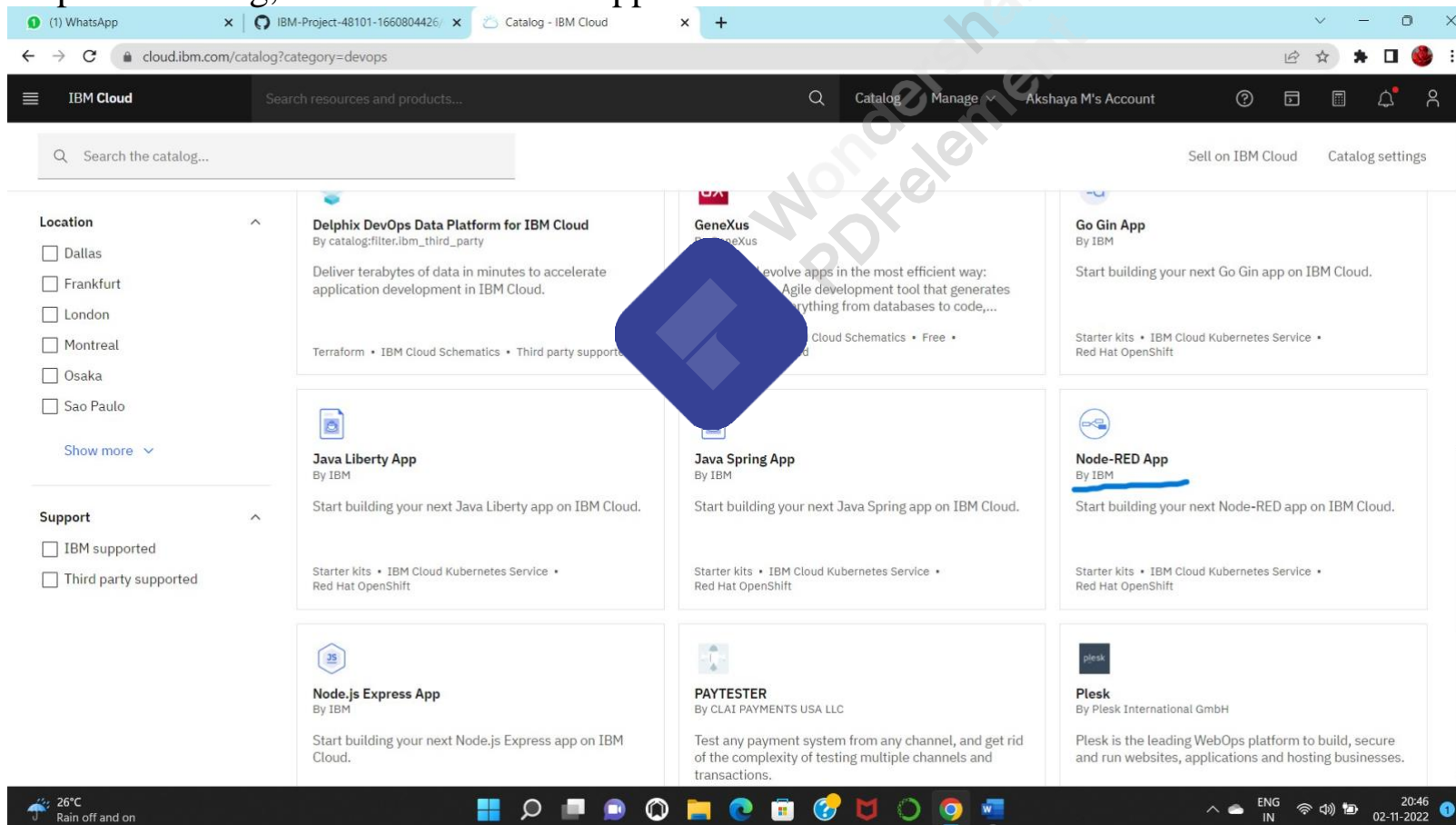


## Create Node Red service

Team ID	PNT2022TMID41570
Project Name	Smart waste management system for metropolitan cities

Step 1: Login into IBM CLOUD account

Step2: In catalog, search for node red application



The screenshot shows the IBM Cloud Catalog interface. The browser address bar displays 'cloud.ibm.com/catalog?category=devops'. The page header includes the IBM Cloud logo, a search bar, and navigation links for 'Catalog', 'Manage', and 'Akshaya M's Account'. The main content area displays a grid of application cards. On the left, there are filters for 'Location' (Dallas, Frankfurt, London, Montreal, Osaka, Sao Paulo) and 'Support' (IBM supported, Third party supported). The application cards include:

- Delphix DevOps Data Platform for IBM Cloud** (By catalog:filter.ibm\_third\_party): Deliver terabytes of data in minutes to accelerate application development in IBM Cloud. Includes Terraform, IBM Cloud Schematics, and Third party support.
- GeneXus** (By IBM): Develop apps in the most efficient way: Agile development tool that generates everything from databases to code,...
- Go Gin App** (By IBM): Start building your next Go Gin app on IBM Cloud. Includes Starter kits, IBM Cloud Kubernetes Service, and Red Hat OpenShift.
- Java Liberty App** (By IBM): Start building your next Java Liberty app on IBM Cloud. Includes Starter kits, IBM Cloud Kubernetes Service, and Red Hat OpenShift.
- Java Spring App** (By IBM): Start building your next Java Spring app on IBM Cloud. Includes Starter kits, IBM Cloud Kubernetes Service, and Red Hat OpenShift.
- Node-RED App** (By IBM): Start building your next Node-RED app on IBM Cloud. Includes Starter kits, IBM Cloud Kubernetes Service, and Red Hat OpenShift. This card is highlighted with a blue box.
- Node.js Express App** (By IBM): Start building your next Node.js Express app on IBM Cloud.
- PAYTESTER** (By CLAI PAYMENTS USA LLC): Test any payment system from any channel, and get rid of the complexity of testing multiple channels and transactions.
- Plesk** (By Plesk International GmbH): Plesk is the leading WebOps platform to build, secure and run websites, applications and hosting businesses.

