

### SPRINT 3

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<b>Project Name</b>	Smart Farmer-IoT Enabled Smart Farming Application

### CONFIGURATION OF NODE-RED TO SEND COMMANDS TO IBM CLOUD

IbmIoT 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.

The screenshot shows the configuration window for a new 'ibmiot config' node in Node-Red. The window has a title bar that says 'Edit ibmiot in node > Add new ibmiot config node'. Below the title bar are 'Cancel' and 'Add' buttons. The main area is titled 'Properties' and contains several input fields and checkboxes:

- Name:** A text input field with the placeholder text 'Name'.
- API Key:** A text input field containing the value 'a-dk2f0-yutwjanphx'.
- API Token:** A text input field with masked characters (dots).
- Server-Name:** A text input field containing the value 'orgid.messaging.internetofthings.ibmcloud.com'.
- Scalable:** A checkbox that is currently unchecked.
- Application ID:** A text input field.
- Keep Alive:** A text input field containing the value '60', followed by the label 'Seconds'.
- Use Clean Session:** A checkbox that is currently checked.

At the bottom of the configuration window, there is a status bar that says 'Enabled', '0 nodes use this config', and a dropdown menu set to 'On all flows'.

Here we add two buttons in UI

1 -> for motor on

2 -> for motor off

We used a function node to analyse 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;
