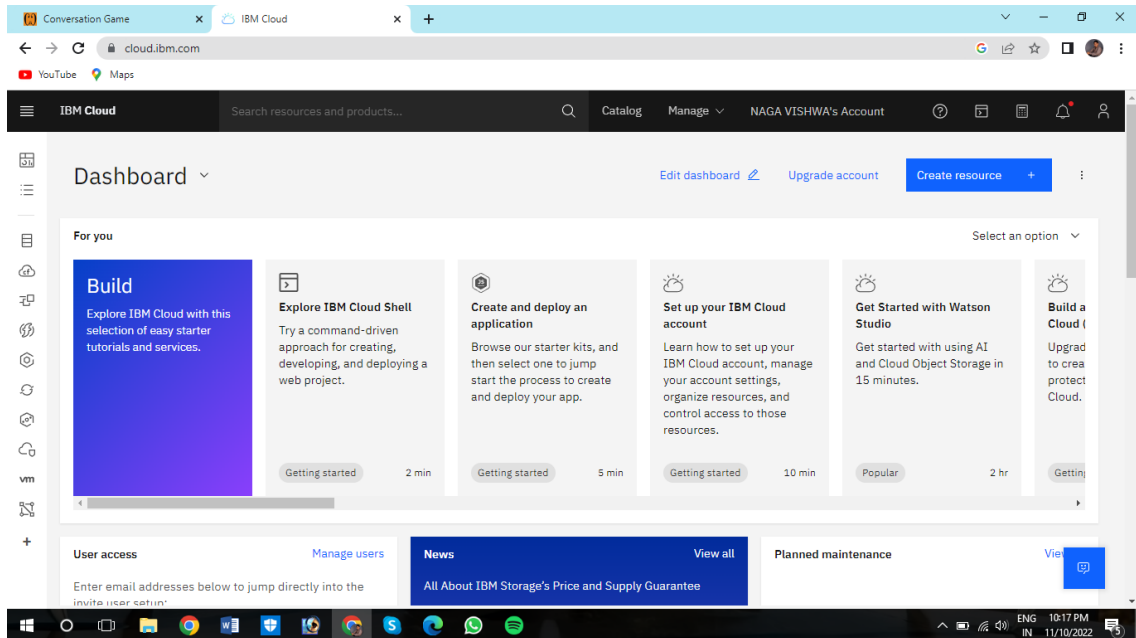
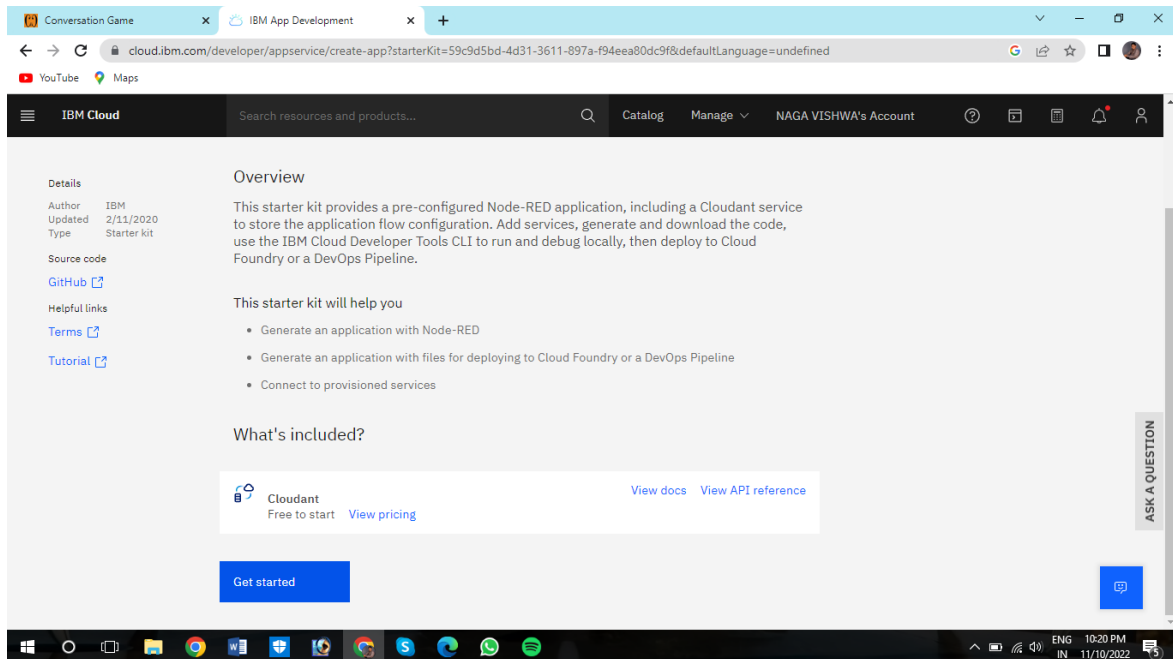


