

Create And Configure IBM Cloud Services

Project Title	SmartFarmer – IoT Enabled Smart Farming Application
Team ID	PNT2022TMID22052
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 approximately 20,700,000 results in 0.48 seconds. The first result is an advertisement for IBM Cloud® - Cloud Computing, which includes a link to the IBM Cloud website and a brief description of their services. Below the ad, there are four links: "Watson AI", "IBM Let's Create", "Chat with IBM Sales", and "Modernise Hybrid Cloud", each with a short description. On the right side of the search results, there is a knowledge panel for "IBM cloud computing". The panel features the IBM Cloud logo, a diagram of cloud services, and a list of related topics including "Computer software".

Google

ibm cloud

About 20,700,000 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.

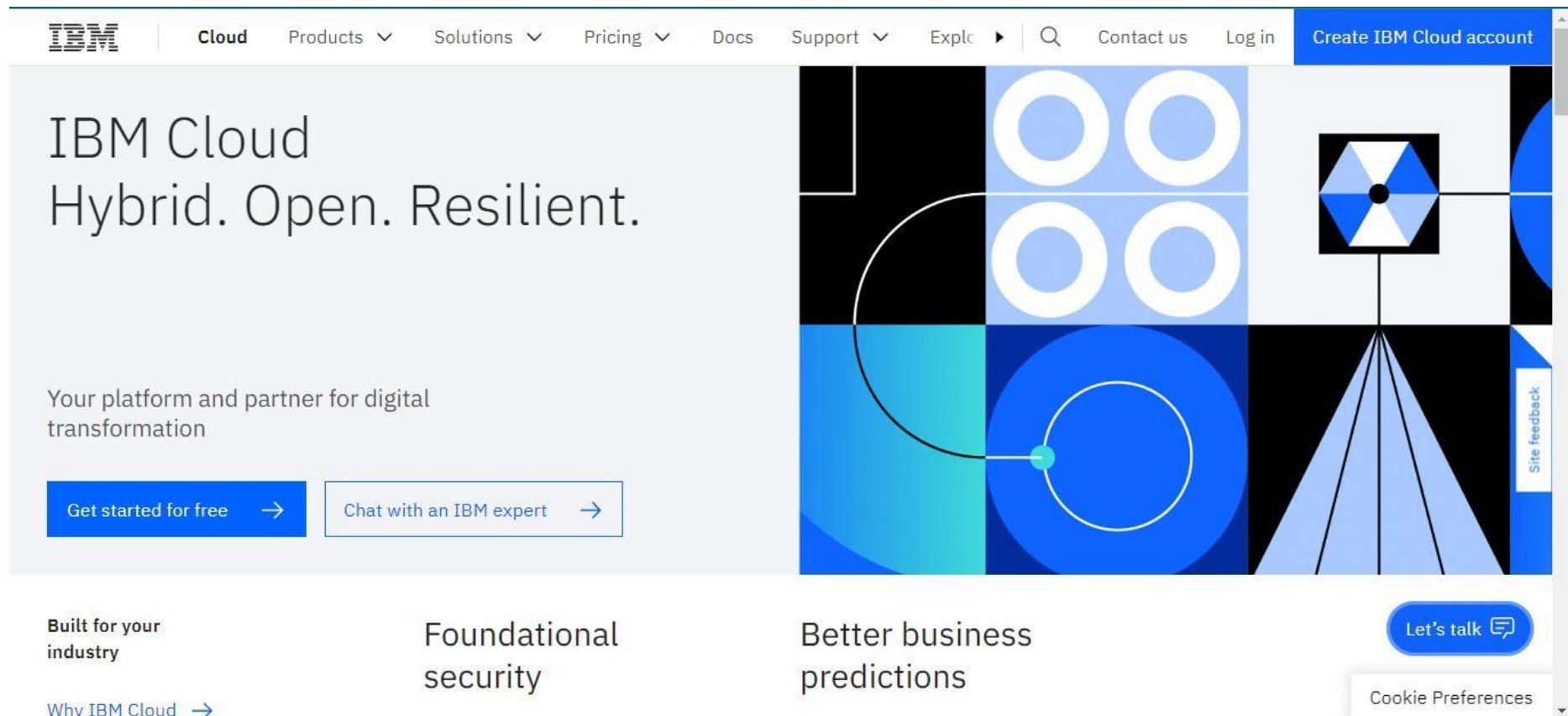
Modernise Hybrid Cloud
Let's Create Cloud Management That Requires Less Management.

