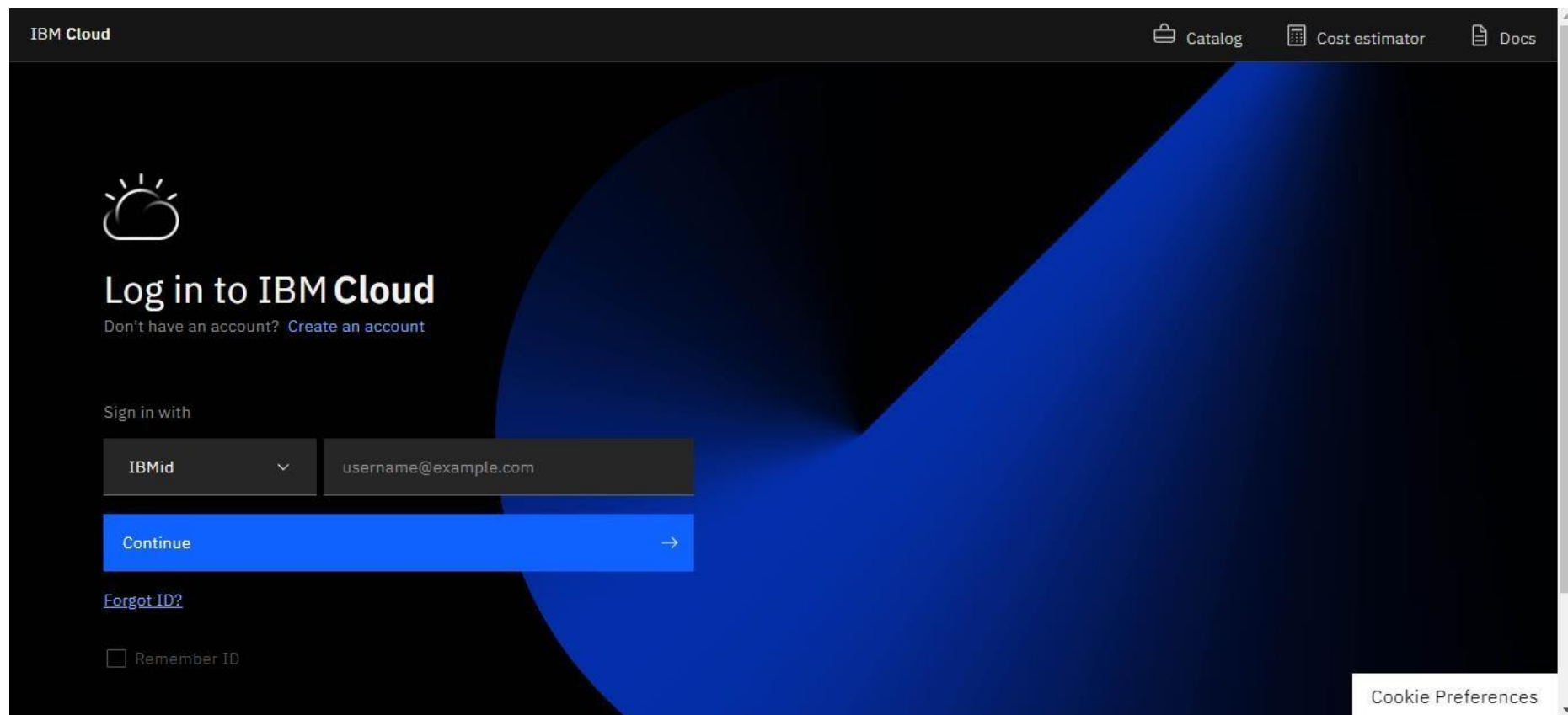


Create And Configure IBM Cloud Services

| | |
|----------------------|--|
| Project Title | SmartFarmer – IoT Enabled Smart Farming Application |
| Team ID | PNT2022TMID22142 |
| Content | IBM Cloud Service |

STEP 2:


You will get the email with your password. Type your mail Id and the password then click on the login button.



