

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 20,700,000 results (0.48 seconds)". The first result is an advertisement for IBM Cloud, with the URL "https://www.ibm.com/cloud/computing". The ad title is "IBM Cloud® - Cloud Computing" and the description states: "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."

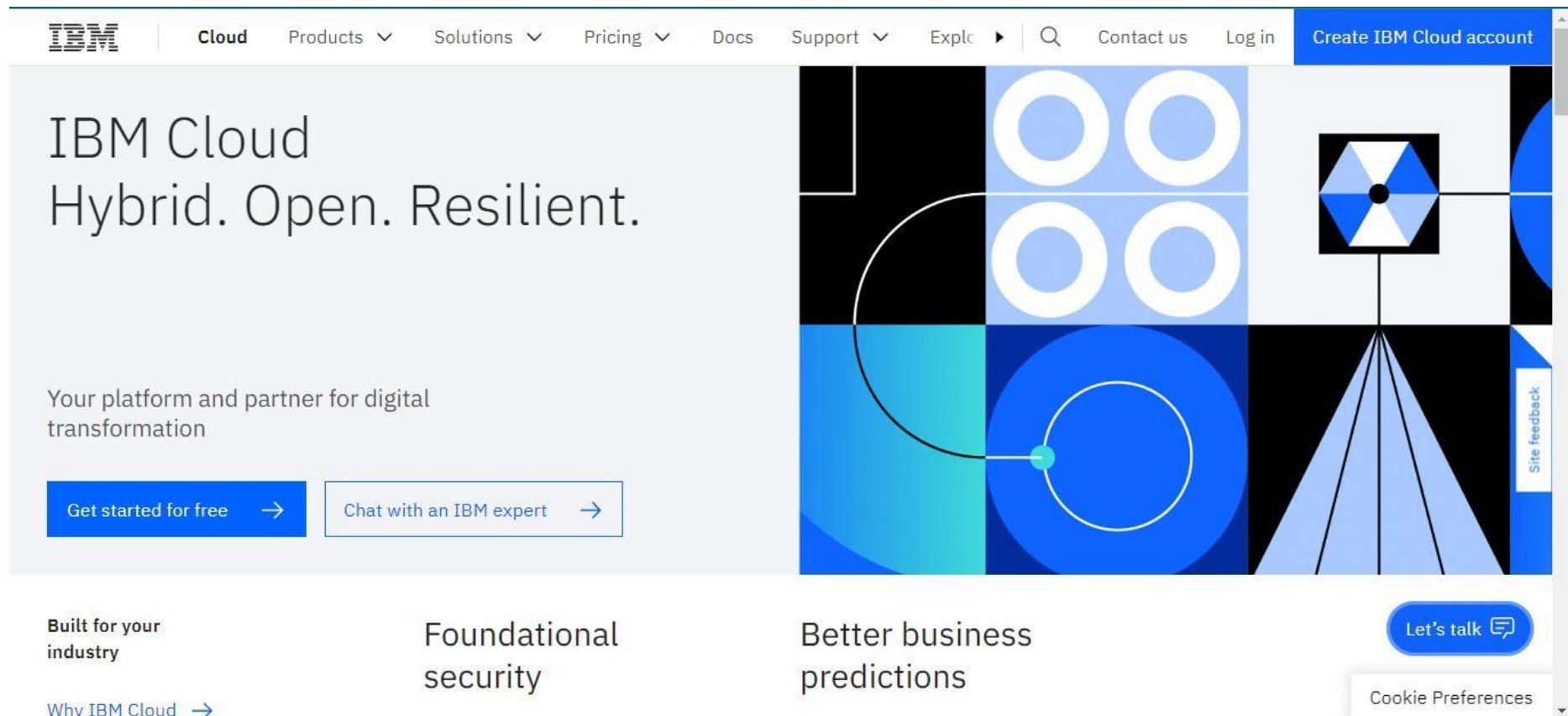
Below the ad, there are four links with descriptions:

- 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.

On the right side of the search results, there is a knowledge panel for "IBM cloud computing". The panel includes the IBM Cloud logo, a diagram of cloud services, and the text "IBM cloud computing" followed by "Computer software". A "More images" button is visible. At the bottom of the panel, it states: "IBM cloud computing is a set of cloud computing services for business offered by the information".