Date	11 November 2022
Team Id	PNT2022TMID48690
Project Name	HAZARDOUS AREA MONITERING FOR INDUSTRIAL PLANT POWERED BY IOT

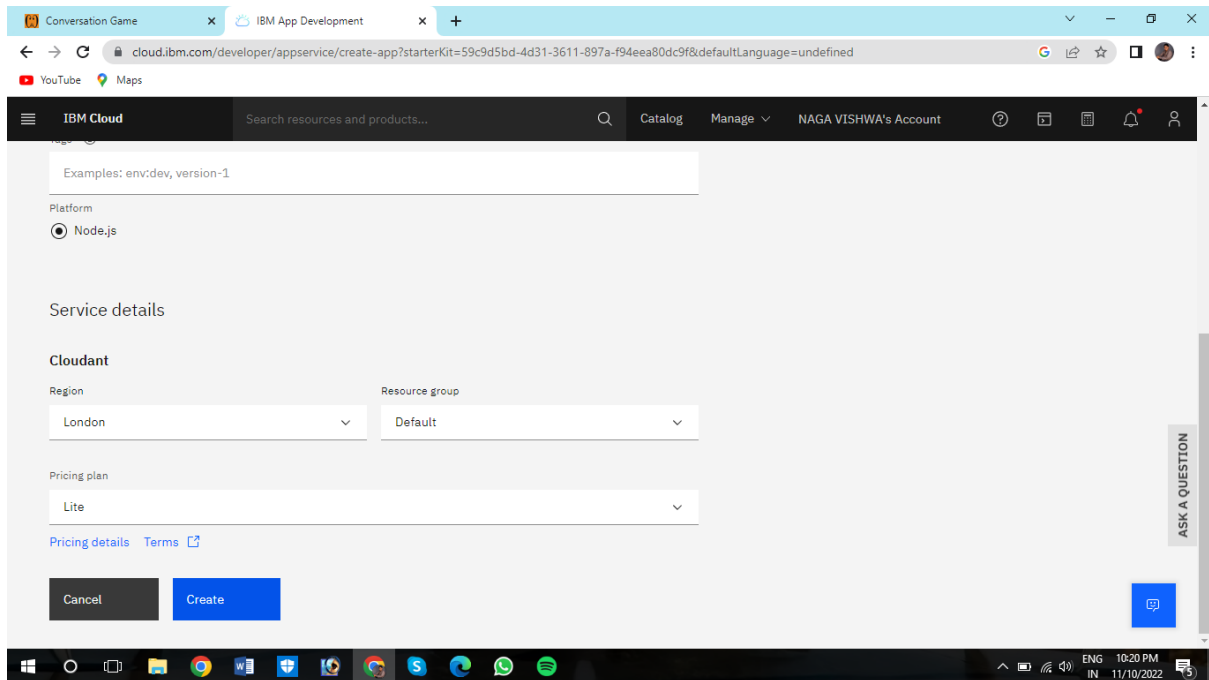
Step:01



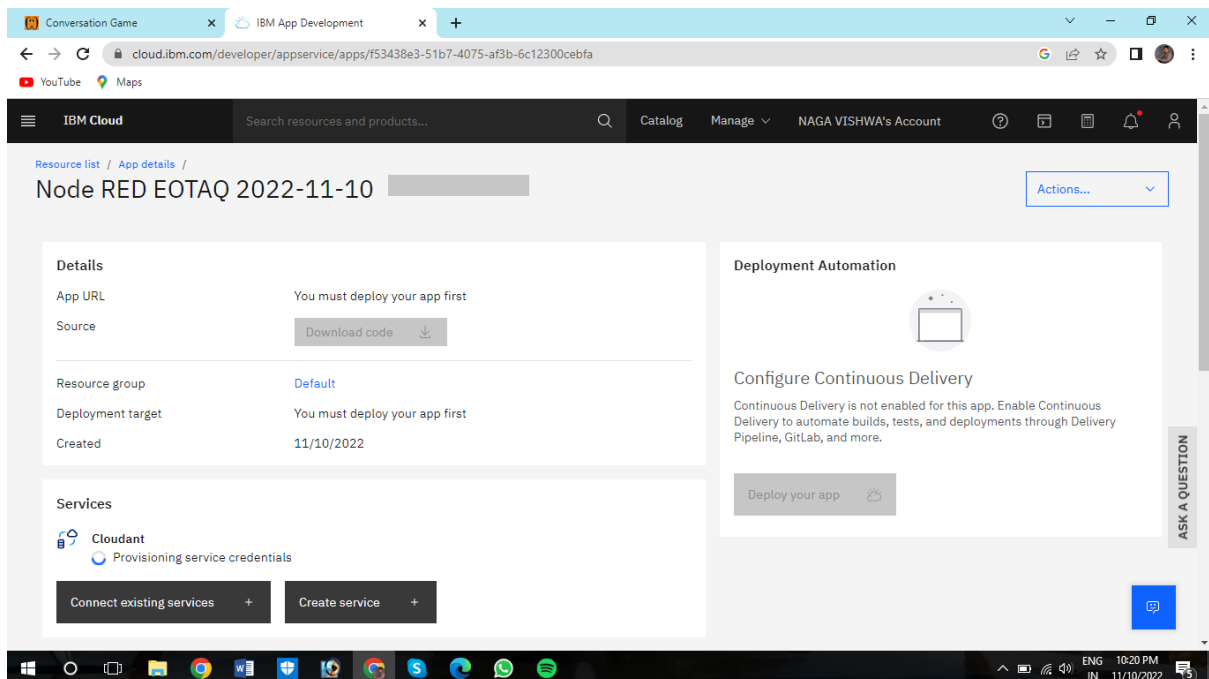
Step:02



Step:03



Step:04



Step:05

The screenshot shows the IBM Cloud console with the 'Create a Cluster' page for a Kubernetes cluster. The browser tabs include 'Conversation Game', 'IBM App Development', and 'Create a Cluster - IBM Cloud'. The URL is 'cloud.ibm.com/kubernetes/catalog/create'. The page features a 'Create' button and a 'Summary' sidebar on the right. The summary shows a 'Worker node' plan for 'Free' with specifications: 2 vCPUs, 4GB RAM, Virtual - shared, and Ubuntu 18. The 'Total estimated cost' is 'Free/mo'. A 'Create' button is visible in the summary. The main content area includes 'Plan details' and a 'Pricing plan' dropdown set to 'Free'. A 'Kubernetes version' section is also present. The bottom of the screen shows a Windows taskbar with various application icons and a system tray with the date '11/10/2022' and time '10:22 PM'.

Step:06

The screenshot shows the IBM Cloud console with the 'mycluster-free' overview page. The browser tabs include 'Conversation Game', 'IBM App Development', and 'mycluster-free - IBM Cloud'. The URL is 'cloud.ibm.com/kubernetes/clusters/cdmioef0medlpn50g70/overview'. The page displays a 'Normal' status with a warning that the cluster 'Expires in 30 days'. The 'Overview' section shows 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 'cdmioef0medlpn50g70', version '1.24.7_1542', infrastructure 'Classic', and zones 'Milan 01'. The bottom of the screen shows a Windows taskbar with various application icons and a system tray with the date '11/10/2022' and time '10:57 PM'.

Step:07

IBM Cloud API key

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

Buttons: Cancel, Next

Instructions on the right:

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:08

Resource list / App details / Node RED EOTAQ 2022-11-10

Steps: 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: NodeREDEOTAQ2022-11-10

Region: Dallas

Buttons: 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**.

Step:09

The screenshot shows the IBM Cloud Developer console. At the top, there's a navigation bar with the IBM Cloud logo, a search bar, and links to Catalog, Manage, and the user's account (NAGA VISHWA's Account). Below the navigation bar, a red error banner states: "Error: The Kubernetes service returned an invalid HTTP response. Check the account permissions, or try again later. Incident ID: 6016e4b1-c378-4e28-85a7-246460a551c1".

The main content area is divided into two panels. The left panel, titled "Details", shows the following information:

- App URL: You must deploy your app first
- Source: Download code (button)
- Resource group: Default
- Deployment target: You must deploy your app first
- Created: 11/10/2022

The right panel, titled "Deployment Automation", features a "Configure Continuous Delivery" section. It states: "Continuous Delivery is not enabled for this app. Enable Continuous Delivery to automate builds, tests, and deployments through Delivery Pipeline, GitLab, and more." Below this is a blue button labeled "Deploy your app".

