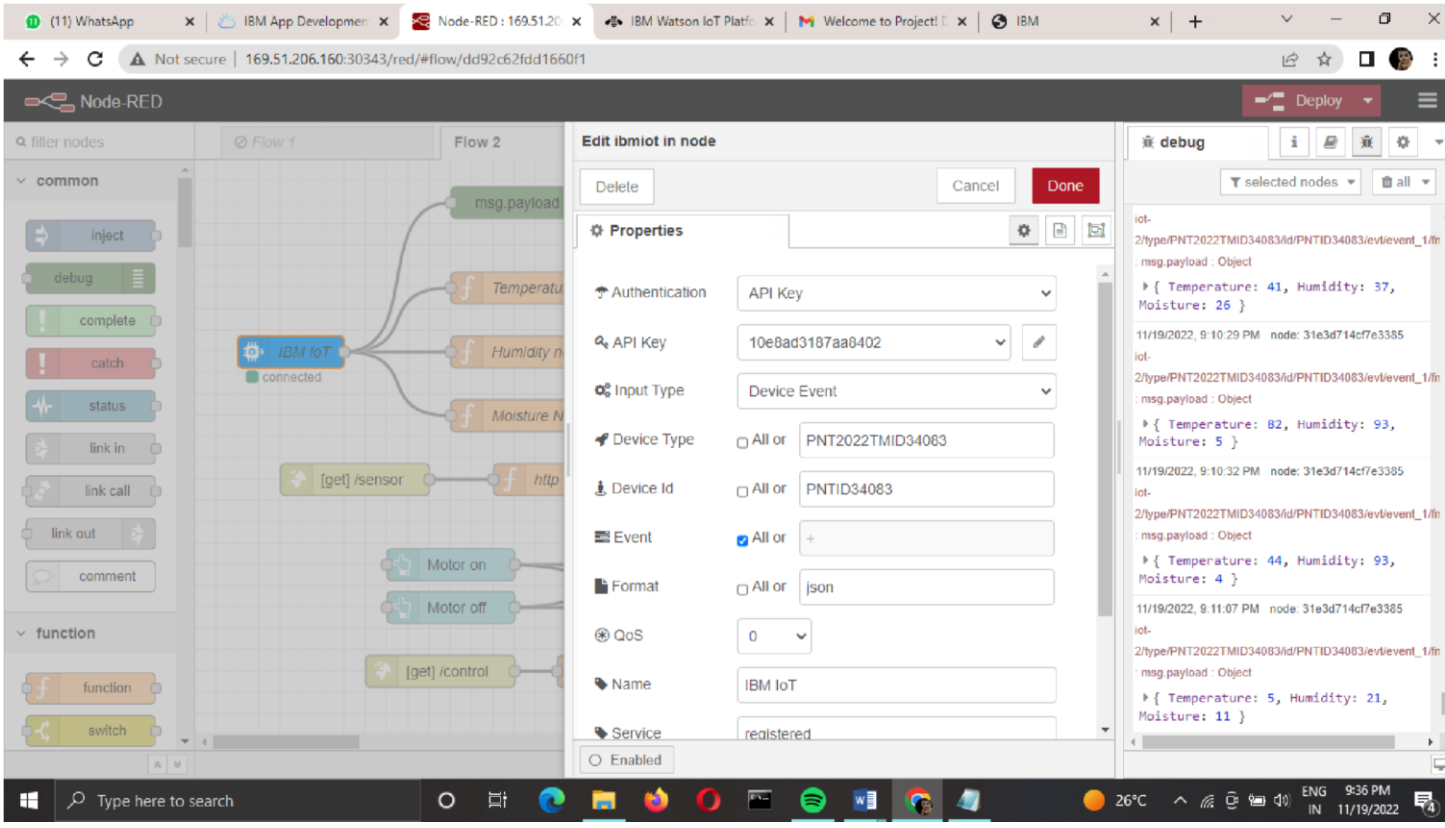
SMART FARMER-IOT ENABLED SMART FARMING APPLICATION

SPRINT DELIVERY – 3

Date	19-11-2022
Team ID	PNT2022TMID34083
Project name	Smart farmer-IOT Enabled Smart Farming Application

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