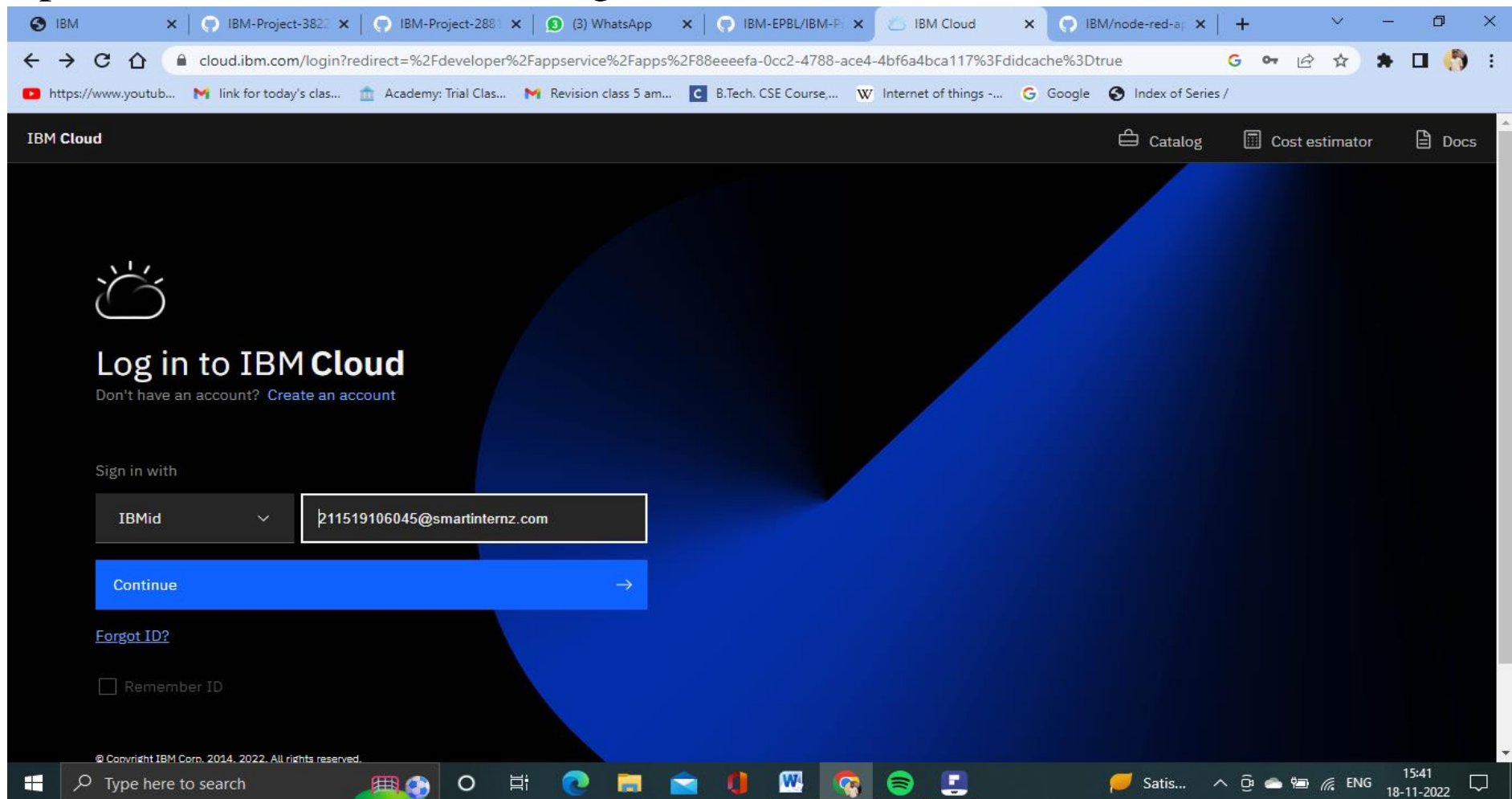
STEP 2:

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.



