

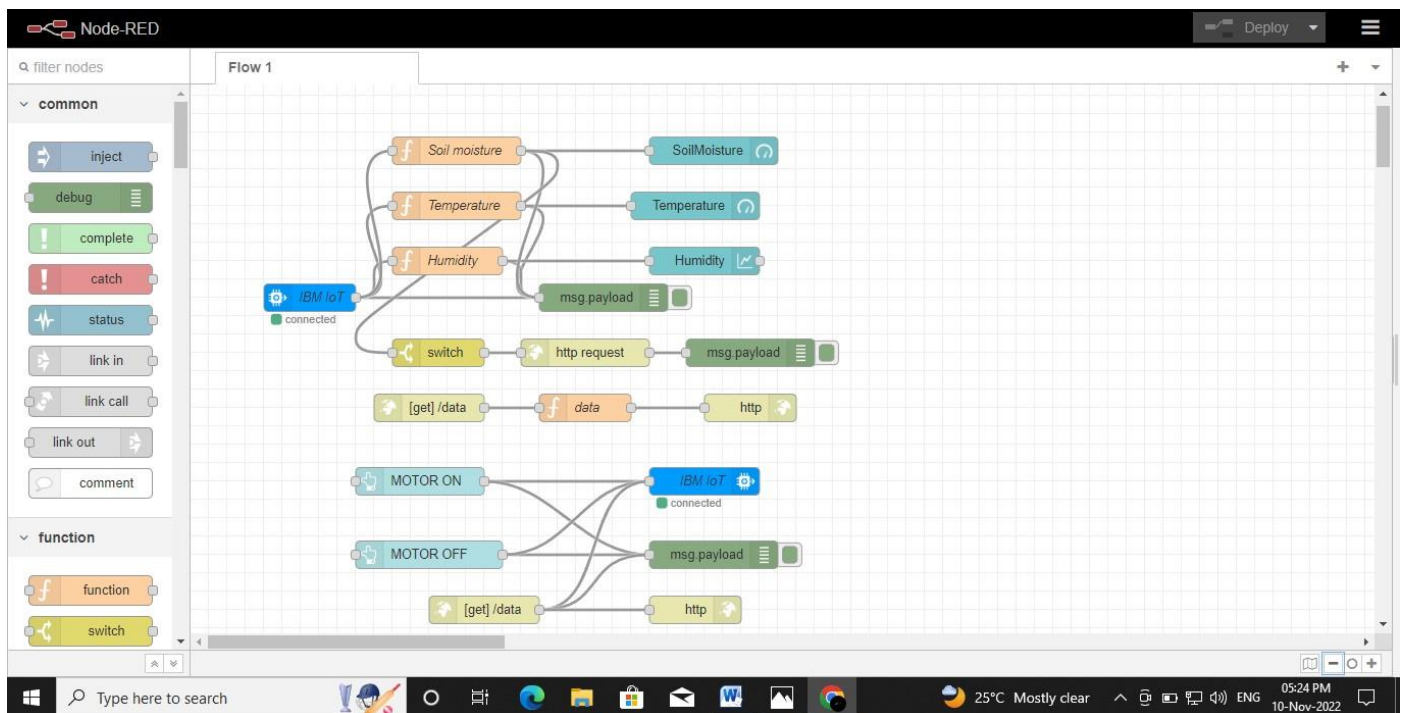
# SPRINT 2

## IBM Watson IoT Platform, Workflows for IoT scenarios using Node-Red

Date	11 November,2022
Team ID	PNT2022TMID43020
Project Name	Smart Farmer- IoT enabled Smart Farming Application

