the DevOps toolchain

Configure the DevOps toolchain

Give your toolchain a name and select the region to create your toolchain in.

DevOps toolchain name

NodeREDSMZYF2022-11-19

Accept the default name, or enter a value up to 100 characters.

Region

Dallas

Back Create

Getting started with apps

Step 2. Configure the DevOps toolchain

The DevOps toolchain includes a Delivery Pipeline tool where you can check the deployment status, start builds, manage deployment, and view logs and history.

1. Provide a name for your toolchain.
2. Select the region where your toolchain is created.
3. Select the resource group that has access to your new toolchain. [Learn more.](#)
4. After you're finished with your selections, click **Create**.

ASK A QUESTION

70% 10:17 AM 19-11-2022

For cluster creation you need to wait for 20 minutes. After creation come back to node red app tab.

The screenshot shows the IBM Cloud console interface for a Kubernetes cluster named 'mycluster-free'. The browser's address bar displays the URL: `cloud.ibm.com/kubernetes/clusters/cdrm8ddf0q62hiq47tmg/overview`. The page header includes the IBM Cloud logo, a search bar, and navigation links for Catalog, Manage, and the user's account (Ramya T's Account). The cluster status is 'Normal' and it expires in 29 days. A sidebar on the left lists navigation options: Overview (selected), Worker nodes, Worker pools, and DevOps (marked as 'New'). The main content area features a warning banner about the 29-day expiration. Below this, four status cards are displayed: Node status (1 of 1, Normal), Add-on status (0 of 0, Normal), Master status (Normal), and Ingress status (Healthy). A 'Details' section provides metadata for the cluster, including its ID, version, infrastructure type, zones, creation time, resource group, and image security enforcement settings. At the bottom, a 'Node health' section is partially visible.

IBM Cloud

Search resources and products...

Clusters / mycluster-free Normal Expires in 29 days [Add tags](#) [Help](#) [Kubernetes dashboard](#) [Actions...](#)

Overview

- Worker nodes
- Worker pools
- DevOps New

Expires in 29 days:
Be sure to back up your data, your cluster will be deleted in 29 days. To access the full capabilities of the service, try out a [standard cluster](#).

Node status	Add-on status	Master status	Ingress status
1 of 1 Normal Details ↓	0 of 0 Normal Details ↓	Normal ✓ Docs ↗	Healthy ? ✓ Docs ↗

Details

Cluster ID	Version	Infrastructure	Zones
<code>cdrm8ddf0q62hiq47tmg</code> Copy	1.24.8_1544	Classic	Milan 01

Created	Resource group	Image security enforcement
11/18/2022, 4:23 PM	Default	Enable

Node health [Worker node details](#)

You need to wait until ci-pipeline status success.

Welcome to P x IBM x IBM-21962-16 x IBM-EPBL/IBM x IBM-EPBL/IBM x IBM-EPBL/IBM x IBM Watson Ic x IBM App Deve x History x +

cloud.ibm.com/developer/appservice/apps/78f4abf0-b824-455a-841c-9229052e7fcf

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IBM Cloud

Search resources and products...

Catalog Manage Ramya T's Account

Resource list / App details /

Node RED SMZYF 2022-11-19 Add tags

Actions...

Details

App URL You must deploy your app first

Source Download code

Resource group Default

Deployment target You must deploy your app first

Created 11/19/2022

Services

Cloudant

Open dashboard Documentation API reference

Credentials

Connect existing services Create service

Deployment Automation

Name NodeREDSMZYF2022-11-19

Location Dallas

Tool integrations

Delivery Pipelines

Name pr-pipeline

Status No stages detected

Name ci-pipeline

Status No stages detected

ASK A QUESTION

69%

10:19 AM 19-11-2022

Now go to Dashboard, in sidebar menu choose Resource list > Developer Tools. Click on your Node-red (Cloud Application)

The screenshot shows the IBM Cloud 'Resource list' page. The sidebar on the left has a menu with 'Developer tools (5)' expanded, showing a list of resources. The main content area displays a table of resources with columns: Name, Group, Location, Product, Status, and Tags. The resources listed are:

Name	Group	Location	Product	Status	Tags
Continuous Delivery	Default	Dallas	Continuous Delivery	Active	—
Node RED FCMNB 2022-11-18	Default	Global	Cloud Application	—	—
Node RED SMZYF 2022-11-19	Default	Global	Cloud Application	—	—
NodeREDFCMNB2022-11-18	Default	Dallas	Toolchain	—	—
NodeREDSMZYF2022-11-19	Default	Dallas	Toolchain	—	—

The bottom of the screen shows a Windows taskbar with various application icons and a system tray indicating 68% battery and the time 10:21 AM on 19-11-2022.

Now you will be redirected your Node-red app there you can see your App URL and Source. To open Node-red editor copy the app URL and paste in new tab.

The screenshot shows the IBM Cloud Developer console interface. The browser address bar displays the URL: `cloud.ibm.com/developer/appservice/apps/64641037-cd82-4820-bf12-21153984983a`. The page title is "Node RED FCMNB 2022-11-18".

Details

App URL	http://159.122.183.81:30496
Source	https://us-south.git.cloud.ibm.com/ramyat.19ece/NodeREDFCMNB2022-11-18
Resource group	Default
Deployment target	Kube/Helm
Created	11/18/2022

Services

Cloudant

[Open dashboard](#) [Documentation](#) [API reference](#)

Credentials ▾

[Connect existing services](#) [Create service](#)

Deployment Automation

Name	NodeREDFCMNB2022-11-18
Location	Dallas
Tool integrations	

Delivery Pipelines

Name	pr-pipeline
Status	No stages detected
Name	ci-pipeline
Status	Success

The bottom of the screen shows the Windows taskbar with various application icons and system information: 73% battery, 10:13 AM, 19-11-2022.

Click on Next and then choose Not Recommended and click on next and then click finish. Then click on go to Node-RED flow editor. Now start work on your flows.

The screenshot shows a web browser window with multiple tabs. The active tab is titled "Node-RED" and displays the "Node-RED on IBM Cloud" interface. The browser's address bar shows "Not secure | 159.122.183.81:30496". The page has a dark red header with the text "Node-RED on IBM Cloud". Below this, a large red banner contains the text "Node-RED" and "Flow-based programming for the Internet of Things". The main content area is light gray and contains three paragraphs of text, a button, and a link. The Windows taskbar is visible at the bottom, showing the time as 10:22 AM on 19-11-2022.

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](#)