```

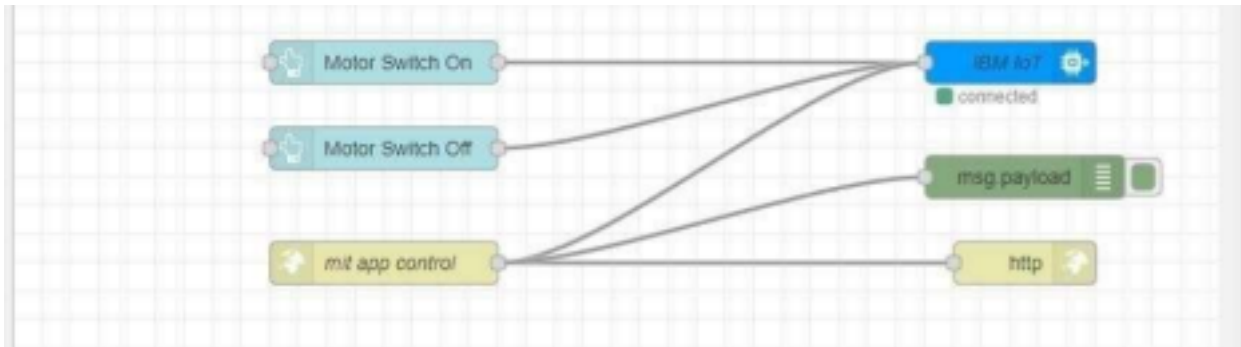


The above images show the java script codes of analyser and state function nodes.

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



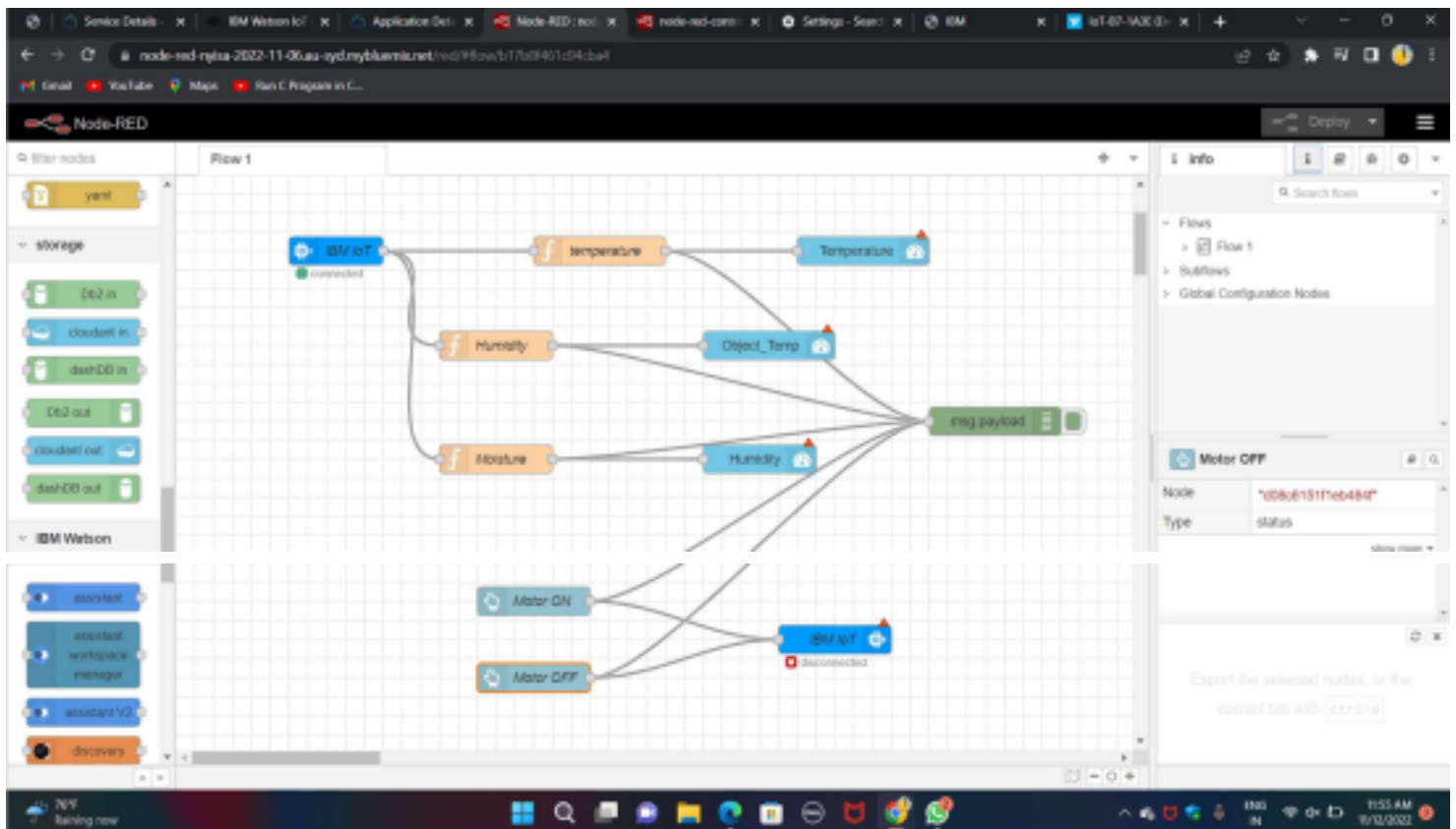
This is the program flow for sending commands to IBM cloud.

## Adjusting User Interface

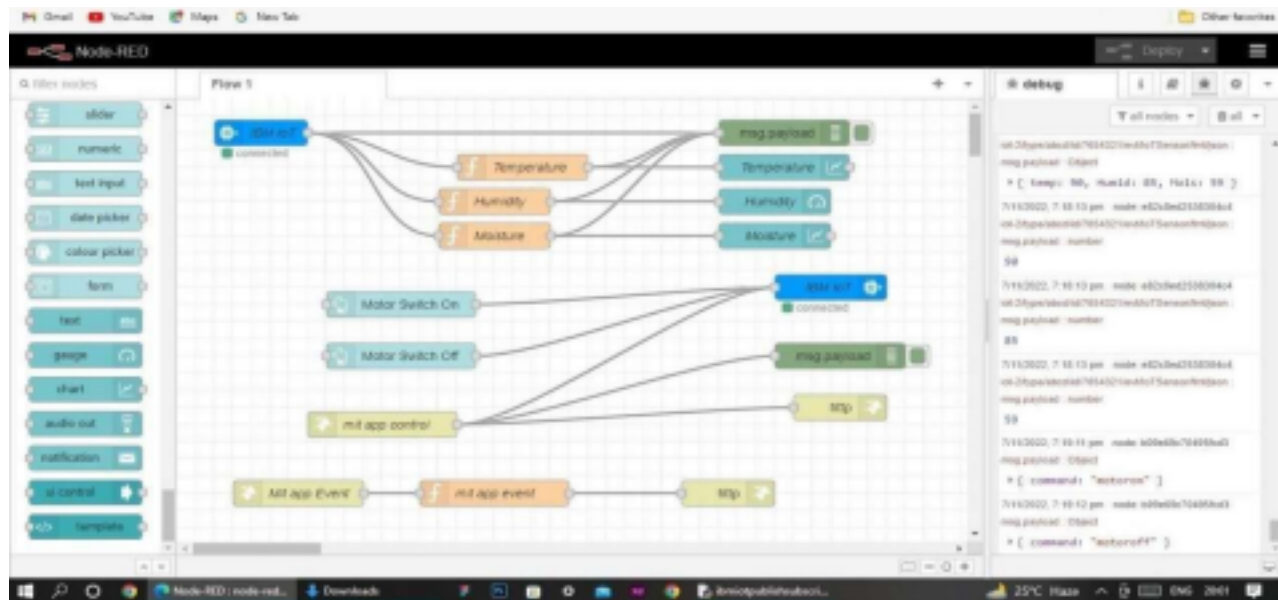
In order to display the parsed JSON data a Node-Red dashboard is created

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.

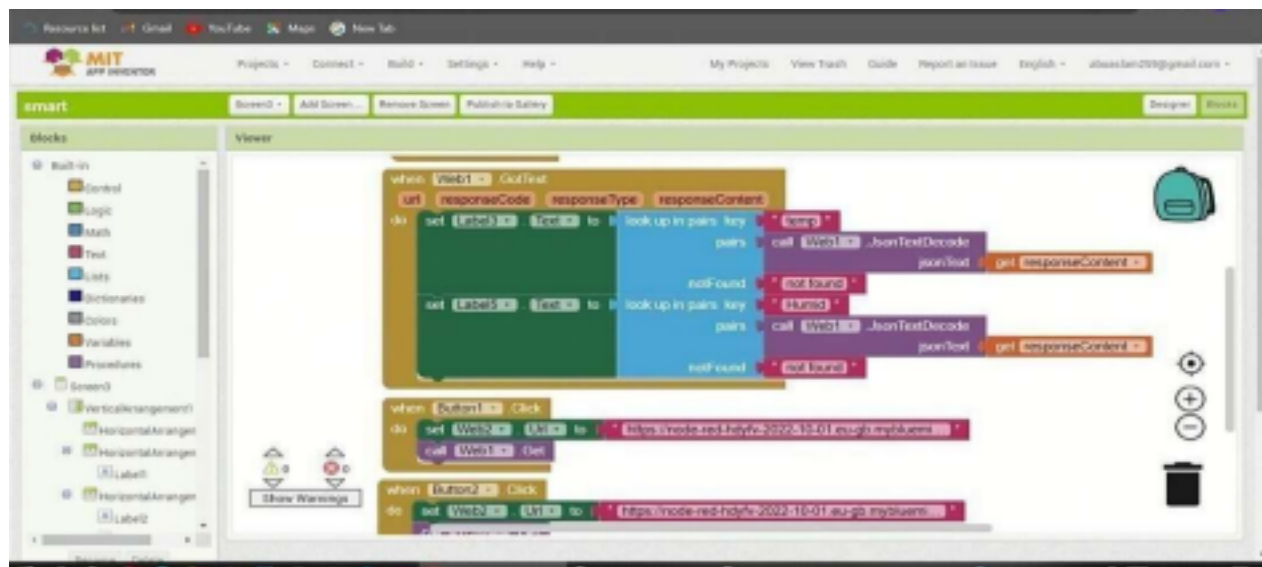
Below images we started to create the flow 1



### COMPLETE PROGRAM FLOW :

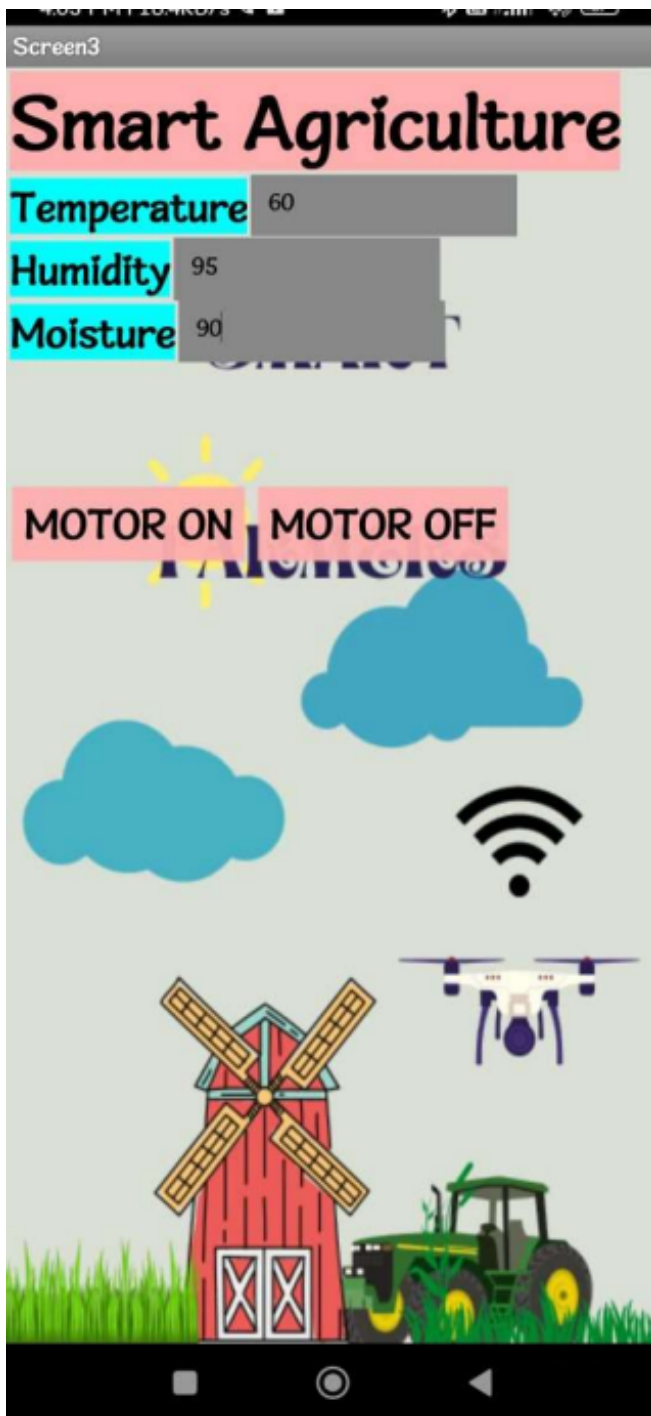


### MOBILE APP WEB (BLOCK DIAGRAM):



## SCREENSHOTS:





## OVERALL VIEW:

