

Create And Configure IBM Cloud Services

Project Title	SmartFarmer – IoT Enabled Smart Farming Application
Team ID	PNT2022TMID26062
Content	IBM Cloud Service

STEP 1:

Type IBM Cloud in Google and click on the first link.

The screenshot shows a Google search interface with the query "ibm cloud" entered in the search bar. The search results page displays "About 20,70,00,000 results (0.48 seconds)". The first result is an advertisement for IBM Cloud, with the URL "https://www.ibm.com/cloud/computing". The ad text describes IBM Cloud as a robust suite of advanced data and AI tools, and deep industry expertise, offering a faster, more secure journey to cloud. It lists types: Full Stack Cloud Platform, Hybrid Cloud, and Developer Tools. Below the ad, there are links to "Watson AI", "IBM Let's Create", "Chat with IBM Sales", and "Modernise Hybrid Cloud". On the right side of the search results, there is a large image showing the IBM Cloud logo and various cloud computing services, including a diagram of cloud architecture and a person interacting with a cloud interface. The image is titled "IBM cloud computing" and is categorized as "Computer software".

Google

ibm cloud

Tools

About 20,70,00,000 results (0.48 seconds)

Ad • <https://www.ibm.com/cloud/computing>

IBM Cloud® - Cloud Computing

A robust suite of advanced data and AI tools, and deep industry expertise. Discover a faster, more secure journey to **cloud** trusted by thousands of enterprises. Enterprise-Grade **Cloud**. Chat, Call, or Email **IBM**. Types: Full Stack **Cloud** Platform, Hybrid **Cloud**, Developer Tools.

Watson AI
Bring AI Tools and Apps to Your Data Wherever It Resides.

IBM Let's Create
Bringing Together the Technology & Expertise for a New Way to Create.

Chat with IBM Sales
Chat, Call, or Email IBM To Discuss Your Business Needs Today.

Modernise Hybrid Cloud
Let's Create Cloud Management That Requires Less Management.

IBM Cloud

IBM Cloud is a set of cloud computing services for business offered by the information

