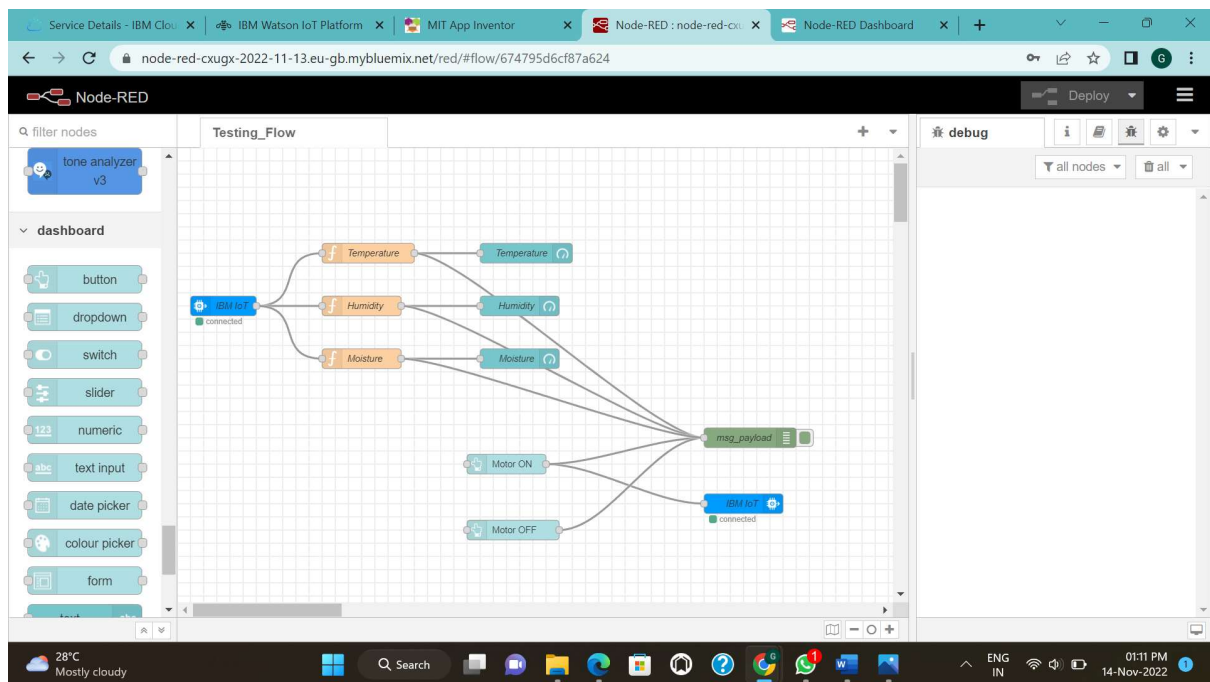


## Project Development Phase

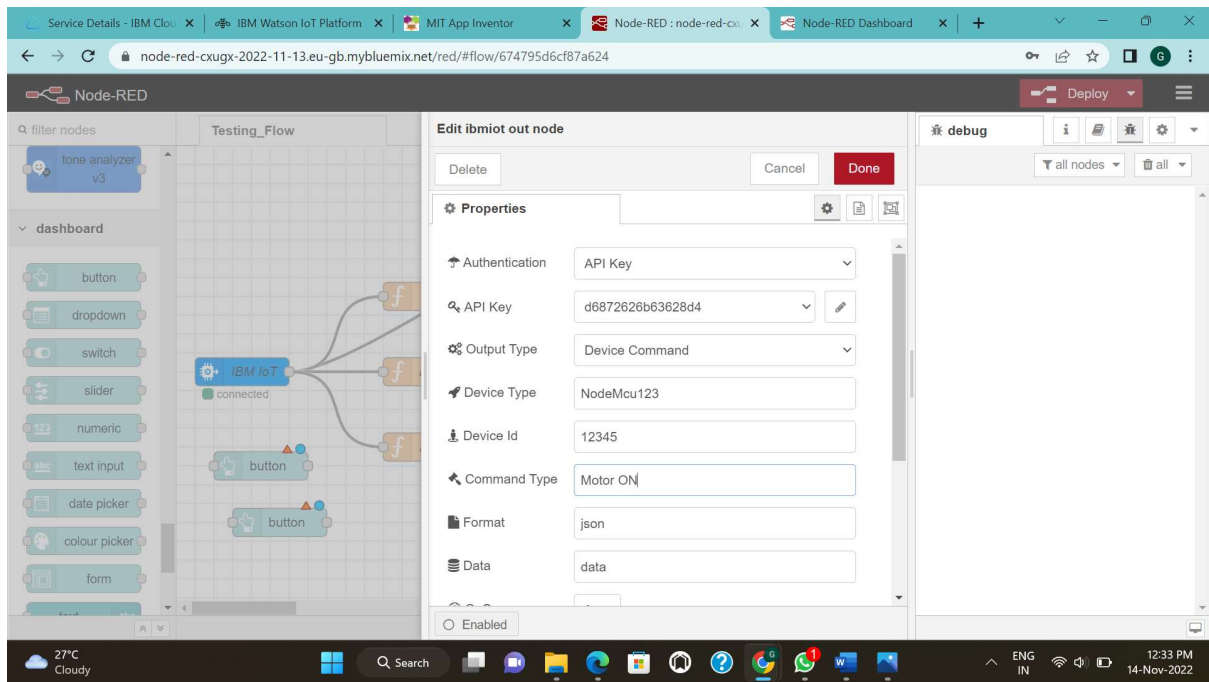
### Delivery Of Sprint-3

<b>TITLE</b>	<b>Smart Farmer-IOT Enabled Smart Farming Application</b>
<b>DOMAIN NAME</b>	INTERNET OF THINGS
<b>TEAM ID</b>	PNT2022TMID23830
<b>Project Name</b>	Smart Farmer - IoT Enabled Smart Farming Application
<b>Leader Name</b>	GOWSALYA L
<b>Team Members Name</b>	DEEPIKA B K MEGAVARSHINI G MONISHA N
<b>MENTOR NAME</b>	THIRUPPATHI M

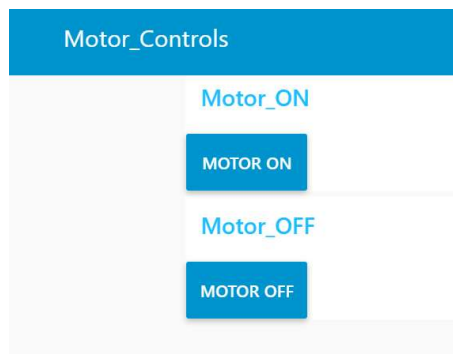
### Configuration of Node-Red to send commands to IBM cloud:



- ibmiot out node 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:

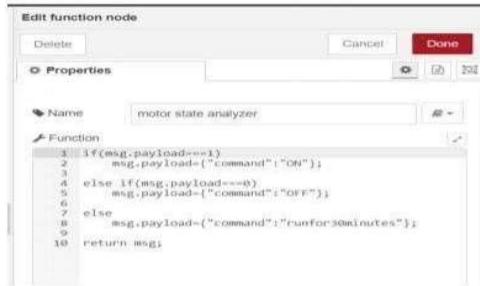
```
if(msg.payload===1) msg.payload={"command": "ON"};
```

```
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.

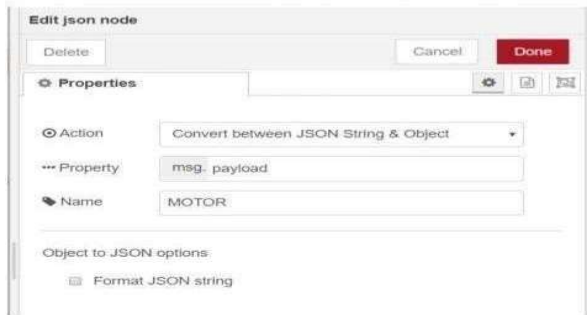
The JavaScript code for that function node is:

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

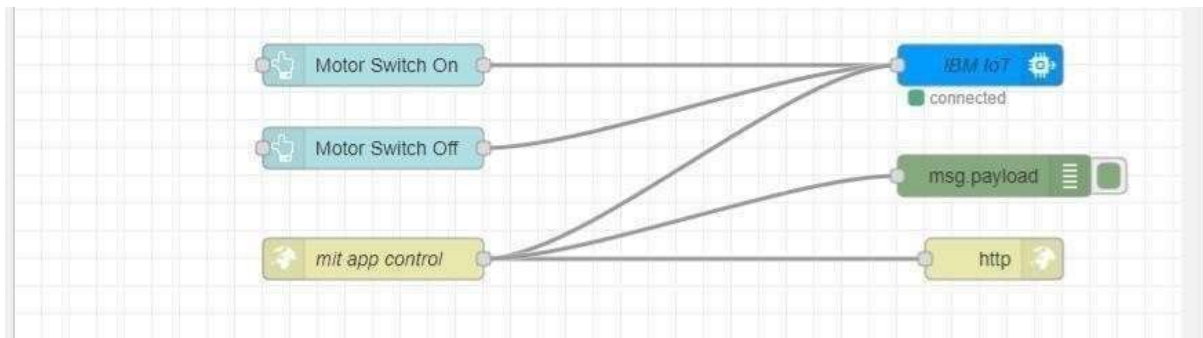


The above images show the JavaScript codes of the analyzer and state function nodes.

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



