

# Build A Web Application Using Node-RED Service

Team ID	PNT2022TMID11377
Project Name	Smart Farmer-IOT Enabled Smart Farming Application

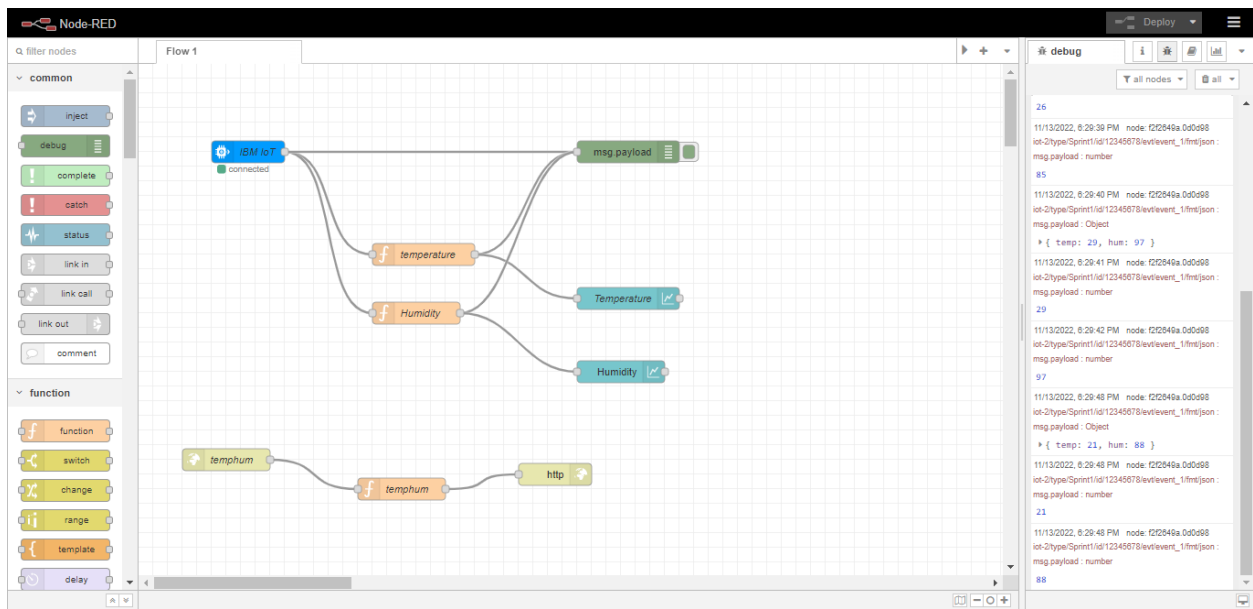
## 1.WEATHER STATION:

Create the device in IBM Watson which produces the temperature and humidity and start simulation.

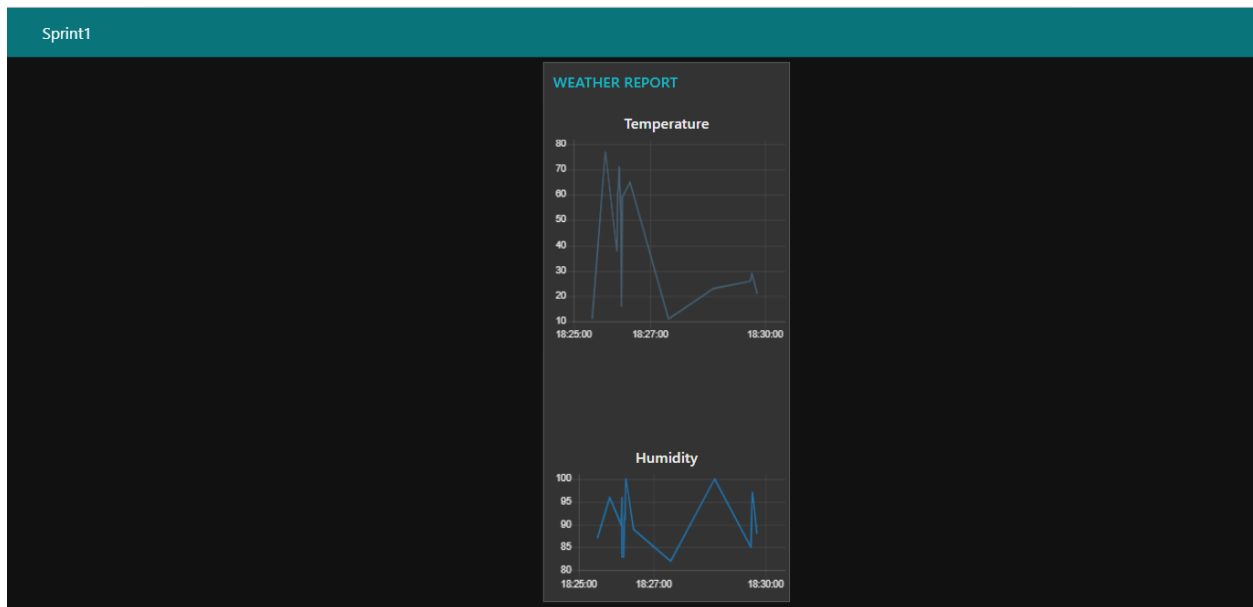
The screenshot displays the IBM Watson IoT Platform interface. At the top, the header shows the platform name and user information. Below the header, there's a navigation bar with tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for device management. The main content area shows a device named '12345678' in a 'Disconnected' state. Below this, there's a section for 'Recent Events' which lists a stream of data events. Each event contains a timestamp, a value (JSON object with temperature and humidity), a format (json), and a last received time. At the bottom right, a status box indicates '1 Simulation running'.