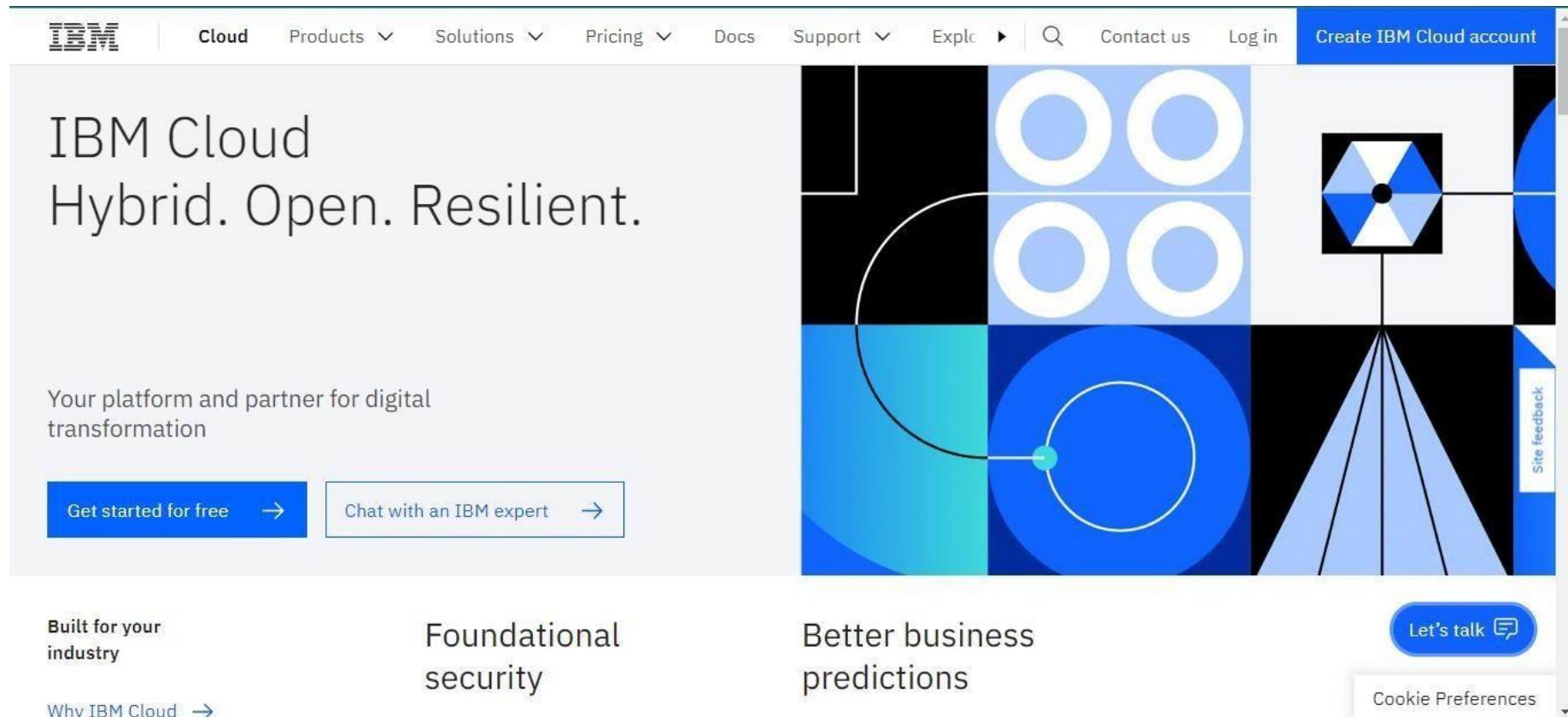
IBM Cloud computing

Computer software

