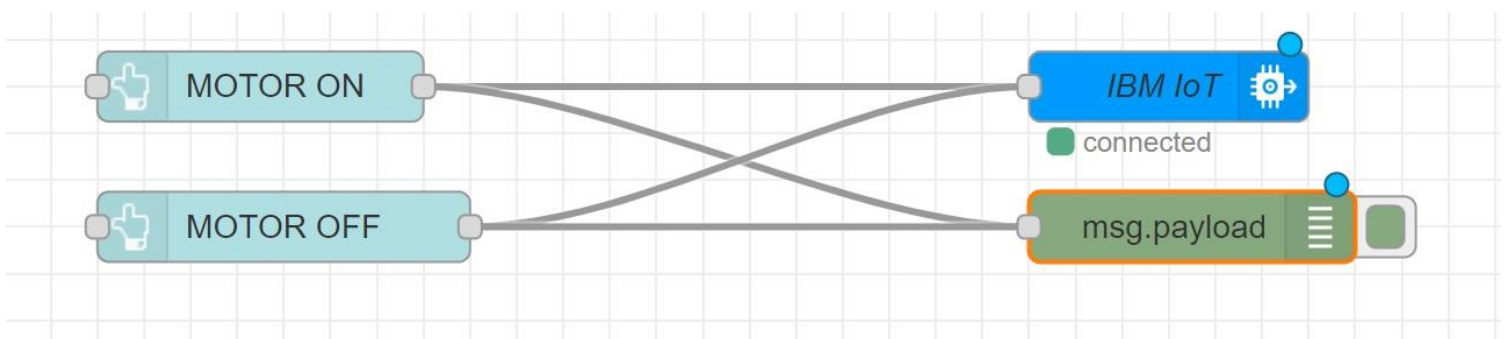


## **SPRINT - 3**

Team ID	PNT2022TMID00072
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



- Edit the properties of ibmiot out node

The screenshot shows a workflow in the IBM IoT Platform. On the left, a node labeled 'IBM IoT' with a 'connected' status is connected to three function nodes: 'Temperature', 'Humidity', and 'Soil Moisture'. Below these, there are nodes for '[get] /smartfarm' connected to a 'Data' function node, and two button nodes 'MOTOR ON' and 'MOTOR OFF' connected to a '[get] /command' node. On the right, the 'Edit ibmiot out node' dialog is open. It has a 'Delete' button, 'Cancel', and 'Done' buttons. The 'Properties' section includes:

- Authentication: API Key
- API Key: fa2f1240609e4267
- Output Type: Device Command
- Device Type: SMART
- Device Id: 15
- Command Type: cmd
- Format: json
- Data: data
- QoS: 0
- Name: IBM IoT
- Service: registered

At the bottom, there is an 'Enabled' checkbox.

- Edit the properties of Motor ON Button node

The screenshot shows the 'Edit button node' dialog. It has a 'Delete' button, 'Cancel', and 'Done' buttons. The 'Properties' section includes:

- Group: [SMART FARMER] MOTOR CONTR (v)
- Size: auto
- Icon: optional icon
- Label: MOTOR ON
- Tooltip: optional tooltip
- Color: optional text/icon color
- Background: optional background color
- When clicked, send: ☒
- Payload: {"command": "motoron"}
- Topic: msg. topic
- If msg arrives on input, emulate a button click: ☐

At the bottom, there is an 'Enabled' checkbox.

- Edit the properties of Motor OFF Button node

Delete
Cancel
Done

⚙️
**Properties**

Group
[SMART FARMER] MOTOR CONTR

Size
auto

Icon
optional icon

Label
MOTOR OFF

Tooltip
optional tooltip

Color
optional text/icon color

Background
optional background color

When clicked, send:

Payload
{"command":"motoroff"}

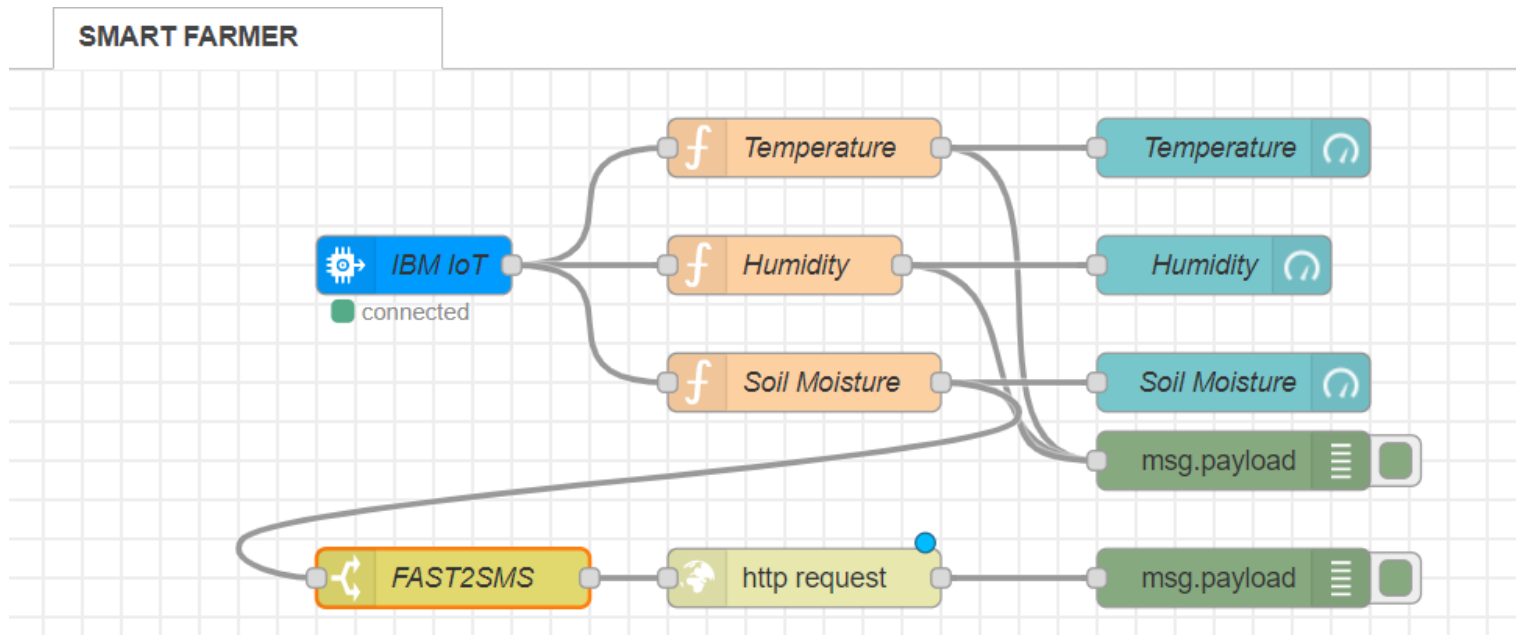
Topic
msg. topic

→ If msg arrives on input, emulate a button click:
☐

☐ Enabled

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

## Configuration of Node – Red with FAST2SMS :



- Edit the properties of FAST2SMS Switch node
  - If Soil Moisture is Less than 50, it will send the message to the particular number.

