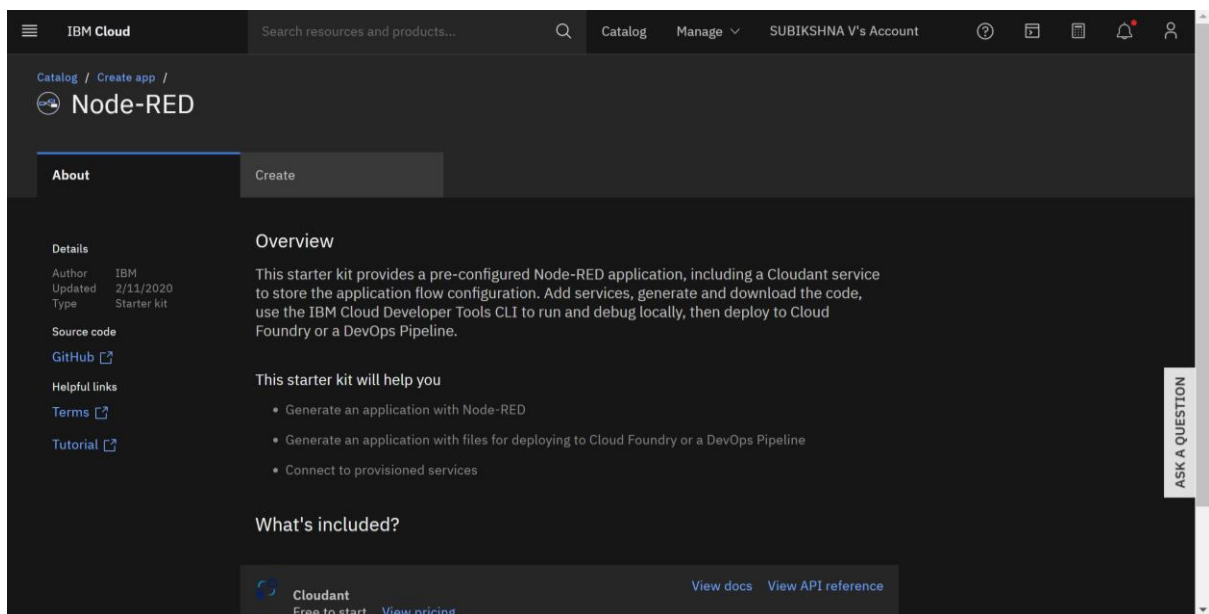


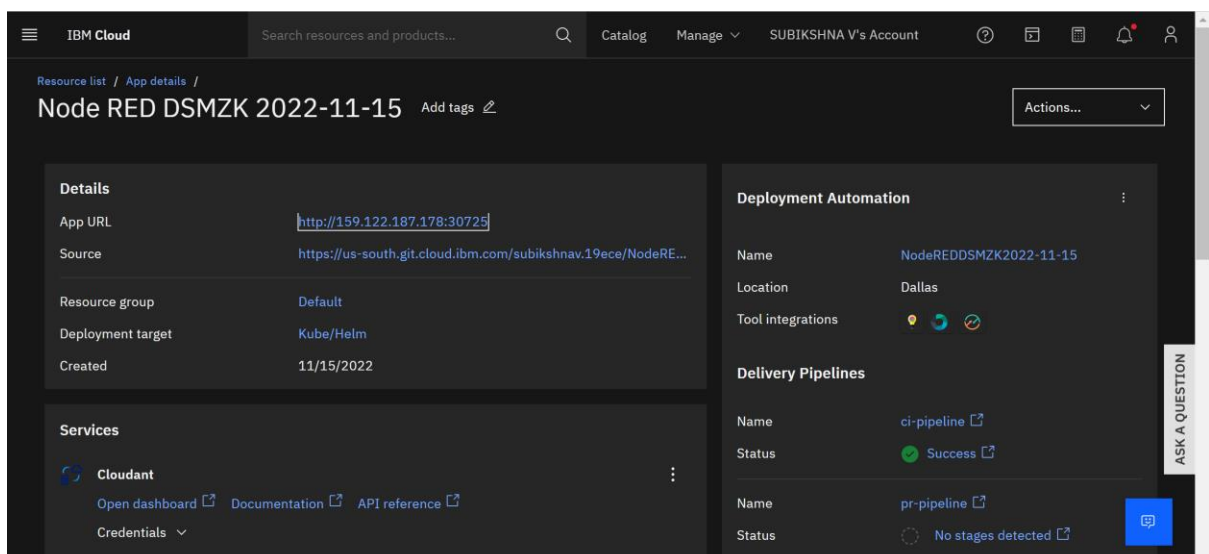
BUILD A WEB APPLICATION USING NODE RED SERVICE

DATE	18 November 2022
TEAM ID	PNT2022TMID04755
PROJECT NAME	SmartFarmer – IOT Enabled Smart Farming Application

Search for Node Red in IBM Cloud:



After register for Node-Red an Link for open Node-Red is appeared:



The image is a screenshot of the Node-RED on IBM Cloud landing page. The top section has a dark grey header with the text "Node-RED on IBM Cloud" in white. Below this is a large red banner with the "Node-RED" logo in white, followed by the tagline "Flow-based programming for the Internet of Things" in a smaller white font. The bottom section of the page is white and contains three columns of text. The first column on the left describes Node-RED as a programming tool for wiring together hardware devices, APIs, and online services. The middle column states that the instance is running as an IBM Cloud application, providing access to a wide range of services. The right column features a button labeled "Go to your Node-RED flow editor" and a link to "Learn how to customise Node-RED".

The screenshot displays the Node-RED web interface. The top bar shows the Node-RED logo and a 'Deploy' button. The main workspace is divided into two flows: 'Flow 2' (selected) and 'Flow 1'. Flow 1 contains a complex network of nodes including 'IBM IoT', 'soil moisture', 'Humidity', 'Temperature', 'switch', 'http request', 'msg payload', '[get]/data', 'data', 'http', 'MOTOR ON', 'MOTOR OFF', '[get]/command', and another 'http' node. The left sidebar shows a 'filter nodes' search bar and two categories: 'common' and 'function'. The right sidebar shows 'info' for the selected flow, including a list of flows and subflows, and a message box at the bottom.

Function code for humidity:

The screenshot shows the Node-RED web interface. In the center, the 'Edit function node' dialog is open for a node named 'Humidity'. The 'On Message' tab is selected, and the code area contains the following JavaScript code:

```
1 global.set('hum',msg.payload.humidity)
2 msg.payload=msg.payload.humidity
3 return msg;
```

The left sidebar shows the 'common' and 'function' node palettes. The right sidebar shows the 'info' tab with a tree view of flows and subflows, and a details section for the 'Humidity' node, including its ID and type.

API key for IBM IOT Out node:

The screenshot shows the Node-RED web interface with the 'Edit ibmiot out node' dialog open. The 'Properties' tab is selected, and the configuration fields are filled out as follows:

- Authentication: API Key
- API Key: IBMIot
- Output Type: Device Command
- Device Type: ESP32_Controller
- Device Id: BME280_Sensor
- Command Type: cmd
- Format: json
- Data: data
- QoS: 0

The left sidebar shows the 'common' and 'function' node palettes. The right sidebar shows the 'info' tab with a tree view of flows and subflows, and a details section for the 'IBM IoT' node, including its ID and type.

Monitoring the humidity and temperature for motor on and off function:

