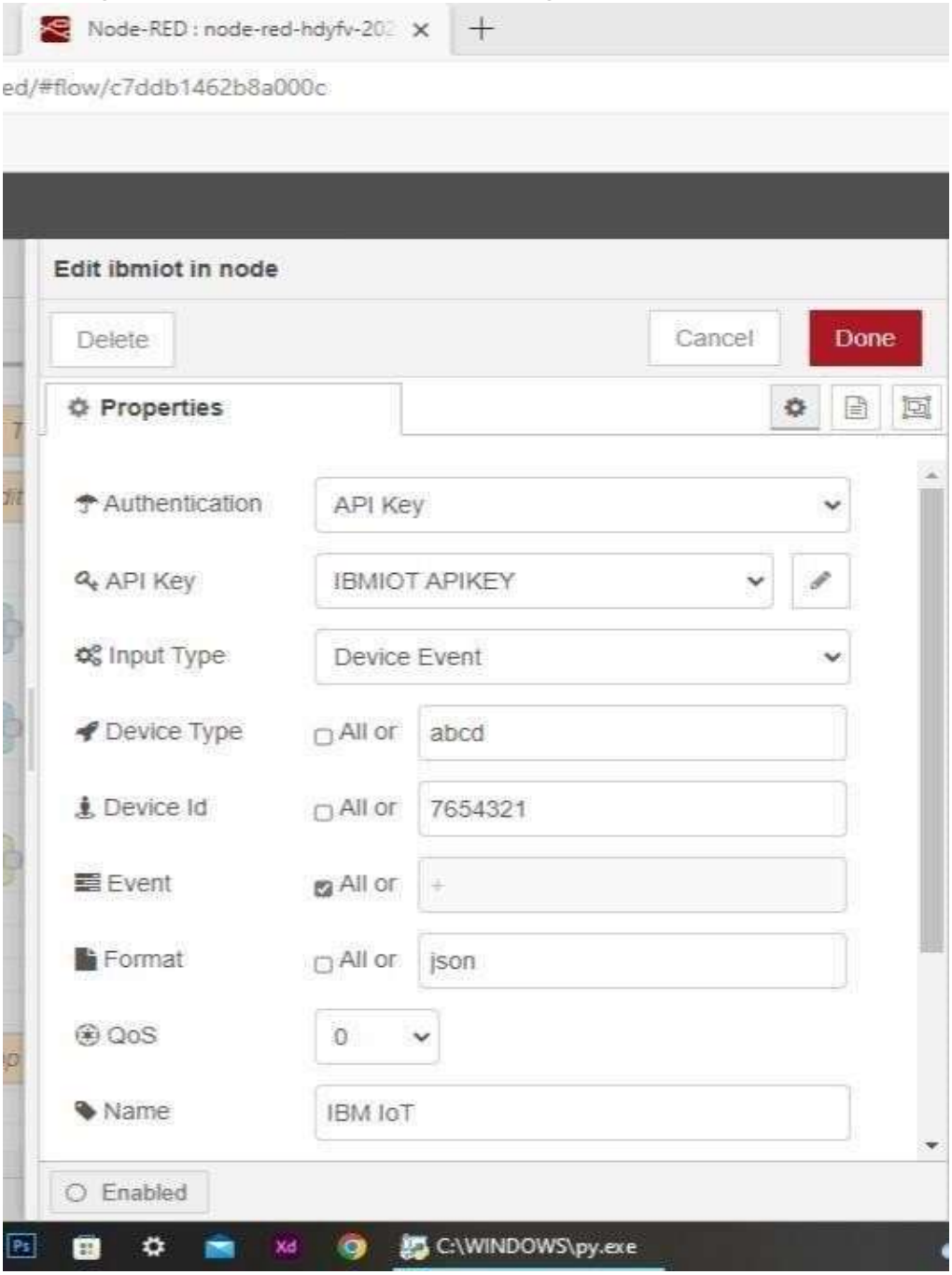
Smart Farmer-IOT Enabled Smart Farming Application

SPRINT DELIVERY – 3

TITLE	**Smart Farmer-IOT Enabled Smart Farming Application**
DOMAIN NAME	INTERNET OF THINGS
TEAM ID	PNT2022TMID22828
LEADER NAME	KOWSALYA D
TEAM MEMBER NAME	KAMALAKANNAN R KARTHICK S NITHEEN V P

Configuration of Node-Red to send commands to IBM cloud

Ibm iot 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 on

2 -> for motor off

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

The Java script code for the analyses is:

if(msg.payload===1)

msg.payload={"command": “ON"}; else

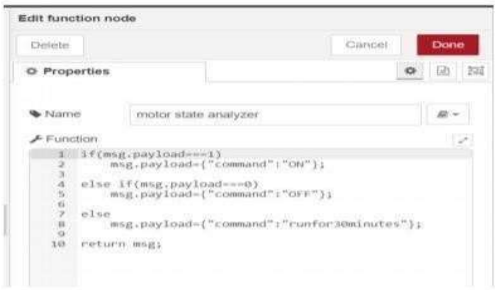
if(msg.payload===0)

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.

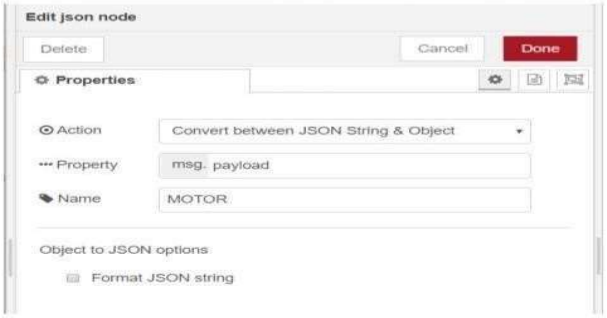
The Java script code for that function node is:

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

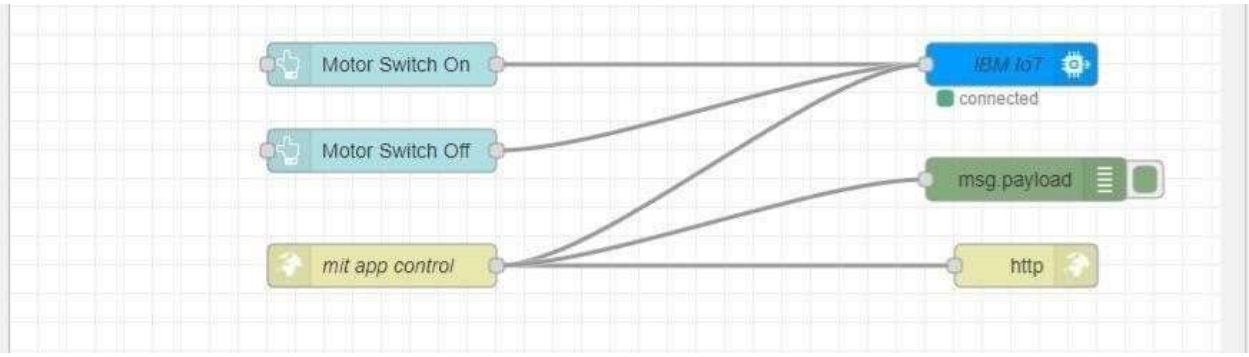


The above images show the java script codes of analyser and state function nodes.