**Edit switch node**

Delete Cancel Done

**Properties**

Name FAST2SMS

Property msg. payload

☐ <= ☐ % 50 → 1

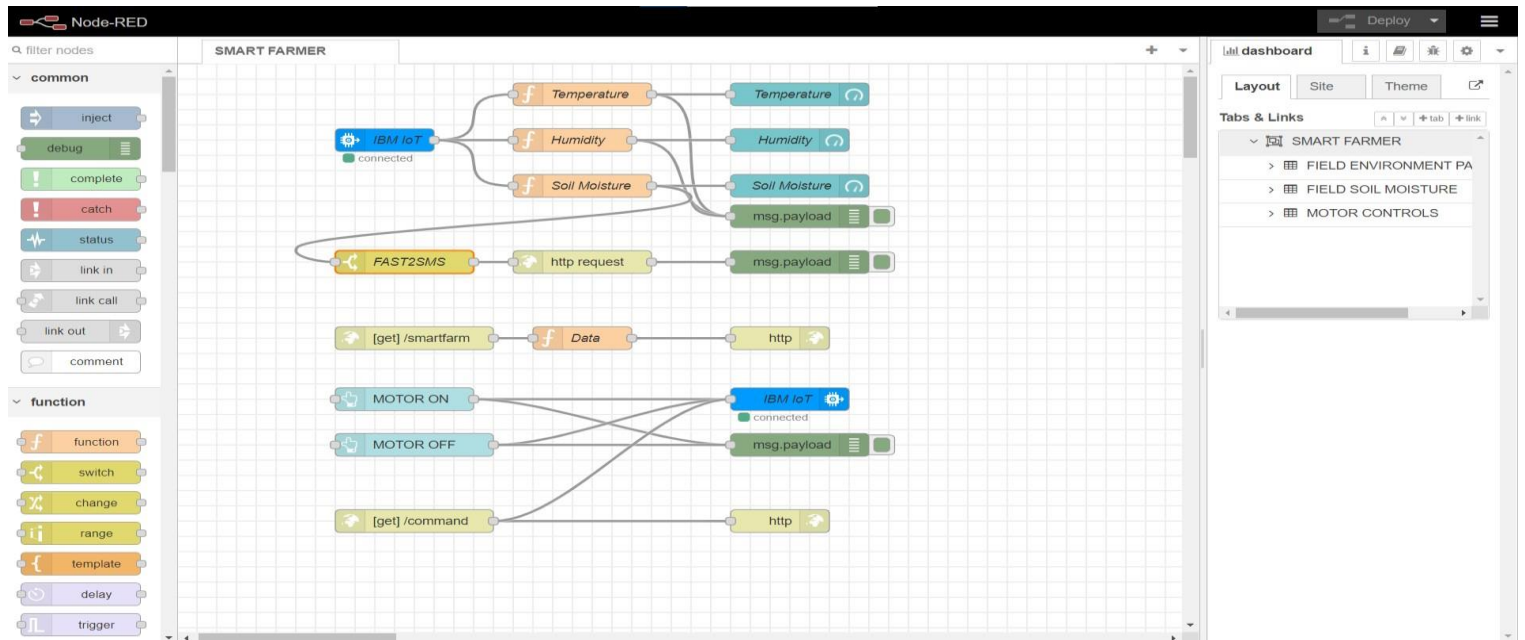
add

checking all rules

☐ recreate message sequences

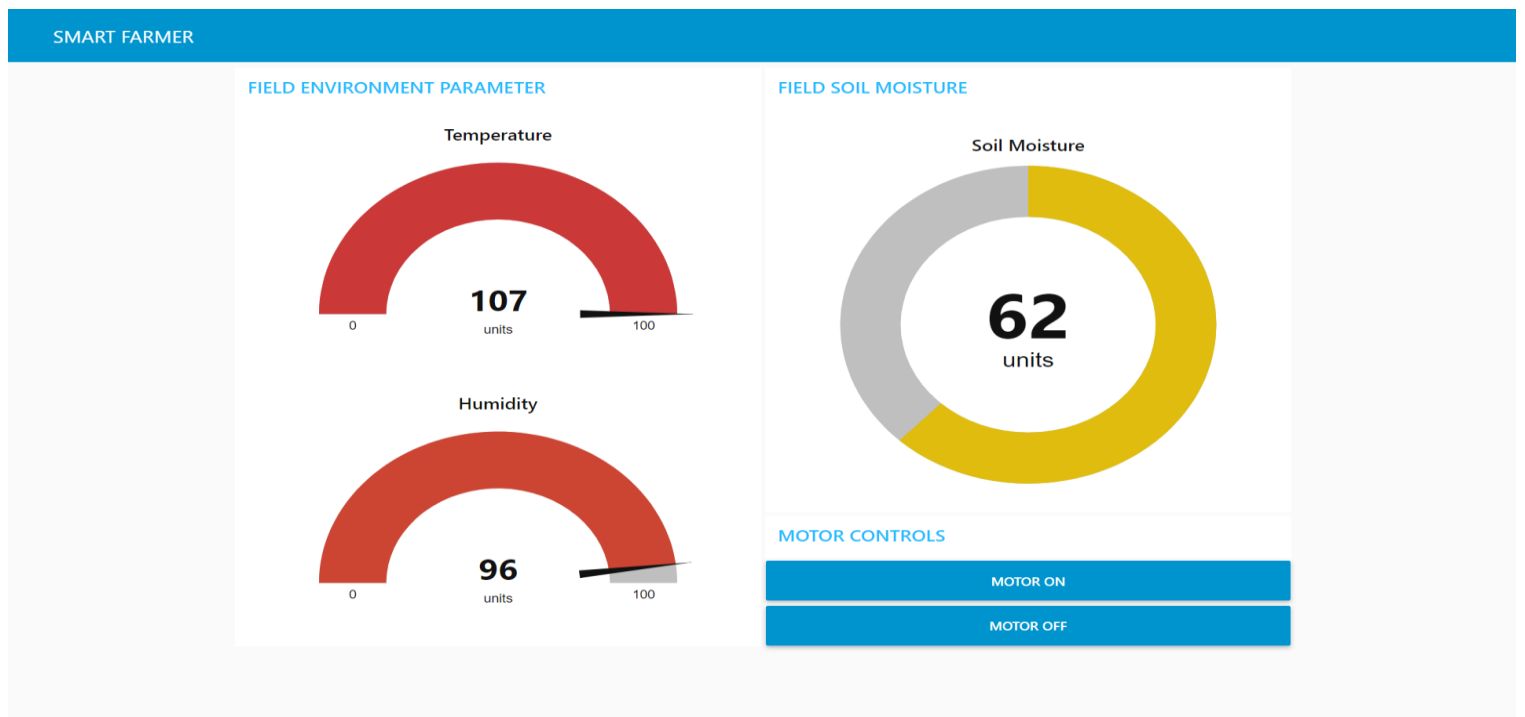
Enabled

