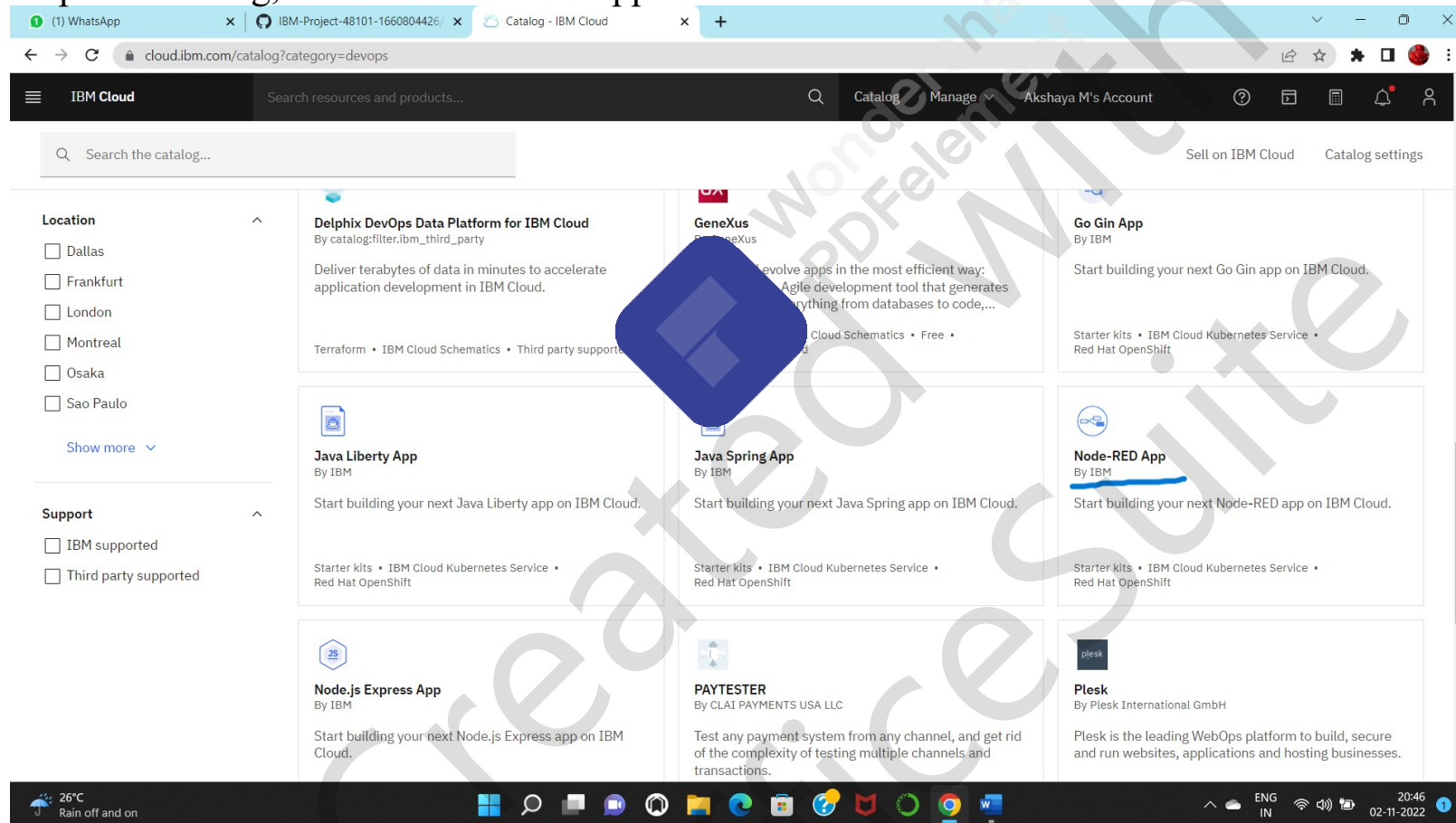


Step2: In catalog, search for node red application



Create Node Red service

Team ID	PNT2022TMID09618
Project Name	Smart waste management system for metropolitan cities

Step 1: Login into IBM CLOUD account

Step 3: Enter the project details and click on create
Step 4: click on deploy option and deploy

The screenshot shows the IBM Cloud Developer console interface. The browser tabs include '(1) WhatsApp', 'IBM-Project-48101-1660804426/', and 'IBM App Development'. The address bar shows the URL 'cloud.ibm.com/developer/appservice/apps/4d9d88fa-dba5-4b56-986c-76b3909fe692'.