The screenshot shows the IBM Cloud login interface. At the top, there is a dark header with the 'IBM Cloud' logo on the left and navigation links for 'Catalog', 'Cost estimator', and 'Docs' on the right. The main content area has a dark background with a large blue abstract shape. On the left, there is a cloud icon, the text 'Log in to IBM Cloud', and a link 'Don't have an account? Create an account'. Below this, the 'Sign in with' section features a dropdown menu set to 'IBMid' and a text input field containing 'username@example.com'. A prominent blue 'Continue' button with a right-pointing arrow is positioned below the input field. At the bottom left, there is a link for 'Forgot ID?' and a checkbox labeled 'Remember ID'. In the bottom right corner, a 'Cookie Preferences' link is visible.

IBM Cloud

Catalog Cost estimator Docs



Log in to IBM Cloud

Don't have an account? [Create an account](#)

Sign in with

IBMid ▼ username@example.com

Continue →

[Forgot ID?](#)

☐ Remember ID

[Cookie Preferences](#)

STEP 3:

Now you are in Dashboard. Now search Node-Red and click on it.

The screenshot shows the IBM Cloud Dashboard interface. A search bar at the top left contains the text "node red". A dropdown menu displays the search results, categorized into "Resource Results" and "Catalog Results".

Resource Results:

- Node RED XWSOH 2022-10-31**
Cloud Foundry App

Catalog Results:

- Node-RED App**
Service
- HDM VMware Workload Migrator**
Service
- Virtual Server for VPC**
Service
- TrilioVault for Kubernetes**
Software
- Custom Migrations as a Service**
Service

Below the search results, the dashboard layout includes sections for "For you" (Build), "News", "Recent support cases", "Planned maintenance", "IBM Cloud status", and "Usage". The "Usage" section at the bottom shows "User access" with a "Manage users" link.

The URL bar at the bottom of the browser window displays the following URL: [https://cloud.ibm.com/apps/8dddeb80-f0a5-48a0-b6be-9827c661d3da?ace_config={\"region\":\"au-syd\", \"cm\":{\"cm:v1:bluemix:public:cf:au-syds/93124e2c-6d58-4b6c-82d7-0e26d...\": \"8dddeb80-f0a5-48a0-b6be-9827c661d3da\", \"orgGuid\":\"0dc067a6-2103-4d27-8084-a840f15bd928\", \"spaceGuid\":\"93124e2c-6d58-4b6c-82d7-0e26dbc00ec3\", \"bluemixUIVersion\":\"v6\"}}](https://cloud.ibm.com/apps/8dddeb80-f0a5-48a0-b6be-9827c661d3da?ace_config={\)

STEP 4:

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

The screenshot shows the IBM Cloud Developer console interface. The browser's address bar displays the URL: <https://cloud.ibm.com/developer/appservice/create-app?starterKit=59c9d5bd-4d31-3611-897a-f94eea80dc9f&defaultLanguage=undefined>. The page title is "Node-RED". The left sidebar contains a navigation menu with "About" and "Create" tabs. The "About" tab is active, showing details about the starter kit, including the author (IBM), update date (2/11/2020), and type (Starter kit). It also provides links to the source code on GitHub, terms, and a tutorial. The main content area is titled "Overview" and describes the starter kit as a pre-configured Node-RED application. It lists the benefits of using the starter kit, such as generating an application with Node-RED, generating files for deployment to Cloud Foundry or a DevOps Pipeline, and connecting to provisioned services. A section titled "What's included?" features a card for "Cloudant" with the text "Free to start" and links to "View docs" and "View API reference". A prominent blue "Get started" button is located at the bottom of the main content area. The right sidebar contains a vertical "ASK A QUESTION" button.

IBM Cloud

Search resources and products...

