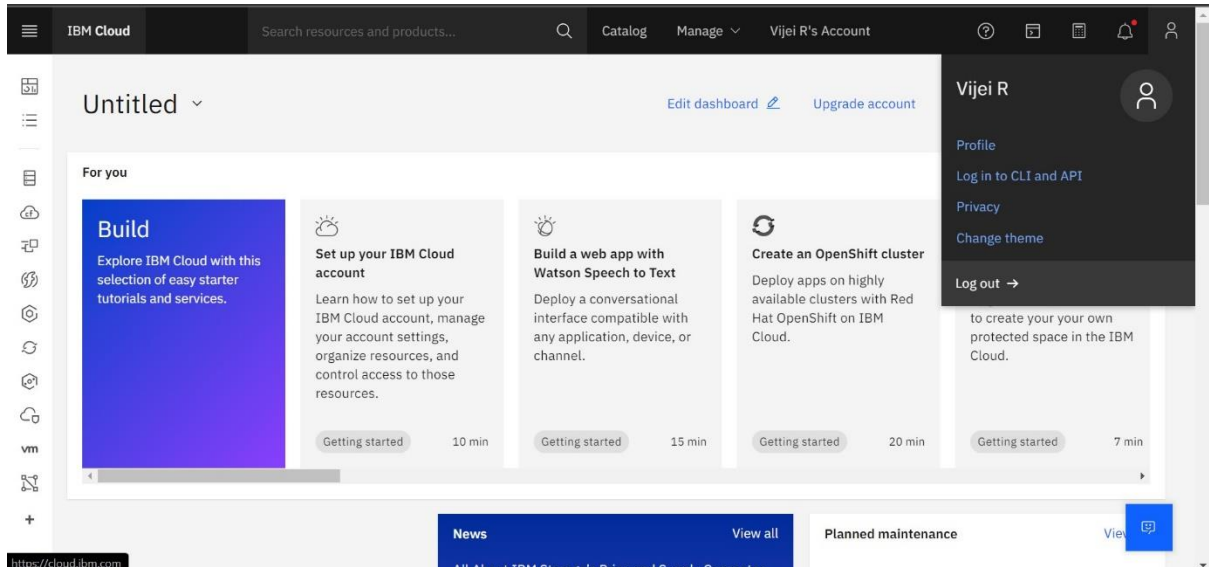


SPRINT-2

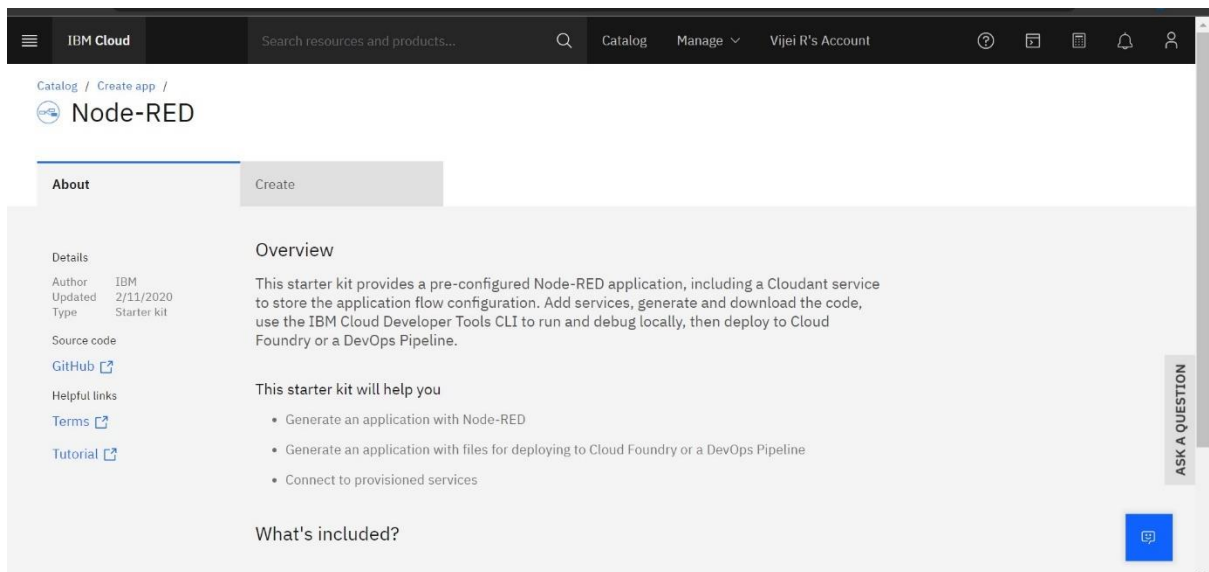
Date	05 November 2022
Team ID	PNT2022TMID44878
Project Name	SMART SOLUTIONS FOR RAILWAYS

CREATING NODE-RED IN IBM CLOUD

STEP 1: Open IBM cloud:



STEP 2: Go to CatLog and search for node red app and open it:



STEP 3: Enter the app name, location and select the plan and click on create:

The screenshot shows the IBM Cloud console interface for creating a new app. The top navigation bar includes the IBM Cloud logo, a search bar, and links to Catalog, Manage, and the user's account (Vijei R's Account). The main content area is titled 'Platform' and shows 'Node.js' selected. Below this, the 'Service details' section displays 'Cloudant' with a star icon. A note explains that the star indicates existing instances. The 'Region' is set to 'London' and the 'Resource group' is 'Default'. The 'Pricing plan' dropdown menu is open, showing 'node-red-fexgs-2022--cloudant-1667492963630'. There are links for 'Pricing details' and 'Terms'. At the bottom, there are 'Cancel' and 'Create' buttons. A vertical 'ASK A QUESTION' button is on the right side.