IBM Cloud

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

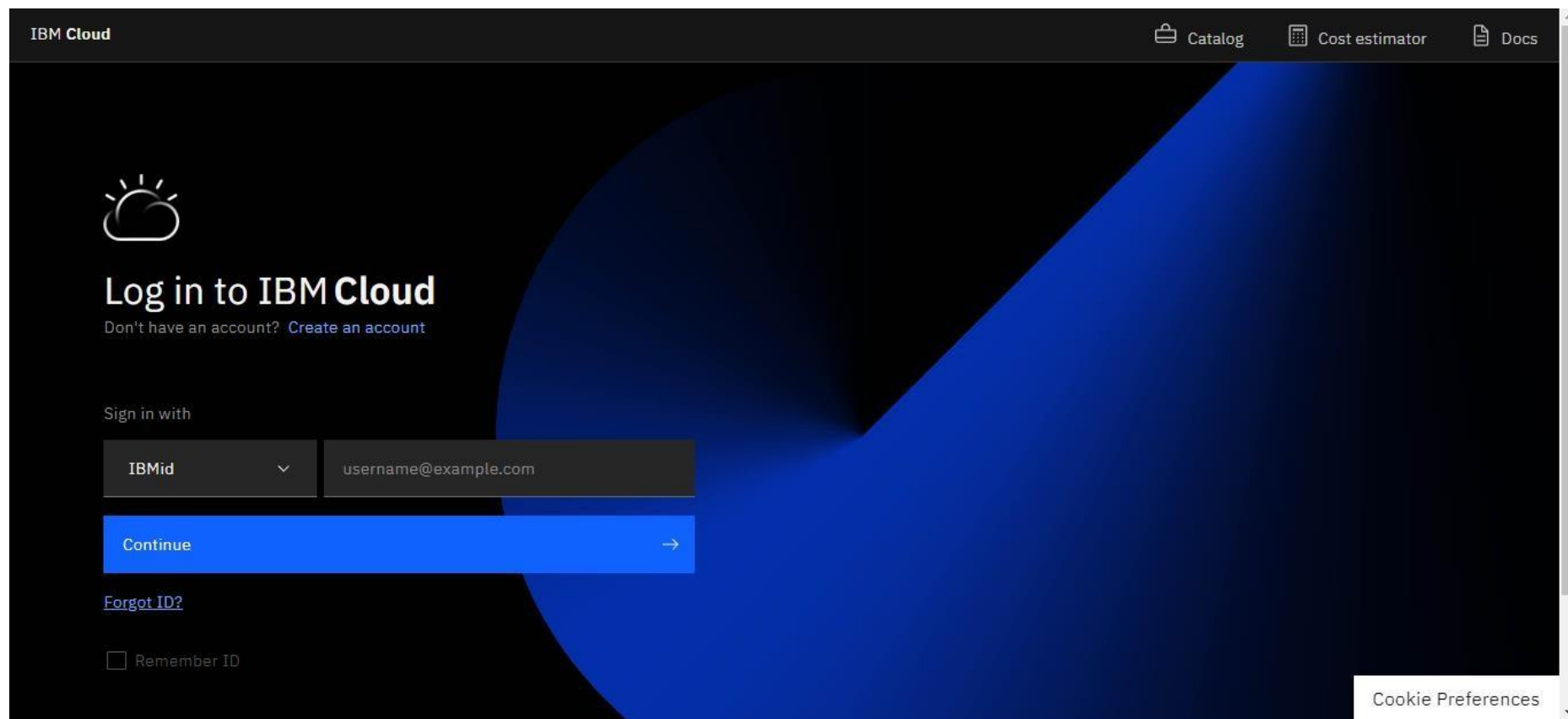
STEP 2:

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.