## Node – Red Complete Program Flow:



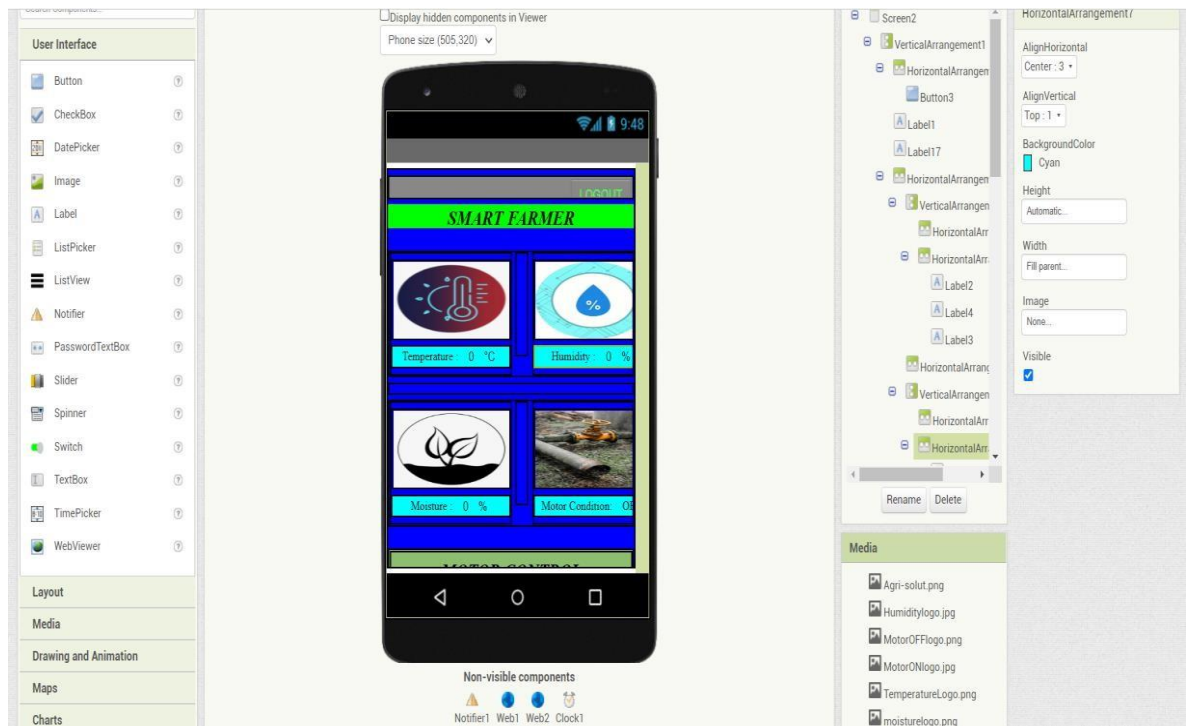
## Node – Red Dashboard (WEB APP UI):

- In order to display the parsed JSON data a Node-Red dashboard is created.
- Below images are the Gauge, text and button node configurations.

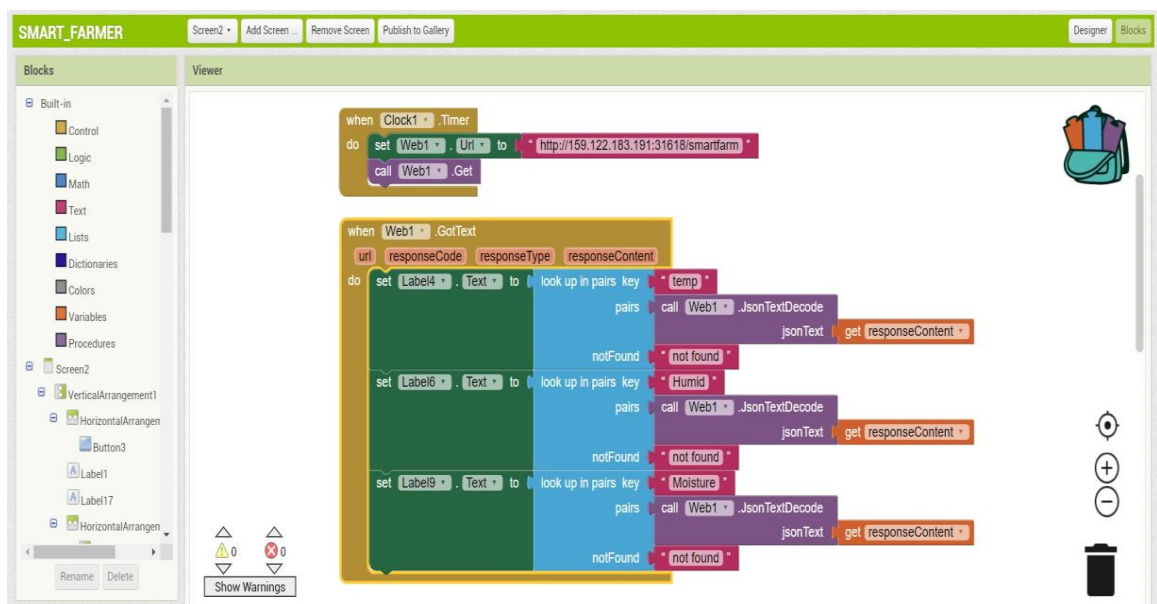


## MOBILE APP :

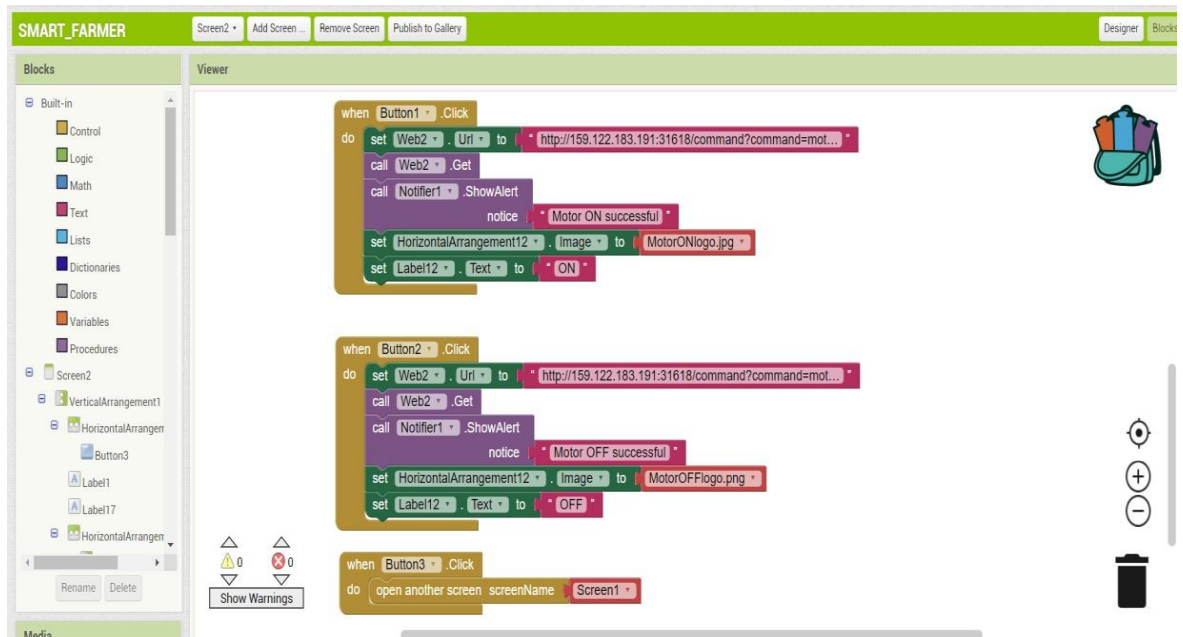
- MIT APP INVENTOR
  - Designer part



- Blocks Part



- Button function Blocks



- Mobile App