More images

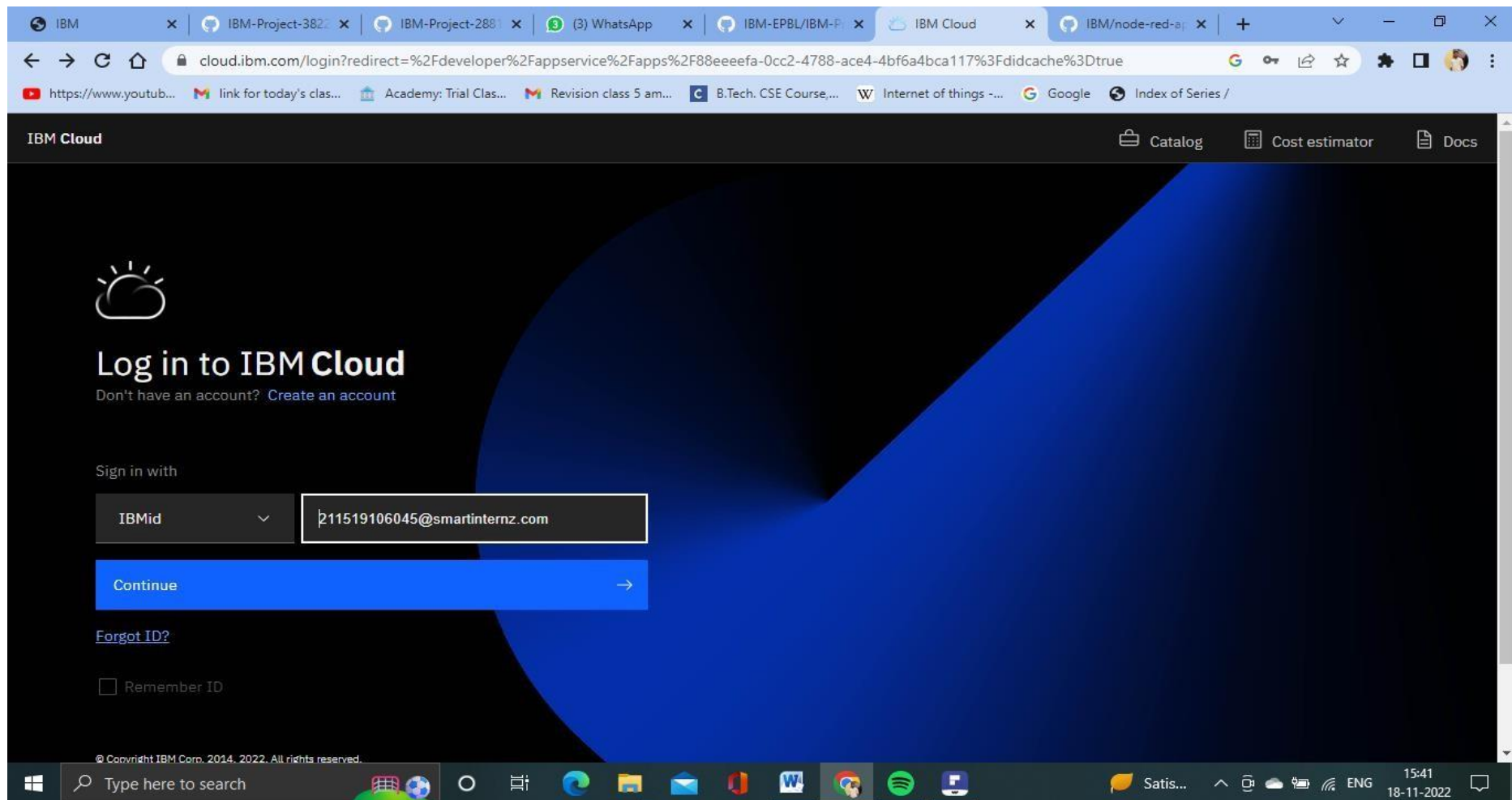
STEP 2:

Click on create IBM Cloud Account Now and enter the details.



STEP 3:

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



STEP 4:

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

The screenshot displays the IBM Cloud dashboard interface. At the top, a search bar contains the text "node Red". Below the search bar, the "Resource Results" section shows a single result: "Node RED FSRLM 2022-11-18" under the "Apps" category. The "Catalog Results" section lists several services and software, including "Node-RED App" (Service), "HDM VMware Workload Migrator" (Service), "Virtual Server for VPC" (Service), "TrilioVault for Kubernetes" (Software), and "Custom Migrations as a Service" (Service). The dashboard also features a "For you" section with a "Build" card, a "User access" section, and a "News" section with a "View all" link. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying the date and time as 15:42 on 18-11-2022.

IBM Cloud

node Red

Resource Results

Node RED FSRLM 2022-11-18

Apps

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

Search "node Red" in Support Cases

Search "node Red" in Docs

Dashboard

For you

Build

Explore IBM Cloud with the selection of easy starter tutorials and services.

User access

Manage users

News

View all

Planned maintenance

View

Enter email addresses below to jump directly into the

https://cloud.ibm.com/developer/appservice/apps/88eeefa-0cc2-4788-ace4-4bf6a4bca117

Type here to search

28°C

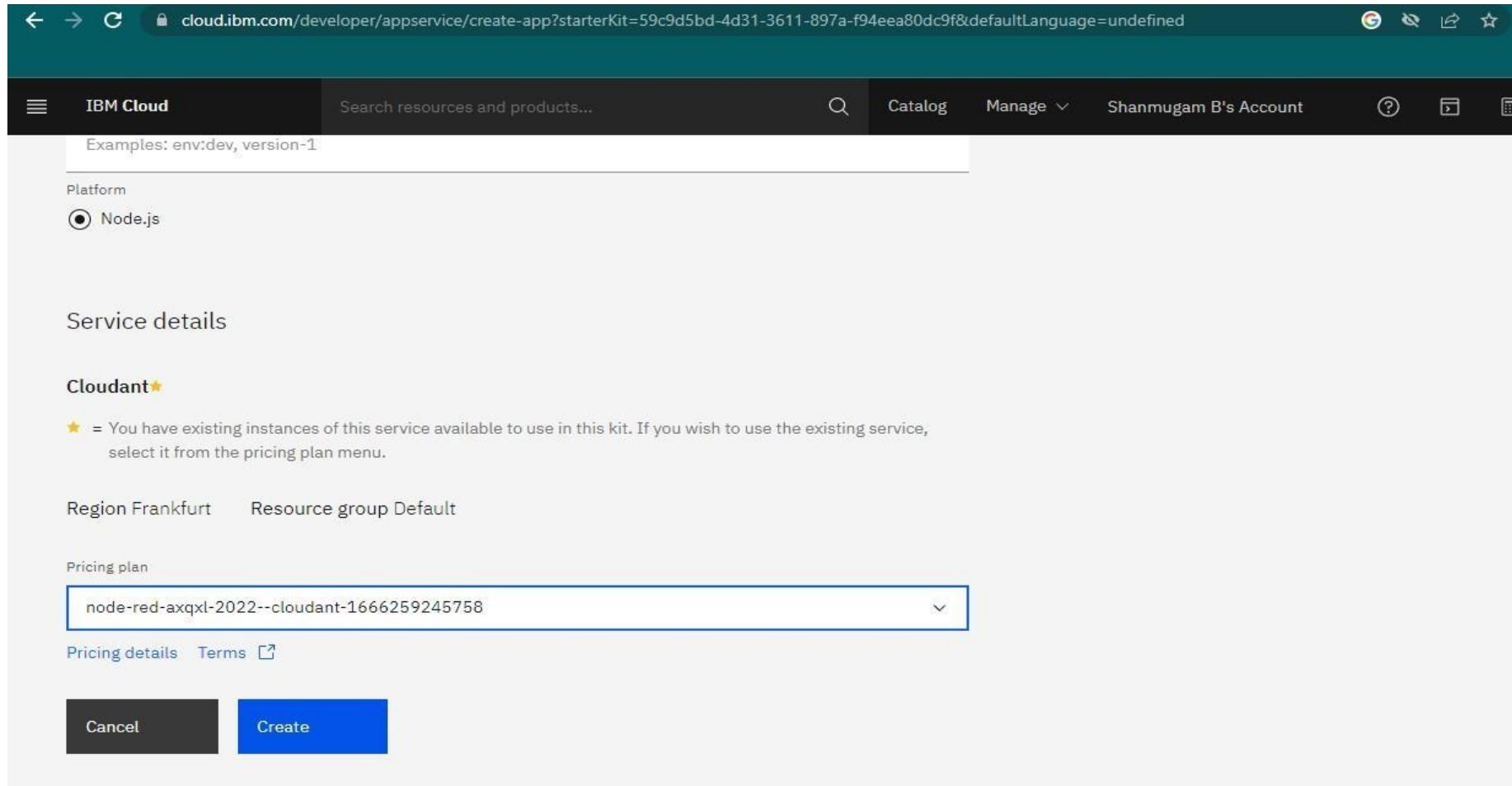
ENG

15:42

18-11-2022

STEP 5:

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 for creating a new application. The browser address bar displays the URL: `cloud.ibm.com/developer/appservice/create-app?starterKit=59c9d5bd-4d31-3611-897a-f94eea80dc9f&defaultLanguage=undefined`. The page header includes the IBM Cloud logo, a search bar, and navigation links for Catalog, Manage, and the user's account (Shanmugam B's Account). The main content area is titled "Examples: env:dev, version-1" and features a "Platform" section with a radio button selected for "Node.js". Below this is the "Service details" section, which includes the "Cloudant" service with a star icon. A note explains that the star indicates existing instances are available for use. The "Region" is set to "Frankfurt" and the "Resource group" is "Default". The "Pricing plan" section shows a dropdown menu with the selected plan: "node-red-axqxl-2022--cloudant-1666259245758". At the bottom, there are two buttons: "Cancel" and "Create".

Examples: env:dev, version-1

Platform

☒ 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 Frankfurt Resource group Default

Pricing plan

node-red-axqxl-2022--cloudant-1666259245758

Pricing details Terms

Cancel Create

STEP 6:

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

The screenshot shows the IBM Cloud Developer App Service interface. The browser address bar displays the URL: `cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4`. The page header includes the IBM Cloud logo, a search bar, and navigation links for Catalog, Manage, and the user's account (Shanmugam B's Account). The main content area is titled "Node RED CBGMG 2022-11-11" and includes an "Add tags" link. The "Details" section on the left lists attributes: App URL (You must deploy your app first), Source (with a "Download code" button), Resource group (Default), Deployment target (You must deploy your app first), and Created (11/11/2022). The "Services" section lists Cloudant with links to Open dashboard, Documentation, and API reference, along with a Credentials dropdown. On the right, the "Deployment Automation" section features a "Configure Continuous Delivery" link and a "Deploy your app" button. A message states: "Continuous Delivery is not enabled for this app. Enable Continuous Delivery to automate builds, tests, and deployments through Deliver Pipeline, GitLab, and more."