The screenshot shows the IBM Cloud login interface. At the top, there is a dark navigation bar with the 'IBM Cloud' logo on the left and 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 with sun rays. Below it, the text 'Log in to IBM Cloud' is displayed in white, followed by a link 'Don't have an account? Create an account'. Under the heading 'Sign in with', there are two input fields: the first is a dropdown menu labeled 'IBMid' with a downward arrow, and the second contains the text 'username@example.com'. Below these fields is a prominent blue button labeled 'Continue' with a right-pointing arrow. Underneath the button is a link 'Forgot ID?'. At the bottom left, there is a checkbox labeled 'Remember ID'. In the bottom right corner, there is a 'Cookie Preferences' link.

STEP 4:

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

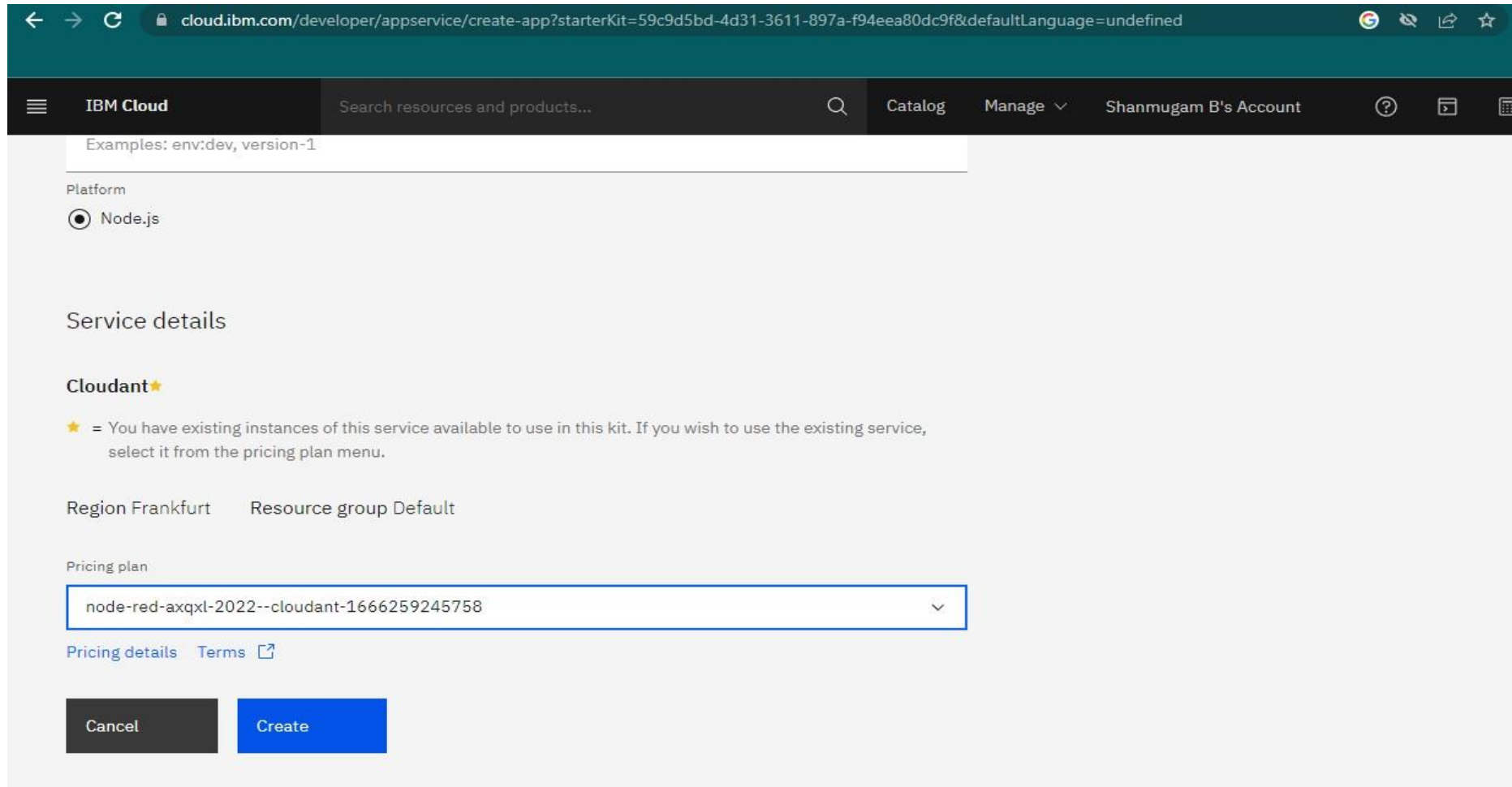
The screenshot shows the IBM Cloud Dashboard interface. At the top, the browser address bar displays 'cloud.ibm.com'. The dashboard header includes the 'IBM Cloud' logo, a search bar containing 'node-red', and navigation links for 'Catalog', 'Manage', and 'Shanmugam B's Account'. A 'Create resource' button is visible in the top right.

