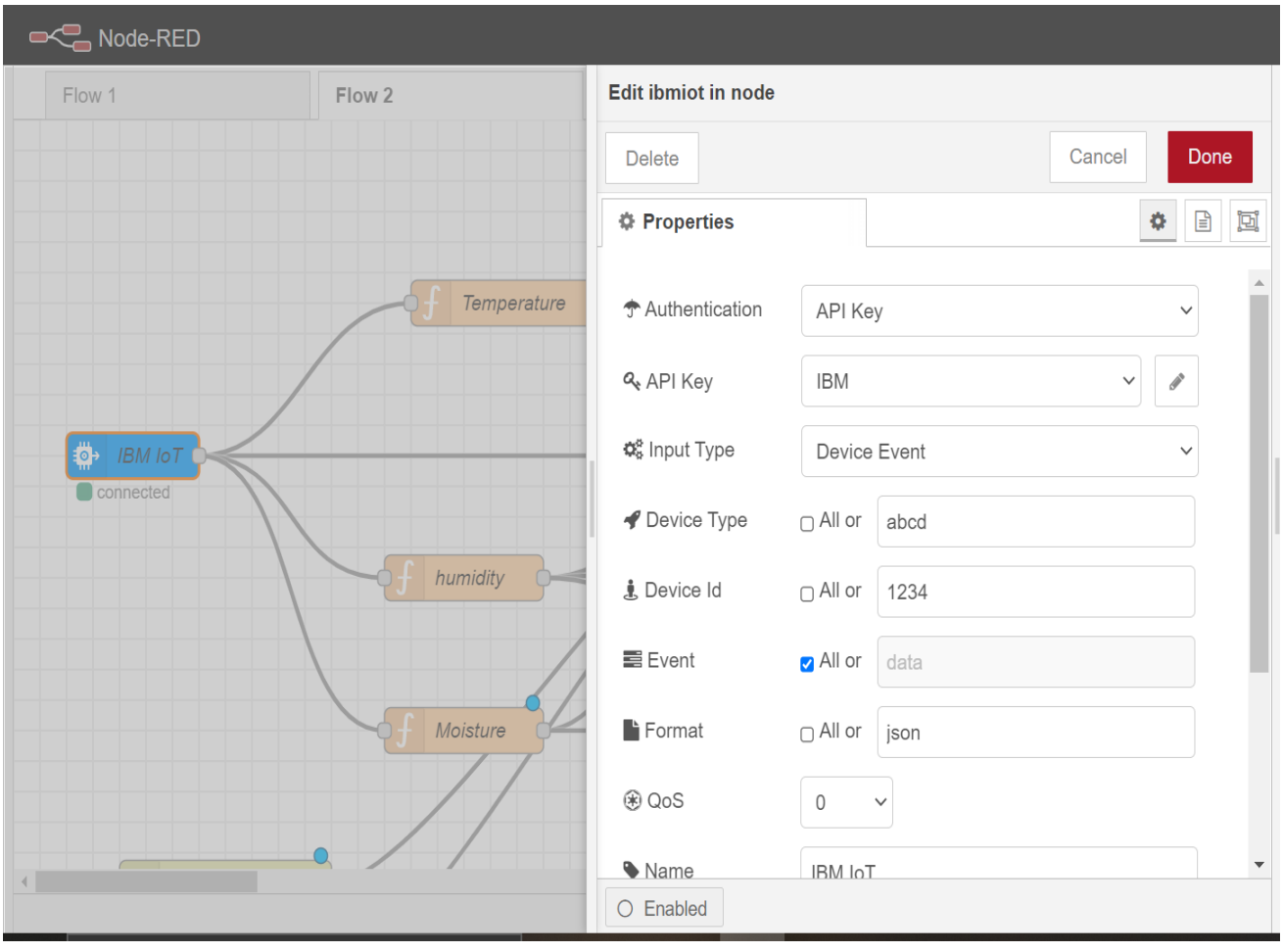
Smart Farmer-IOT Enabled Smart Farming Application

SPRINT DELIVERY- 3

TITLE	Smart Farmer-IOT Enabled Smart Farming Application
DOMAIN NAME	INTERNET OF THINGS
TEAM ID	PNT2022TMID21357

Configuration of Node-Red to send commands to IBM cloud

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



Here we add two buttons in UI

1 -> for motor

on2 -> for motor

off

We used a function node to analyses the data received and assign command toeach number.

The Java script code for the analyses

is:if(msg.payload===1)

msg.payload={"command": “ON"};

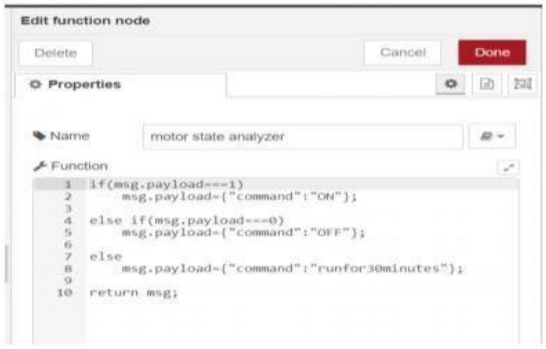
else if(msg.payload===0)

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.

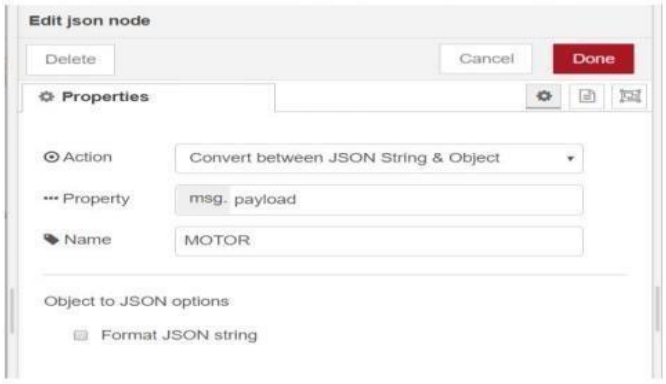
The Java script code for that function node is:

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

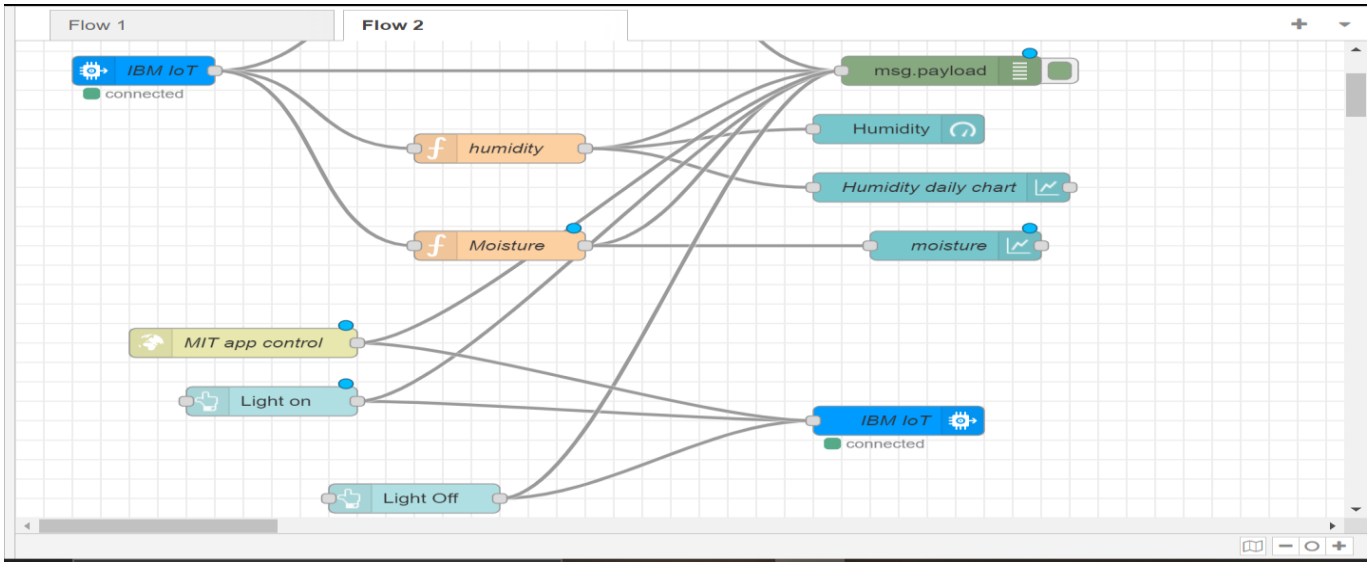


The above images show the java script codes of analyser and state function nodes.

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



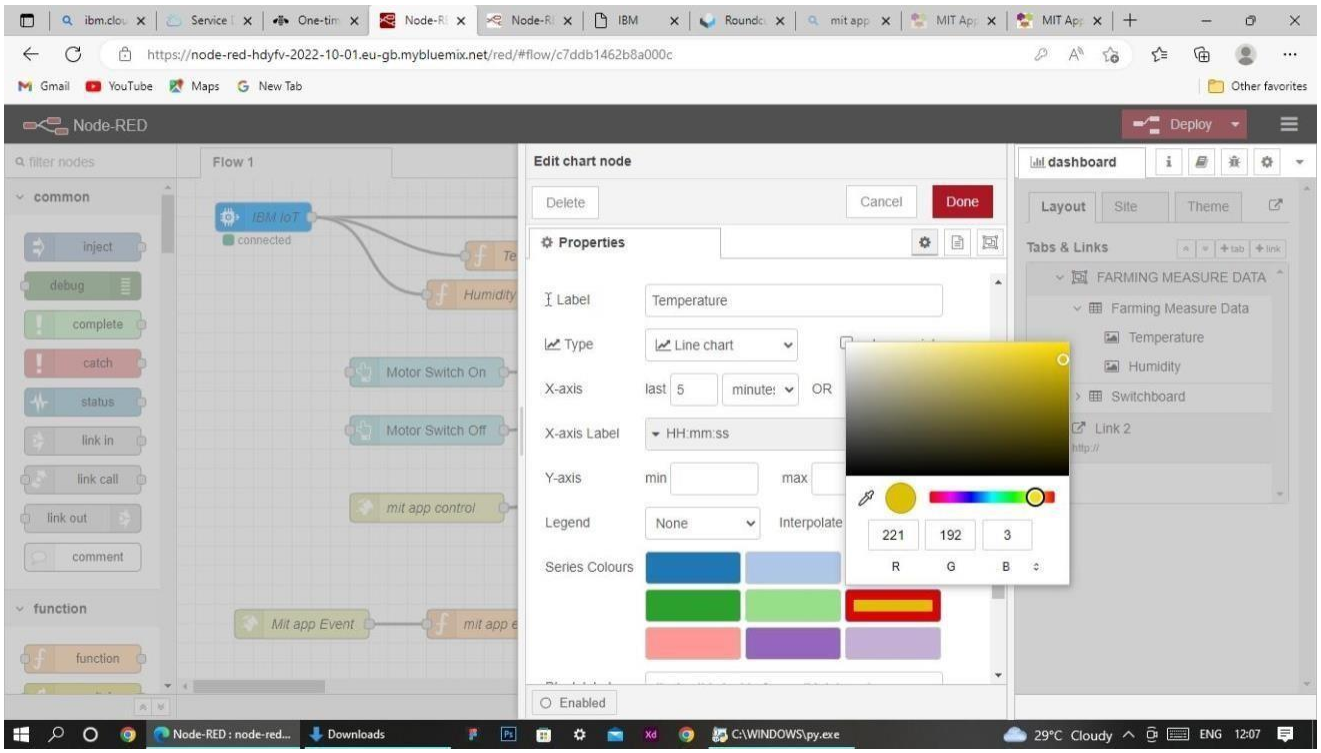
This is the program flow for sending commands to IBM cloud.