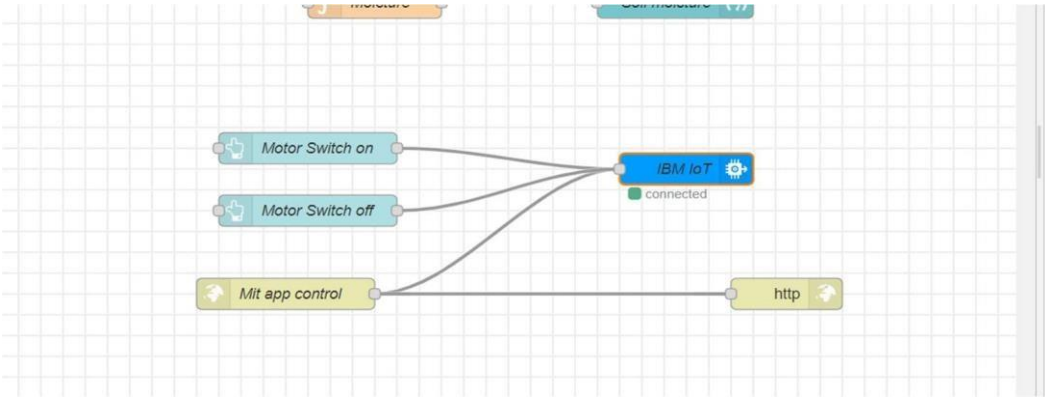
1 -> for motor on

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"};
```



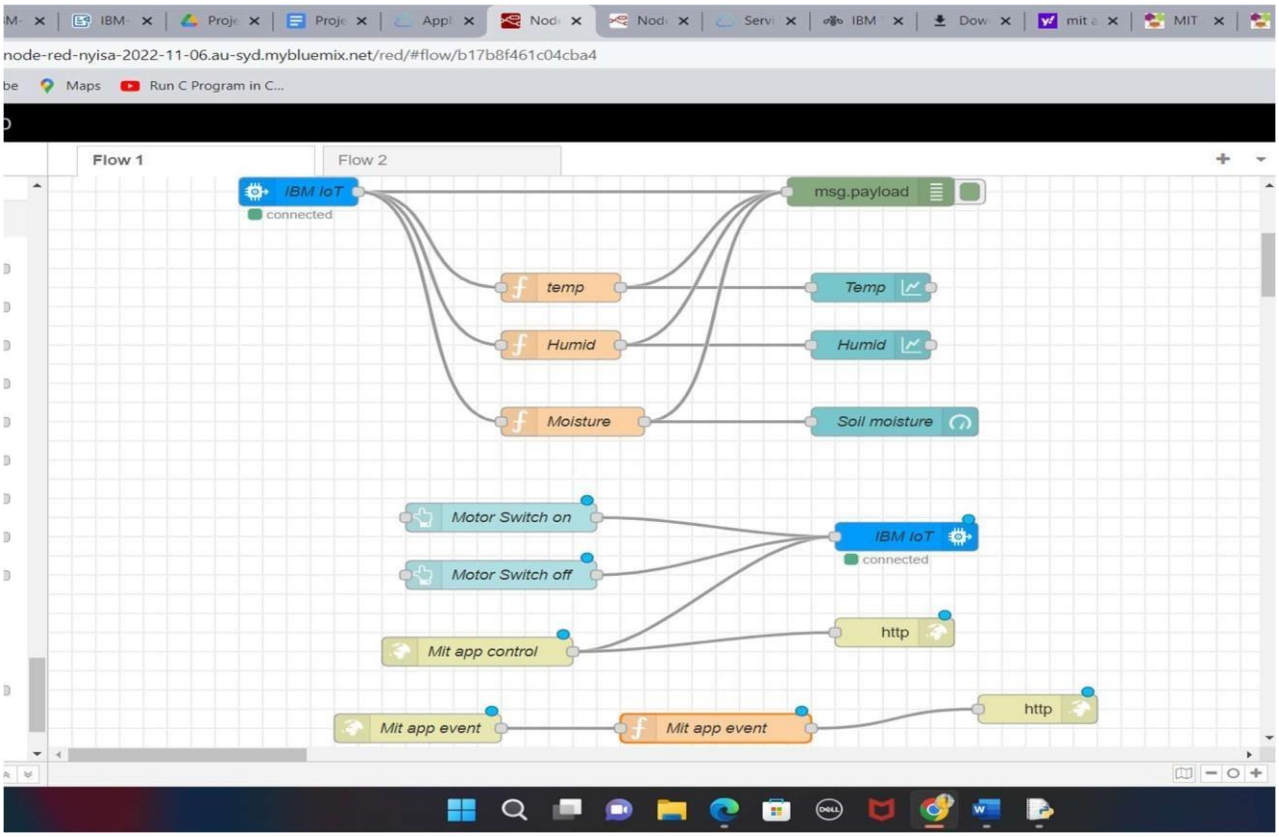
This is the program flow for sending commands to IBM cloud.