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



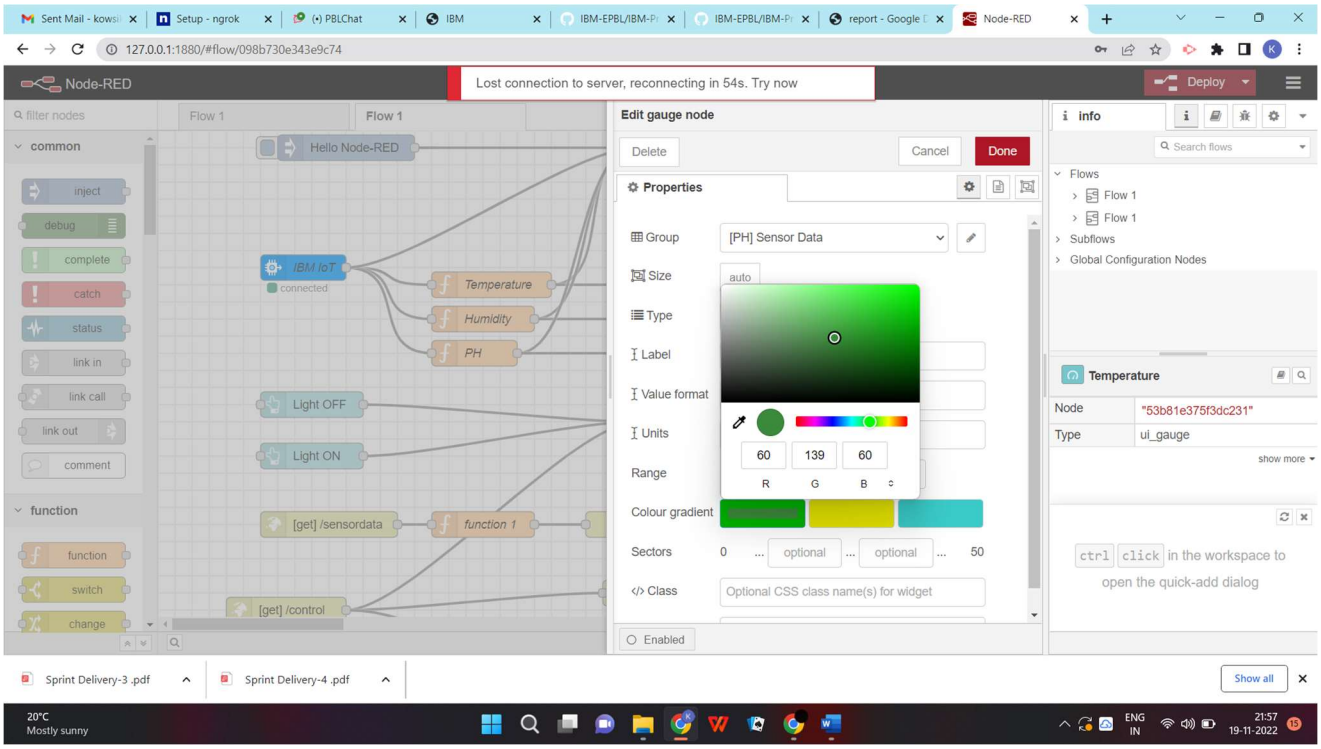
This is the program flow for sending commands to IBM cloud.

5.5 Adjusting User Interface

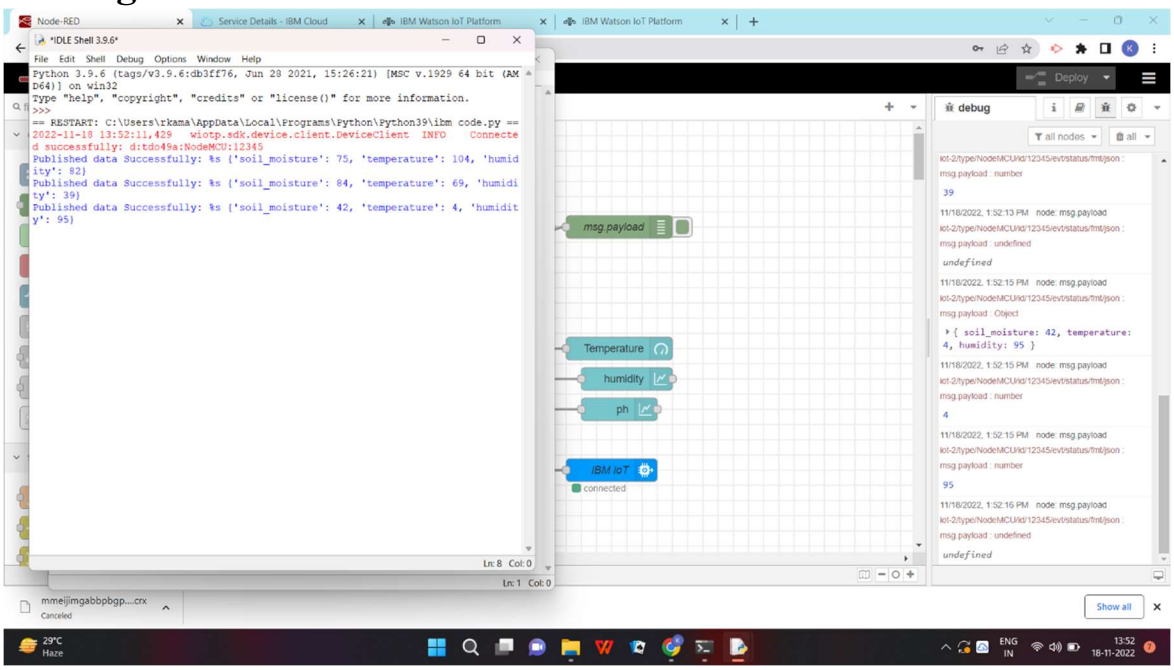
In order to display the parsed JSON data a Node-Red dashboard is created