The main header of the IBM Cloud console includes the 'IBM Cloud' logo, a search bar, and navigation links for 'Catalog', 'Manage', and 'Akshaya M's Account'.

The page title is 'Node RED DXQJC 2022-11-02' with an 'Add tags' link and an 'Actions...' dropdown menu.

Details Section:

- App URL:** You must deploy your app first
- Source:** Includes a 'Download code' button.
- Resource group:** Default
- Deployment target:** You must deploy your app first
- Created:** 11/2/2022

Services Section:

- Cloudant:** Includes links for 'Open dashboard', 'Documentation', and 'API reference'. There is a 'Credentials' dropdown.
- Buttons: 'Connect existing services' and 'Create service'.

Deployment Automation Section:

- Configure Continuous Delivery:** A message 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 'Deploy your app' button.

Getting started quickly Section:

- Configuring your app:** To connect services and DevOps toolchains to your app:
 1. Use the **Services** card to connect a service to your app. Select an existing service instance, or create a new one. [Learn more.](#)
 2. If you want to view the code before your app is deployed, click **Download code** to obtain the .zip file.
 3. Click **Deploy your app** in the **Deployment Automation** card to select the deployment target and configure the Continuous Delivery service. The deployment begins automatically.
 4. After the deployment begins, you can view the status of the deployment, modify your app, view your repo, or view the app's URL.
 5. If you make any changes to your app, be

The bottom of the screen shows a Windows taskbar with various application icons, a system tray with weather information (26°C, Rain off and on), and the date/time (20:46, 02-11-2022).

Step 5: Set up the environment for deploying and click on create

The screenshot shows the IBM Cloud Developer console interface. The browser tabs include WhatsApp, IBM-Project-48101-1660804426/, and IBM App Development. The address bar shows the URL: cloud.ibm.com/developer/appservice/apps/4d9d88fa-dba5-4b56-986c-76b3909fe692. The IBM Cloud header includes a search bar, navigation links (Catalog, Manage), and the user's account (Akshaya M's Account). The main content area is titled "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

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.

Code Engine
IBM
Run your app, job, or container on a managed serverless platform. Auto-scale workloads, and pay only for the resources that you consume.

IBM Cloud API key

.....

New +

Container registry region

Dallas

Container registry namespace

jbmfyhfuv...nfcumhsw

Cluster region

Frankfurt

Cluster resource group

Default

Cluster namespace

default

Cluster name

mycluster-free

Deployment type

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 provisioned. [Create cluster.](#)

Steps

- Create an IBM Cloud API key, or select an existing one from a secrets store.
- Select the container registry region.
- Enter the container registry namespace if it is not already completed.
- Select the region where your Kubernetes cluster is located.
- Select the resource group, cluster namespace, and the cluster name.

26°C Rain off and on

20:47 02-11-2022

Step 6: Now drag and drop the nodes and connect nodes with IOT Watson platform

The screenshot displays the Node-RED web interface in a browser window. The browser's address bar shows the URL `127.0.0.1:1880/#flow/57418c723fe9a62f`. The Node-RED interface includes a left sidebar with a 'filter nodes' search bar and two categories of nodes: 'common' and 'function'. The 'common' category contains nodes like 'inject', 'debug', 'complete', 'catch', 'status', 'link in', 'link call', 'link out', and 'comment'. The 'function' category contains 'function', 'switch', 'change', and 'range'. The main workspace, titled 'Flow 1', shows a flow with two nodes: an 'IBM IoT' node (blue with a gear icon and a 'connected' status indicator) and a 'debug 1' node (green). A curved line connects the output of the 'IBM IoT' node to the input of the 'debug 1' node. On the right side, there is a 'debug' console with a 'debug' tab selected, showing 'all nodes' and 'all' filters. A 'Deploy' button is visible in the top right corner of the Node-RED interface. A large, semi-transparent watermark 'Created with Wondershare PDFelement' is overlaid diagonally across the center of the image. At the bottom of the screen, a Windows taskbar is visible with various application icons and a system tray showing the date and time as '18:22 02-11-2022'.

