

## Create Node Red service

|              |   |
|--------------|---|
| Team ID      | IBM-Project-11859-1659348734                          |
| 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 top navigation bar includes the IBM Cloud logo, a search bar, and user account information (Akshaya M's Account). The main content area displays a grid of application cards. The 'Node-RED App' card is highlighted with a blue underline. The left sidebar shows filters for Location (Dallas, Frankfurt, London, Montreal, Osaka, Sao Paulo) and Support (IBM supported, Third party supported). The bottom status bar shows the system clock (20:46, 02-11-2022) and weather (26°C, Rain off and on).

| Application Name                           | By                                | Description   | Tags  |
|--|-----------------------------------|---|---|
| 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.  | Terraform • IBM Cloud Schematics • Third party supported            |
| GeneXus                                    | By GeneXus                        | Create and evolve apps in the most efficient way: automatically. Agile development tool that generates and maintain everything from databases to code,... | Server Images • IBM Cloud Schematics • Free • Third party supported |
| Go Gin App                                 | By IBM                            | Start building your next Go Gin app on IBM Cloud.   | Starter kits • IBM Cloud Kubernetes Service • Red Hat OpenShift     |
| Java Liberty App                           | By IBM                            | Start building your next Java Liberty app on IBM Cloud.   | Starter kits • IBM Cloud Kubernetes Service • Red Hat OpenShift     |
| Java Spring App                            | By IBM                            | Start building your next Java Spring app on IBM Cloud.  | Starter kits • IBM Cloud Kubernetes Service • Red Hat OpenShift     |
| Node-RED App                               | By IBM                            | Start building your next Node-RED app on IBM Cloud.   | Starter kits • IBM Cloud Kubernetes Service • Red Hat OpenShift     |
| 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.  |   |

Step 3: Enter the project details and click on create

Step 4: click on deploy option and deploy

The screenshot displays the IBM Cloud Developer console interface. At the top, the browser address bar shows the URL: `cloud.ibm.com/developer/appservice/apps/4d9d88fa-dba5-4b56-986c-76b3909fe692`. 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 is titled 'Node RED DXQJC 2022-11-02' with an 'Add tags' link and an 'Actions...' dropdown menu. The page is divided into several sections:

- Details:** A table showing app information:

| Field             | Value                          |
|-------------------|--------------------------------|
| App URL           | You must deploy your app first |
| Source            | <a href="#">Download code</a>  |
| Resource group    | Default                        |
| Deployment target | You must deploy your app first |
| Created           | 11/2/2022                      |
- Services:** A section for managing services, currently showing 'Cloudant' with links to 'Open dashboard', 'Documentation', and 'API reference'. It also includes a 'Credentials' dropdown and buttons for 'Connect existing services' and 'Create service'.
- Deployment Automation:** A section titled 'Configure Continuous Delivery' with a message: '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 prominent blue button labeled 'Deploy your app' with a cloud icon.
- Getting started quickly:** A sidebar on the right with a list of steps for configuring the 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 displaying '26°C Rain off and on', and a clock showing '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 is visible with a search bar and navigation links like Catalog, Manage, and Akshaya M's Account.

**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

jbmfyhfuvvmqrrymgrbnnfcumhsw

Cluster region

Frankfurt

Cluster resource group

Default

Cluster namespace

default

Cluster name

mycluster-free

Deployment type

26°C Rain off and on

ASK A QUESTION

**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.

## 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 green '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 'Deploy' button and a 'debug' tab. A large, diagonal watermark reading 'Wondershare PDFelement' is overlaid across the center of the workspace. At the bottom of the screen, a Windows taskbar is visible with various application icons, a system tray showing the temperature as 26°C and weather as 'Rain to stop', and a clock showing 18:22 on 02-11-2022.

## 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, 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 a 'debug' tab and a 'Properties' panel.

The 'Properties' panel for the 'ibmiot in node' is expanded, showing the following configuration:

- 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

A yellow tooltip at the bottom of the Properties 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 status bar shows the system clock as 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 current flow is 'Flow 1'. The left sidebar shows the 'common' and 'function' node categories. The main workspace contains a flow with two nodes: an 'IBM IoT' node (blue) and a 'debug 1' node (green). The 'IBM IoT' node is labeled 'connected'. The 'debug 1' node is highlighted with an orange border. The right sidebar shows the 'debug' console, which displays a series of messages received from the 'debug 1' node. Each message is a JSON object with 'temperature' and 'humidity' fields. The messages are as follows:

- 11/2/2022, 8:57:33 PM node: debug 1  
iot-2/type/Test/id/Test123/evt/status/fmt/json : msg.payload : Object  
▶ { temperature: 103, humidity: 31 }
- 11/2/2022, 8:57:35 PM node: debug 1  
iot-2/type/Test/id/Test123/evt/status/fmt/json : msg.payload : Object  
▶ { temperature: 96, humidity: 76 }
- 11/2/2022, 8:57:37 PM node: debug 1  
iot-2/type/Test/id/Test123/evt/status/fmt/json : msg.payload : Object  
▶ { temperature: 56, humidity: 90 }
- 11/2/2022, 8:57:39 PM node: debug 1  
iot-2/type/Test/id/Test123/evt/status/fmt/json : msg.payload : Object  
▶ { temperature: -4, humidity: 13 }
- 11/2/2022, 8:57:41 PM node: debug 1  
iot-2/type/Test/id/Test123/evt/status/fmt/json : msg.payload : Object  
▶ { temperature: 3, humidity: 19 }
- 11/2/2022, 8:57:43 PM node: debug 1  
iot-2/type/Test/id/Test123/evt/status/fmt/json : msg.payload : Object  
▶ { temperature: 50, humidity: 37 }

The bottom of the screen shows the Windows taskbar with various application icons and the system clock indicating 20:57 on 02-11-2022.

