

### **SPRINT DELIVERY – 3**

<b>Team ID</b>	PNT2022TMID54001
<b>Project Name</b>	Smart Farmer-IOT Enabled Smart Farming Application
<b>Date</b>	17 November 2022

### **Configuration of Node-Red to send commands to the IBM cloud**

IBM IoT out node I used to send data from Node-Red to the IBM Watson device. So, after adding it to the flow we need to configure it with the credentials of our Watson device.

Here we add two buttons in UI

**Edit ibmiot in node**

Delete Cancel Done

**Properties**

Authentication API Key

API Key IBMIOT APIKEY

Input Type Device Event

Device Type All or: abcd

Device Id All or: 7654321

Event All or: +

Format All or: json

QoS 0

Name IBM IoT

Enabled

- -> for motor on
- -> for motor off

We used a function node to analyze the data received and assign commands to each number.

The Javascript code for the analyses is:

```

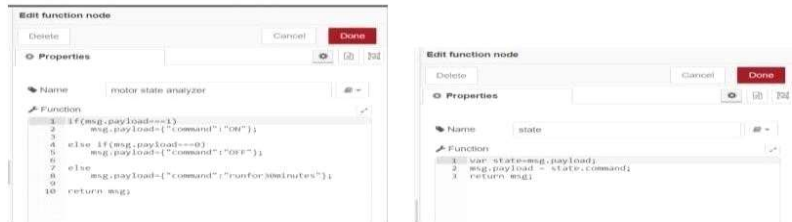
if(msg.payload
===1)
msg.payload={
"comm and":
"ON"}; else
if(msg.payload
===0) msg.
payload={"command"
: "OFF"};

```

Then we use another function node to parse the data and get the command and represent it visually with text node.

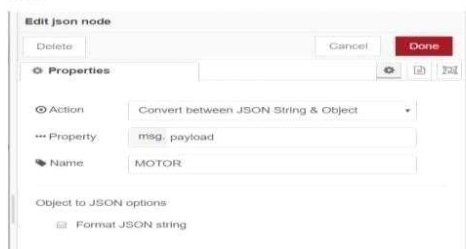
The Java script code for that function node is:

```
var state=msg.payload;  
msg.payload = state.command;  
return msg;
```

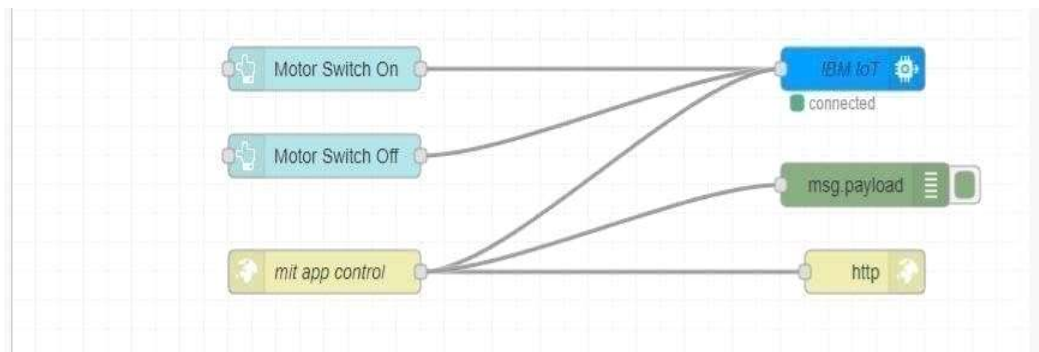


The above images show the java script codes of analyser and state function nodes.

Then we add edit json node to the conversion between JSON string & object and finally connect it to IBM IoT Out.