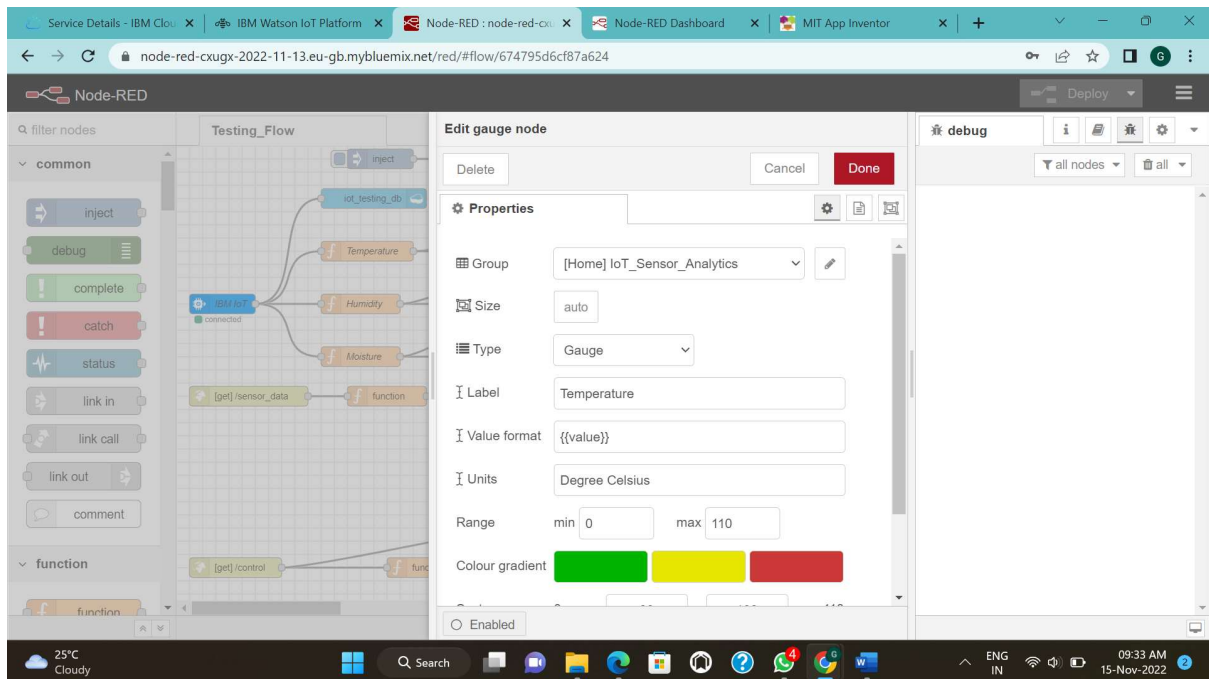
Edit JSON node needs to be configured like this



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

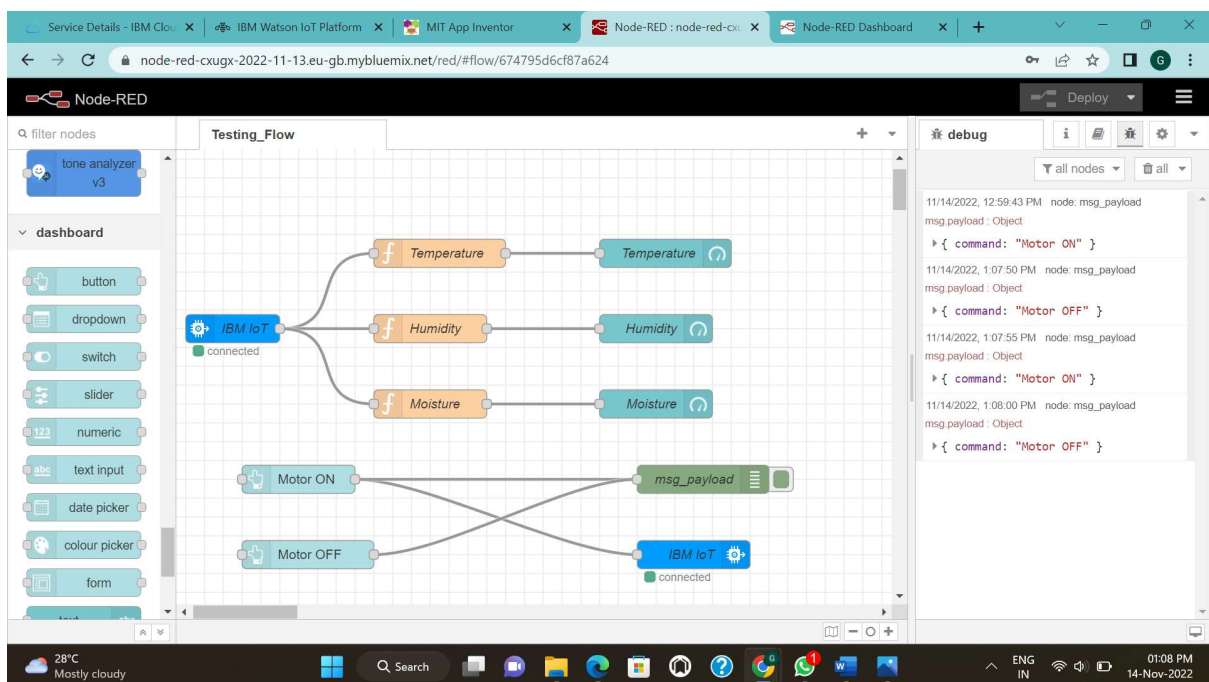
## Adjusting User Interface

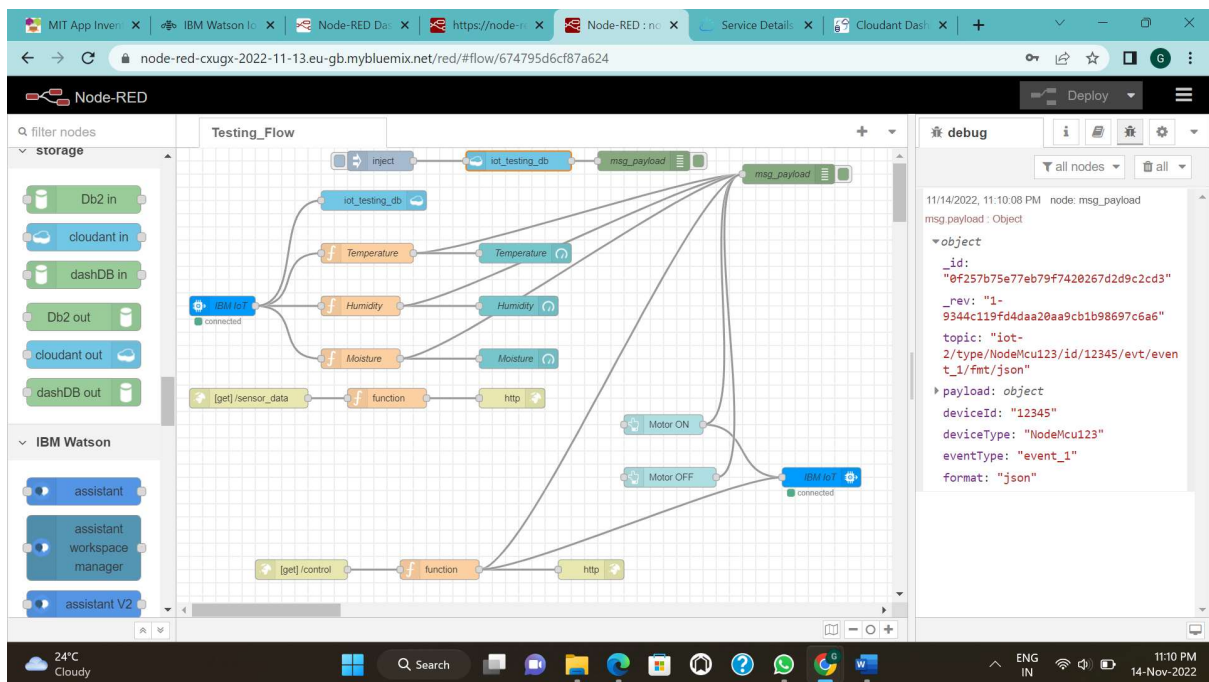
- In order to display the JSON data, a Node-Red dashboard is created.