Catalog Manage Naveen V M's Account

Catalog / Create app /

Node-RED

About Create

Details

Author IBM

Updated 2/11/2020

Type Starter kit

Source code

GitHub

Helpful links

Terms

Tutorial

Overview

This starter kit provides a pre-configured Node-RED application, including a Cloudant service to store the application flow configuration. Add services, generate and download the code, use the IBM Cloud Developer Tools CLI to run and debug locally, then deploy to Cloud Foundry or a DevOps Pipeline.

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

What's included?

Cloudant

Free to start View pricing

View docs View API reference

Get started

ASK A QUESTION

STEP 5:

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

The screenshot shows the IBM Cloud Developer console for a Node RED app. The browser address bar shows the URL: `https://cloud.ibm.com/developer/appservice/apps/bae2405d-9739-49f5-ac5e-309296d5ce83`. The page title is "Node RED ZNWUF 2022-11-13".

Details

| | |
|-------------------|--------------------------------|
| App URL | You must deploy your app first |
| Source | Download code |
| Resource group | Default |
| Deployment target | You must deploy your app first |
| Created | 11/14/2022 |

Services

Cloudant

☐ Provisioning service 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](#)

Getting started quickly

Configuring your app

To connect services and DevOps toolchains to your app:

1. Use the **Services** card to connect a service to your app. Select an existing service instance, or create a new one. [Learn more.](#)
2. If you want to view the code before your app is deployed, click **Download code** to obtain the .zip file.
3. Click **Deploy your app** in the **Deployment Automation** card to select the deployment target and configure the Continuous Delivery service. The deployment begins automatically.
4. After the deployment begins, you can view the status of the deployment, modify your app, view your repo, or view the app's URL.
5. If you make any changes to your app, be sure to deploy it again.

Building, running, and deploying your app locally

To build and run your app locally:

1. Run the `ibmcloud dev code <APPNAME>` command from the IBM Cloud CLI. [Learn more.](#)
2. Run the following commands in a local development container from the app directory:

```
ibmcloud dev build
ibmcloud dev run
ibmcloud dev deploy
```

Success!
Created app Node RED ZNWUF 2022-11-13
14/11/2022, 12:01:54 am

ASK A QUESTION

STEP 6:

Now click Deploy your app option.

IBM Cloud

Search resources and products...

Resource list / App details /

Node RED ZNWUF 2022-11-13

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 | 11/14/2022 |

Services

Cloudant

Provisioning service credentials

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

Deployment Automation

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[Deploy your app](#)

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Building, running, and deploying your app locally

To build and run your app locally:

1. Run the `ibmcloud dev code <APPNAME>` command from the IBM Cloud CLI. [Learn more.](#)
2. Run the following commands in a local development container from the app directory:

```
ibmcloud dev build
ibmcloud dev run
ibmcloud dev deploy
```

ASK A QUESTION

STEP 7:

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 browser address bar displays the URL: `https://cloud.ibm.com/developer/appservice/apps/bae2405d-9739-49f5-ac5e-309296d5ce83`. The page title is "IBM Cloud". The navigation bar includes "Catalog", "Manage", and "Naveen V M's Account".

The main content area is titled "Deployment Automation" and includes a sub-header "Select the deployment target". Below this, there are four deployment target options:

- Kubernetes Service**: Deploy, scale, and manage your containerized application workloads to highly available clusters.
- Red Hat OpenShift**: Deploy your apps on highly available clusters that come installed with Red Hat OpenShift on IBM Cloud.
- Cloud Foundry**: Deploy and run your applications without managing servers or clusters. A Lite plan is available for quick and easy deployment. (This option is highlighted with a blue border.)
- Code Engine**: Run your app, job, or container on a managed serverless platform. Auto-scale workloads, and pay only for the resources that you consume.

A notification banner states: "IBM Cloud Foundry Public is deprecated. Learn more".

Below the deployment target selection, there is a section for "IBM Cloud API key". It features a text input field labeled "IBM Cloud API key" with a red border and a message "The value is required." Below the input field. To the right of the input field is a "New +" button. Below the input field, there are fields for "Number of instances" (set to 1), "Memory allocation per instance" (set to 64 MB), and "Region" (set to Region).