Resource list / App details /

Node RED CBGMG 2022-11-11

[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	11/11/2022

Services

Cloudant

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

Credentials

Deployment Automation

Configure Continuous Delivery

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

[Deploy your app](#)

STEP 7:

Now click Deploy your app option.

IBM Cloud

cloud.ibm.com/developer/appservice/apps/88eeefaf-0cc2-4788-ace4-4bf6a4bca117

Resource list / App details /

Node RED FSRLM 2022-11-18

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.

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

ASK A QUESTION

28°C 15:42 18-11-2022

STEP 8:

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.

cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4

IBM Cloud Search resources and products... Catalog Manage Shanmugam B's Account

IBM Cloud API key

..... New +

Note: Your cluster status must be available before you can select it.

Container registry region Container registry namespace

Container registry region Container registry namespace

Cluster region Cluster resource group Cluster namespace Cluster name

Dallas Default default No clusters available

Create new +

Deployment type

HELM Helm

https://cloud.ibm.com/containers-kubernetes/launch

4. Select the region where your Kuber cluster is located.
5. Select the resource group, cluster namespace, and the cluster name.
6. The deployment type of **Helm** is sel for you.
7. Click **Next**.

STEP 9:

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 Kubernetes cluster creation interface. The browser address bar displays `cloud.ibm.com/kubernetes/catalog/create`. The page header includes the IBM Cloud logo, a search bar, and navigation links for Catalog, Manage, and the user's account (Shanmugam B's Account). The main content area is titled "Kubernetes cluster" and includes links for Author, Docs, and API docs. Below the title, there are tabs for "Create" and "About". A promotional banner for Red Hat OpenShift is visible. The "Plan details" section includes a link to learn more about plan differences and a "Pricing plan" dropdown menu currently set to "Free". The "Kubernetes version" section has a placeholder text: "Select the Kubernetes platform version for your cluster. For more information". On the right sidebar, the "Summary" section shows the "Kubernetes cluster" details, including "1 Worker node" with specifications: "Free - 2 vCPUs 4GB RAM", "Virtual - shared", and "Ubuntu 18". Below this, the "Total estimated cost" section includes a disclaimer: "Additional charges for networking and might apply. Actual monthly total will vary with tier. Estimate does not include costs for int". At the bottom of the sidebar, there are two buttons: "Create" (highlighted in blue) and "Add to estimate".

STEP 10:

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 Kubernetes Clusters overview page for a cluster named 'mycluster-free'. The browser address bar shows the URL: `cloud.ibm.com/kubernetes/clusters/cdmth3gf0uv95es1i540/overview`. The page header includes the IBM Cloud logo, a search bar, and navigation links for Catalog, Manage, and the user's account (Shanmugam B's Account). The cluster status is 'Normal' and it 'Expires in 30 days'. A warning banner states: 'Expires in 30 days: Be sure to back up your data, your cluster will be deleted in 30 days. To access the full capabilities of the service, try out a standard cluster.' The overview section displays four status cards: Node status (1 of 1, Normal), Add-on status (0 of 0, Normal), Master status (Normal), and Ingress status (Unknown). A 'Details' section below shows the Cluster ID (cdmth3gf0uv95es1i540), Version (1.24.7_1542), Infrastructure (Classic), and Zones (Milan 01). A sidebar on the left lists navigation options: Overview, Worker nodes, Worker pools, and DevOps (New). A 'Help' sidebar on the right lists actions: Log in to your cluster, Deploy your app, Expose your app, Add storage to your app, Connect integrations, Install add-ons, and Troubleshoot.

IBM Cloud

Search resources and products...

Catalog Manage Shanmugam B's Account

Clusters / mycluster-free

Normal Expires in 30 days Add tags

Help Kubernetes dashboard Actions...

Expires in 30 days: Be sure to back up your data, your cluster will be deleted in 30 days. To access the full capabilities of the service, try out a standard cluster.