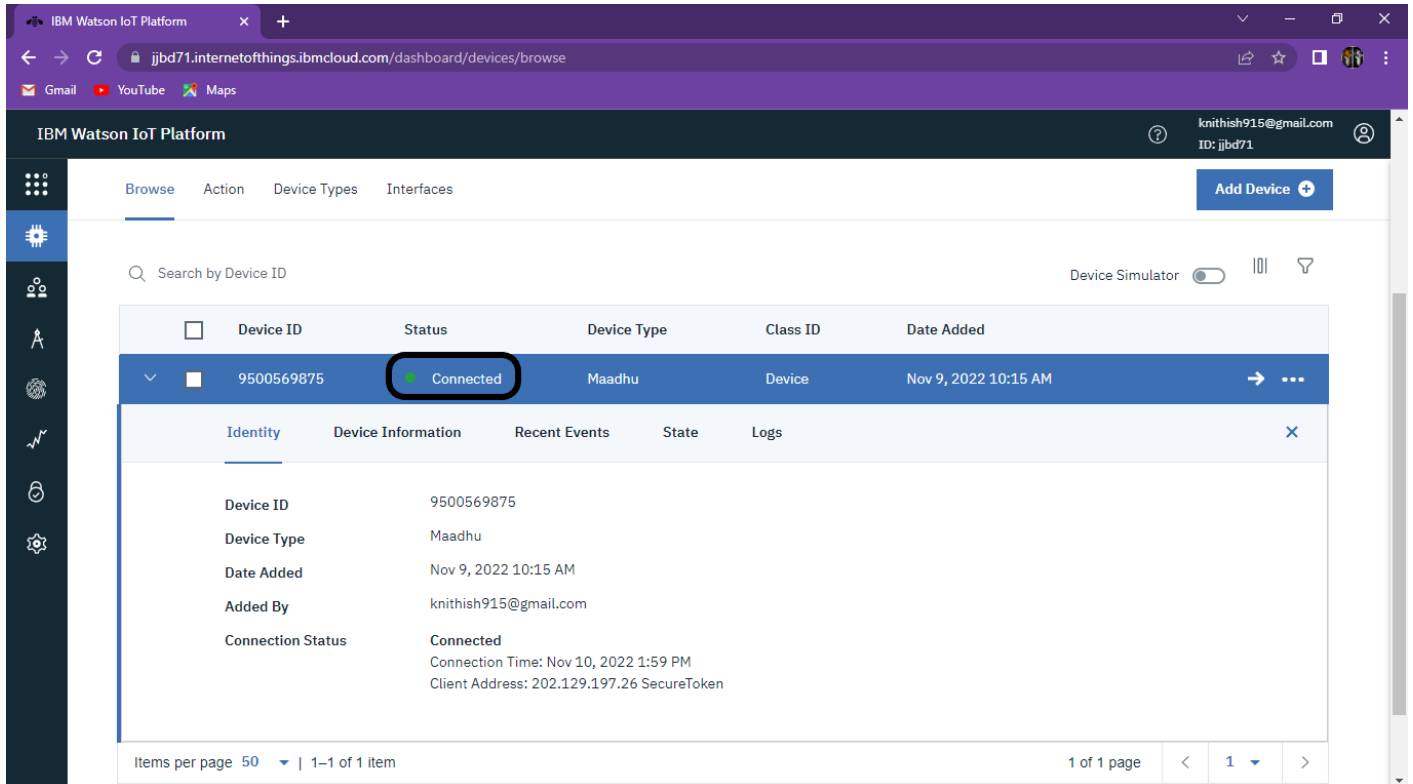
### Step 1:

Developed a web application in **NODE-RED**.



## Step 2:

After filled the details such as API key, device ID, device type in the required field **Watson IoT device will be connected**. Deploy and view the results in debug.



The screenshot displays the IBM Watson IoT Platform dashboard. The browser address bar shows the URL `jjbd71.internetofthings.ibmcloud.com/dashboard/devices/browse`. The user is logged in as `knithish915@gmail.com` with ID `jjbd71`. The dashboard has tabs for `Browse`, `Action`, `Device Types`, and `Interfaces`. A search bar labeled "Search by Device ID" is present. A table lists devices, with one device highlighted: `9500569875`, status `Connected` (circled in red), device type `Maadhu`, class ID `Device`, and date added `Nov 9, 2022 10:15 AM`. Below the table, a detailed view of the selected device is shown, including its identity, device information, recent events, state, and logs. The connection status is confirmed as `Connected` with a connection time of `Nov 10, 2022 1:59 PM` and a client address of `202.129.197.26`. The bottom of the page shows pagination: `Items per page 50` and `1 of 1 page`.

Device ID	Status	Device Type	Class ID	Date Added
9500569875	Connected	Maadhu	Device	Nov 9, 2022 10:15 AM

Identity	Device Information	Recent Events	State	Logs
Device ID	9500569875			
Device Type	Maadhu			
Date Added	Nov 9, 2022 10:15 AM			
Added By	knithish915@gmail.com			
Connection Status	Connected			
	Connection Time: Nov 10, 2022 1:59 PM			
	Client Address: 202.129.197.26 SecureToken			

### Step 3:

To get the alert message to the mobile phone, Fast2Sms was used.

Enter the message that we have to receive and mobile number.