At the bottom of the console, there's a "Services" section showing "Cloudant" with links to "Open dashboard", "Documentation", and "API reference".

Step:10

The screenshot shows the IBM Cloud Developer console's deployment configuration screen. The navigation bar is the same as in Step 09. Below the navigation bar, there's a section for "IBM Cloud API key" with a masked input field and a "New +" button.

The main configuration area includes several dropdown menus:

- Container registry region: Dallas
- Container registry namespace: Container registry namespace
- Cluster region: Frankfurt
- Cluster resource group: Default
- Cluster namespace: default
- Cluster name: mycluster-free (highlighted with a blue border)

Below these, there's a "Deployment type" section with a dropdown menu showing "Helm" selected.

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

On the right side of the screen, there's a vertical sidebar with the text "ASK A QUESTION" and a blue chat icon.

Step:11

The screenshot shows the IBM Cloud Developer console interface. The browser tabs include 'Conversation Game', 'IBM App Development', and 'mycluster-free - IBM Cloud'. The URL is 'cloud.ibm.com/developer/appservice/apps/f53438e3-51b7-4075-af3b-6c12300cebf4'. The page title is 'Node RED EOTAQ 2022-11-10'. The navigation bar shows 'IBM Cloud', a search bar, and the user 'NAGA VISHWA's Account'. The main content area has two tabs: 'Select the deployment target' (active) and 'Configure the DevOps toolchain'. The 'Configure the DevOps toolchain' section has a heading 'Configure the DevOps toolchain' and a sub-heading 'Give your toolchain a name and select the region to create your toolchain in.' Below this, there is a form with 'DevOps toolchain name' set to 'NodeREDEOTAQ2022-11-10' and 'Region' set to 'Dallas'. There are 'Back' and 'Create' buttons. A sidebar on the right titled 'Getting started with apps' shows 'Step 2. Configure the DevOps toolchain' with instructions and a list of steps. A bottom taskbar shows various application icons and system status.

Resource list / App details /

Node RED EOTAQ 2022-11-10

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

NodeREDEOTAQ2022-11-10

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:12

The screenshot shows the IBM Cloud Developer console interface. The browser tabs include 'Conversation Game', 'IBM App Development', and 'mycluster-free - IBM Cloud'. The URL is 'cloud.ibm.com/developer/appservice/apps/f53438e3-51b7-4075-af3b-6c12300cebf4'. The page title is 'Node RED EOTAQ 2022-11-10'. The navigation bar shows 'IBM Cloud', a search bar, and the user 'NAGA VISHWA's Account'. The main content area has two tabs: 'Details' (active) and 'Add tags'. The 'Details' section shows a table with columns for 'Name', 'Location', and 'Tool integrations'. Below this, there is a 'Services' section with a 'Cloudant' service listed. A sidebar on the right titled 'Deployment Automation' shows the 'Name' as 'NodeREDEOTAQ2022-11-10', 'Location' as 'Dallas', and 'Tool integrations' as 'pr-pipeline' and 'ci-pipeline'. A green success message box is visible at the top right, stating 'Success! Your DevOps toolchain is created' with a timestamp of '11/10/2022, 10:59:41 PM'. A bottom taskbar shows various application icons and system status.

Resource list / App details /

Node RED EOTAQ 2022-11-10

Add tags

Details

Name	Location	Tool integrations

Services

Cloudant

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

Credentials

Deployment Automation

Name: NodeREDEOTAQ2022-11-10

Location: Dallas

Tool integrations:

Delivery Pipelines

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

Success!

Your DevOps toolchain is created

11/10/2022, 10:59:41 PM

ASK A QUESTION

Step:13

The screenshot shows the IBM Cloud Developer console for an application named "Node RED EOTAQ 2022-11-10". The interface is divided into several sections:

- Details:** Contains fields for App URL (placeholder: "You must deploy your app first"), Source (with a "Download code" button), Resource group (set to "Default"), Deployment target (placeholder: "You must deploy your app first"), and Created date (11/10/2022).
- Services:** Lists the "Cloudbant" service with links to "Open dashboard", "Documentation", and "API reference".
- Deployment Automation:** Shows the deployment configuration with Name "NodeREDEOTAQ2022-11-10", Location "Dallas", and Tool integrations.
- Delivery Pipelines:** Lists two pipelines: "pr-pipeline" (status: "No stages detected") and "ci-pipeline" (status: "Success").

The bottom of the screen shows a Windows taskbar with various application icons and a system tray indicating the time as 11:10 PM on 11/10/2022.