The main content area is titled 'Dashboard' and features a 'For you' section with a 'Build' card. A search overlay is active, displaying 'Resource Results' and 'Catalog Results' for 'node-red'. The 'Resource Results' section shows a service named 'node-red-axqxl-2022--cloudant-1666259245758'. The 'Catalog Results' section shows the 'Node-RED App' service. Below the search results, there are links to 'Search "node-red" in Support Cases' and 'Search "node-red" in Docs'.

The dashboard also features several cards for building applications, including 'Build a web app with Watson Speech to Text' and 'Build a Virtual Private Cloud (VPC)'. At the bottom, there are sections for 'User access', 'News', and 'Planned maintenance'.

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.



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

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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 account (Shanmugam B's Account). The main content area is titled "Node RED CBGMG 2022-11-11" with an "Add tags" link and an "Actions..." button. The "Details" section lists the App URL (with a message "You must deploy your app first"), Source (with a "Download code" button), Resource group (Default), Deployment target (with a message "You must deploy your app first"), and Created date (11/11/2022). The "Services" section shows the Cloudant service with links to "Open dashboard", "Documentation", and "API reference", and a "Credentials" dropdown. The "Deployment Automation" section features a "Configure Continuous Delivery" button and a message stating that Continuous Delivery is not enabled for this app. A prominent blue "Deploy your app" button is located at the bottom right of the page.

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.

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

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Resource list / App details /

Node RED CBGMG 2022-11-11

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 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 ready.

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

<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 page. 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 'Shanmugam B's Account'. The main content area is titled 'Kubernetes cluster' with links for 'Author: IBM', 'Docs', and 'API docs'. Below the title are two tabs: 'Create' (active) and 'About'. A promotional banner for Red Hat OpenShift is visible. The 'Plan details' section includes a link to learn more about pricing plans and a 'Pricing plan' dropdown menu currently set to 'Free'. The 'Kubernetes version' section has a link to select the platform version. On the right, a 'Summary' sidebar shows the 'Kubernetes cluster' configuration: '1 Worker node' with 'Free - 2 vCPUs 4GB RAM', 'Virtual - shared', and 'Ubuntu 18'. It also displays the 'Total estimated cost' with a disclaimer about additional charges and a 'Create' button.

cloud.ibm.com/kubernetes/catalog/create

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Kubernetes cluster

Author: IBM • Docs • API docs

Create About

Deliver your apps quicker across clouds with Red Hat OpenShift

Plan details

Learn more about the differences between plans in our docs.