Step 7: setup the settings that connects node red service with Watson IOT

The screenshot displays the Node-RED web interface in a browser. The address bar shows the URL `127.0.0.1:1880/#flow/57418c723fe9a62f`. The interface includes a left sidebar with node categories (common and function), a central workspace with a 'Flow 1' tab, and a right sidebar with a 'debug' tab. A 'debug 1' node is connected to an 'IBM IoT' node. The 'Edit ibmiot in node' panel is open, showing the following configuration:

- Authentication:** API Key
- API Key:** Akshaya
- Input Type:** Device Event
- Device Type:** All or Test
- Device Id:** All or Test123
- Event:** All or +
- Format:** All or json
- QoS:** 0
- Name:** IBM IoT
- Service:** registered

A yellow tooltip at the bottom of the configuration panel reads: "Use the Input Type property to configure this node to receive Events sent by IoT Devices, Commands sent to IoT Devices, Status Messages referring to IoT Devices, or Status Messages referring to". The 'Enabled' checkbox is checked.

The bottom status bar shows the system clock at 20:57 on 02-11-2022, along with weather information (26°C, Rain off and on) and various system icons.

Step 8: Finally, output can be seen in node red service

The screenshot shows the Node-RED web interface in a browser. The top bar indicates the URL is 127.0.0.1:1880/#flow/57418c723fe9a62f. The interface includes a left sidebar with node categories (common and function), a central workspace with a flow named 'Flow 1', and a right sidebar with a debug console.

In the 'Flow 1' workspace, there is a blue 'IBM IoT' node (labeled 'connected') connected to a green 'debug 1' node. The debug console on the right shows a list of messages received by the 'debug 1' node. Each message is a JSON object containing 'temperature' and 'humidity' values.

Timestamp	Temperature	Humidity
11/2/2022, 8:57:33 PM	103	31
11/2/2022, 8:57:35 PM	96	76
11/2/2022, 8:57:37 PM	56	90
11/2/2022, 8:57:39 PM	-4	13
11/2/2022, 8:57:41 PM	3	19
11/2/2022, 8:57:43 PM	50	37

```
11 Nov 12:34:32 - [info] Dashboard version 3.2.0 started at /ui
11 Nov 12:34:32 - [info] Settings file : C:\Users\VARORA_EDITH\node-red\settings.js
11 Nov 12:34:32 - [info] Context store : default [module=memory]
11 Nov 12:34:32 - [info] User directory : Users\VARORA_EDITH\node-red
11 Nov 12:34:32 - [warn] Projects disabled : editorTheme.projects.enabled=false
11 Nov 12:34:32 - [info] Flows file : Users\VARORA_EDITH\node-red\flows.json
11 Nov 12:34:32 - [warn]

Your flow credentials file is encrypted using a system-generated key.

If the system-generated key is lost for any reason, your credentials
file will not be recoverable, you will have to delete it and re-enter
your credentials.

You should set your own key using the 'credentialSecret' option in
your settings file. Node-RED will then re-encrypt your credentials
file using your chosen key the next time you deploy a change.

11 Nov 12:34:32 - [info] Server now running at http://127.0.0.1:1880/
11 Nov 12:34:32 - [info] Starting flows
11 Nov 12:34:32 - [info] Started flows
11 Nov 12:47:51 - [info] Stopping flows
11 Nov 12:47:51 - [info] Stopped flows
Terminate batch job (Y/N)? y

C:\Users\VARORA_EDITH>color a
C:\Users\VARORA_EDITH>node-red
11 Nov 12:48:03 - [info]

Welcome to Node-RED
-----

11 Nov 12:48:03 - [info] Node-RED version: v3.0.2
11 Nov 12:48:03 - [info] Node.js version: v14.17.1
11 Nov 12:48:03 - [info] Windows_NT x64 10.0.19045 x64
11 Nov 12:48:04 - [info] Loading palette nodes
11 Nov 12:48:05 - [info] Dashboard version 3.2.0 started at /ui
11 Nov 12:48:05 - [info] Settings file : C:\Users\VARORA_EDITH\node-red\settings.js
11 Nov 12:48:05 - [info] Context store : default [module=memory]
11 Nov 12:48:05 - [info] User directory : Users\VARORA_EDITH\node-red
11 Nov 12:48:05 - [warn] Projects disabled : editorTheme.projects.enabled=false
11 Nov 12:48:05 - [info] Flows file : Users\VARORA_EDITH\node-red\flows.json
11 Nov 12:48:05 - [warn]

Your flow credentials file is encrypted using a system-generated key.

If the system-generated key is lost for any reason, your credentials
file will not be recoverable, you will have to delete it and re-enter
your credentials.

You should set your own key using the 'credentialSecret' option in
your settings file. Node-RED will then re-encrypt your credentials
file using your chosen key the next time you deploy a change.

11 Nov 12:48:05 - [info] Server now running at http://127.0.0.1:1880/
11 Nov 12:48:05 - [info] Starting flows
11 Nov 12:48:05 - [info] Started flows
```

