

# **IOT ENABLED SMART FARMING APPLICATION**

**SPRINT DELIVERY – 3**

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## 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 the credentials of our Watson device.

The screenshot shows the 'Edit ibmiot in node' configuration window in Node-Red. At the top, there are 'Delete', 'Cancel', and 'Done' buttons. Below is a 'Properties' section with various settings:

- Authentication:** A dropdown menu set to 'API Key'.
- API Key:** A text input field containing 'IBMIOT APIKEY'.
- Input Type:** A dropdown menu set to 'Device Event'.
- Device Type:** A checkbox labeled 'All or' followed by a text input field containing 'abcd'.
- Device Id:** A checkbox labeled 'All or' followed by a text input field containing '7654321'.
- Event:** A checkbox labeled 'All or' followed by a text input field containing '+'.
- Format:** A checkbox labeled 'All or' followed by a text input field containing 'json'.
- QoS:** A dropdown menu set to '0'.
- Name:** A text input field containing 'IBM IoT'.

At the bottom left, there is a toggle switch labeled 'Enabled' which is currently turned on.

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 commands to each number.

The Javascript code for the analyses is:

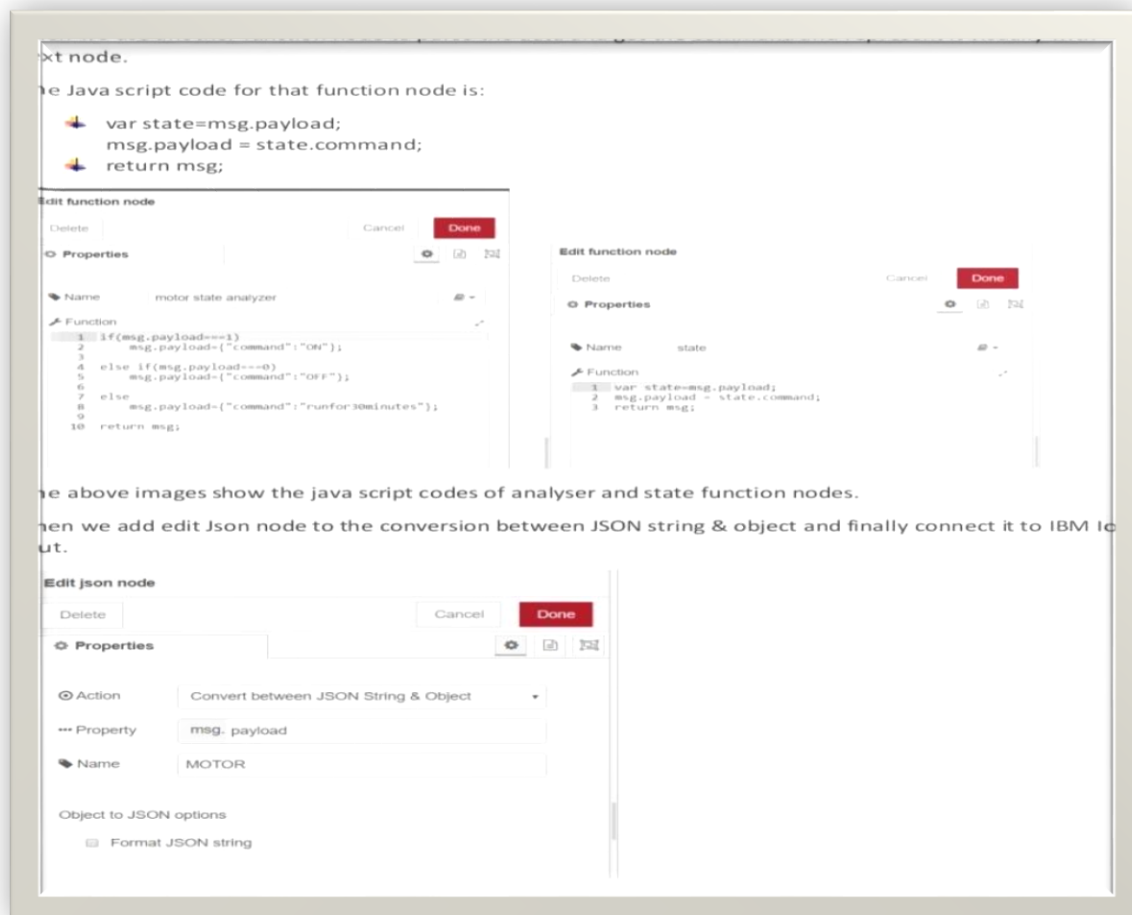
```
if(msg.payload===1)
```

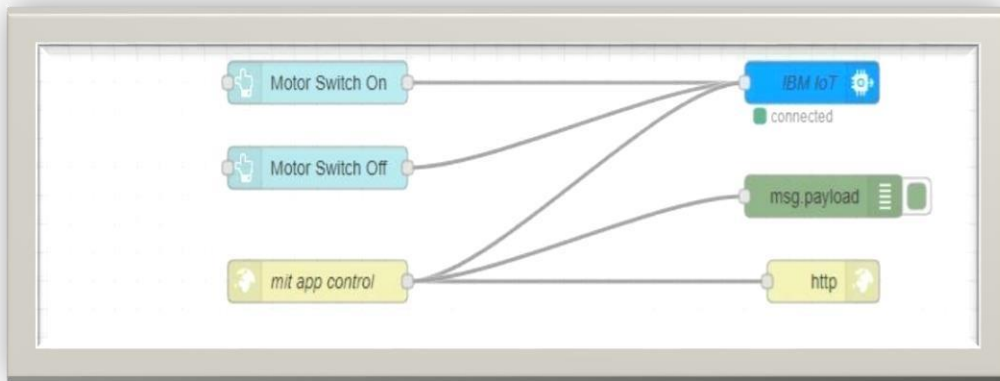
```
msg.payload={"command": "ON"};
```

```
else if(msg.payload===0)
```

```
msg.payload={"command":
```

```
"OFF"};
```



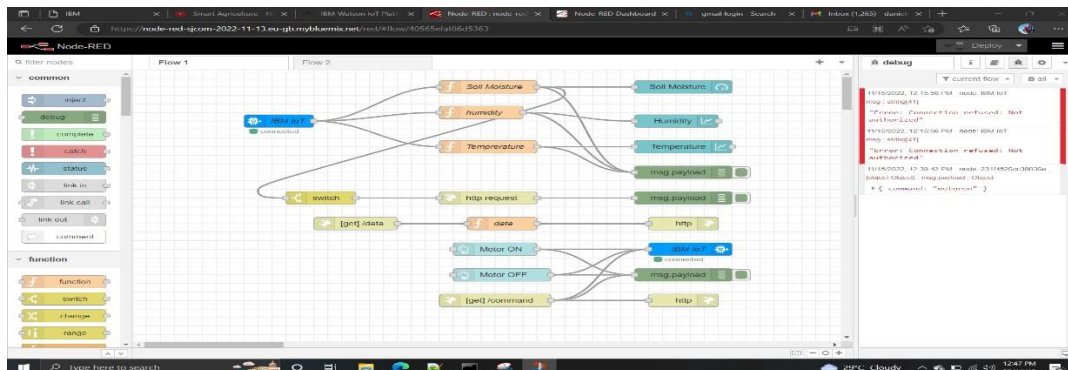


This is the program flow for sending commands to IBM the cloud.

## 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 help to monitor the parameters and control the farm equipment.

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



## MOBILE APP WEB :



## APPLICATION PAGE:

# Login Here

Username

Enter Username

Password

Enter Password

Login

If you don't have an account,

Create New

1:57 PM



Screen1

# SMART AGRICULTURE

**TEMPERATURE**

45

**HUMIDITY**

92

**MOISTURE**

97

MOTOR OFF

MOTOR ON

# Web APP UI Home Tab