Adjusting User Interface :

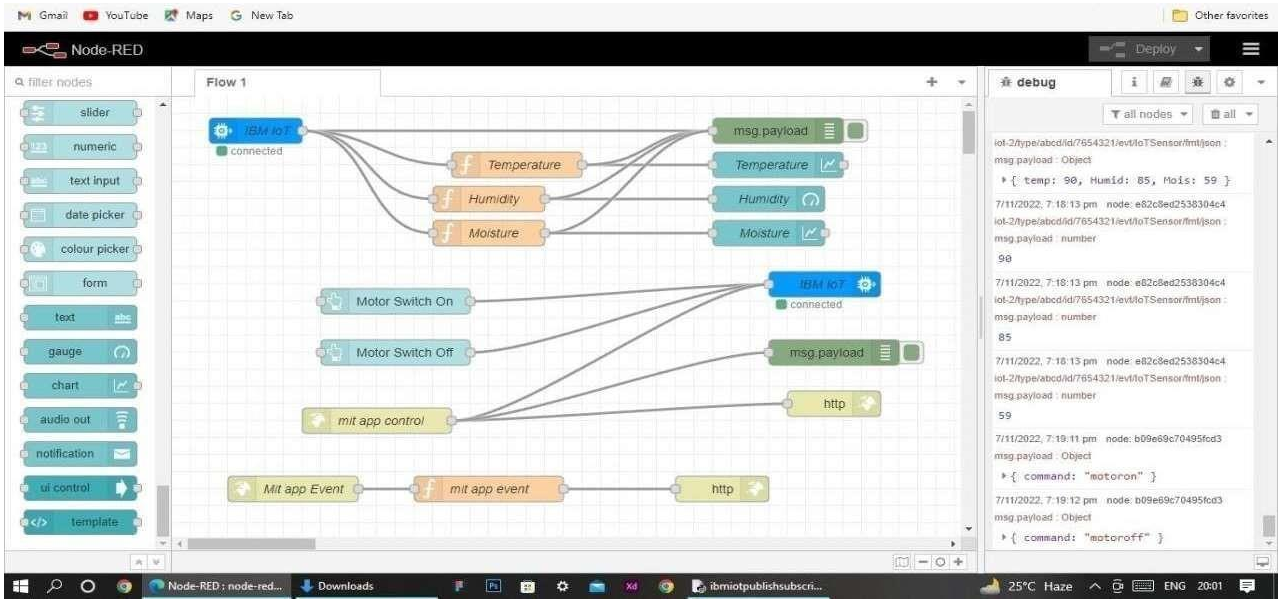
In order to display the parsed JSON data a Node-Red dashboard is created

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

Below images we started to create the flow 1

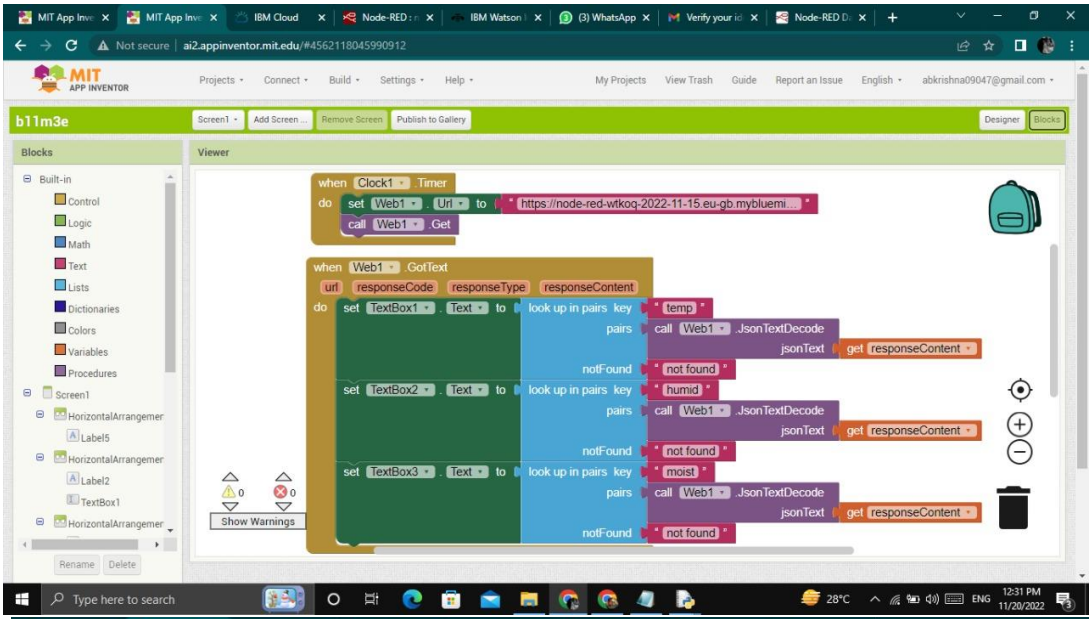


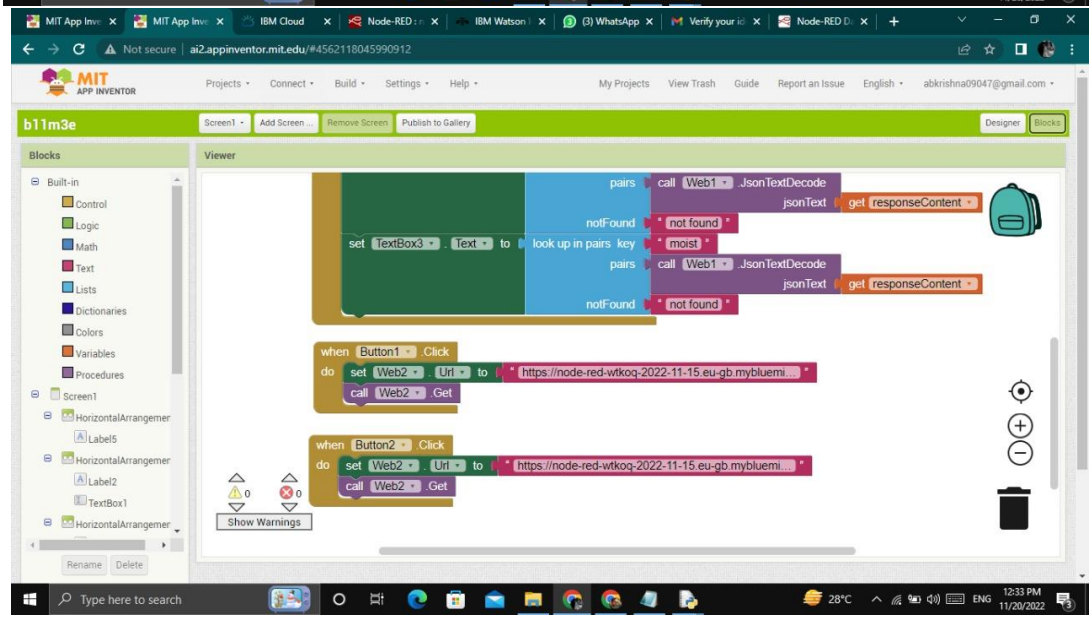
COMPLETE PROGRAM FLOW :

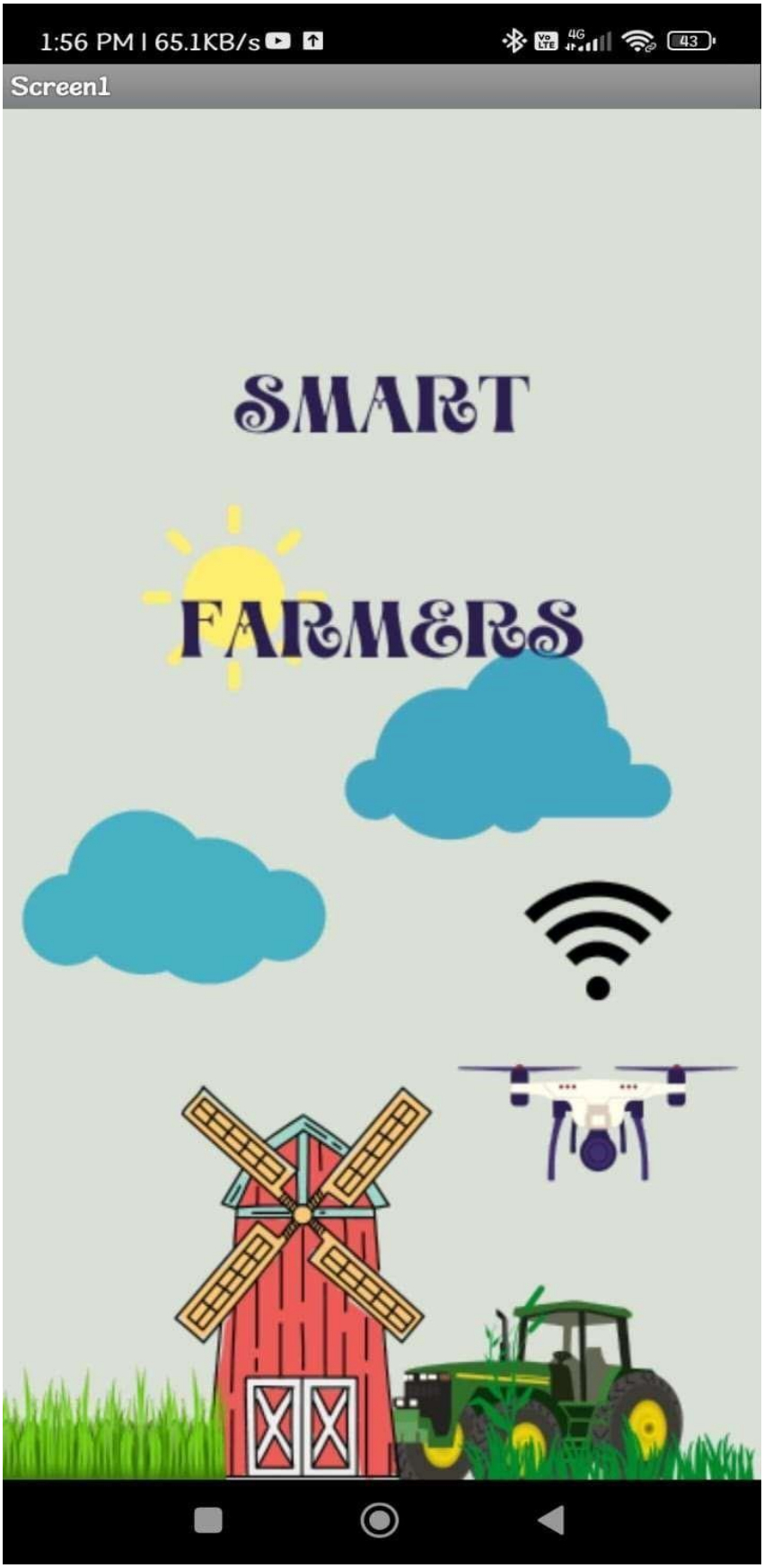


MOBILE APP WEB :

BLOCK DIAGRAM:

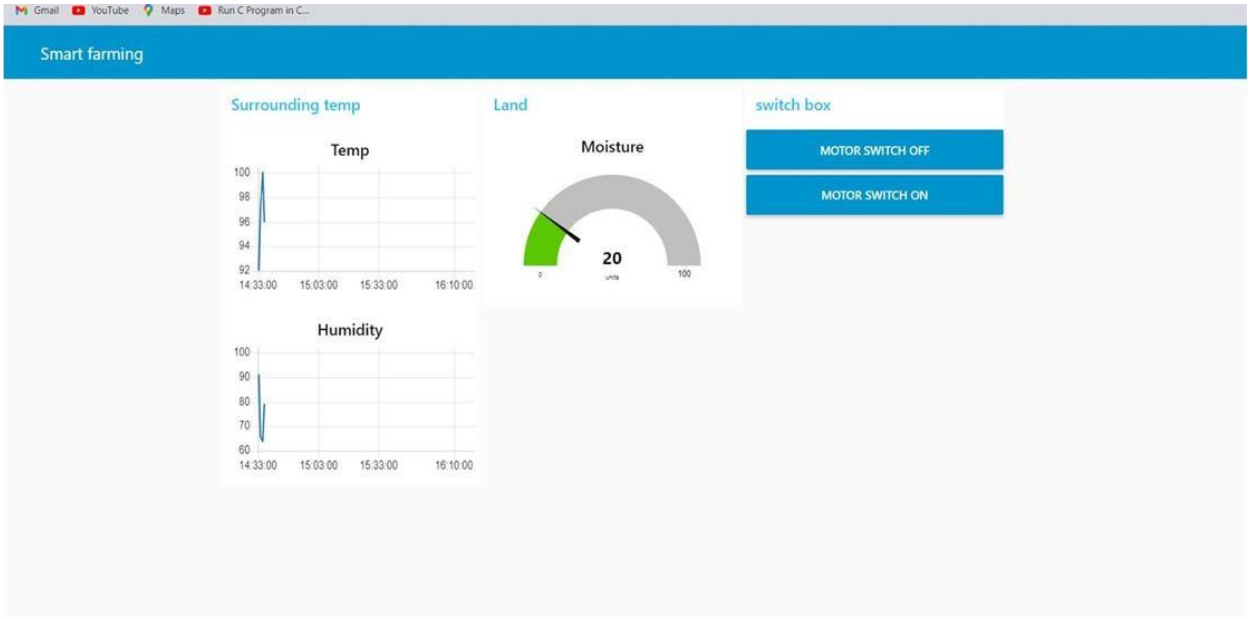

MIT App Inventor
Not secure ai2.appinventor.mit.edu/#4562118045990912
b11m3e
Screen1
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Viewer
when Clock1 .Timer
do set Web1 . Url to https://node-red-wtkoq-2022-11-15.eu-gb.mybluemi...
call Web1 .Get
when Web1 .GotText
url responseCode responseType responseContent
set TextBox1 . Text to look up in pairs key temp
pairs call Web1 .JsonTextDecode
jsonText get responseContent
notFound not found
set TextBox2 . Text to look up in pairs key humid
set TextBox3 . Text to look up in pairs key moist
Show Warnings
Rename
Delete
Type here to search
28°C
ENG
12:31 PM
11/20/2022


MIT App Inventor
Not secure ai2.appinventor.mit.edu/#4562118045990912
b11m3e
Screen1
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Viewer
pairs call Web1 .JsonTextDecode
jsonText get responseContent
notFound not found
set TextBox3 . Text to look up in pairs key moist
when Button1 .Click
do set Web2 . Url to https://node-red-wtkoq-2022-11-15.eu-gb.mybluemi...
call Web2 .Get
when Button2 .Click
Show Warnings
Rename
Delete
Type here to search
28°C
ENG
12:33 PM
11/20/2022


1:56 PM | 65.1KB/s
Screen1
SMART
FARMERS


1:56 PM | 12.3KB/s
Screen2
SMART
FARMERS
User Name
Password
Submit


Screen3
Smart Agriculture
Temperature
60
Humidity
95
Moisture
90
MOTOR ON
MOTOR OFF


Gmail
YouTube
Maps
Run C Program in C...
Smart farming
Surrounding temp
Temp
100
98
96
94
92
14:33:00
15:03:00
15:33:00
16:10:00
Humidity
100
90
80
70
60
14:33:00
15:03:00
15:33:00
16:10:00
Land
Moisture
20
0
100
switch box
MOTOR SWITCH OFF
MOTOR SWITCH ON