STEP 4: click on deploy your app button:

The screenshot shows the IBM Cloud console interface for the 'Node RED MHSBB 2022-11-09' app. The top navigation bar is the same as in the previous screenshot. The main content area has a breadcrumb 'Resource list / App details /' and the app name 'Node RED MHSBB 2022-11-09' with an 'Add tags' link. There is an 'Actions...' dropdown menu. The 'Details' section shows 'App URL' as 'You must deploy your app first' and 'Source' with a 'Download code' button. The 'Resource group' is 'Default', 'Deployment target' is 'You must deploy your app first', and 'Created' is '11/9/2022'. The 'Services' section shows 'Cloudant' with links to 'Open dashboard', 'Documentation', 'API reference', and 'Credentials'. The 'Deployment Automation' section has a 'Deploy your app' button. A vertical 'ASK A QUESTION' button is on the right side.

STEP 5: In deployment automation select cloud foundry and click on create.org:

Resource list / App details / Node RED MHSBB 2022-11-09

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 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

ASK A QUESTION

STEP 6: click on create button and enter the name and create a space:

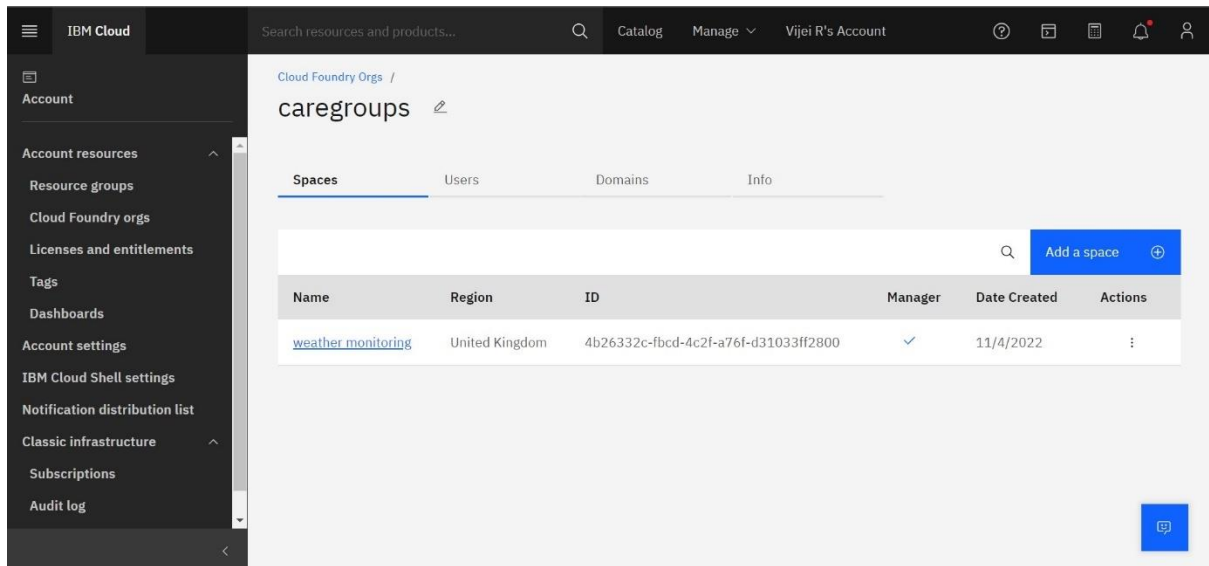
Cloud Foundry Orgs

IBM Cloud Foundry Public is being deprecated. Please see full details.

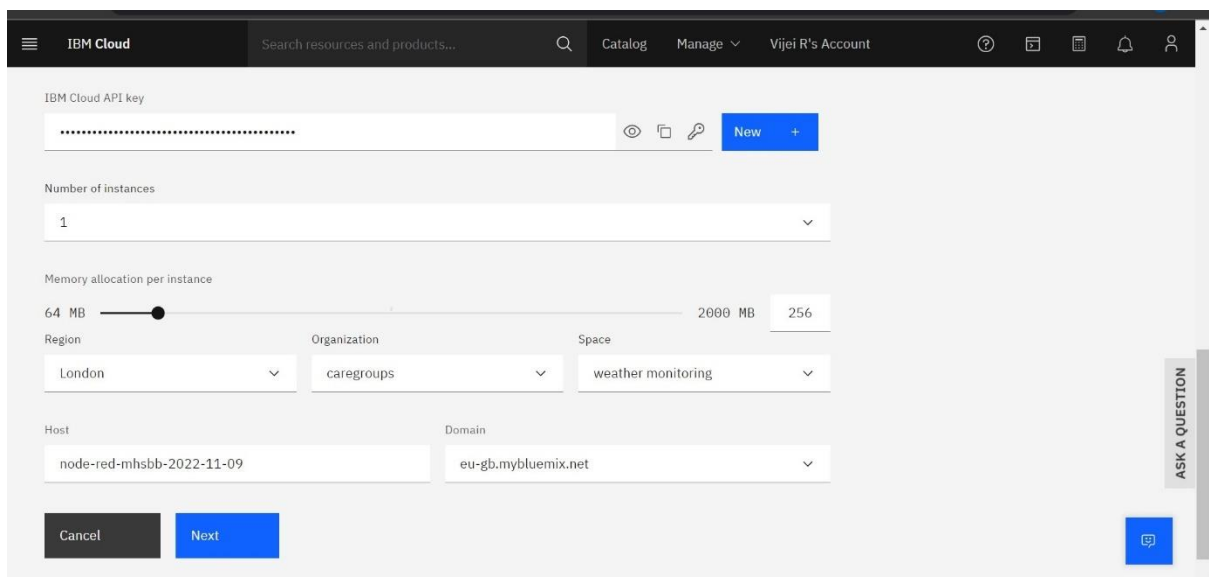
Create

Name	Date Created	Spaces	Roles	Actions
caregroups	11/4/2022	1	Manager	

https://cloud.ibm.com



STEP 7: In app development click new on api key and select region and click next:



STEP 8: select the region and click create:

The screenshot shows the IBM Cloud console interface for configuring a DevOps toolchain. The breadcrumb trail is 'Resource list / App details /'. The main heading is 'Node RED XSIWG 2022-11-09'. Below this, there are two tabs: 'Select the deployment target' (active) and 'Configure the DevOps toolchain'. The 'Configure the DevOps toolchain' tab is selected, and it contains the following information:

- Configure the DevOps toolchain**
- Give your toolchain a name and select the region to create your toolchain in.
- DevOps toolchain name**: A text input field containing 'NodeREDXSIWG2022-11-09'. Below it, a note says 'Accept the default name, or enter a value up to 100 characters.'
- Region**: A dropdown menu showing 'London'.
- At the bottom, there are two buttons: 'Back' and 'Create'.

On the right side, there is a 'Getting started with apps' section with a lightbulb icon. It includes a sub-section 'Step 2. Configure the DevOps toolchain' with a description: 'The DevOps toolchain includes a Delivery Pipeline tool where you can check the deployment status, start builds, manage deployment, and view logs and history.' Below this, there are four numbered steps:

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 selection, click **Create**.

At the bottom right of the right-hand panel, there is a blue button with a speech bubble icon and the text 'ASK A QUESTION'.

STEP 9: Wait till you get the success in ci-pipeline and app URL is generated:

The screenshot shows the IBM Cloud console interface for the details of the 'Node RED XSIWG 2022-11-09' application. The breadcrumb trail is 'Resource list / App details /'. The main heading is 'Node RED XSIWG 2022-11-09' with 'Add tags' and an 'Actions...' dropdown menu to the right.

The details are organized into two main sections:

- Details**: A table with the following information:
 - App URL**: You must deploy your app first
 - Source**: <https://eu-gb.git.cloud.ibm.com/vijei.r/NodeREDXSIWG2022-11-09>
 - Resource group**: [Default](#)
 - Deployment target**: You must deploy your app first
 - Created**: 11/9/2022
- Services**: A section with a 'Cloudant' service listed. Below it, there are links for 'Open dashboard', 'Documentation', and 'API reference', and a 'Credentials' link.

On the right side, there are two sections:

- Deployment Automation**: A section with the following information:
 - Name**: [NodeREDXSIWG2022-11-09](#)
 - Location**: London
 - Tool integrations**: Three icons representing different tool integrations.
- Delivery Pipelines**: A section with two pipelines listed:
 - pr-pipeline**: Status: No stages detected
 - ci-pipeline**: Status: No stages detected

At the bottom right of the right-hand panel, there is a blue button with a speech bubble icon and the text 'ASK A QUESTION'.

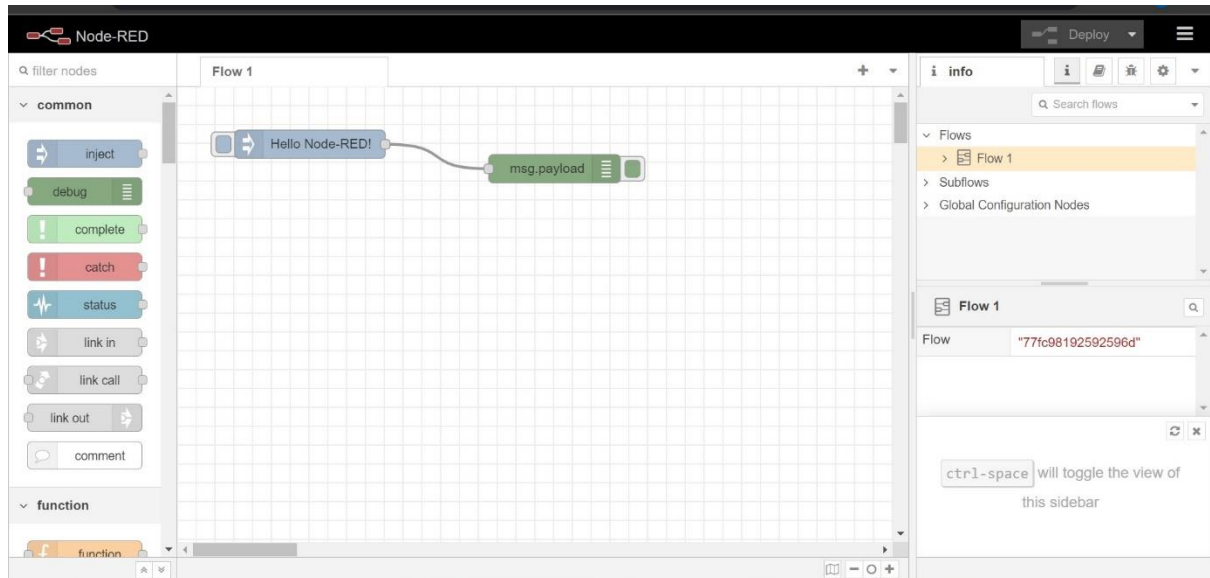
STEP 10: Now click on the generated APP URL:

The screenshot shows the IBM Cloud console interface. At the top, there's a navigation bar with 'IBM Cloud', a search bar, and links for 'Catalog', 'Manage', and 'Vijei R's Account'. Below the navigation bar, the breadcrumb 'Resource list / App details /' is visible. The main heading is 'Node RED XSIWG 2022-11-09' with an 'Add tags' link. To the right of the heading is an 'Actions...' dropdown menu. The console is divided into two main sections. The left section, titled 'Details', contains a table with the following information: App URL (https://node-red-xsiwg-2022-11-09.eu-gb.mybluemix.net), Source (https://eu-gb.git.cloud.ibm.com/vijei.r/NodeREDXSIWG2022-1...), Resource group (Default), Deployment target (Node RED XSIWG 2022-11-09), and Created (11/9/2022). Below the 'Details' section is a 'Services' section with a 'Cloudant' service listed, and links for 'Open dashboard', 'Documentation', and 'API reference'. The right section, titled 'Deployment Automation', shows the 'Name' as 'NodeREDXSIWG2022-11-09', 'Location' as 'London', and 'Tool integrations' with icons for GitHub, Docker, and Jenkins. Below this is a 'Delivery Pipelines' section with two entries: 'pr-pipeline' with a status of 'No stages detected', and 'ci-pipeline' with a status of 'Success'. A blue 'ASK A QUESTION' button is located on the right side of the console.

STEP 11 : You will redirected to your node-red on IBM cloud page:

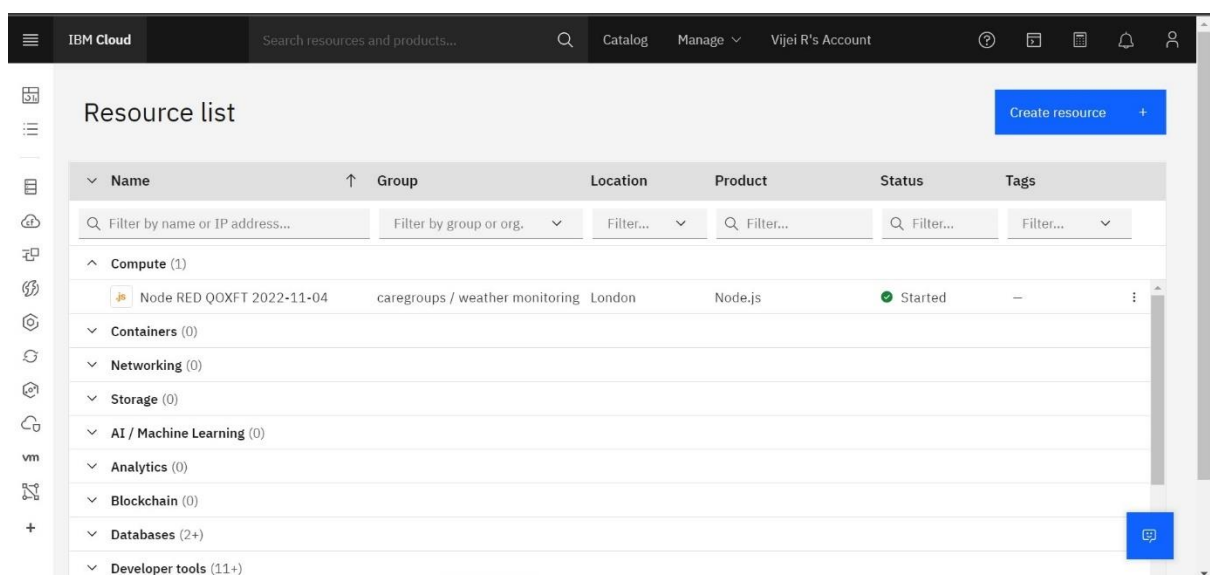
The screenshot shows the 'Node-RED on IBM Cloud' landing page. The page has a dark red header with the text 'Node-RED on IBM Cloud'. Below the header is a large red banner with the text 'Node-RED' and 'Flow-based programming for the Internet of Things'. The main content area is white and contains three paragraphs of text. The first paragraph states: 'Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways.' The second paragraph states: 'This instance is running as an IBM Cloud application, giving it access to the wide range of services available on the platform.' The third paragraph states: 'More information about Node-RED, including documentation, can be found at nodered.org.' To the right of the text is a button that says 'Go to your Node-RED flow editor'. Below the button is a link that says 'Learn how to customise Node-RED'.

STEP 12: Click on node-red flow editor and you will be redirected to your node-red workspace:

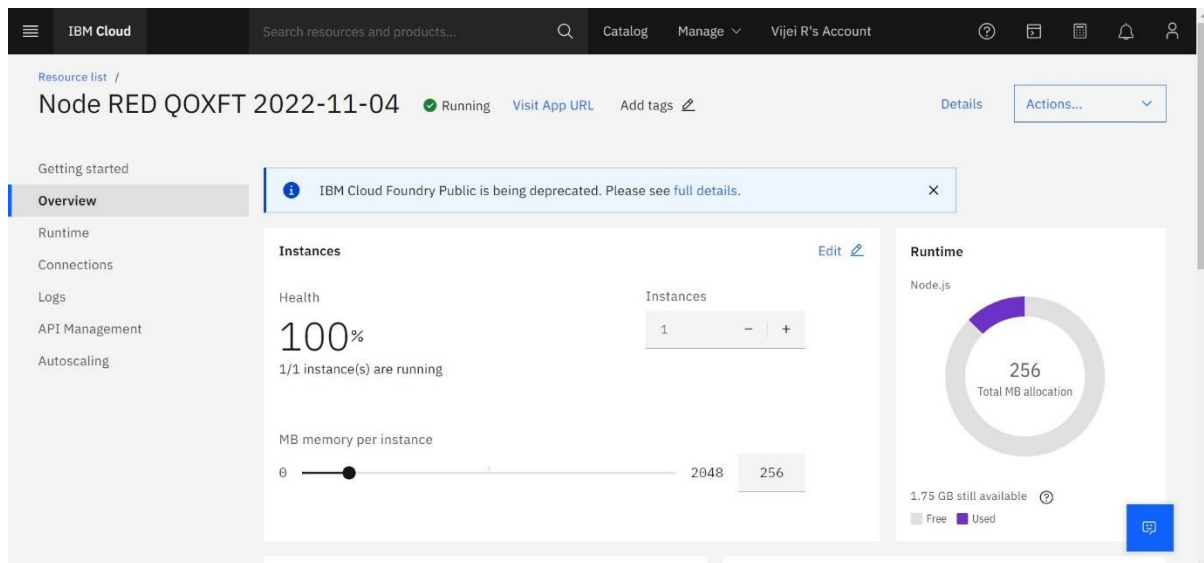


DIRECTING TO CREATED NODE-RED WORKSPACE

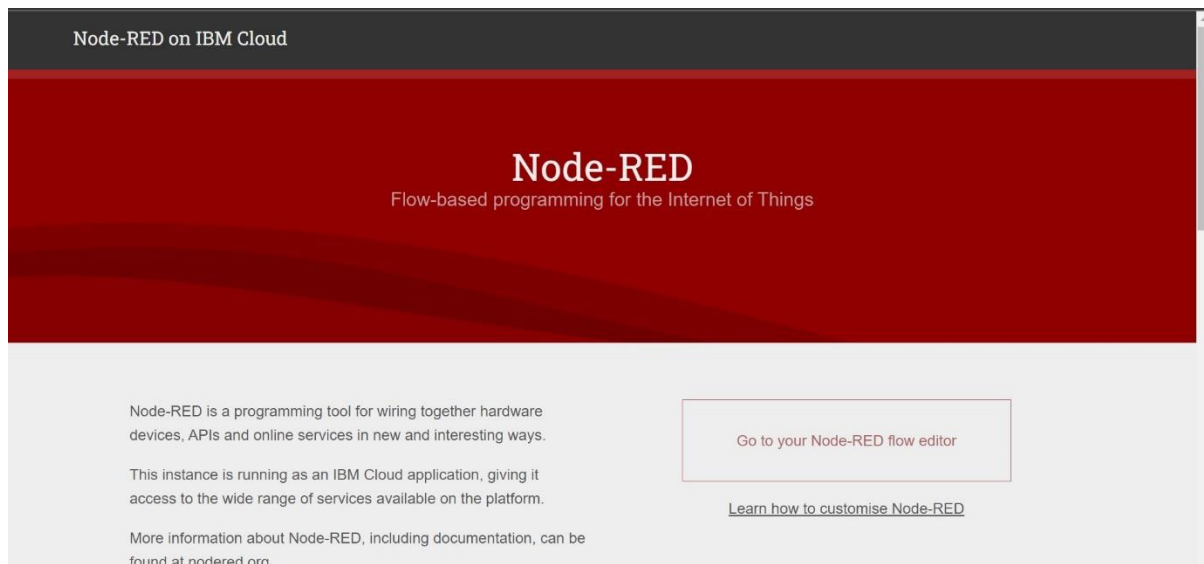
STEP 13: In resource select compute and click on node-red:



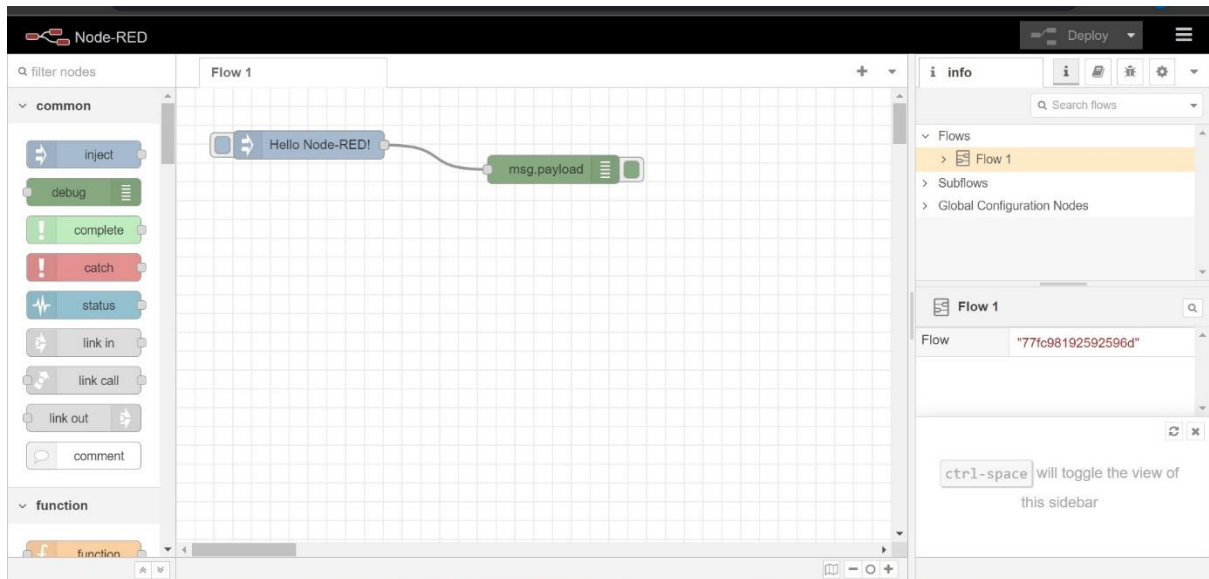
STEP 14: click on visit app URL to be redirected to node red:



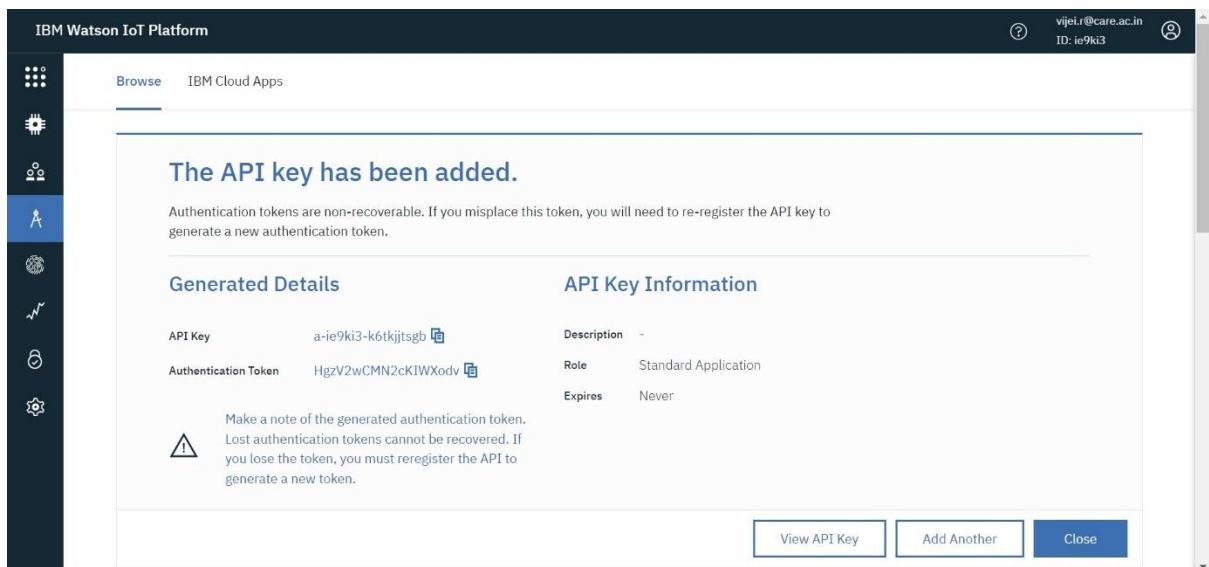
STEP 15: Click on go to your NODE-RED flow editor button:



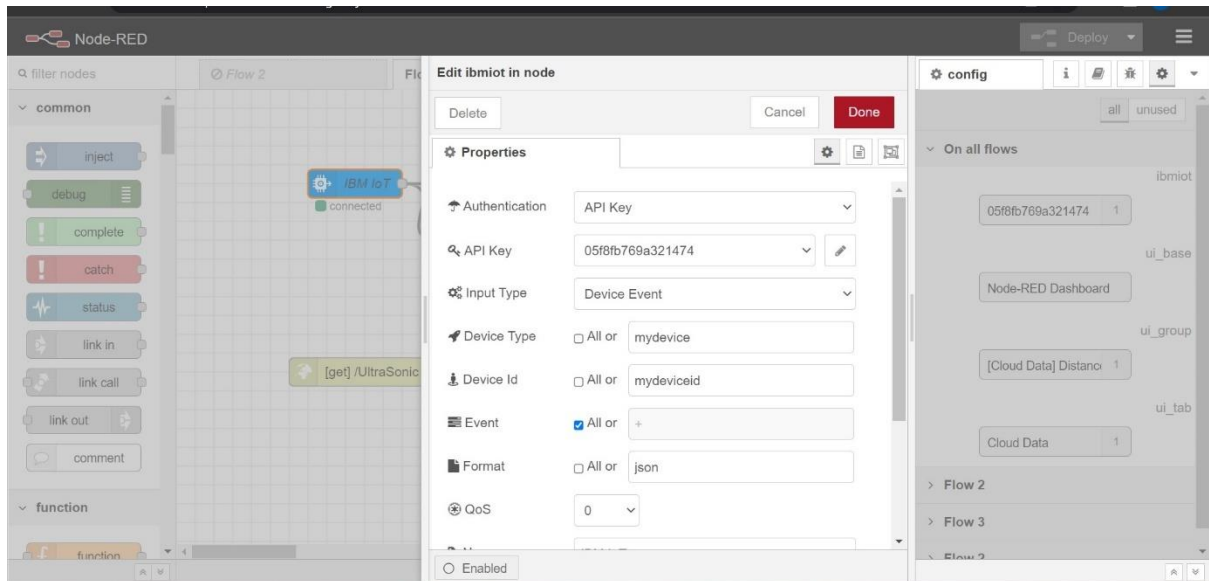
STEP 16: You will be redirected to the node red flow editor:



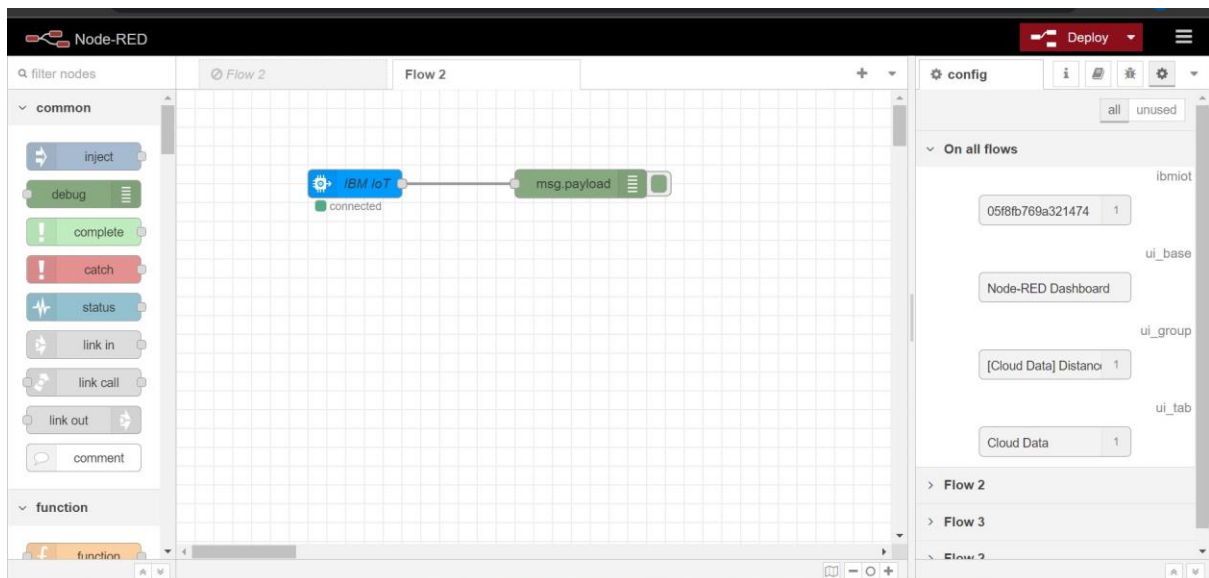
STEP 17: Generating API key and Authentication token:



STEP 18: Edit IBM IOT in node:



STEP 19: Connect IBM IOT in and debug 1 and deploy:



STEP 20: Edit gauge node (the gauge nodes named as latitude, longitude and available _seats as fig1, fig2, fig3):