Pricing plan

Free

Kubernetes version

Select the Kubernetes platform version for your cluster. For more information

Summary

United States

Kubernetes cluster

1 Worker node

Free - 2 vCPUs 4GB RAM
Virtual - shared
Ubuntu 18

Total estimated cost

Additional charges for networking and might apply.
Actual monthly total will vary with tier
Estimate does not include costs for int

Create

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 free cluster named 'mycluster-free'. The page includes a navigation bar with 'IBM Cloud', a search bar, and links to 'Catalog', 'Manage', and '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 at the bottom shows cluster information: Cluster ID (cdmth3gf0uv95es1i540), Version (1.24.7_1542), Infrastructure (Classic), Zones (Milan 01), Created, Resource group, and Image security enforcement. A right-hand sidebar provides a 'Help' menu with options like 'Log in to your cluster', 'Deploy your app', 'Expose your app', 'Add storage to your app', 'Connect integrations', 'Install add-ons', and 'Troubleshoot'.

cloud.ibm.com/kubernetes/clusters/cdmth3gf0uv95es1i540/overview

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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
Details ↓

Add-on status
0 of 0
Normal
Details ↓

Master status
Normal
Docs ↗

Ingress status
Unknown
Docs ↗

Details

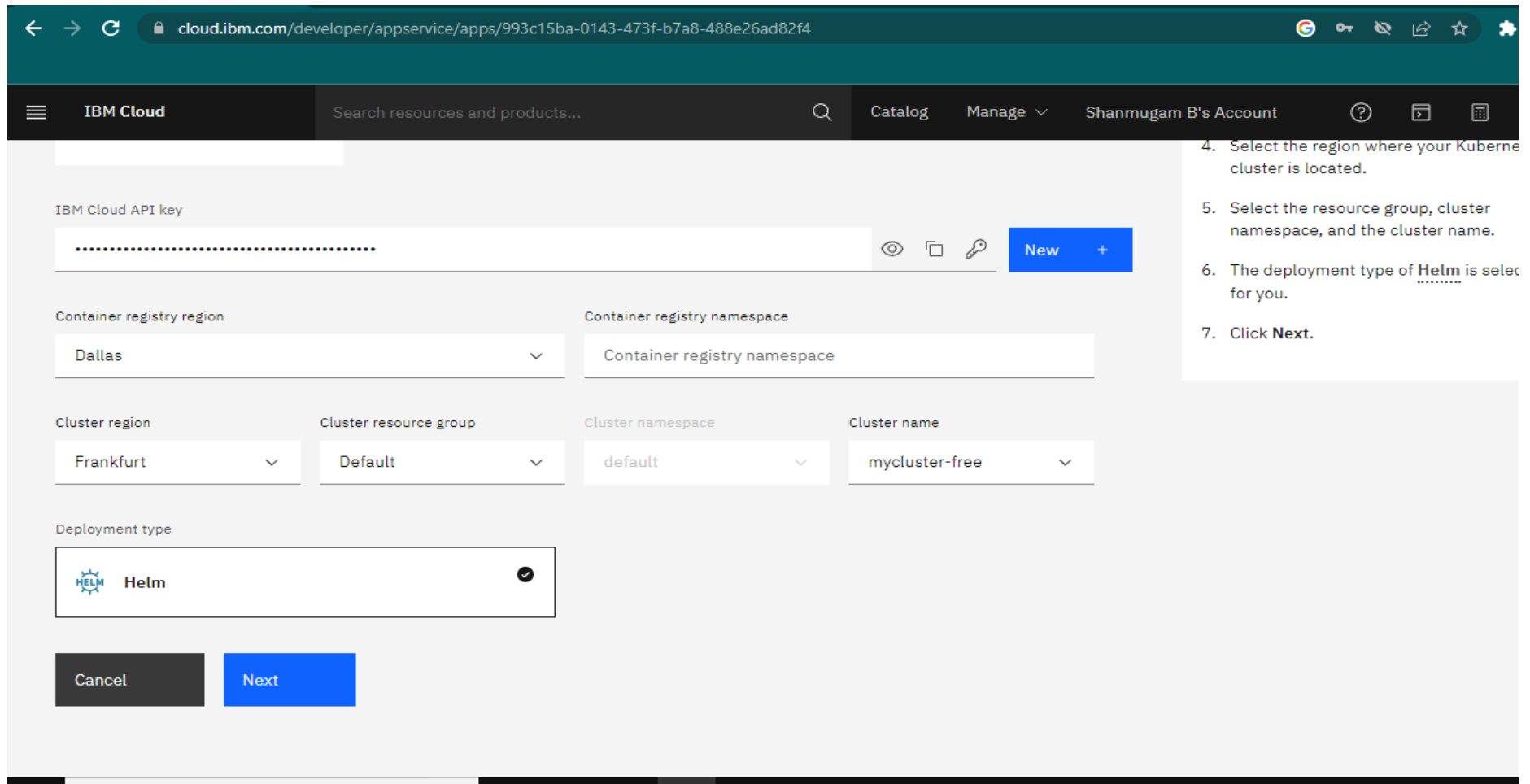
Cluster ID	Version	Infrastructure	Zones
cdmth3gf0uv95es1i540	1.24.7_1542	Classic	Milan 01
Created	Resource group	Image security enforcement	

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 Developer console interface for creating a new cluster. The URL bar indicates the path: `cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4`. The 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 form contains the following fields and options:

- IBM Cloud API key:** A text field with a masked value (dots) and a "New +" button.
- Container registry region:** A dropdown menu set to "Dallas".
- Container registry namespace:** A text field with the value "Container registry namespace".
- Cluster region:** A dropdown menu set to "Frankfurt".
- Cluster resource group:** A dropdown menu set to "Default".
- Cluster namespace:** A dropdown menu set to "default".
- Cluster name:** A dropdown menu set to "mycluster-free".
- Deployment type:** A selection box with the "Helm" option selected, indicated by a checkmark.

At the bottom of the form are two buttons: "Cancel" and "Next".

Overlaid on the right side of the form is a list of instructions:

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 create your new toolchain in. [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 a 'Details' section with fields for App URL, Source (with a 'Download code' button), Resource group (Default), Deployment target, and Created date (11/11/2022). Below this is a 'Services' section featuring a 'Cloudant' service with links to 'Open dashboard', 'Documentation', and 'API reference', and a 'Credentials' dropdown. At the bottom of the left column are buttons for 'Connect existing services' and 'Create service'. The right column contains a 'Deployment Automation' section with fields for Name (NodeREDCBGMG2022-11-11), Location (Dallas), and Tool integrations. Below this is a 'Delivery Pipelines' section listing two pipelines: 'pr-pipeline' with a status of 'No stages detected', and 'ci-pipeline' with a status of '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](#)