STEP 4:

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

The screenshot shows the IBM Cloud dashboard with a search bar at the top containing the text "node Red". The search results are displayed in a modal window. The "Resource Results" section shows "Node RED FSRLM 2022-11-18" under the "Apps" category. The "Catalog Results" section lists several services: "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). Below the catalog results, there are links to "Search 'node Red' in Support Cases" and "Search 'node Red' in Docs". The background dashboard shows a "Build" section with a blue button, a "User access" section, and a "News" section with a "View all" link. The bottom of the screen shows the Windows taskbar with various application icons and the system clock indicating 15:42 on 18-11-2022.

IBM Cloud

node Red

Resource Results [View all resource results](#)

Node RED FSRLM 2022-11-18
Apps

Catalog Results [View all 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

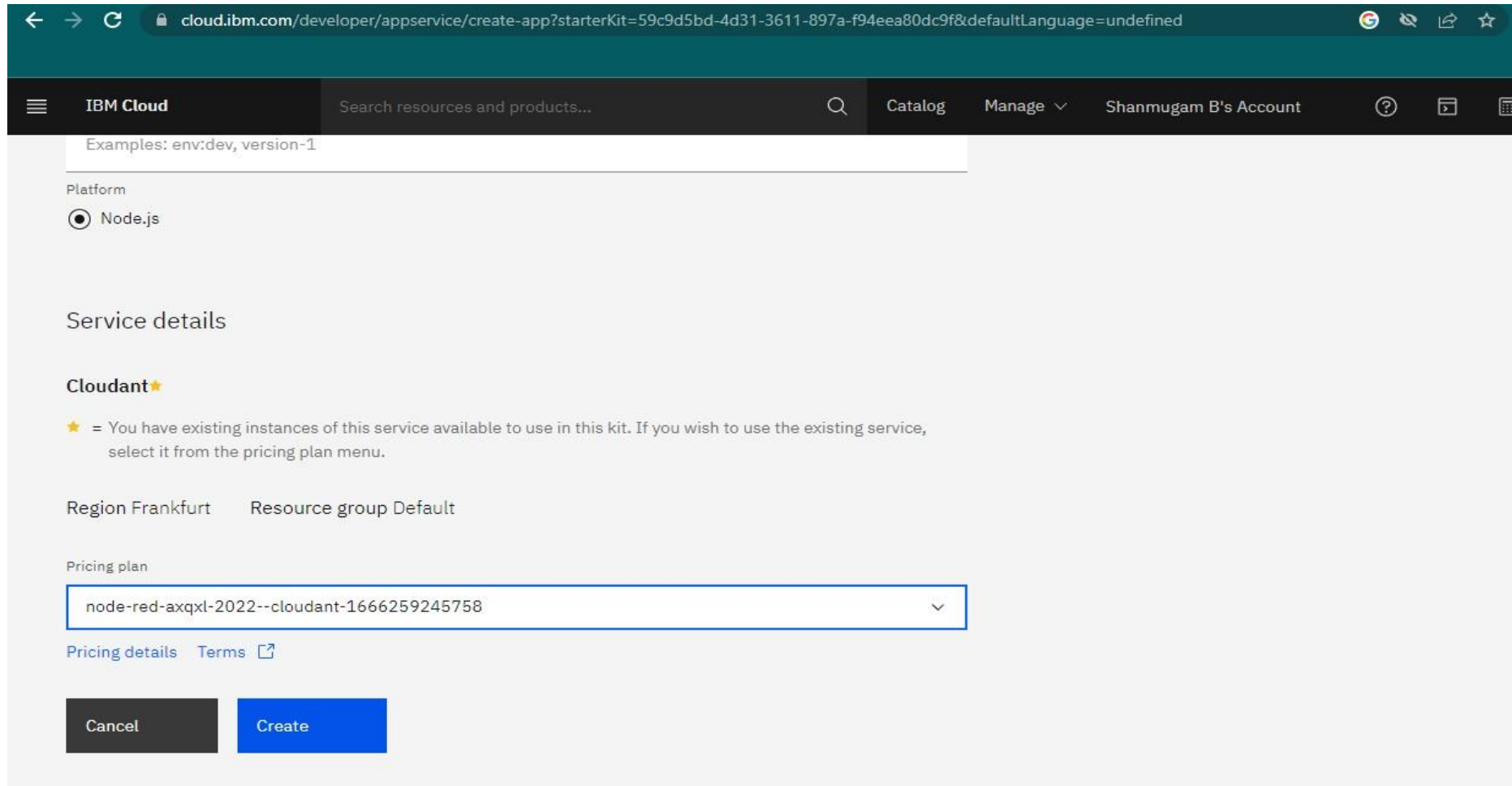
<https://cloud.ibm.com/developer/appservice/apps/88eeefaf-0cc2-4788-ace4-4bf6a4bca117>

IBM Cloud Satellite New Pricing

28°C 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.