Node status: 1 of 1 Normal

Add-on status: 0 of 0 Normal

Master status: Normal

Ingress status: Unknown

Details

Cluster ID: cdmth3gf0uv95es1i540

Version: 1.24.7_1542

Infrastructure: Classic

Zones: Milan 01

Created:

Resource group:

Image security enforcement:

Help

- Log in to your cluster
- Deploy your app
- Expose your app
- Add storage to your app
- Connect integrations
- Install add-ons
- Troubleshoot

STEP 11:

In cluster name, choose mycluster-free and click on Next.

The screenshot shows the IBM Cloud console interface for creating a new cluster. The URL in the browser is `cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4`. The page title is "IBM Cloud". The search bar contains "Search resources and products...". The navigation bar includes "Catalog", "Manage", and "Shanmugam B's Account".

The main content area displays the following configuration options:

- IBM Cloud API key: [Redacted]
- Container registry region: Dallas
- Container registry namespace: Container registry namespace
- Cluster region: Frankfurt
- Cluster resource group: Default
- Cluster namespace: default
- Cluster name: mycluster-free
- Deployment type: Helm (selected)

At the bottom, there are "Cancel" and "Next" buttons.

On the right side, a list of instructions is displayed:

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.
7. Click **Next**.

STEP 12:

Then click on Create.

cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4

IBM Cloud Search resources and products... Catalog Manage Shanmugam B's Account

Resource list / App details /

Node RED CBGMG 2022-11-11

✓ 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

NodeREDCBGMG2022-11-11

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 tool

The DevOps toolchain includes a Dev 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 you want to associate with your new toolchain. [Learn more](#)
4. After you're finished with your configuration, click **Create**.

STEP 13:

You need to wait until ci-pipeline status success.

The screenshot displays the IBM Cloud Developer console interface. The top navigation bar includes the IBM Cloud logo, a search bar, and links to Catalog, Manage, and the user's account (Shanmugam B's Account). The main content area is divided into two columns. The left column contains the 'Details' section for an application, showing fields like App URL, Source (with a 'Download code' button), Resource group (Default), Deployment target, and Created date (11/11/2022). Below this is the 'Services' section, featuring a 'Cloudant' service with links to its dashboard, documentation, and API reference, and buttons to 'Connect existing services' or 'Create service'. The right column shows the 'Deployment Automation' section, listing two delivery pipelines: 'pr-pipeline' (status: No stages detected) and 'ci-pipeline' (status: Success, indicated by a green checkmark).

cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4

IBM Cloud Search resources and products... Catalog Manage Shanmugam B's Account

Details

App URL You must deploy your app first

Source [Download code](#)

Resource group [Default](#)

Deployment target You must deploy your app first

Created 11/11/2022

Services

Cloudant

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

Credentials ▾

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

Deployment Automation

Name [NodeREDCBGMG2022-11-11](#)

Location Dallas

Tool integrations

Delivery Pipelines

Name [pr-pipeline](#)