The screenshot shows the Fast2Sms Developer API dashboard. The left sidebar contains navigation options: Bulk SMS, DLT SMS, Quick SMS, Address Book, Delivery Reports, Transactions, Dev API (selected), Settings, and Help. The main content area is titled 'Dev API' and includes tabs for 'API Key' and 'Security'. The 'Method' dropdown is set to 'GET'. The 'Route' dropdown is set to 'Quick SMS'. The 'Message' field contains the text 'Less moisture level!!!'. The 'Language' section has 'English' selected. A right-hand panel displays the generated API call details:

```
GET https://www.fast2sms.com/dev/bulkV2

Query Parameter :

authorization =
UI08XuZQtpJHNI6wPScy3kMLb2zYCxvRDlo4EgnFTA7BKa
he590ivc4BhPywxrUYbICXmdpe62FNth9Z

route = q

message = Less moisture level!!!

language = 'english'

numbers =

flash = "0"

Overall URL = https://www.fast2sms.com/dev/bulkV2?
authorization=UI08XuZQtpJHNI6wPScy3kMLb2zYCxvRDlo
4EgnFTA7BKahe590ivc4BhPywxrUYbICXmdpe62FNth9Z&
route=q&message=Less%20moisture%20level!!!&language
=english&flash=0&numbers=
```

## Step 4:

Copy the URL and paste it in the http request to send sms when the soil moisture went below the mentioned level (i.e. <20).

The screenshot shows the Fast2SMS Developer API dashboard. The left sidebar contains navigation links: Bulk SMS, DLT SMS, Quick SMS, Address Book, Delivery Reports, Transactions, Dev API (selected), Settings, and Help. The main content area has three tabs: Dev API, API Key, and Security. The Dev API tab is active, showing a form with the following fields:

- Language:** Radio buttons for English (selected) and Unicode.
- Flash Message:** Radio buttons for Yes and No (selected).
- Contact:** A text input field containing the number 9361475232.

To the right of the form, a black box displays the generated API request details:

```
GET https://www.fast2sms.com/dev/bulkV2

Query Parameter :

authorization =
UI08XuZQtpJHNI6wPScy3kMLb2zYCxvRDlo4EgnFTA7BKa
he590ivc48hPywxrUYblCXmdpe62FNth9Z

route = q

message = Less moisture level!!!

language = "english"

numbers = 9361475232

flash = "0"

Overall URL = https://www.fast2sms.com/dev/bulkV2?
authorization=UI08XuZQtpJHNI6wPScy3kMLb2zYCxvRDlo
4EgnFTA7BKahe590ivc48hPywxrUYblCXmdpe62FNth9Z&
route=q&message=Less%20moisture%20level!!!&language
=english&flash=0&numbers=9361475232
```

## Step 5:

SMS will be sent.

The screenshot displays the Node-RED web interface in a browser. The main workspace shows a flow named 'Flow 1' with the following components and connections:

- Inputs:** Three function nodes labeled 'Soil moisture', 'Temperature', and 'Humidity' are connected to their respective output nodes: 'SoilMoisture', 'Temperature', and 'Humidity'.
- Switch Logic:** A 'switch' node receives input from the 'Soil moisture' output. It branches into two paths:
  - Top Path:** A 'msg payload' node followed by an 'http request' node, which then connects to another 'msg payload' node.
  - Bottom Path:** A '[get] /data' node followed by a 'data' node, which then connects to an 'http' node.
- Motor Control:** Two nodes labeled 'MOTOR ON' and 'MOTOR OFF' are connected to an 'IBM IoT' node (status: connected) and a 'msg payload' node.
- Data Output:** A '[get] /data' node is connected to an 'http' node.

The right-hand pane shows the 'debug' console with the following log entries:

```
11/10/2022, 2:28:03 PM node: f2f2649a.0d0d98  
iot-2/type/NodeMCU/id/24680/evt/event_1/fmt/json : msg.payload : Object  
  { Temperature: 30, Humidity: 49, SoilMoisture: 2 }  
  
11/10/2022, 2:28:03 PM node: f2f2649a.0d0d98  
iot-2/type/NodeMCU/id/24680/evt/event_1/fmt/json : msg.payload : number  
30  
  
11/10/2022, 2:28:03 PM node: f2f2649a.0d0d98  
iot-2/type/NodeMCU/id/24680/evt/event_1/fmt/json : msg.payload : number  
49  
  
11/10/2022, 2:28:03 PM node: f2f2649a.0d0d98  
iot-2/type/NodeMCU/id/24680/evt/event_1/fmt/json : msg.payload : number  
2  
  
11/10/2022, 2:28:03 PM node: b783a1fd394c886  
iot-2/type/NodeMCU/id/24680/evt/event_1/fmt/json : msg.payload : string[83]  
{"return":true,"request_id":"4g7cohwpzdts31","message":["SMS sent  
successfully."]}  
  
11/10/2022, 2:28:06 PM node: f2f2649a.0d0d98  
iot-2/type/NodeMCU/id/24680/evt/event_1/fmt/json : msg.payload : Object  
  { Temperature: 95, Humidity: 79, SoilMoisture: 58 }  
  
11/10/2022, 2:28:06 PM node: f2f2649a.0d0d98  
iot-2/type/NodeMCU/id/24680/evt/event_1/fmt/json : msg.payload : number  
95
```

## Step 6:

Copy the URL add **ui** in the end and paste it on the new tab.