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

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

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 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 top navigation bar includes the IBM Cloud logo, a search bar, and 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 on the left lists the App URL, Source (with a "Download code" button), Resource group (Default), Deployment target, and Created date (11/11/2022). The "Services" section shows the Cloudant service with links to the Open dashboard, Documentation, and API reference, along with a Credentials dropdown. The "Deployment Automation" section on the right features a "Configure Continuous Delivery" button and a "Deploy your app" button.


Resource list / App details /

Node RED CBGMG 2022-11-11



Add tags [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/88eeefaa-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

Type here to search

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.

The screenshot shows the IBM Cloud Developer console interface. At the top, there's a navigation bar with 'IBM Cloud', a search bar, and user account information. The main content area is titled 'IBM Cloud API key' and features a text input field with a masked API key, an eye icon, a copy icon, a key icon, and a blue 'New +' button. Below this, a yellow warning icon and text state: 'Note: Your cluster status must be available before you can select it.' The configuration section includes several dropdown menus: 'Container registry region' (set to 'Container registry region'), 'Container registry namespace' (set to 'Container registry namespace'), 'Cluster region' (set to 'Dallas'), 'Cluster resource group' (set to 'Default'), 'Cluster namespace' (set to 'default'), and 'Cluster name' (set to 'No clusters available'). A 'Create new +' button is located below the cluster name dropdown. The 'Deployment type' section shows 'Helm' selected with a checkmark. A list of instructions is overlaid on the right side of the image.

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**.

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

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 the user account 'Shanmugam B's Account'. The main content area is titled 'Kubernetes cluster' with links to 'Author: IBM', 'Docs', and 'API docs'. Below this, there 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 placeholder text: 'Select the Kubernetes platform version for your cluster. For more information...'. On the right sidebar, the 'Summary' section shows the 'Kubernetes cluster' configuration: '1 Worker node' with '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' (blue) and 'Add to estimate' (white with a black border).

STEP 10:

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

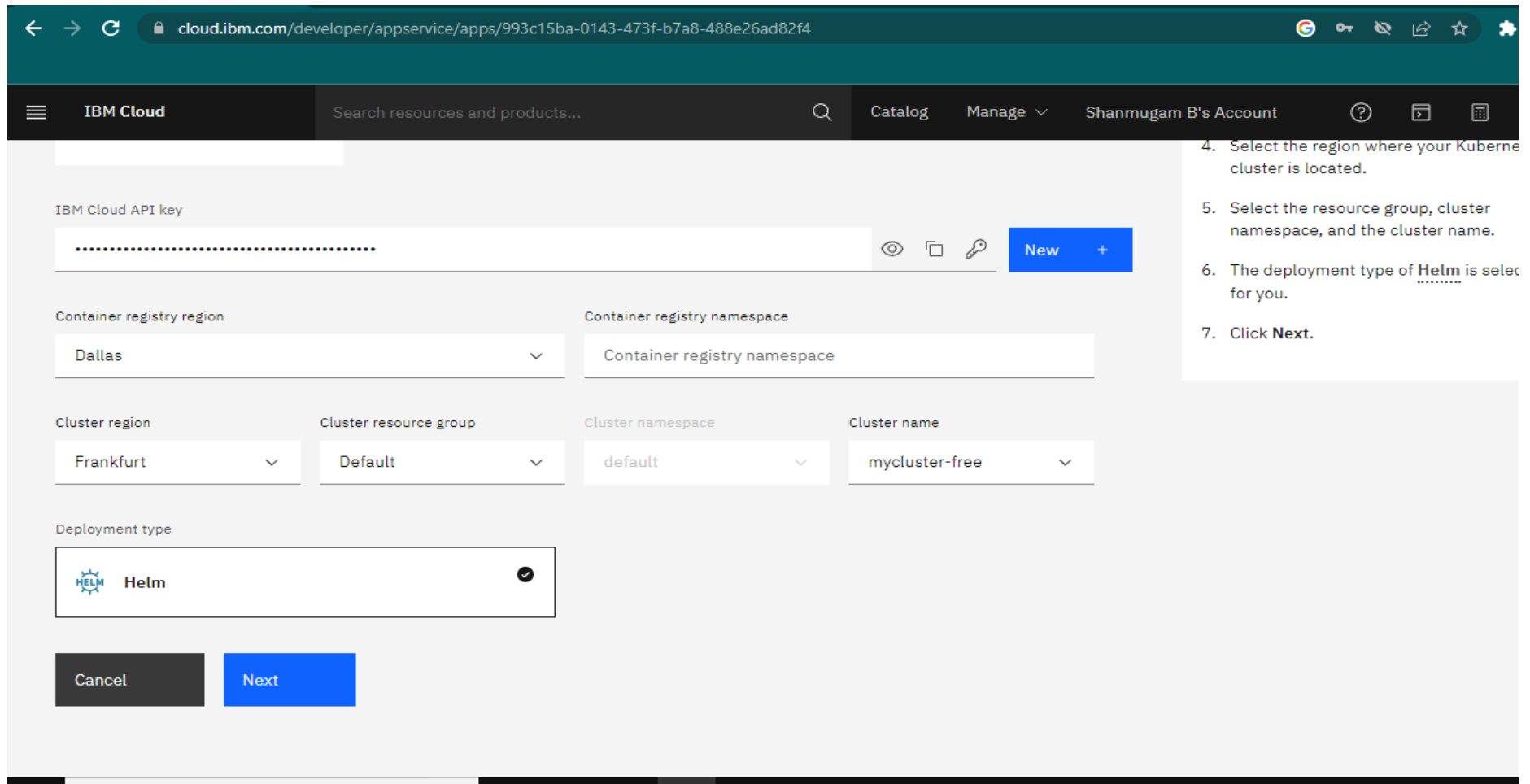
The screenshot shows the IBM Cloud Kubernetes Clusters overview page for a free cluster named 'mycluster-free'. The URL in the browser is `cloud.ibm.com/kubernetes/clusters/cdmth3gf0uv95es1i540/overview`. The page features a sidebar with navigation links: Overview (selected), Worker nodes, Worker pools, and DevOps (with a 'New' button). The main content area displays the cluster status as 'Normal' with a warning that it 'Expires in 30 days'. A 'Kubernetes dashboard' button is visible. Below the status, there are 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 provides metadata for the cluster.

Node status	Add-on status	Master status	Ingress status
1 of 1 ✓ Normal	0 of 0 ✓ Normal	Normal ✓	Unknown —

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

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 Kubernetes 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 form fields are:

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

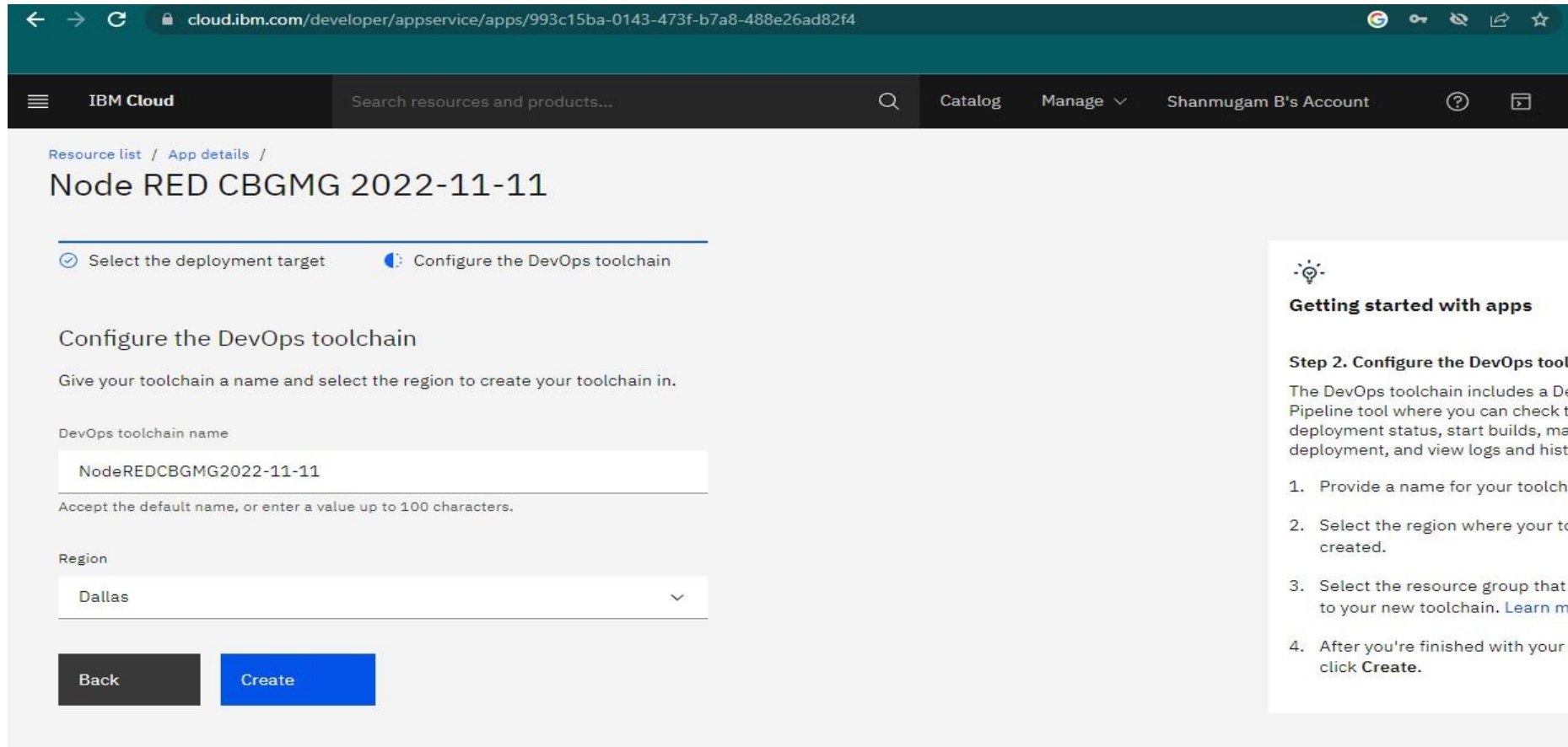
At the bottom, there are "Cancel" and "Next" buttons.

Instructions overlaid on the right side:

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.



The screenshot shows the IBM Cloud Developer console interface. The browser address bar displays the URL: `cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4`. The navigation bar includes the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user account (Shanmugam B's Account). The breadcrumb trail indicates the current location: Resource list / App details / Node RED CBGMG 2022-11-11.

The main content area is titled "Node RED CBGMG 2022-11-11" and features two progress steps: "Select the deployment target" (completed) and "Configure the DevOps toolchain" (active). The "Configure the DevOps toolchain" section instructs the user to "Give your toolchain a name and select the region to create your toolchain in." It includes a text input field for the "DevOps toolchain name" with the value "NodeREDCBGMG2022-11-11" and a dropdown menu for the "Region" set to "Dallas". Below these fields are "Back" and "Create" buttons.

A sidebar on the right, titled "Getting started with apps", provides guidance for "Step 2. Configure the DevOps tool". It explains that the DevOps toolchain includes a Dev Pipeline tool for checking deployment status, starting builds, managing deployment, and viewing logs and history. A numbered list outlines the steps: 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 (with a link to "Learn more"); 4. After you're finished with your configuration, click Create.

STEP 13:

You need to wait until ci-pipeline status success.