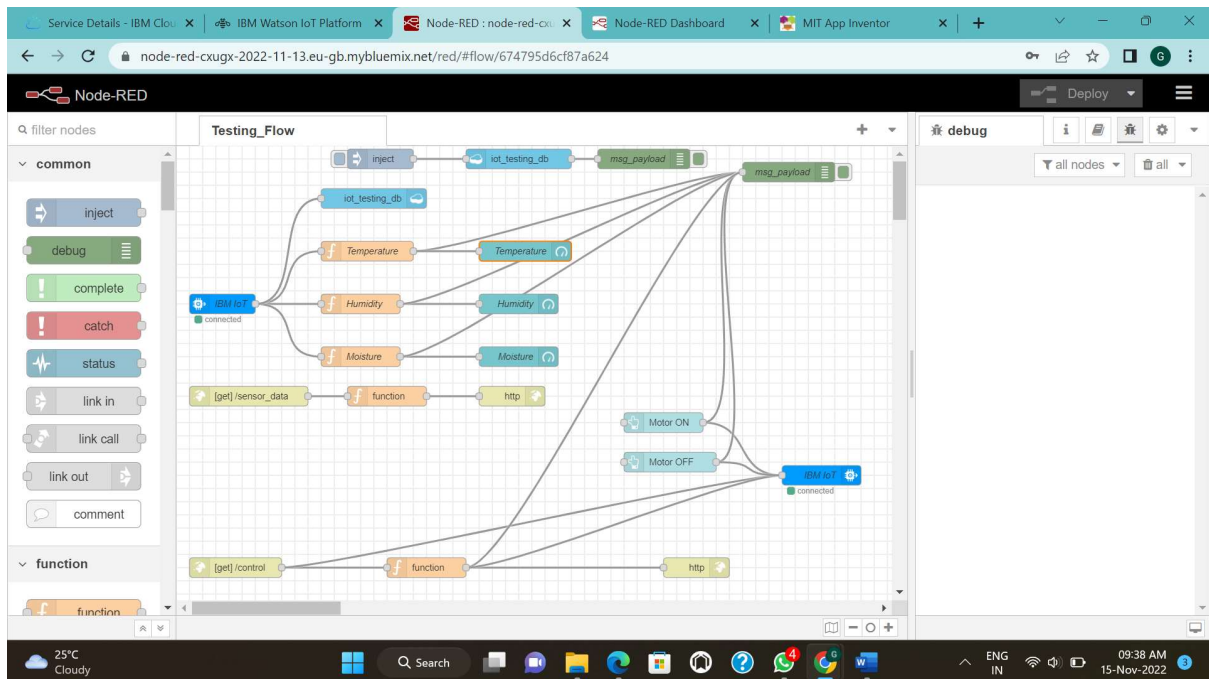
- Here we are using Gauges, text and button nodes to display in the UI and helps to monitor the parameters and control the farm equipment.

In the following images, We started to create the Testing\_Flow.



