

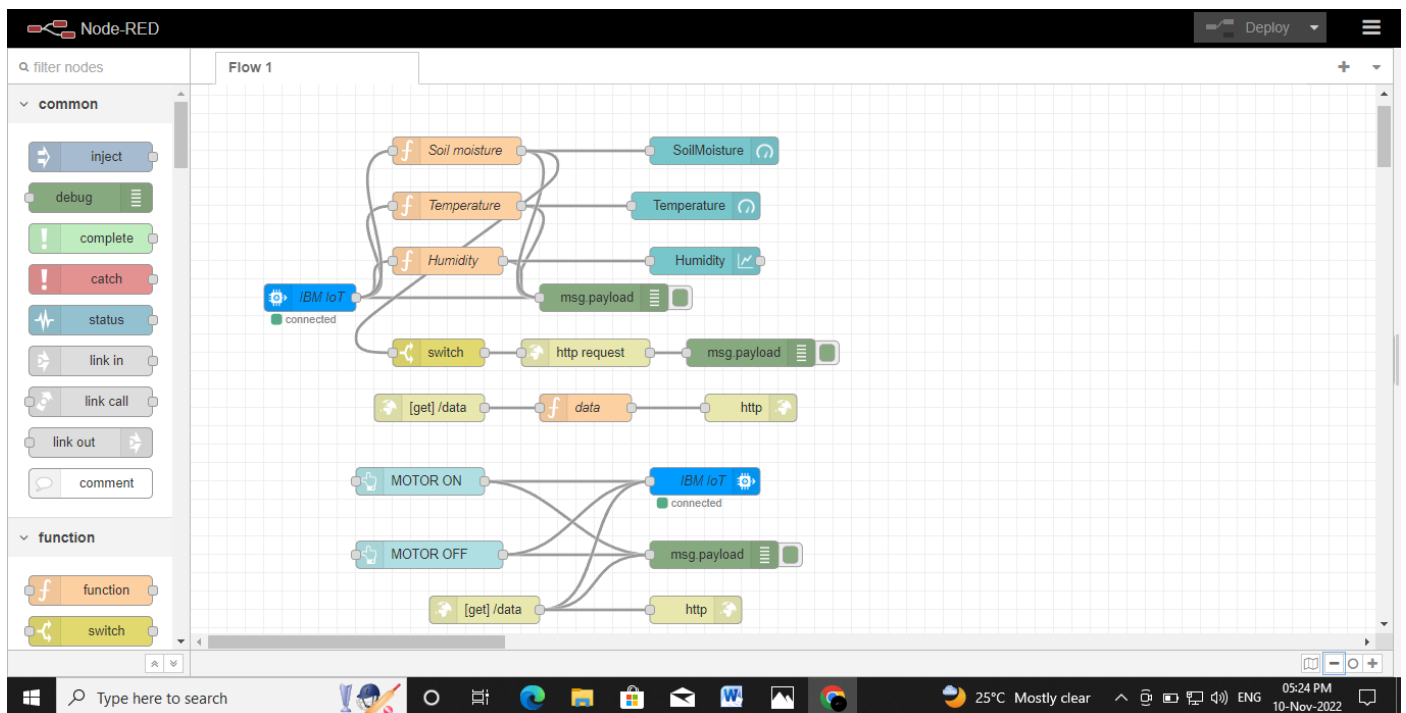
SPRINT 2

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

Date	8 November,2022
Team ID	PNT2022TMID49483
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.

IBM Watson IoT Platform

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Browse Action Device Types Interfaces

Add Device

Browse Devices

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added
> <input type="checkbox"/>	24680	Connected	NodeMCU	Device	Nov 1, 2022 10:05 AM

Items per page 50 | 1-1 of 1 item

1 of 1 page

1 Simulation running

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.

fast2sms.com/dashboard/dev-api

FAST2SMS

How Developer API Works Account Info 02:32:50 PM Lakshya Pu...

₹45.50 ADD CREDIT

Bulk SMS DLT SMS Quick SMS Address Book Delivery Reports Transactions Dev API Settings Help

Dev API API Key Security

Method: GET

Route: Quick SMS

Message (NOTE: Per SMS cost ₹ 3.50): Less Moisture is Detected !!!

Language: English (selected) Unicode

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

Query Parameter :

authorization = 4C5IZKwDHypdoEVrtJN6rsG7BWhl0zxquXS1AbgicQekUm23mLaBRbDU461N3QlegljxjFH9M0pinsV

route = q

message = Less Moisture is Detected !!!

language = "english"

numbers = 7871259707

flash = "0"

Overall URL = https://www.fast2sms.com/dev/bulkV2?authorization=4C5IZKwDHypdoEVrtJN6rsG7BWhl0zxquXS1AbgicQekUm23mLaBRbDU461N3QlegljxjFH9M0pinsV&route=q&message=Less%20Moisture%20is%20Detected%20!!!&language=english&flash=0&numbers=7871259707

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 dashboard. On the left, there's a sidebar with options like Bulk SMS, DLT SMS, Quick SMS, Address Book, Delivery Reports, Transactions, Dev API (selected), Settings, and Help. The main area is titled 'Dev API' and has tabs for 'API Key' and 'Security'. Under 'Dev API', there's a section for 'For OTP Based SMS use 'OTP SMS API'' with a 'READ API DOCS' button. Below this, the 'Method' is set to 'GET', the 'Route' is 'Quick SMS', and the 'Message' is 'Less Moisture is Detected !!!'. The 'Language' is set to 'english'. On the right, a black box displays the 'Overall URL' and 'Query Parameter' for the API call.

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

Query Parameter :
authorization = 4C5IZKwDHypdoEVRLJN6rsG7BWhl0zxquXS1AbgfcQekU
m23mLaBRbDU461N3QlegljxvFH9M0pinsV
route = q
message = Less Moisture is Detected !!!
language = "english"
numbers = 7871259707
flash = "0"

Overall URL = https://www.fast2sms.com/dev/bulkV2?
authorization=4C5IZKwDHypdoEVRLJN6rsG7BWhl0zxquXS1AbgfcQekU
m23mLaBRbDU461N3QlegljxvFH9M0pinsV&
route=q&message=Less%20Moisture%20is%20Detected%20!!!&language=english&flash=0&numbers=7871259707
```

Step 5:

SMS will be sent.

The screenshot shows a Node-RED flow diagram. The flow starts with an 'IBM IoT' node (connected) that triggers a 'switch' node. The 'switch' node has two paths: one for 'Soil moisture' (which triggers an 'http request' node) and another for 'Temperature' (which triggers a 'msg payload' node). The 'http request' node is configured to send an SMS to the number 7871259707 with the message 'Less Moisture is Detected !!!'. The 'Temperature' path also triggers a 'msg payload' node. Below the 'switch' node, there's a 'data' node that triggers an 'http' node. At the bottom, there are two 'MOTOR ON' and 'MOTOR OFF' nodes, each triggering an 'IBM IoT' node (connected) and a 'msg payload' node. The 'debug' console on the right shows the logs of the flow, including the SMS being sent successfully.

```
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":"4g7cohbwpzdt531","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.