Edit JSON node needs to be configured like this

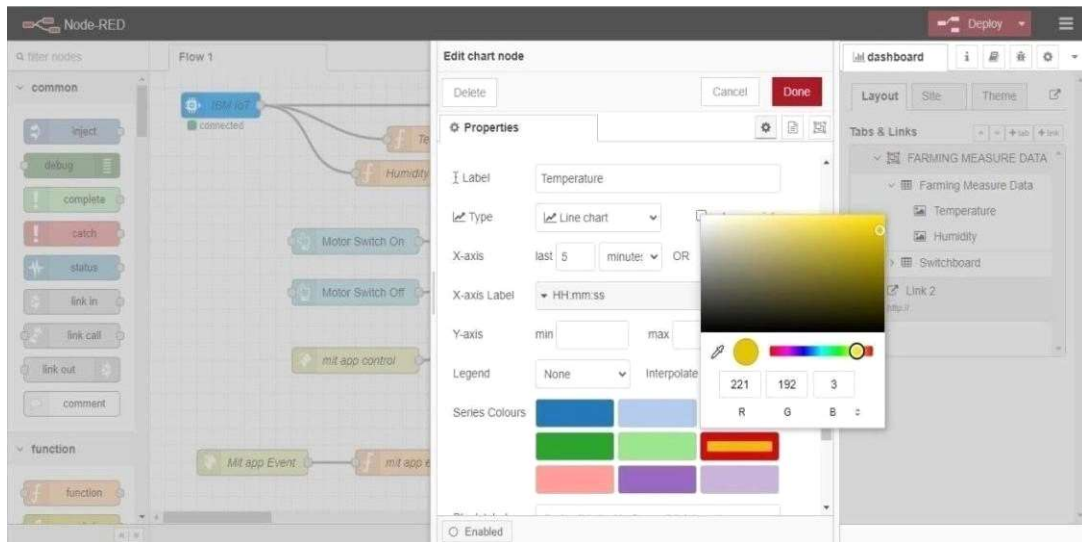


This is the program flow for sending commands to the IBM cloud.

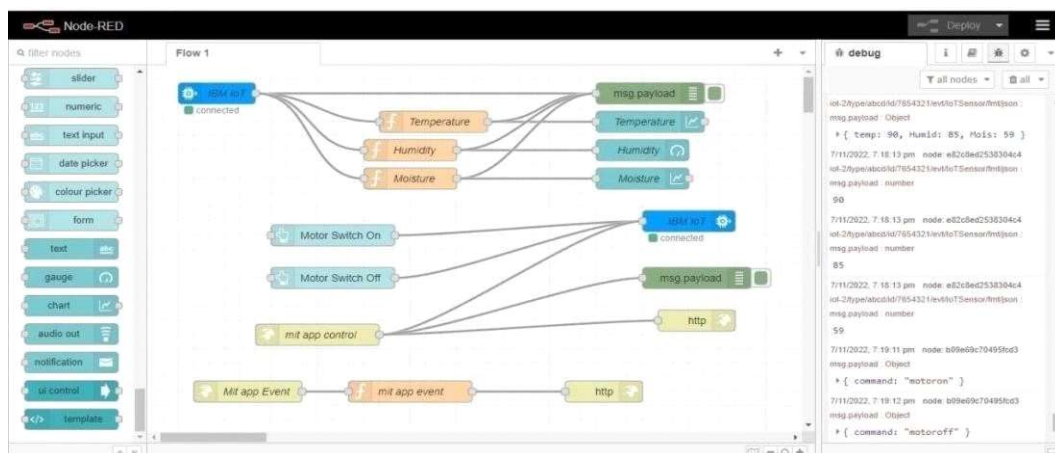
## Adjusting User Interface

In order to display the parsed JSON data a Node-Red dashboard is created.

Here we are using Gauges, text, and button nodes to display in the UI and help to monitor the parameters and control the farm equipment. Below the images are the Gauge, text, and button node configurations.

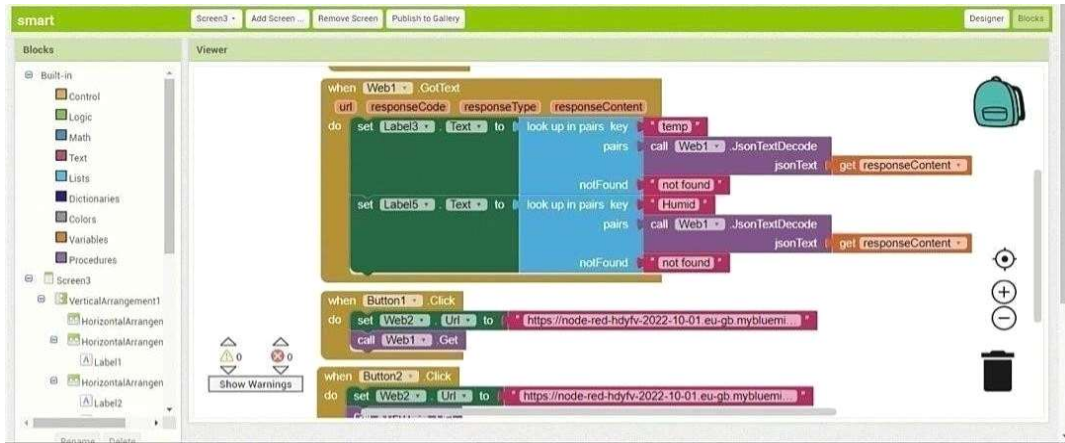


## Complete Program Flow



## MOBILE APP WEB:

## BLOCK DIAGRAM



**SCREEN**

## Web APP UI Home Tab