Adjusting User Interface

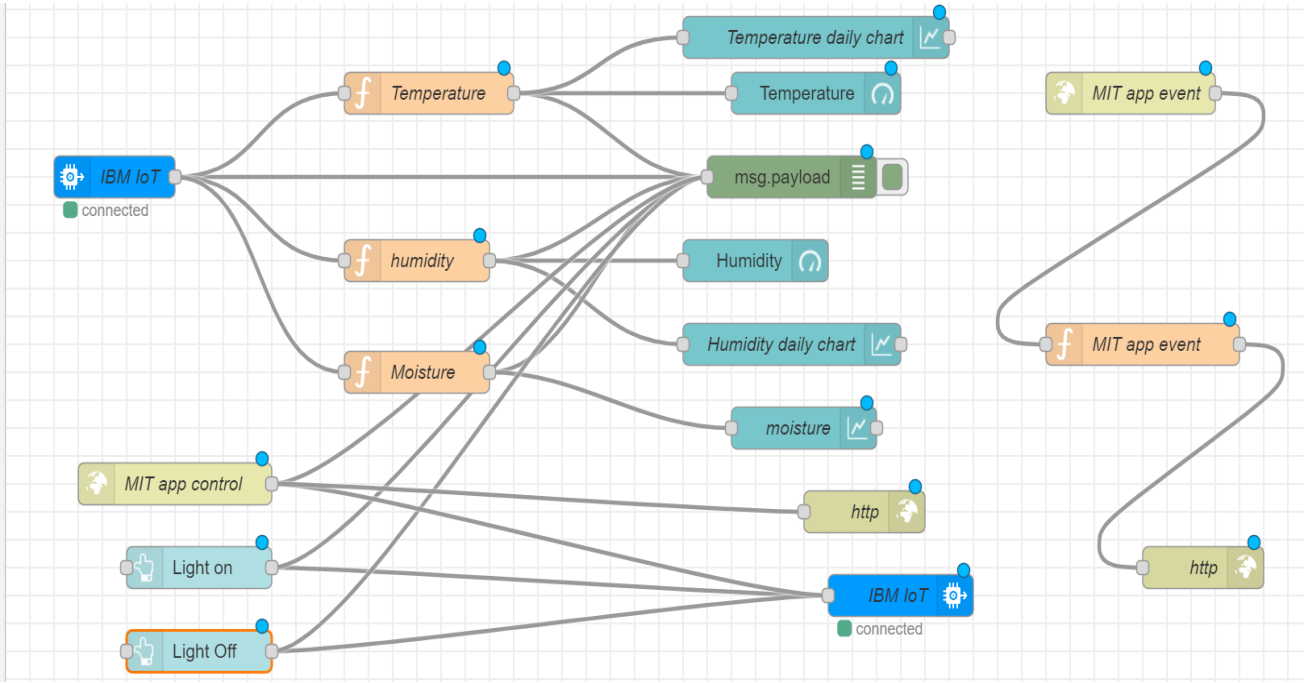
In order to display the parsed JSON data a Node-Red dashboard is created

Here we are using Gauges, text and button nodes to display in the UI and helps tomonitor the parameters and control the farm equipment.

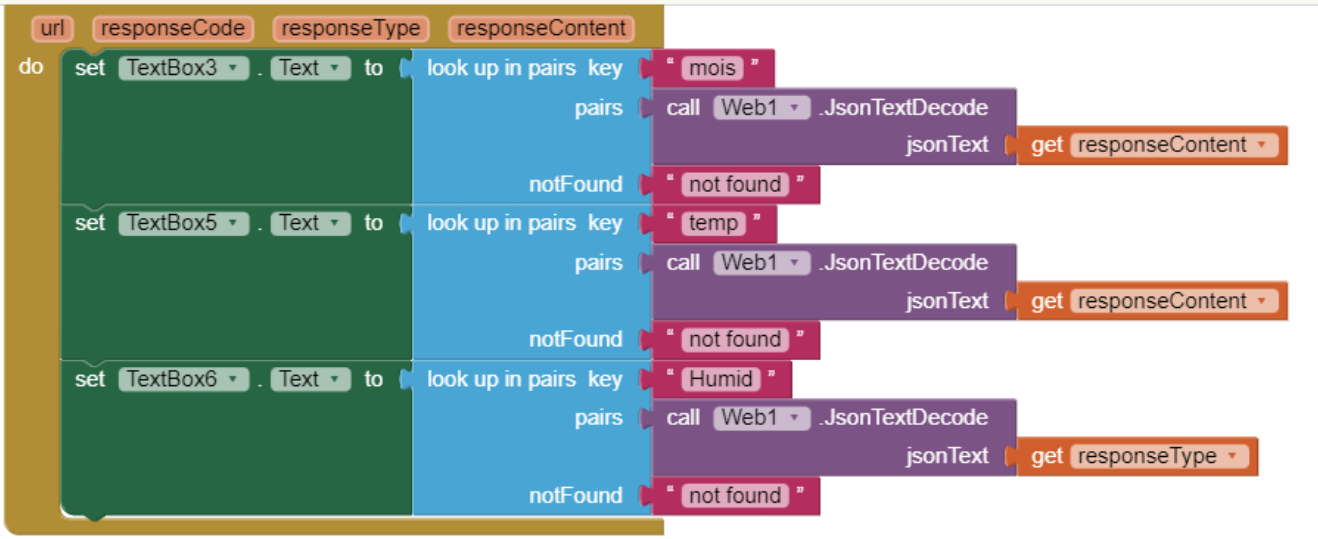
Below images are the Gauge, text and button node configurations.