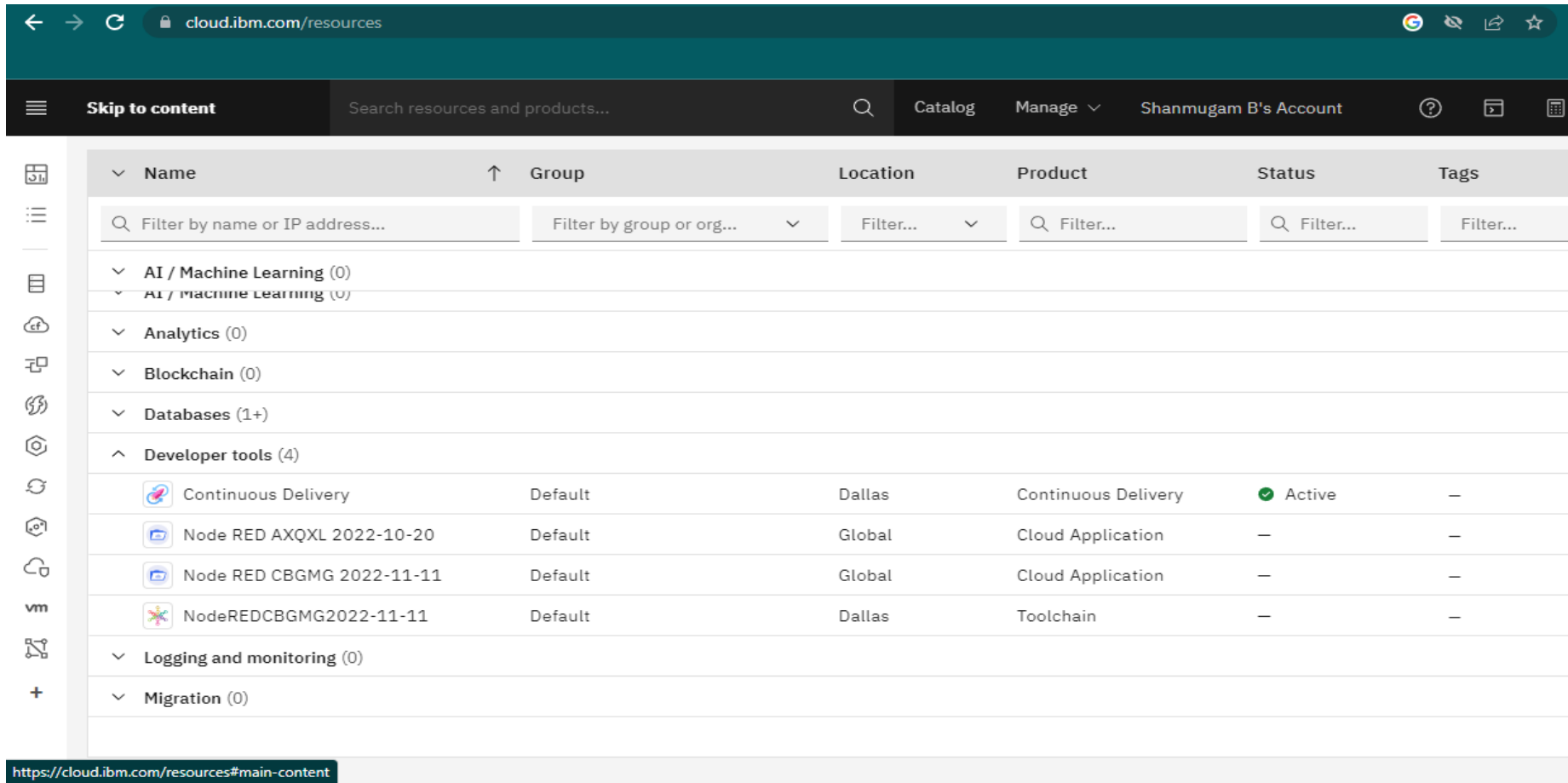
Status [No stages detected](#)

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, navigation links (Catalog, Manage), and the user's account name (Shanmugam B's Account). The left sidebar contains a menu with icons for various resource categories. The main content area displays a table of resources, categorized by groups like AI / Machine Learning, Analytics, Blockchain, Databases, and Developer tools. The Developer tools group is expanded, showing four resources: Continuous Delivery, Node RED AXQXL 2022-10-20, Node RED CBGMG 2022-11-11, and NodeREDCBGMG2022-11-11. The Node RED resources are marked as 'Cloud Application' and have a status of 'Active'.

Name	Group	Location	Product	Status	Tags
Filter by name or IP address...					
Filter by group or org...					
Filter...					
Filter...					
Filter...					
AI / Machine Learning (0)					
AI / Machine Learning (0)					
Analytics (0)					
Blockchain (0)					
Databases (1+)					
Developer tools (4)					
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	—	—
Logging and monitoring (0)					
Migration (0)					

<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	http://169. [REDACTED]
Source	https://us-south.git.cloud.ibm.com/312819106035/NodeREDCBGM...
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	

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.