The Windows taskbar at the bottom shows the date as 02-11-2022 and the time as 20:46.

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 address bar displays the URL: `cloud.ibm.com/developer/appservice/apps/4d9d88fa-dba5-4b56-986c-76b3909fe692`. The page title is "Node RED DXQJC 2022-11-02".

**Details**

- App URL: You must deploy your app first
- Source: [Download code](#)
- Resource group: [Default](#)
- Deployment target: You must deploy your app first
- Created: 11/2/2022

**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 Delivery Pipeline, GitLab, and more.

[Deploy your app](#)

**Getting started quickly**

**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 the Windows taskbar with the date and 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 main content area displays the 'Deployment target' section with four options:

- Kubernetes Service** (IBM): Deploy, scale, and manage your containerized application workloads to highly available clusters. (Selected with a checkmark)
- 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.

Below the deployment targets, there are several configuration fields:

- IBM Cloud API key**: A text input field with a 'New +' button.
- Container registry region**: A dropdown menu showing 'Dallas'.
- Container registry namespace**: A dropdown menu showing 'jbmfyhfuv...nncumphsw'.
- Cluster region**: A dropdown menu showing 'Frankfurt'.
- Cluster resource group**: A dropdown menu showing 'Default'.
- Cluster namespace**: A dropdown menu showing 'default'.
- Cluster name**: A dropdown menu showing 'mycluster-free'.

At the bottom, there is a 'Deployment type' section.

On the right side, there is a sidebar with the following content:

### 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.

At the bottom right of the sidebar, there is an 'ASK A QUESTION' button.

The bottom of the screen shows a Windows taskbar with the date '02-11-2022' and time '20:47'.

## 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. The address bar shows the URL `127.0.0.1:1880/#flow/57418c723fe9a62f`. The 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 green 'connected' 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. A large, semi-transparent 'Wondershare PDFelement' watermark is overlaid diagonally across the workspace. On the right side, there is a 'debug' console with a 'debug 1' tab selected, showing 'all nodes' and 'all' filters. At the bottom of the browser window, a notification from 'meet.google.com' states 'is sharing your screen.' with 'Stop sharing' and 'Hide' buttons. The Windows taskbar at the very bottom shows the system clock as 18:22 on 02-11-2022, along with various system icons and application shortcuts.

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

The screenshot shows the Node-RED web interface in a browser. The address 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' containing an 'IBM IoT' node and a 'debug 1' node, and a right sidebar with the 'Edit ibmiot in node' configuration panel.

The 'Edit ibmiot in node' panel has the following settings:

- Delete:** Button
- Cancel:** Button
- Done:** Button
- Properties:**
  - 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
- Enabled:** Radio button (checked)

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 bottom of the screen shows a Windows taskbar with the date and time: 20:57 02-11-2022.



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

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 diagram, and a right sidebar with the 'Edit ibmiot in node' configuration panel and a debug console.

**Flow Diagram:** A flow named 'Flow 1' contains an 'IBM IoT' node (blue) connected to a 'debug 1' node (green). The 'IBM IoT' node has a 'connected' status indicator.

**Configuration Panel (Edit ibmiot in node):**

- 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

**Debug Console:** The console is currently empty, showing 'all nodes' and 'all' filters.

**System Tray:** The bottom of the screen shows a Windows taskbar with various application icons and a system tray indicating the date and time as 20:57 on 02-11-2022.

```
11 Nov 12:34:12 - [Info] Dashboard version 3.1.0 started at /ui
11 Nov 12:34:12 - [Info] Settings file : C:\Users\AMORA_EDITH\code-red\settings.js
11 Nov 12:34:12 - [Info] Context store : default [module-memory]
11 Nov 12:34:12 - [Info] User directory : Users\AMORA_EDITH\code-red
11 Nov 12:34:12 - [warn] Projects disabled : editorTheme.projects.enabled=false
11 Nov 12:34:12 - [Info] Flows file : Users\AMORA_EDITH\code-red\flows.json
11 Nov 12:34:12 - [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 12:34:12 - [Info] Server now running at http://127.0.0.1:18080/
11 Nov 12:34:12 - [Info] Starting flows
11 Nov 12:34:12 - [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\AMORA_EDITH\code-red
C:\Users\AMORA_EDITH\code-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 10.0.19045 x64
11 Nov 12:48:04 - [Info] Loading palette nodes
11 Nov 12:48:05 - [Info] Dashboard version 3.1.0 started at /ui
11 Nov 12:48:05 - [Info] Settings file : C:\Users\AMORA_EDITH\code-red\settings.js
11 Nov 12:48:05 - [Info] Context store : default [module-memory]
11 Nov 12:48:05 - [Info] User directory : Users\AMORA_EDITH\code-red
11 Nov 12:48:05 - [warn] Projects disabled : editorTheme.projects.enabled=false
11 Nov 12:48:05 - [Info] Flows file : Users\AMORA_EDITH\code-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://127.0.0.1:18080/
11 Nov 12:48:05 - [Info] Starting flows
11 Nov 12:48:05 - [Info] Started flows
```