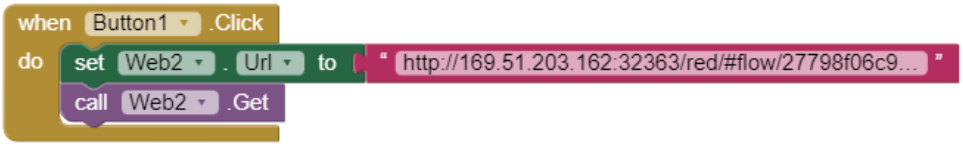


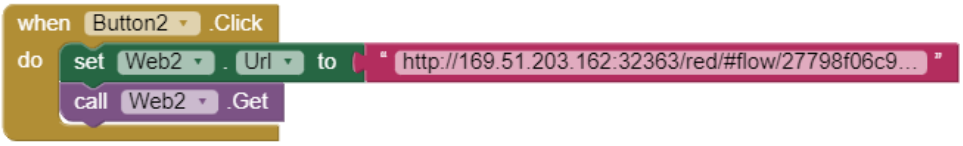
Complete Program Flow



MOBILE APP WEB:

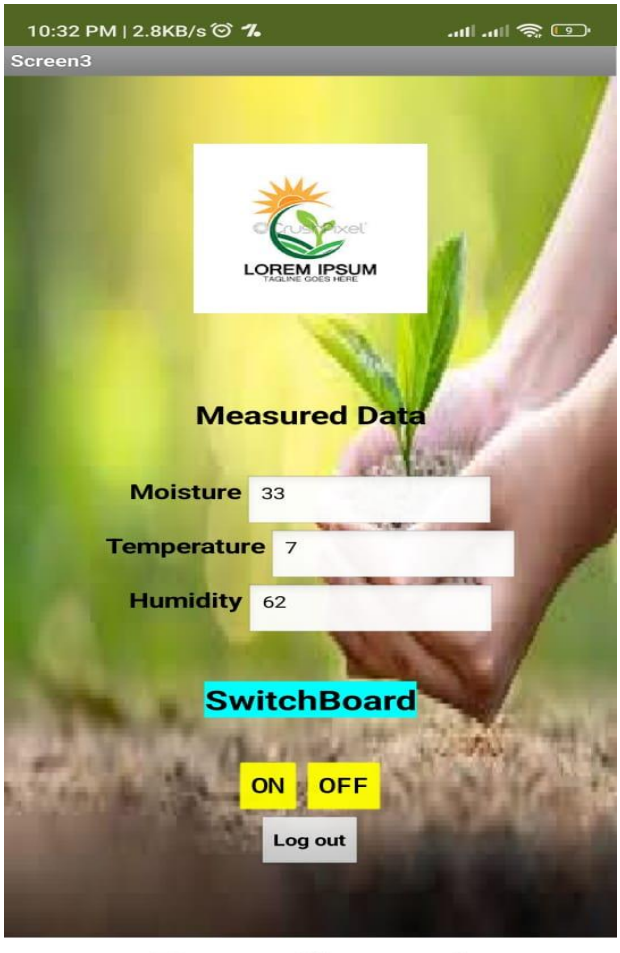







10:32 PM | 2.5KB/s
Screen1
WELCOME

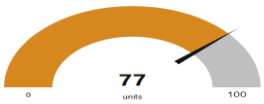

10:32 PM | 0.3KB/s
Screen2
LOREM IPSUM
TAGLINE GOES HERE
User Name
ibm
Pass word
LOGIN


10:32 PM | 2.8KB/s
Screen3
LOREM IPSUM
TAGLINE GOES HERE
Measured Data
Moisture
33
Temperature
7
Humidity
62
SwitchBoard
ON
OFF
Log out

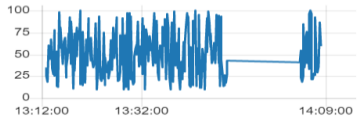
Home

Default

Humidity



Moister level

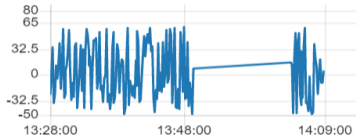


Home

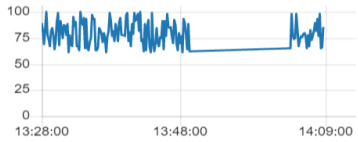
LIGHT ON

LIGHT OFF

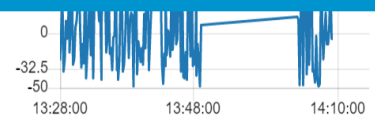
Temperature daily chart



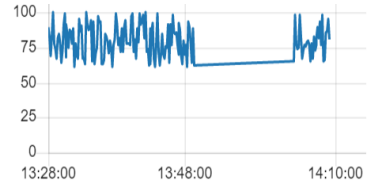
Humidity daily chart



Home



Humidity daily chart



Temperature