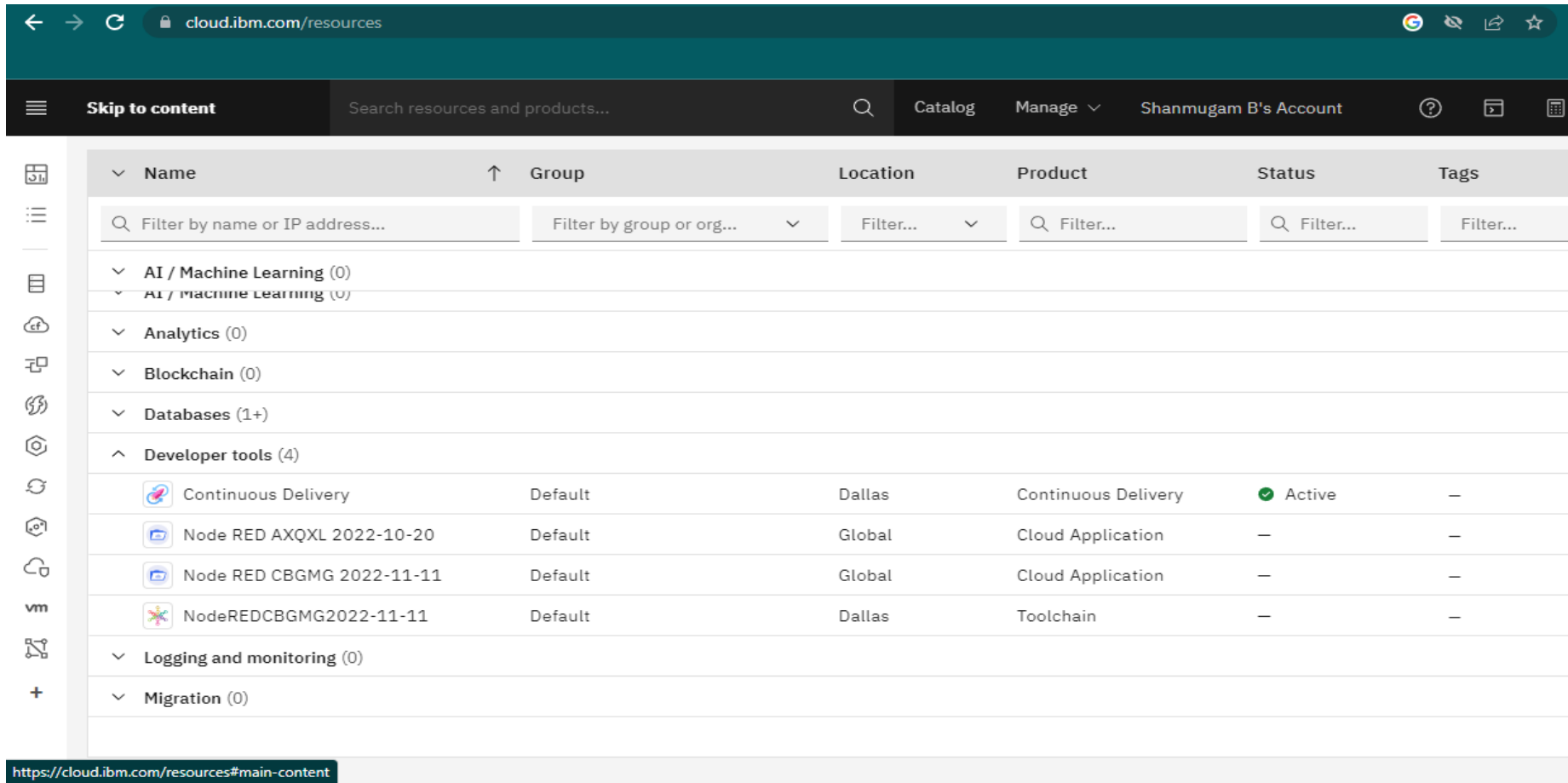
The screenshot shows the IBM Cloud Developer console interface. The browser address bar displays the URL: `cloud.ibm.com/developer/appservice/apps/993c15ba-0143-473f-b7a8-488e26ad82f4`. The top navigation bar includes the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user account (Shanmugam B's Account).

The main content area is divided into two columns. The left column contains the 'Details' section for the 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 '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 the 'Deployment Automation' section, which lists the deployment pipeline. It shows the Name as 'NodeREDCBGMG2022-11-11', Location as 'Dallas', and Tool integrations. Below this is the 'Delivery Pipelines' section, which lists two pipelines: 'pr-pipeline' (Status: No stages detected) and 'ci-pipeline' (Status: Success, indicated by a green checkmark).

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 top navigation bar includes a "Skip to content" link, a search bar, and links for "Catalog", "Manage", and the user account "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 "Developer tools (4)".

Name	Group	Location	Product	Status	Tags
Filter by name or IP address... Filter by group or org... Filter... Filter... Filter...					
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)					

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	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.