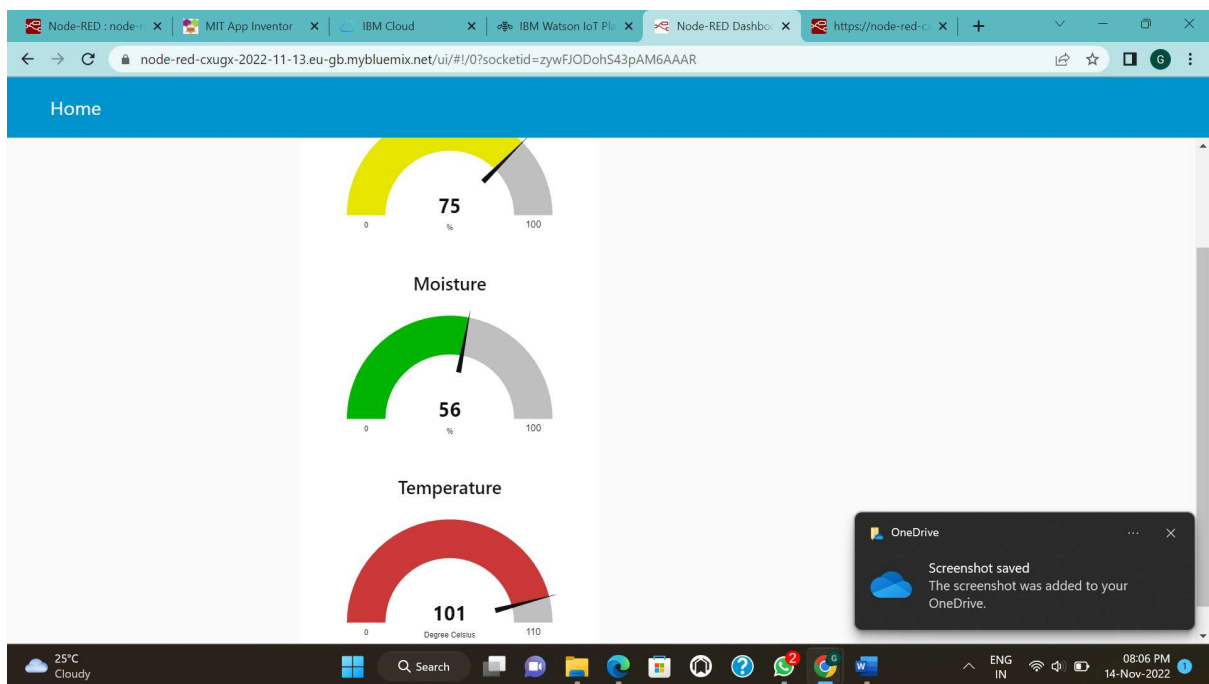
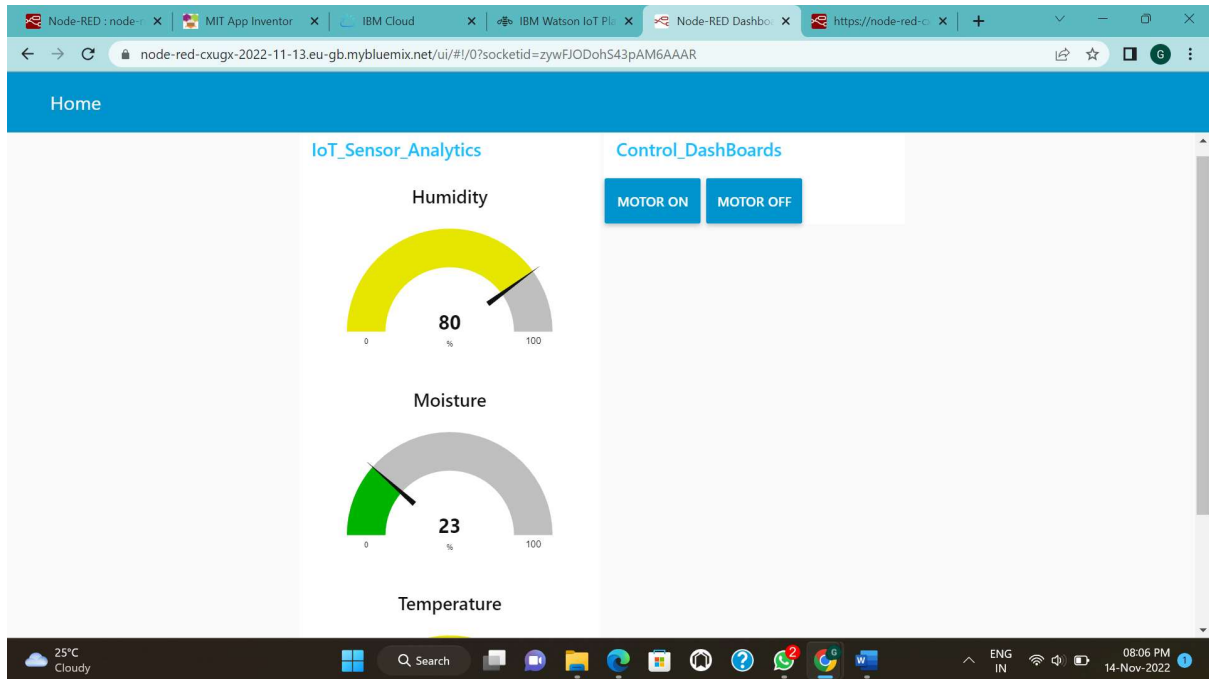


## COMPLETE PROGRAM FLOW:



## DASHBOARD:

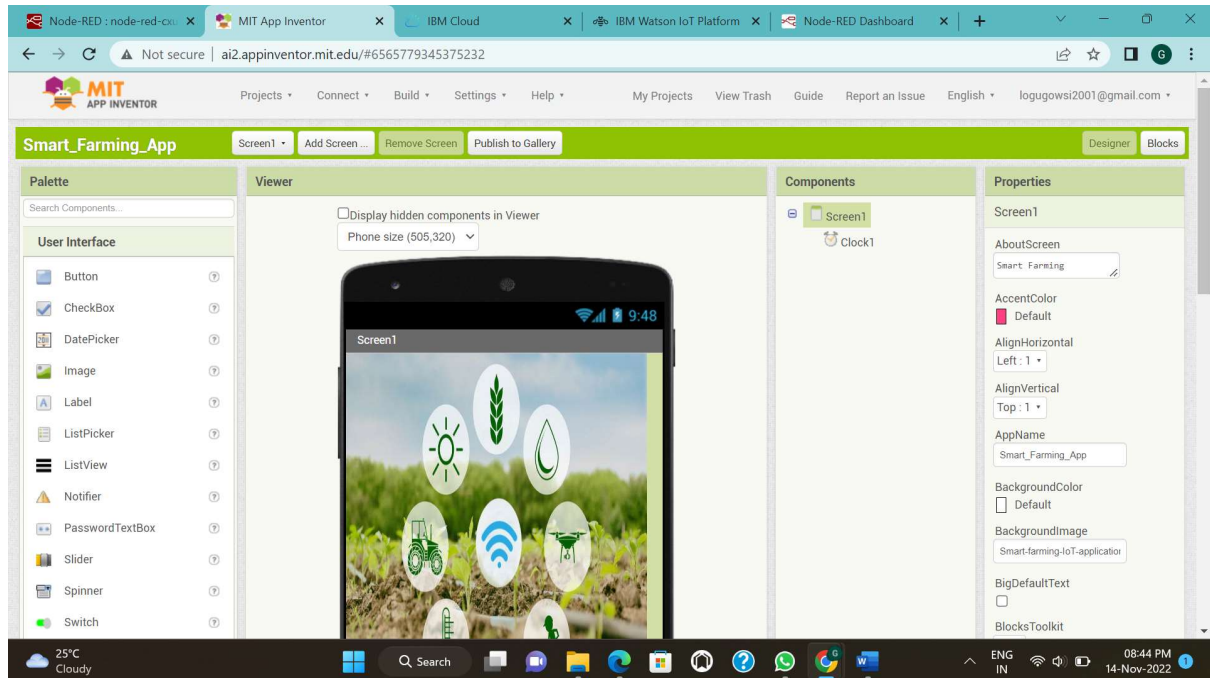
- The following images shows the Web UI Created
- It displays informations like Humidity, Moisture and Temperature.