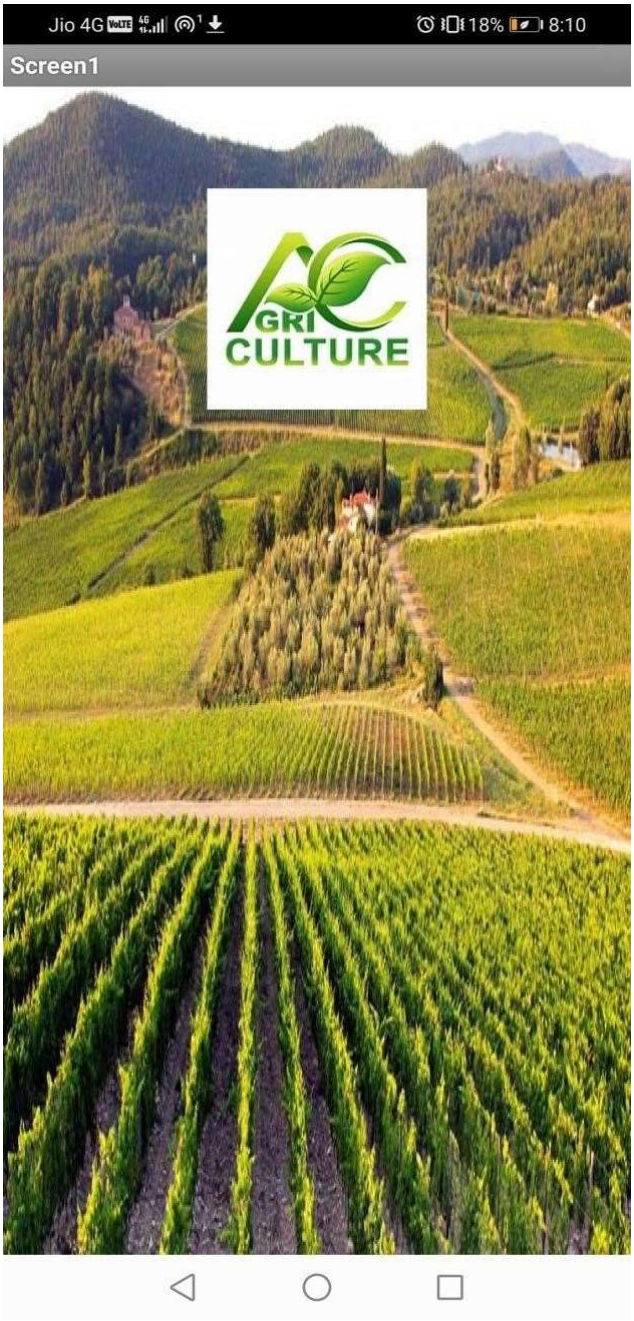
Here we are using Gauges, text and button nodes to display in the UI and helps to monitor the parameters and control the farm equipment.