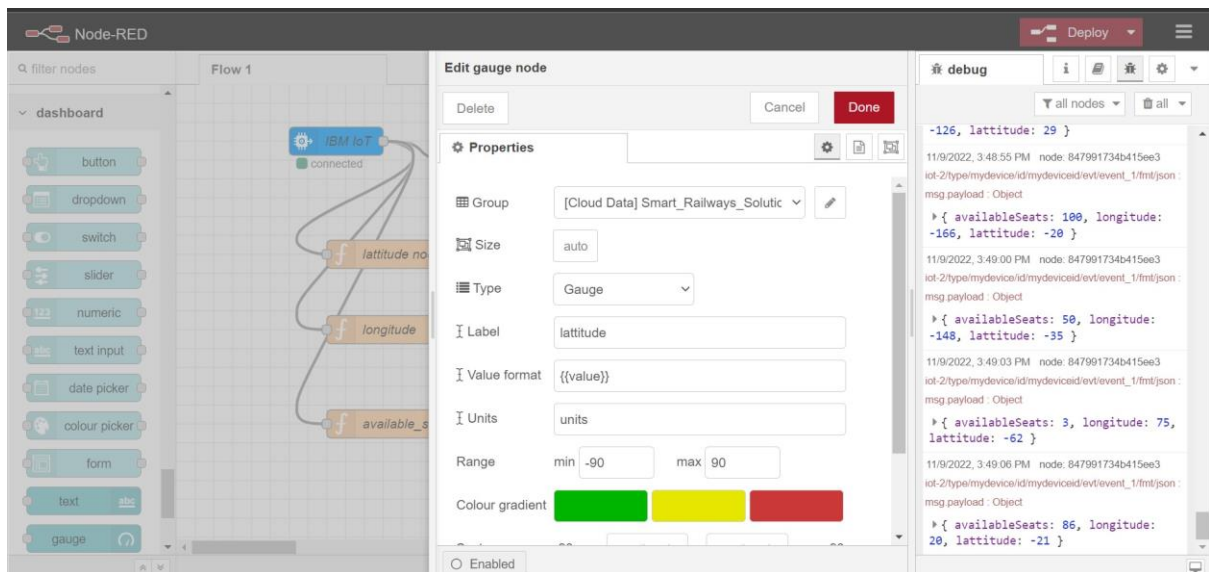


FIG 1

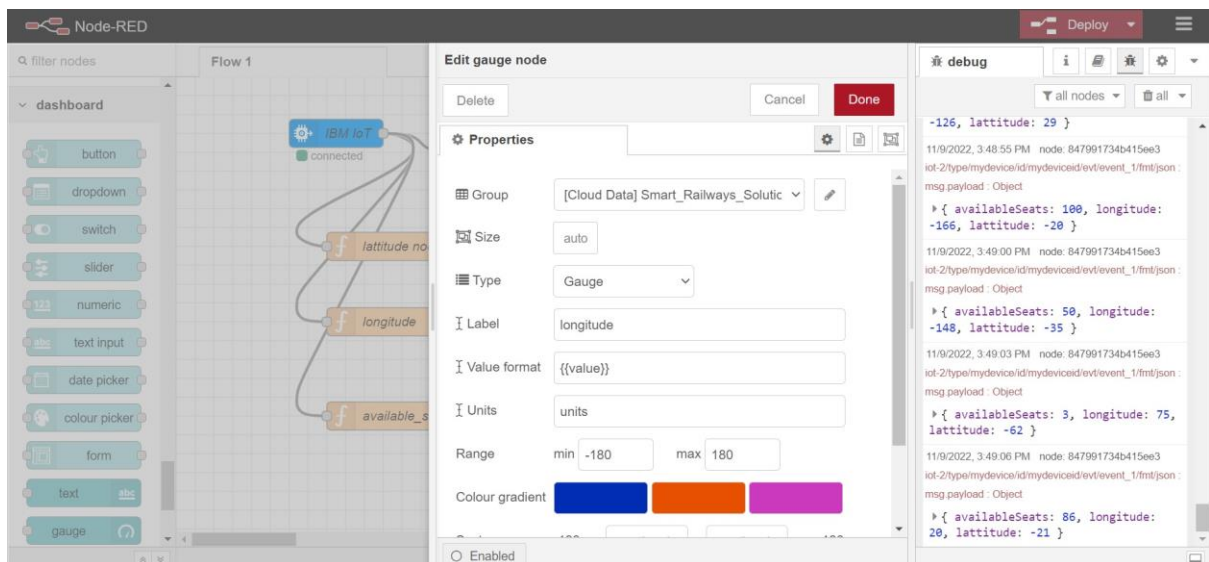


FIG 2

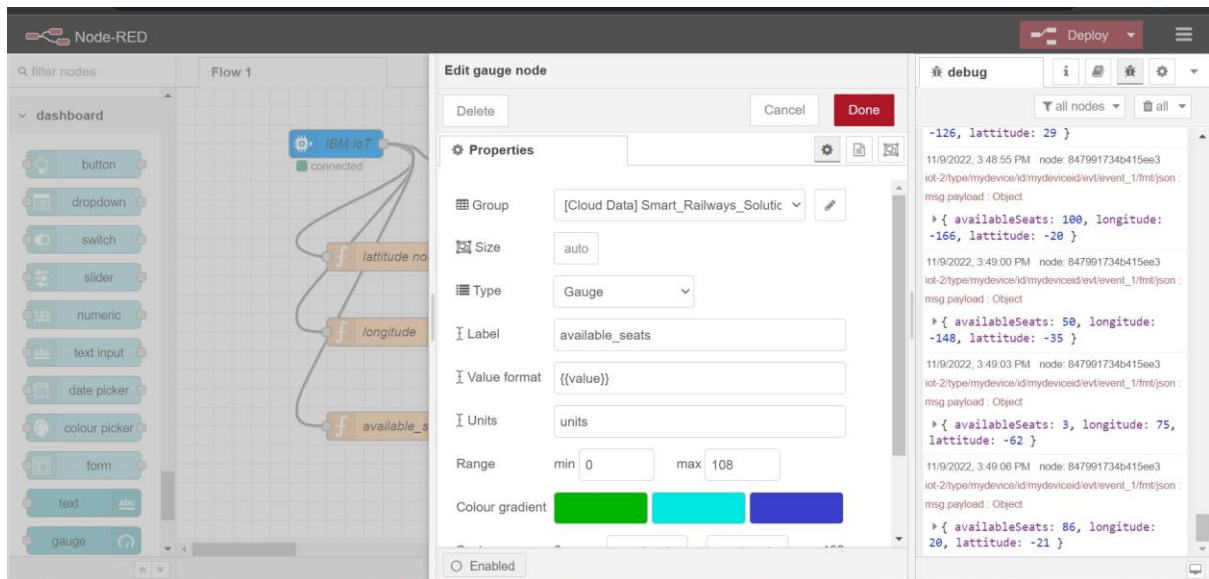
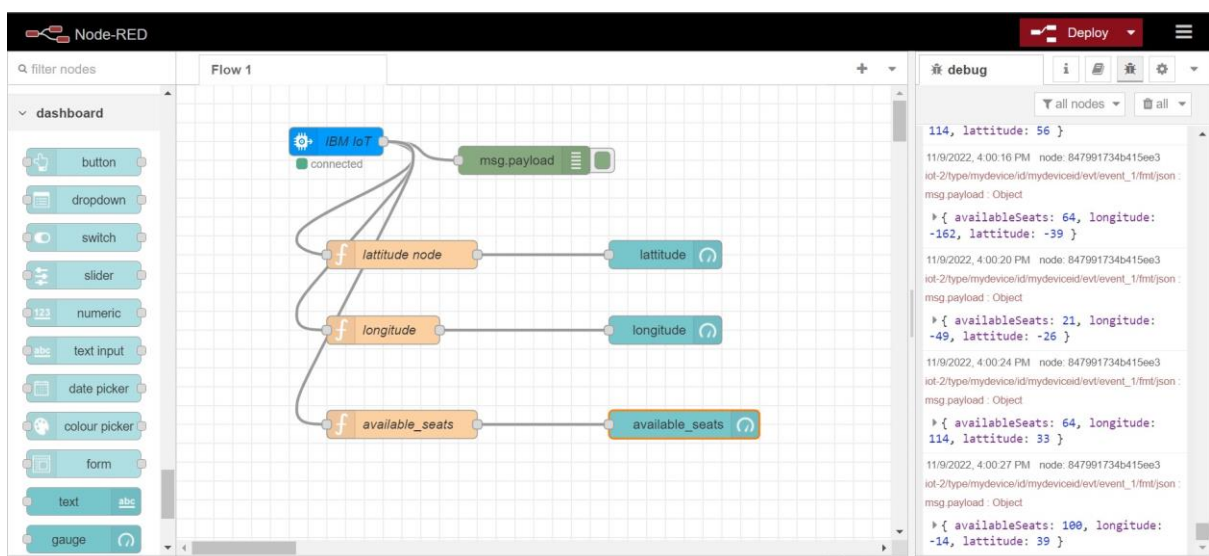


FIG 3

STEP 21: Generate debug message from IBM Watson IoT Platform and connect the nodes:



[illegible]