Event	Value	Format	Last Received
event_1	{"temp":65,"hum":89}	json	a few seconds ago
event_1	{"temp":59,"hum":100}	json	a few seconds ago
event_1	{"temp":16,"hum":91}	json	a few seconds ago
event_1	{"temp":52,"hum":92}	json	a few seconds ago
event_1	{"temp":71,"hum":83}	json	a few seconds ago

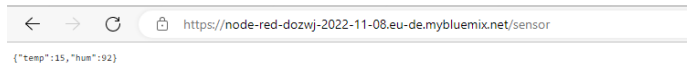
Create the Node red flow, where the IBM iot device node is connected to the function nodes which it performs the temperature and humidity functions further it was connected to front end nodes in Node red.



Here, the weather report contains the temperature and humidity are monitored using graph format.

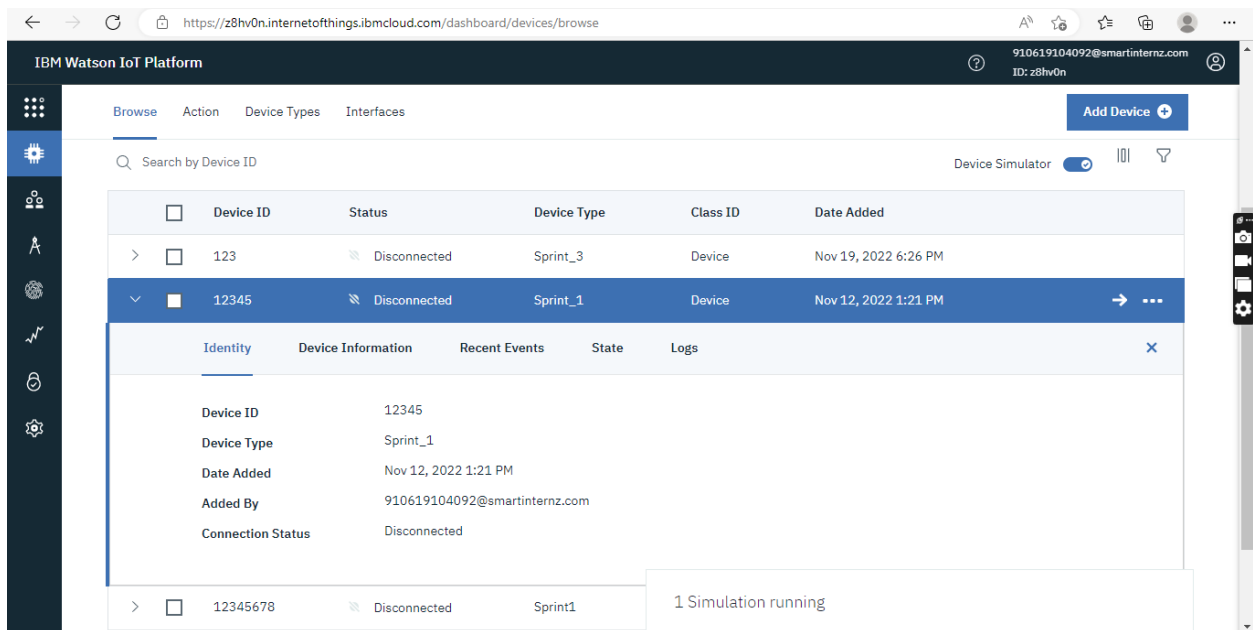


Temperature and humidity values are obtained in a web page using the http in node and http response node.