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



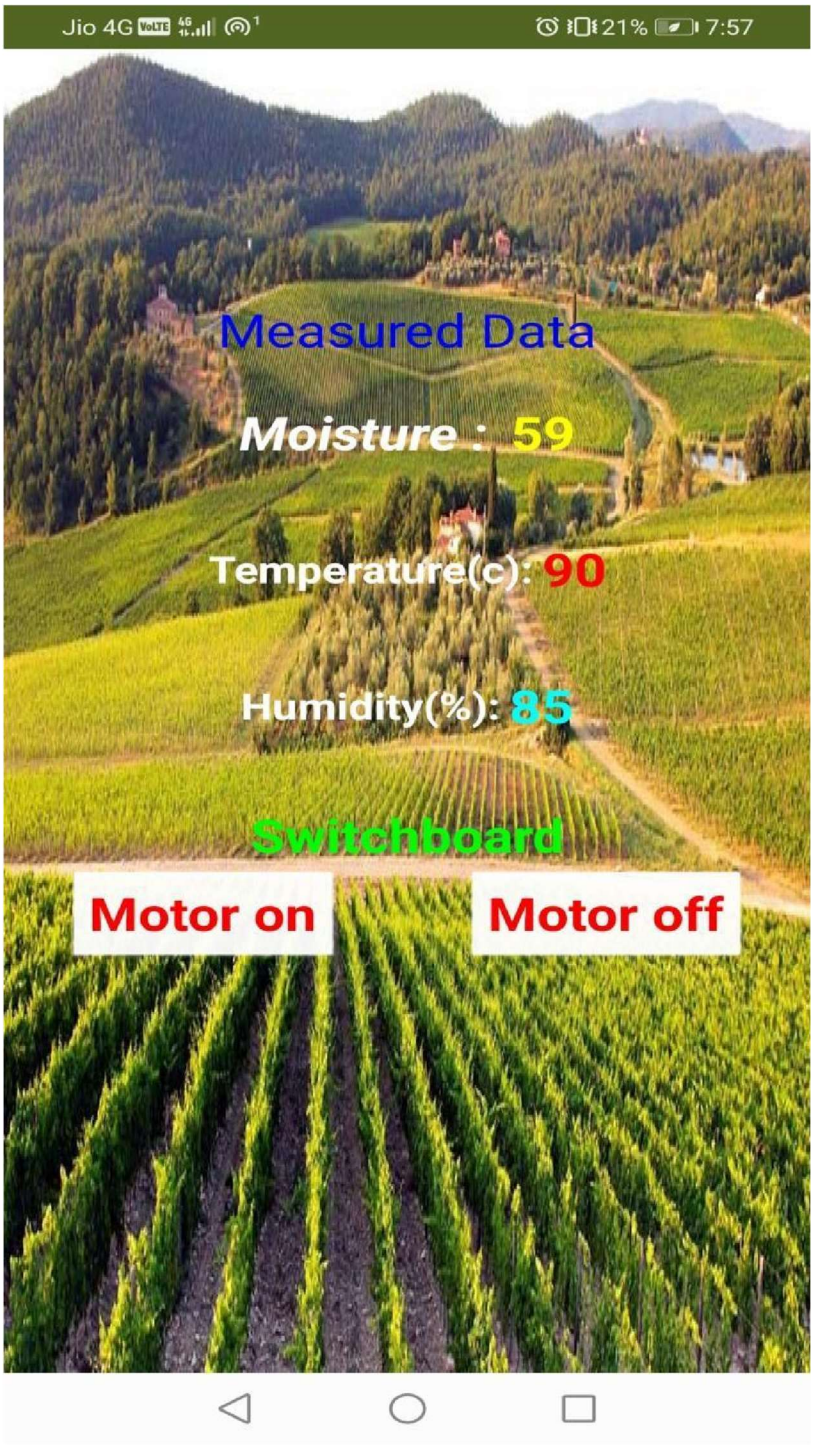
Complete Program Flow



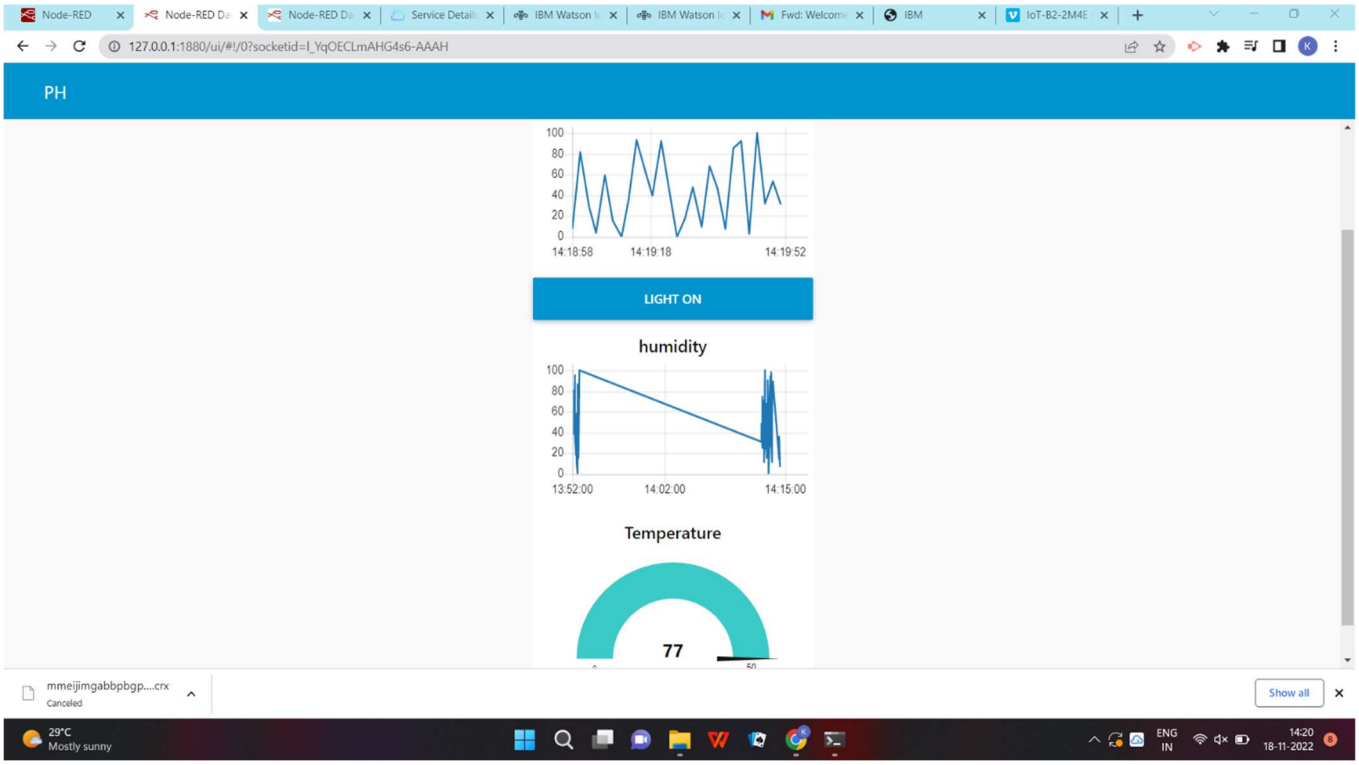


SCREEN – 1

SCREEN - 2



SCREEN - 3 Web APP UI Home Tab


Node-RED
Node-RED Da
Node-RED Da
Service Detail
IBM Watson Ic
IBM Watson Ic
Fwd: Welcom
IBM
IoT-B2-2M4E
127.0.0.1:1880/ui/#!/0?socketid=I_YqOECLmAHG4s6-AAAH
PH
100
80
60
40
20
0
14:18:58
14:19:18
14:19:52
LIGHT ON
humidity
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80
60
40
20
0
13:52:00
14:02:00
14:15:00
Temperature
77
50
mmeijimgabbpbgp....crx
Canceled
Show all
29°C
Mostly sunny
ENG
IN
14:20
18-11-2022