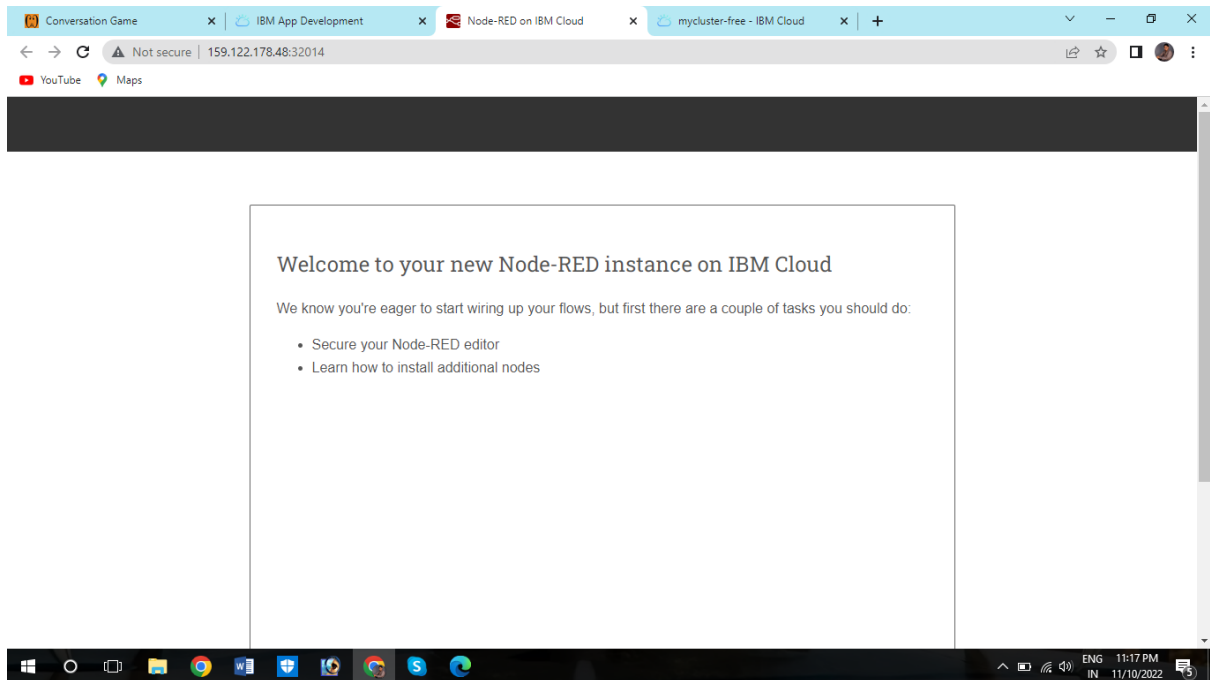
Step:14

The screenshot shows the IBM Cloud Developer console for the same application, "Node RED EOTAQ 2022-11-10". The interface is updated with the following information:

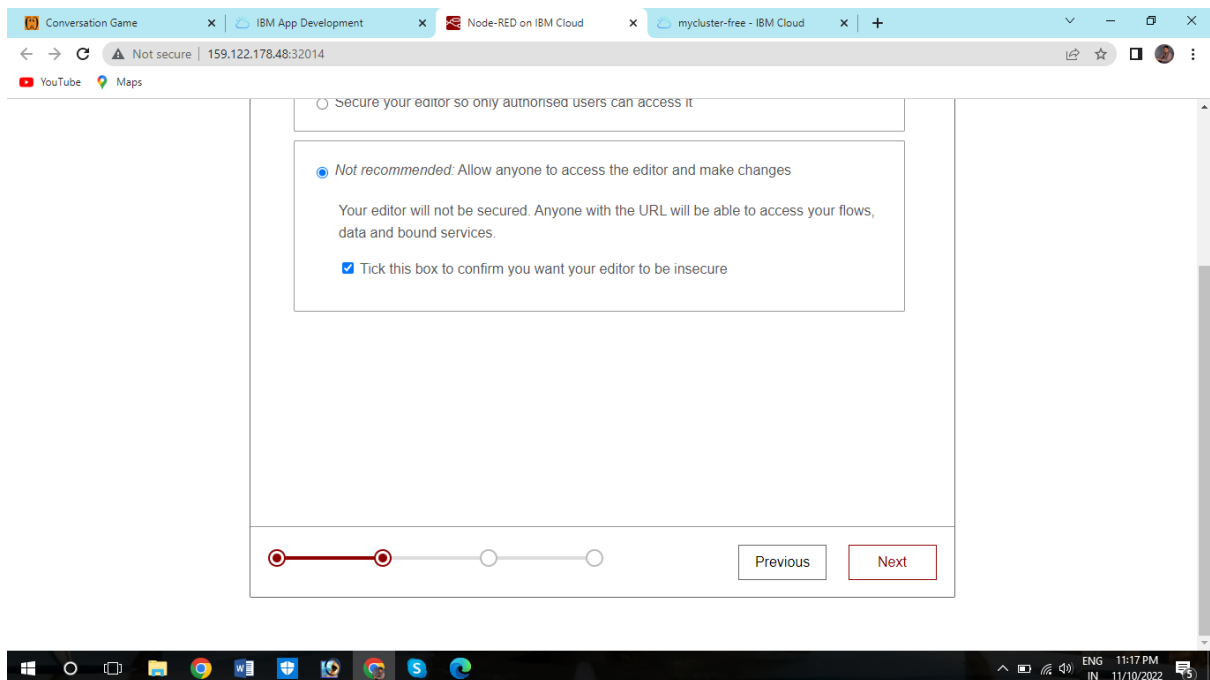
- Details:** The App URL is now "http://159.122.178.48:32014". The Source is "https://us-south.git.cloud.ibm.com/naganaga9821/NodeREDEOTAQ...". The Resource group remains "Default". The Deployment target is now "mycluster-free". The Created date is still 11/10/2022.
- Services:** The "Cloudbant" service is still listed with the same links.
- Deployment Automation:** The configuration remains the same as in Step 13.
- Delivery Pipelines:** The "ci-pipeline" status is still "Success".

The bottom of the screen shows a Windows taskbar with various application icons and a system tray indicating the time as 11:16 PM on 11/10/2022.

Step:15



Step:16



Step:17

• *Not recommended:* Allow anyone to access the editor and make changes

You can change these settings at any time by setting the following environment variables via the IBM Cloud console:

- NODE_RED_USERNAME - the username
- NODE_RED_PASSWORD - the password
- NODE_RED_GUEST_ACCESS - if set to 'true', allows anyone read-only access to the editor

Progress bar: 4 steps, 2nd step active.

Buttons: Previous, Finish

Step:18

Many of these nodes can be installed directly from the editor's palette manager feature. However that can cause issues due to the limited memory of the default Node-RED starter application.

The *recommended approach* is to edit your application's `package.json` file to include the additional node modules and then redeploy the application. This can be done using the Continuous Delivery feature on the application's IBM Cloud dashboard.

For more information, follow [this tutorial on IBM Developer](#).

Progress bar: 4 steps, 3rd step active.

Buttons: Previous, Next

Step:19

The screenshot shows a web browser with multiple tabs. The active tab is 'Node-RED on IBM Cloud'. The address bar shows the URL '159.122.178.48:32014'. The page has a red header and a light gray body. It contains the following text:

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.

There is a red button that says 'Go to your Node-RED flow editor' and a link that says 'Learn how to customise Node-RED'.

Below the main content, there is a section titled 'Customising your instance of Node-RED' with the following text:

This instance of Node-RED is enough to get you started creating flows.

You may want to customise it for your needs, for example replacing this introduction page with your own, adding http authentication to the flow editor or adding new nodes to the palette.

The browser's taskbar at the bottom shows various application icons and the system clock indicating 11:17 PM on 11/10/2022.

Step:20

The screenshot shows the Node-RED flow editor interface. The top bar includes a 'Deploy' button. The left sidebar contains a 'filter nodes' search bar and two categories of nodes: 'common' and 'function'. The 'common' category includes nodes like inject, debug, complete, catch, status, link in, link call, link out, and comment. The 'function' category includes a 'function' node. The main workspace shows a flow named 'Flow 1' with two nodes: 'Hello Node-RED!' and 'msg.payload'. A red-bordered dialog box is centered on the screen with the text 'Welcome to Node-RED 2.2!' and 'Let's take a moment to discover the new features in this release.' with a 'Start >' button. The right sidebar shows a list of flows, with 'Flow 1' selected. Below the list, there is a section titled 'Your flow configuration nodes are listed in the sidebar panel. It can be accessed from the menu or with' followed by a keyboard shortcut 'ctrl-g | c'. The browser's taskbar at the bottom shows various application icons and the system clock indicating 11:18 PM on 11/10/2022.