On the right side of the page, there is a sidebar titled "Getting started with apps" with a sub-header "Step 1. Select the deployment target". It provides instructions on how to select a deployment target and configure the DevOps toolchain. It also includes a "Before you begin" section with a bullet point: "If your account doesn't have a Cloud Foundry org, you must create one. Create org." and a "Steps" section with two numbered steps: "1. Select the number of instances, memory allocation, region, org, and space." and "2. Select the domain and provide a host name."

STEP 8:

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 the IBM Cloud Foundry console interface. At the top, there's a navigation bar with the IBM logo and a search bar. Below it, a 'Deployment target' section displays four options: Kubernetes Service, Red Hat OpenShift, Cloud Foundry (selected), and Code Engine. A banner below this states 'IBM Cloud Foundry Public is deprecated.' with a 'Learn more' link. The main configuration area includes an 'IBM Cloud API key' field, a 'Number of instances' dropdown set to 1, a 'Memory allocation per instance' slider set to 256 MB, and dropdowns for 'Region' (Sydney), 'Organization' (smartfarmeriot1), and 'Space' (dev). At the bottom, there are fields for 'Host' (node-red-znwuf-2022-11-13) and 'Domain' (au-syd.mybluemix.net). 'Cancel' and 'Next' buttons are at the bottom left. A right sidebar provides information about IBM Cloud Foundry and steps to get started. An 'ASK A QUESTION' button is at the bottom right.

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.

IBM Cloud API key

Number of instances

1

Memory allocation per instance

64 MB ————— 2000 MB 256

Region Organization Space

Sydney smartfarmeriot1 dev

Host Domain

node-red-znwuf-2022-11-13 au-syd.mybluemix.net

Cancel Next

ASK A QUESTION

STEP 9:

IBM

IBM-EPBL/IBM-P

IBM Watson IoT P

Node-RED : node

Node-RED Dashb

IBM Cloud and Node

Download file | il

IBM Cloud Service 2.p

Fast2Sms.pdf

import ibmiotf.ap

ibmiotf 0.4.0 on F

IBM App Devel X

+

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← → ↻

🔒

https://cloud.ibm.com/developer/appservice/apps/bae2405d-9739-49f5-ac5e-309296d5ce83

☆

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⬇

🔥

☰

IBM Cloud

Search resources and products...

🔍

Catalog

Manage ▼

Naveen V M's Account

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📅

📄

🔔

👤

[Resource list](#) / [App details](#) /

Node RED ZNWUF 2022-11-13

🕒 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

NodeREDZNWUF2022-11-13

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

💬

STEP 10:

IBM

IBM-EPBL/IBM-P

IBM Watson IoT P

Node-RED : node

Node-RED Dashb

IBM Cloud and Node

Download file | il

IBM Cloud Service 2.p

Fast2Sms.pdf

import ibmiotf.ap

ibmiotf 0.4.0 on F

IBM App Devel X

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← → ↺

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https://cloud.ibm.com/developer/appservice/apps/bae2405d-9739-49f5-ac5e-309296d5ce83

☆

📧

⬇

🔥

☰

☰ IBM Cloud

Search resources and products...

🔍

Catalog

Manage ▼

Naveen V M's Account

?

📅

📄

🔔

👤

[Resource list](#) / [App details](#) /Node RED ZNWUF 2022-11-13 [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

11/14/2022

Services

🔗 Cloudant

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

Credentials ▼

Connect existing services

+

Create service

+

Deployment Automation

Name

NodeREDZNWUF2022-11-13

Location

Dallas

Tool integrations



Delivery Pipelines

Name

ci-pipeline [🔗](#)

Status

 No stages detected [🔗](#)

Name

pr-pipeline [🔗](#)

Status

 No stages detected [🔗](#)

💡 Getting started quickly

✕

Configuring your app

To connect services and DevOps toolchains to your app:

1. Use the **Services** card to connect a service to your app. Select an existing service instance, or create a new one. [Learn more.](#) [🔗](#)
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4. After the deployment begins, you can view the status of the deployment, modify your app, view your repo, or view the app's URL.
5. If you make any changes to your app, be sure to deploy it again.