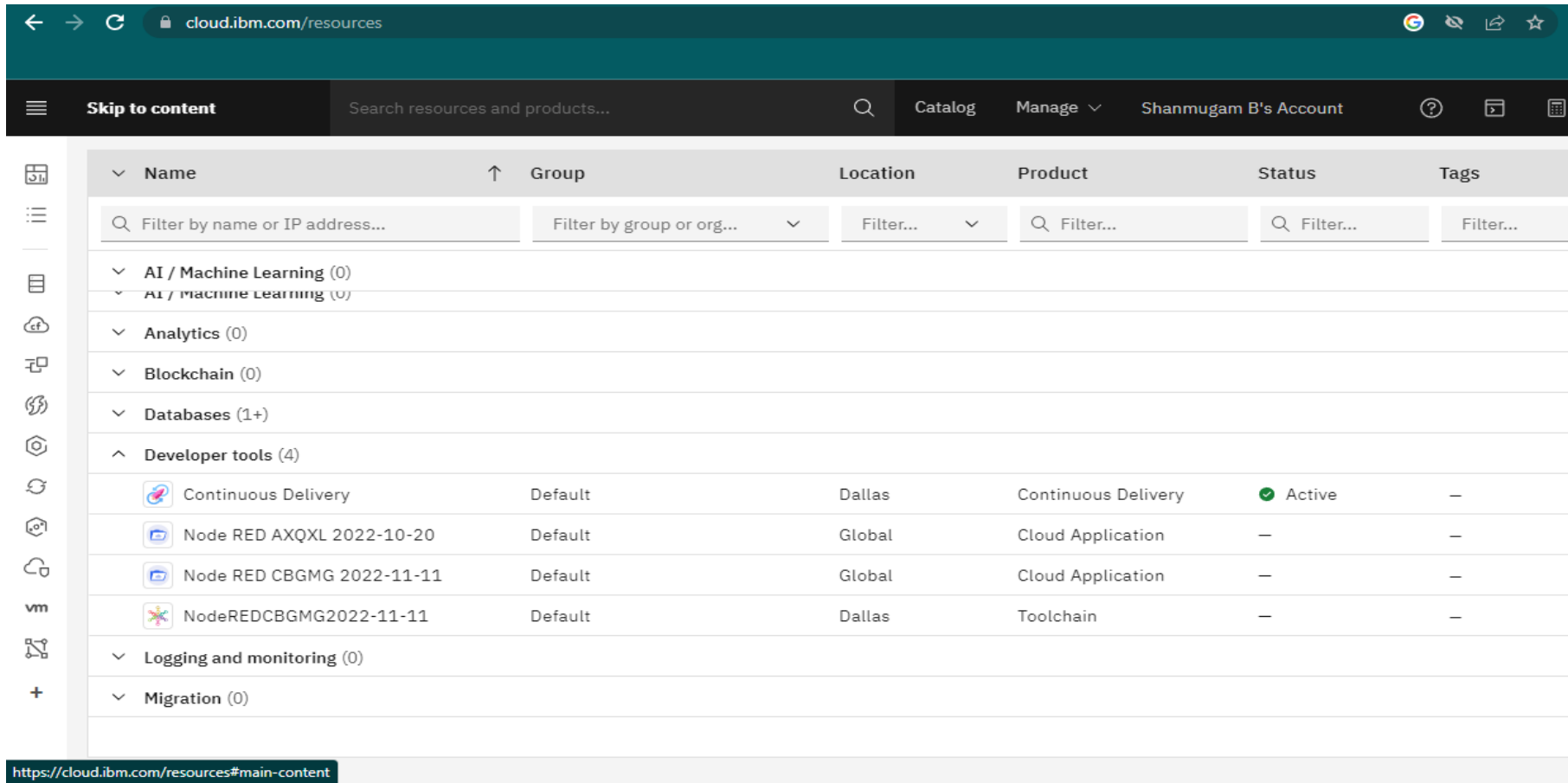
Status No stages detected

Name [ci-pipeline](#)

Status Success

STEP 14:

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 Resources page. The browser address bar displays cloud.ibm.com/resources. The page header includes a search bar, a "Catalog" link, a "Manage" dropdown, and the user's account name "Shanmugam B's Account". The left sidebar contains various icons for navigation. The main content area displays a table of resources, with the "Developer tools (4)" section expanded. The table has columns for 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 AXQXL 2022-10-20	Default	Global	Cloud Application	—	—
Node RED CBGMG 2022-11-11	Default	Global	Cloud Application	—	—
NodeREDCBGMG2022-11-11	Default	Dallas	Toolchain	—	—

The URL bar at the bottom shows <https://cloud.ibm.com/resources#main-content>.

STEP 15:

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 displays the IBM Cloud Developer console interface. The browser address bar shows the URL: `cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4`. The page title is "Node RED CBGMG 2022-11-11".

Details

App URL	<code>http://169. [REDACTED]</code>
Source	<code>https://us-south.git.cloud.ibm.com/312819106035/NodeREDCBGM...</code>
Resource group	Default
Deployment target	mycluster-free
Created	11/11/2022

Services

Cloudant

- Open dashboard
- Documentation
- API reference
- Credentials

Deployment Automation

Name	NodeREDCBGMG2022-11-11
Location	Dallas
Tool integrations	[Icons for various tools]

Delivery Pipelines

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

At the bottom, there are two buttons: "Connect existing services" and "Create service".

STEP 16:

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.