- It includes Control buttons like Motor ON and Motor OFF.



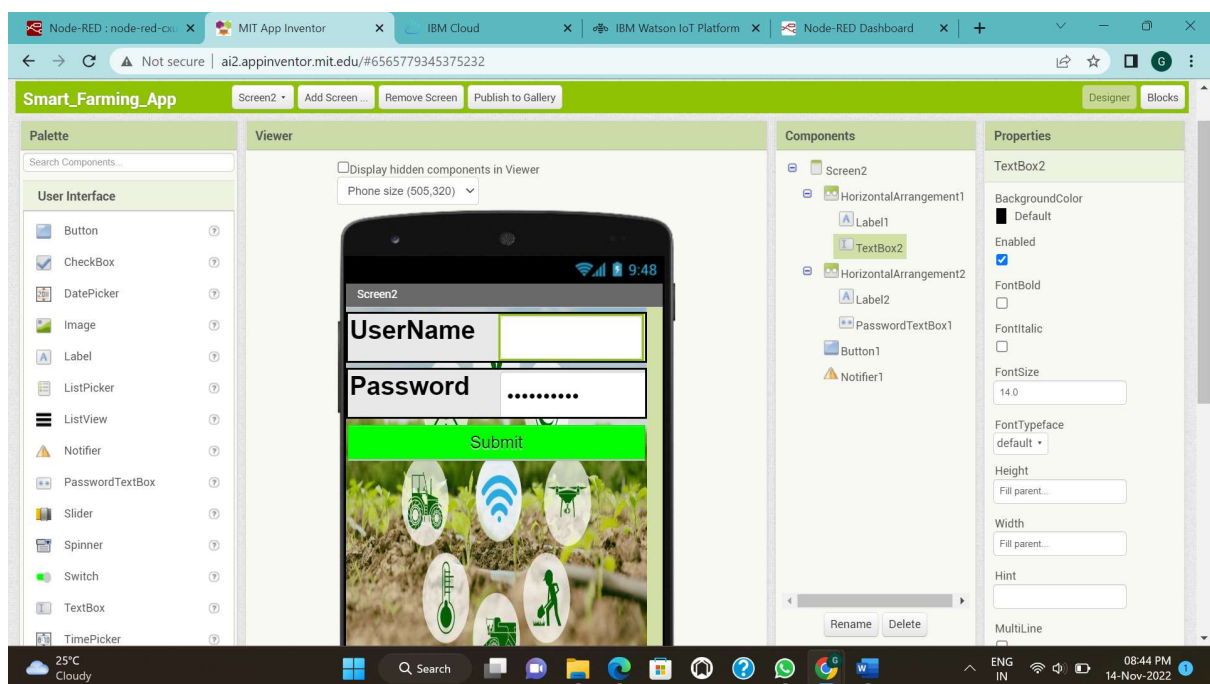


The following images shows the steps done in MIT App Inventor to create the App:

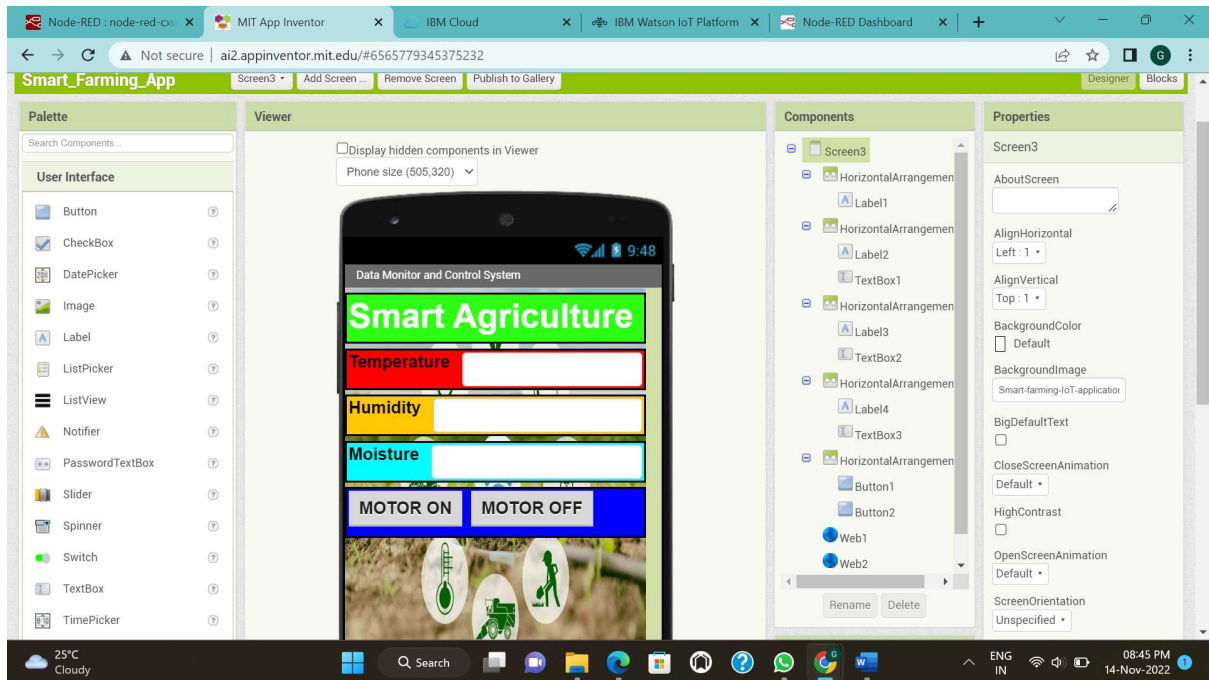
## SCREEN 1:



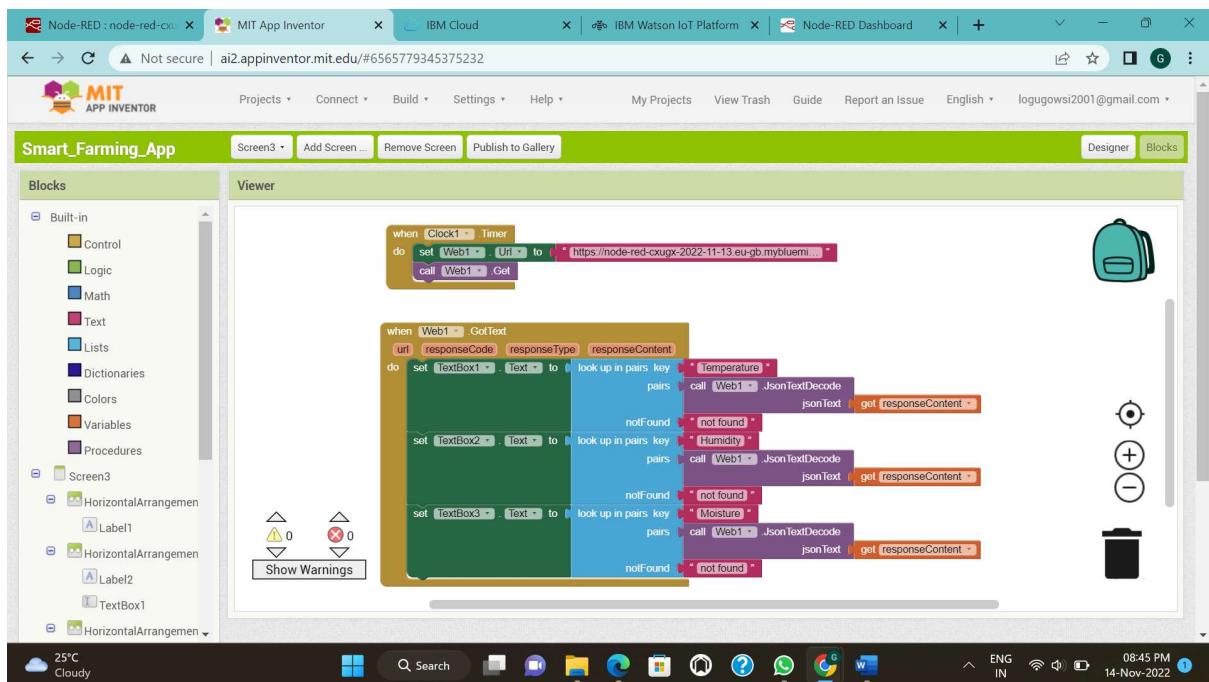
## SCREEN 2:



## SCREEN 3:

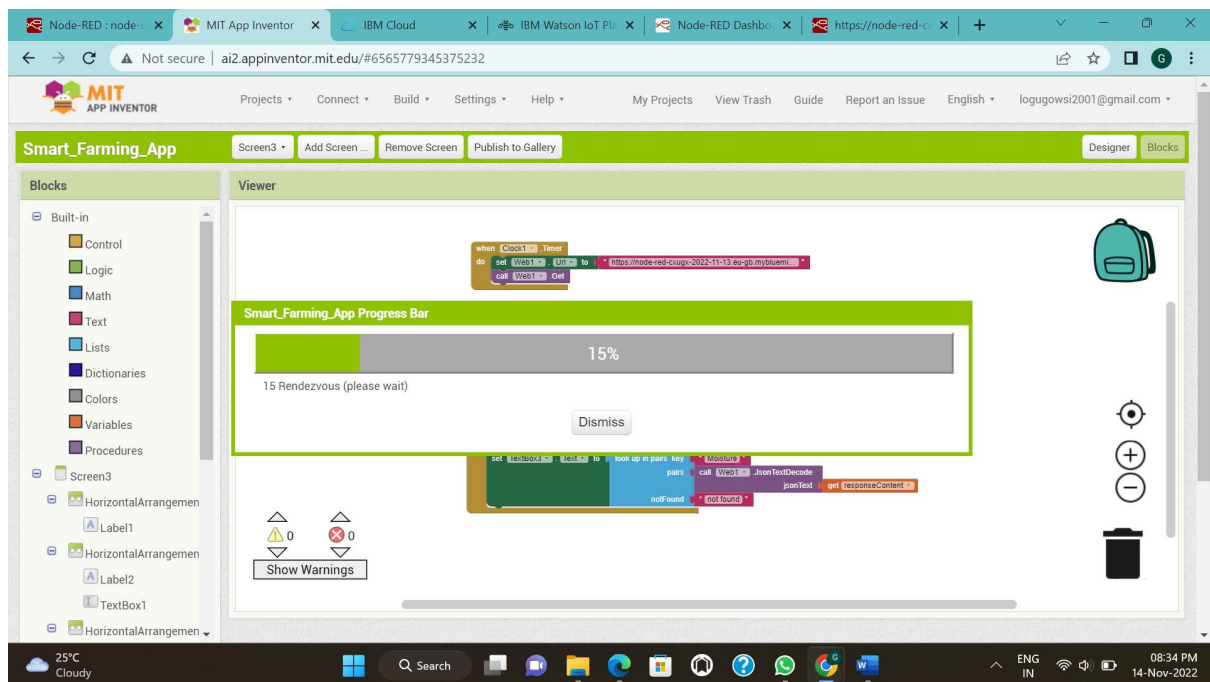


## BLOCKS:

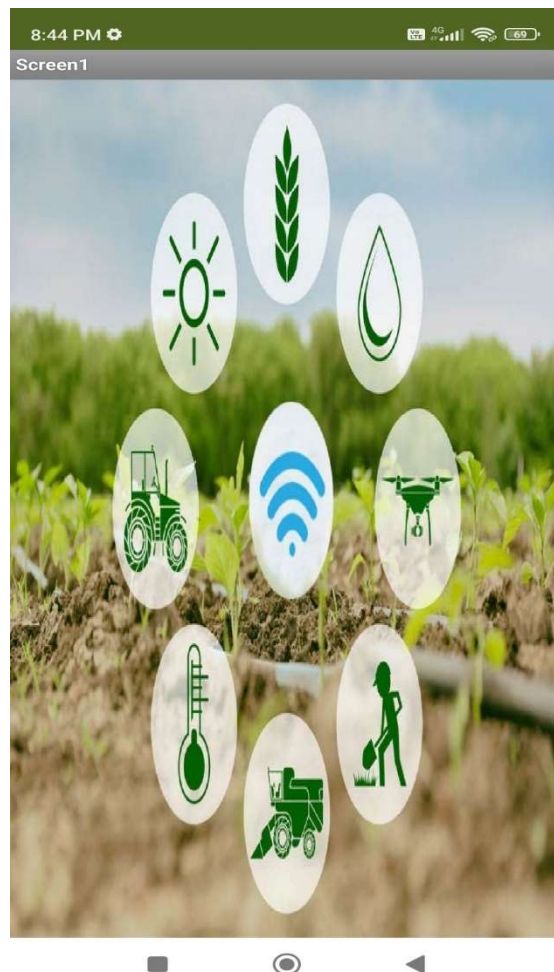




## Connecting the MIT AI2 Companion to test the App in Mobile:



➤ The following images shows the Developed App in User's Mobile



8:45 PM

VoLTE 4G



Screen2

**UserName**

**Password**

Submit



8:44 PM

4G LTE 69

Screen2

UserName

GOWSALYA L

Password

• • • • • • • •

Submit



1 2 3 4 5 6 7 8 9 0

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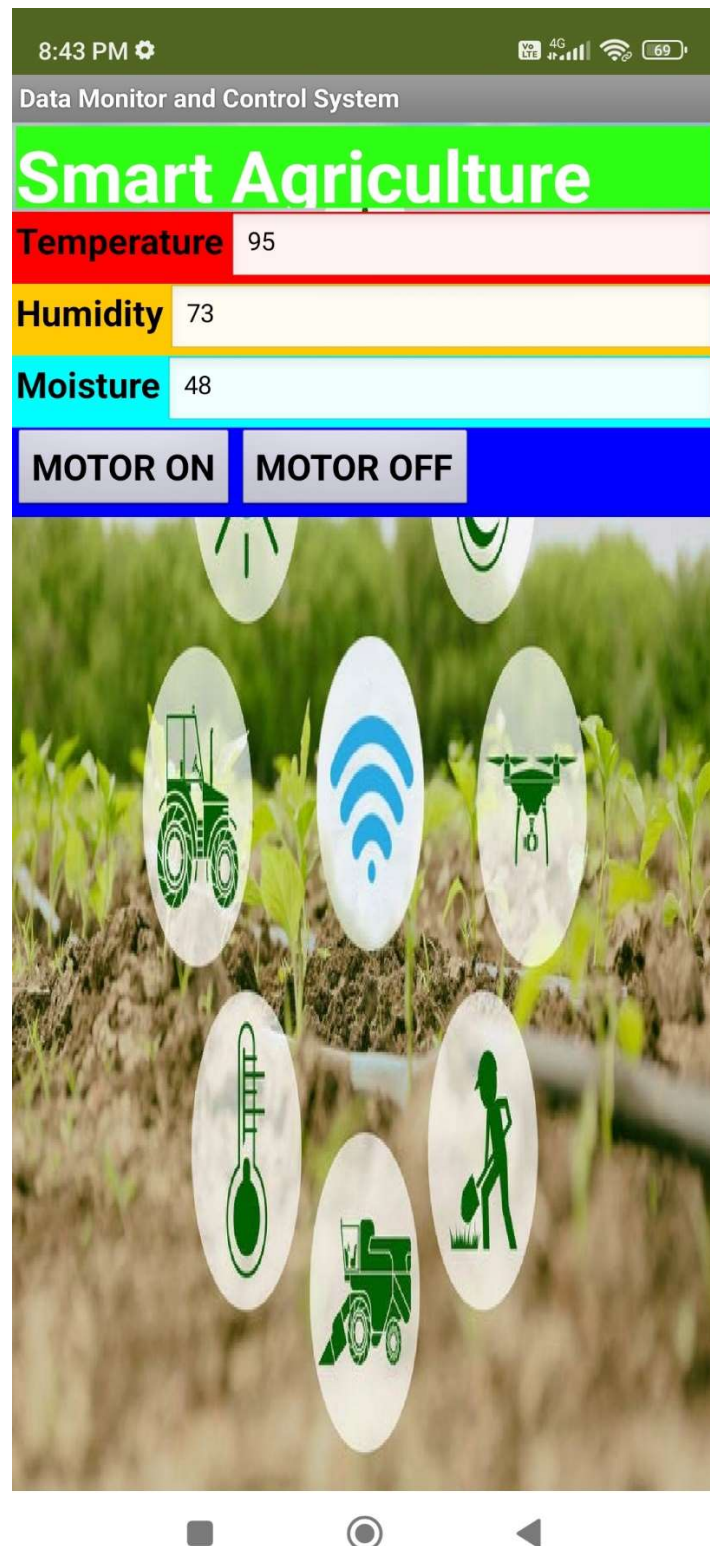
ABC

, 12 34

English

.





Thus, the App is developed, tested and deployed successfully in Our Mobile