Building, running, and deploying your app locally

To build and run your app locally:

1. Run the `ibmcloud dev code <APPNAME>` command from the IBM Cloud CLI. [Learn more.](#) [🔗](#)
2. Run the following commands in a local development container from the app directory:

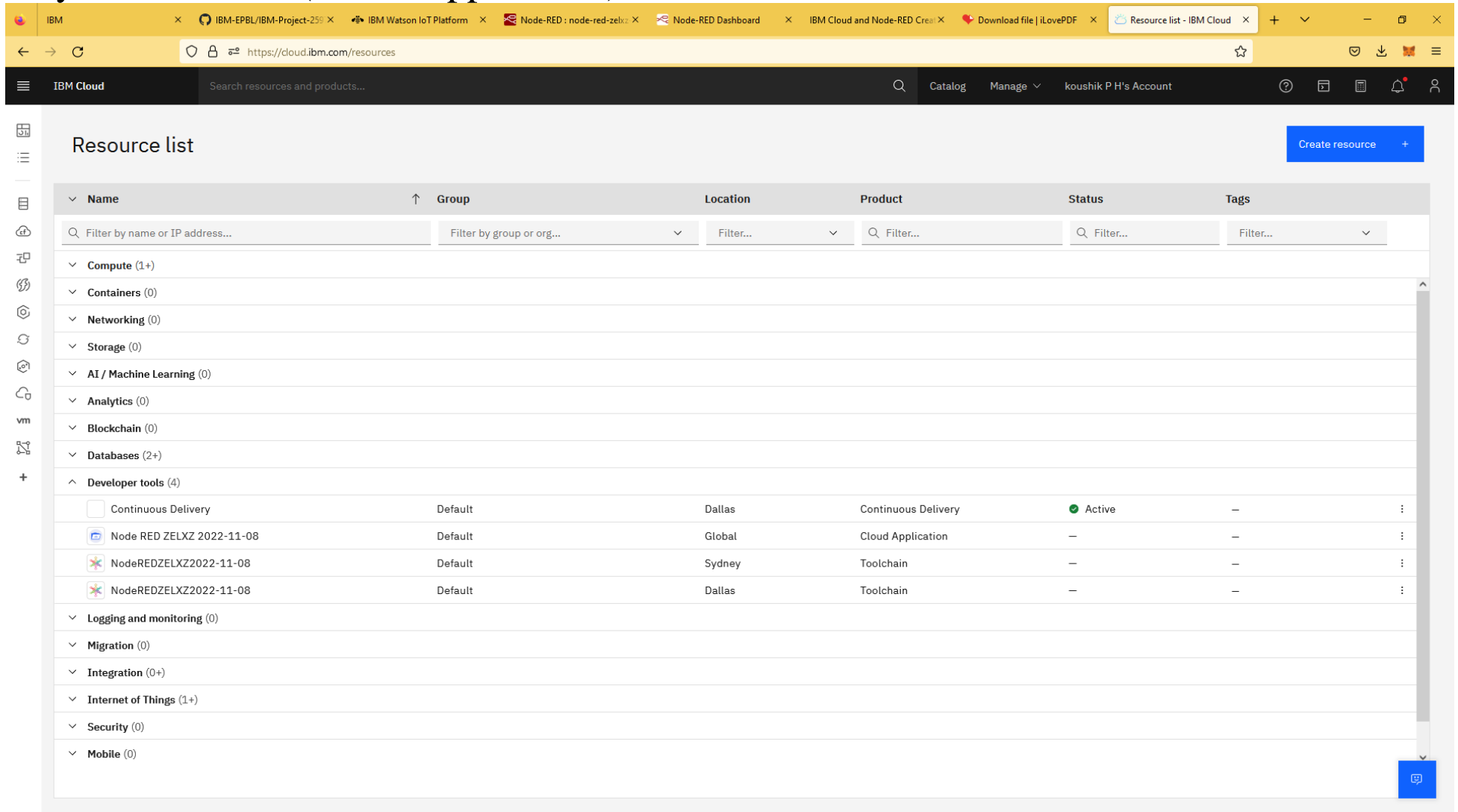
```
ibmcloud dev build
ibmcloud dev run
ibmcloud dev deploy
```

ASK A QUESTION

💬

STEP 11:

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 browser tabs include IBM, IBM-EPBL/IBM-Project-250, IBM Watson IoT Platform, Node-RED: node-red-zelx, Node-RED Dashboard, IBM Cloud and Node-RED Create, Download file | iLovePDF, and Resource list - IBM Cloud. The address bar shows the URL https://cloud.ibm.com/resources. The page header includes the IBM Cloud logo, a search bar, and navigation links for Catalog, Manage, and the user's account (koushik P H's Account). The sidebar menu on the left shows the Resource list section expanded, with various categories like Compute, Containers, Networking, Storage, AI / Machine Learning, Analytics, Blockchain, Databases, Developer tools, Logging and monitoring, Migration, Integration, Internet of Things, Security, and Mobile. The main content area displays a table of resources, with the Developer tools section expanded to show four items: Continuous Delivery, Node RED ZELXZ 2022-11-08, NodeREDZELXZ2022-11-08, and NodeREDZELXZ2022-11-08. The table has columns for Name, Group, Location, Product, Status, and Tags.

| Name | Group | Location | Product | Status | Tags |
|---------------------------|---------|----------|---------------------|--------|------|
| Continuous Delivery | Default | Dallas | Continuous Delivery | Active | — |
| Node RED ZELXZ 2022-11-08 | Default | Global | Cloud Application | — | — |
| NodeREDZELXZ2022-11-08 | Default | Sydney | Toolchain | — | — |
| NodeREDZELXZ2022-11-08 | Default | Dallas | Toolchain | — | — |

STEP 12:

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 tabs at the top include IBM, IBM-EPBL/IBM-Project-250, IBM Watson IoT Platform, Node-RED: node-red-zelx, Node-RED Dashboard, IBM Cloud and Node-RED, Download file | iLovePDF, and IBM App Development. The address bar shows the URL: https://cloud.ibm.com/developer/appservice/apps/43247415-2078-49e9-93b2-1eb8a80aef6f. The page title is "Node RED ZELXZ 2022-11-08" with an "Add tags" link and an "Actions..." dropdown menu.

Details

| | |
|-------------------|---|
| App URL | https://node[REDACTED] |
| Source | https://au-syd.git.cloud.ibm.com/vh10100_ece19/NodeREDZELXZ202... |
| Resource group | Default |
| Deployment target | Node RED ZELXZ 2022-11-08 |
| Created | 11/8/2022 |

Services

Cloudant

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

Credentials ▾

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

Deployment Automation

| | |
|-------------------|------------------------|
| Name | NodeREDZELXZ2022-11-08 |
| Location | Sydney |
| Tool integrations | |

Delivery Pipelines

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

Getting started quickly

Configuring your app

To connect services and DevOps toolchains to your app:

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2. If you want to view the code before your app is deployed, click **Download code** to obtain the .zip file.
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5. If you make any changes to your app, be sure to deploy it again.

Building, running, and deploying your app locally

To build and run your app locally:

1. Run the `ibmcloud dev code <APPNAME>` command from the IBM Cloud CLI. [Learn more.](#)
2. Run the following commands in a local development container from the app directory:

```
ibmcloud dev build  
ibmcloud dev run  
ibmcloud dev deploy
```

ASK A QUESTION

STEP 13:

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.