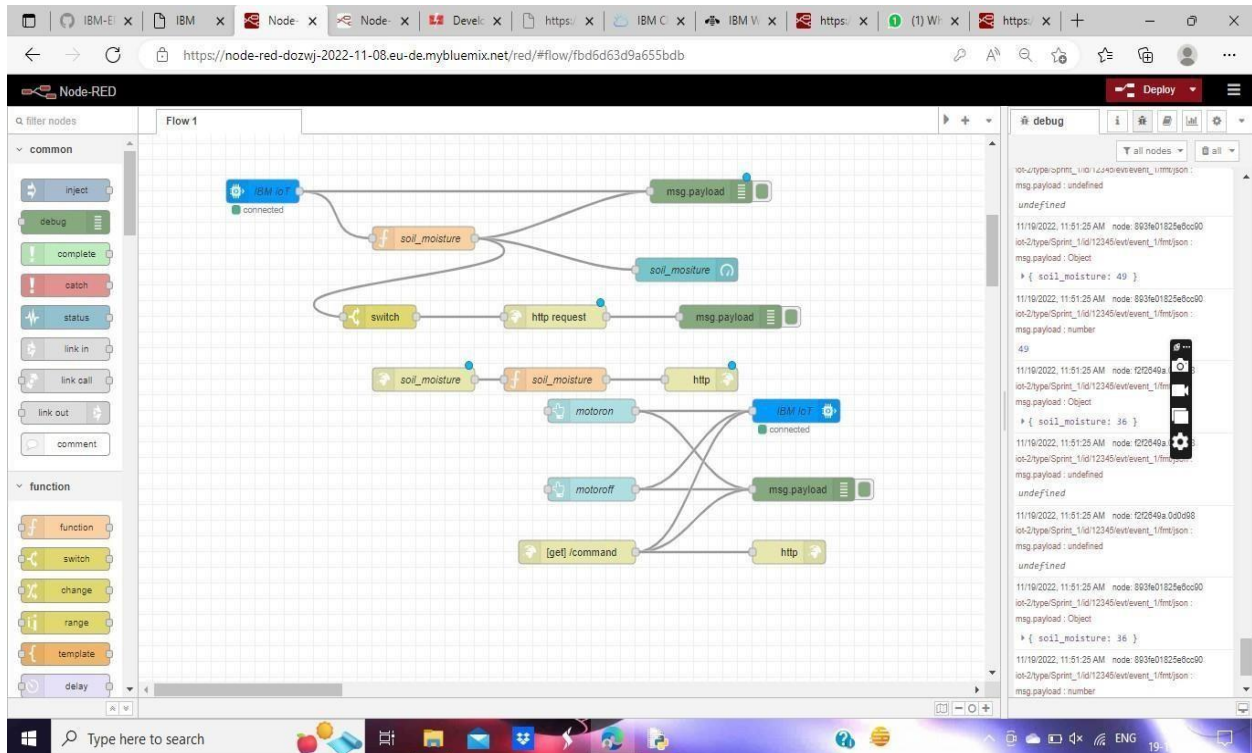


## 2.FIELD MONITORING:

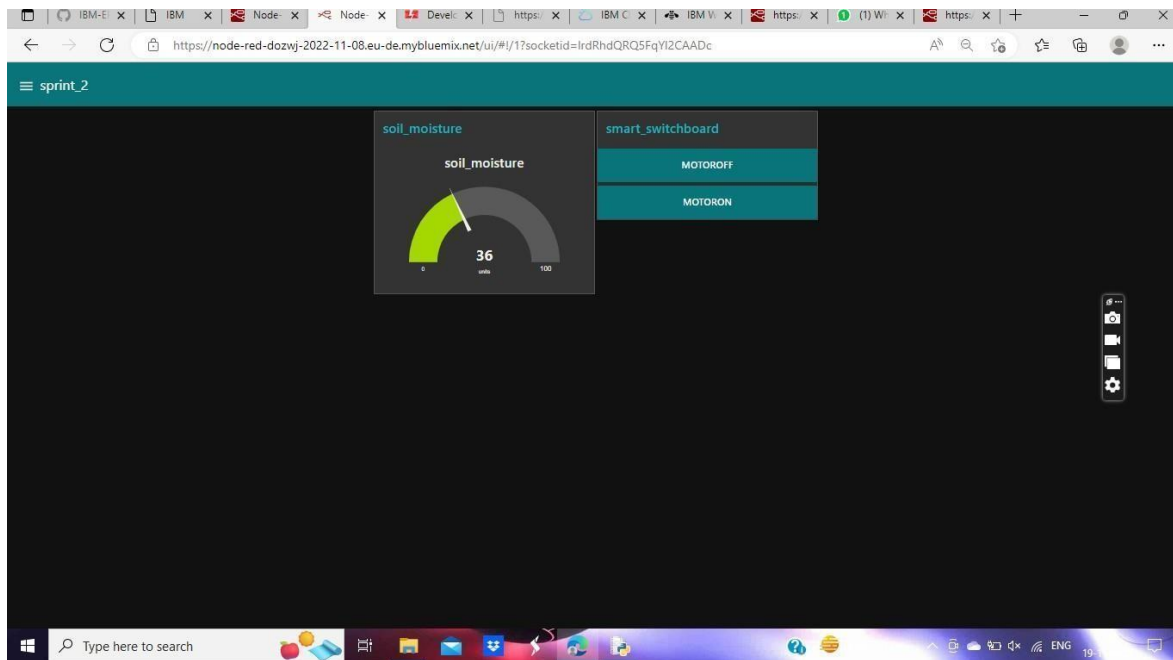
Create the device in IBM Watson which produces the soil moisture value and start simulation.



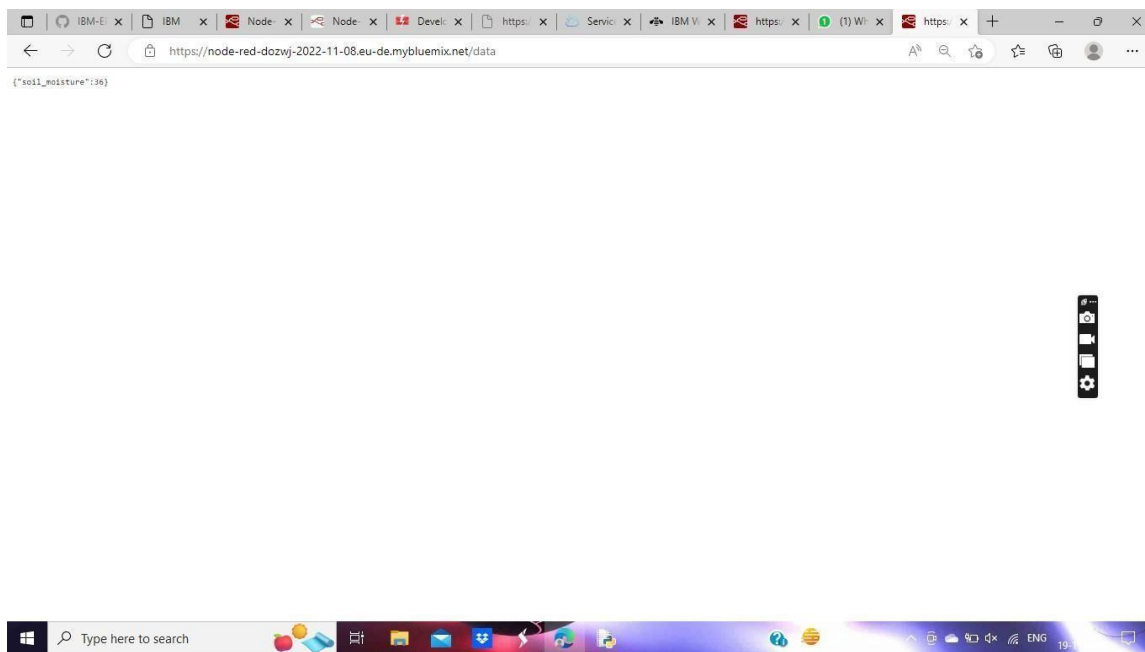
Node red flow is created if the soil moisture value is less than 20 it should on the motor and if the moisture level is adequate, it turns off the motor. The two buttons are created to switch on and off the motor manually by the end user. So, user can control and monitor the real time field irrigation system.



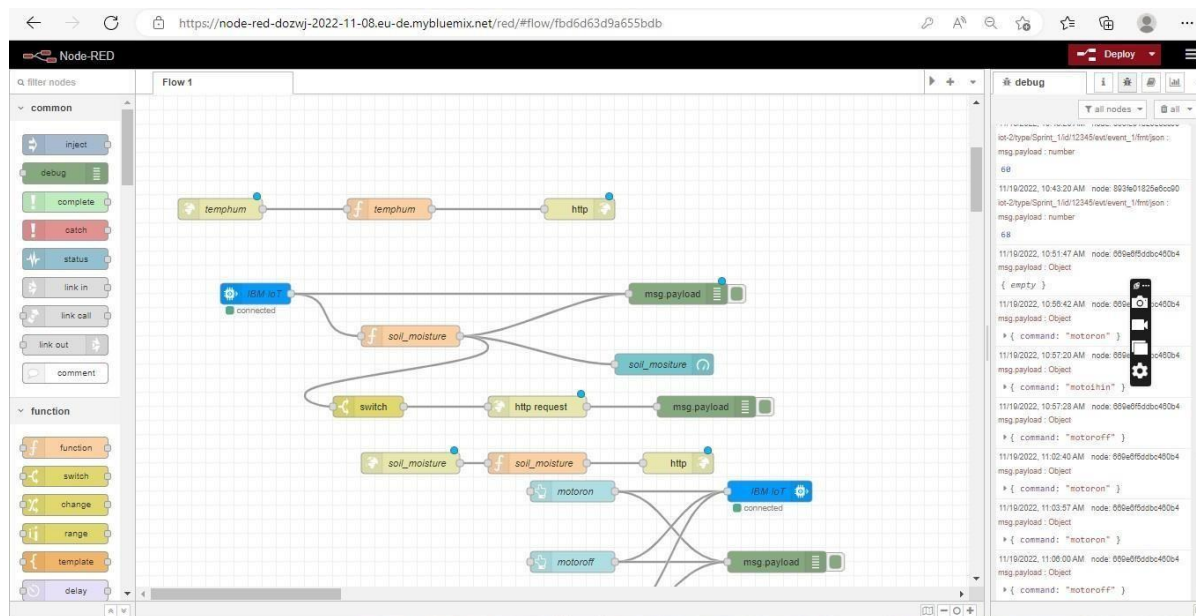
Soil moisture and motor control buttons are displayed in the Node red dashboard.



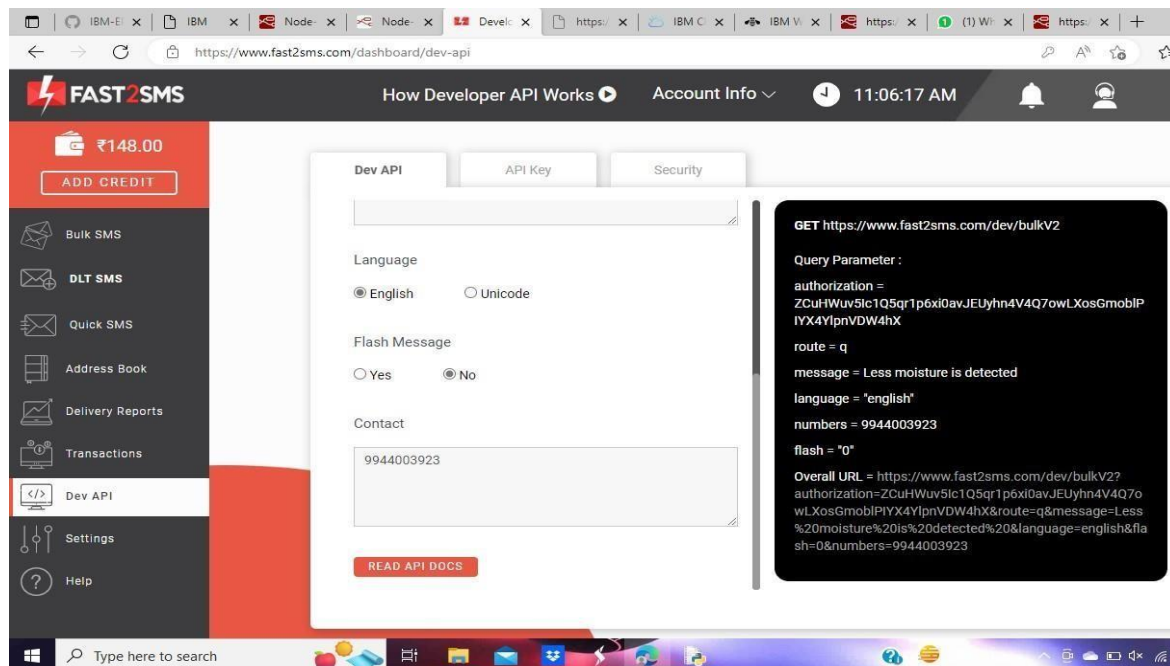
Soil moisture value is obtained in a web page using the http in node and http response node.



Motor on and off command is displayed in the node red .



Sending the notification via mobile number, If the moisture level is detected below 20 then the notification is sent to the user like less moisture is detected.

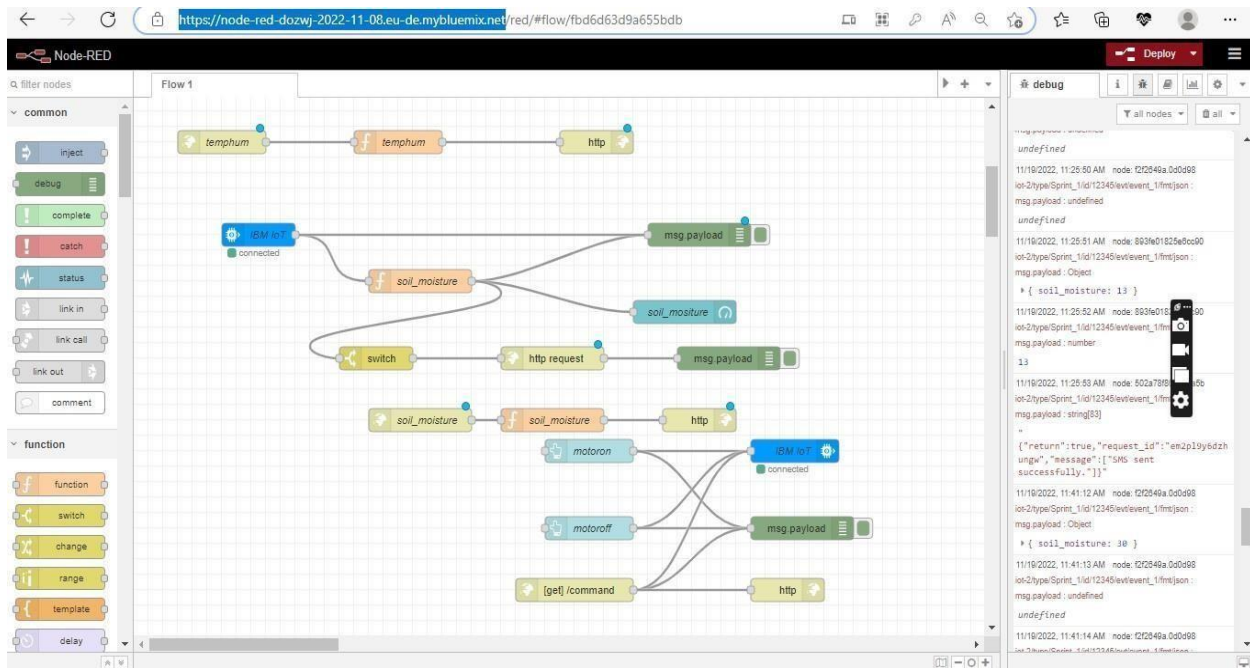


Here, the moisture is detected as 13 so it's less than 20 automatically the message is sent to the user and we get successfully message sent in the node red.

```
https://www.fast2sms.com/dev/bulkV2?authorization=ZCuHWuv5lc1Q5qr1p6xi0avjEUyhn4V4Q7owlXosGmoblPIYX4YlPnVDW4hX&route
```

```
{"return":true,"request_id":"z95pciaxmf21jt6","message":["SMS sent successfully.."]}
```

Message send to user was notified in the node red flow.



### 3. FENCING:

Create the device in IBM Watson which detects the distance value and start simulation.

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. The main content area displays a table of devices:

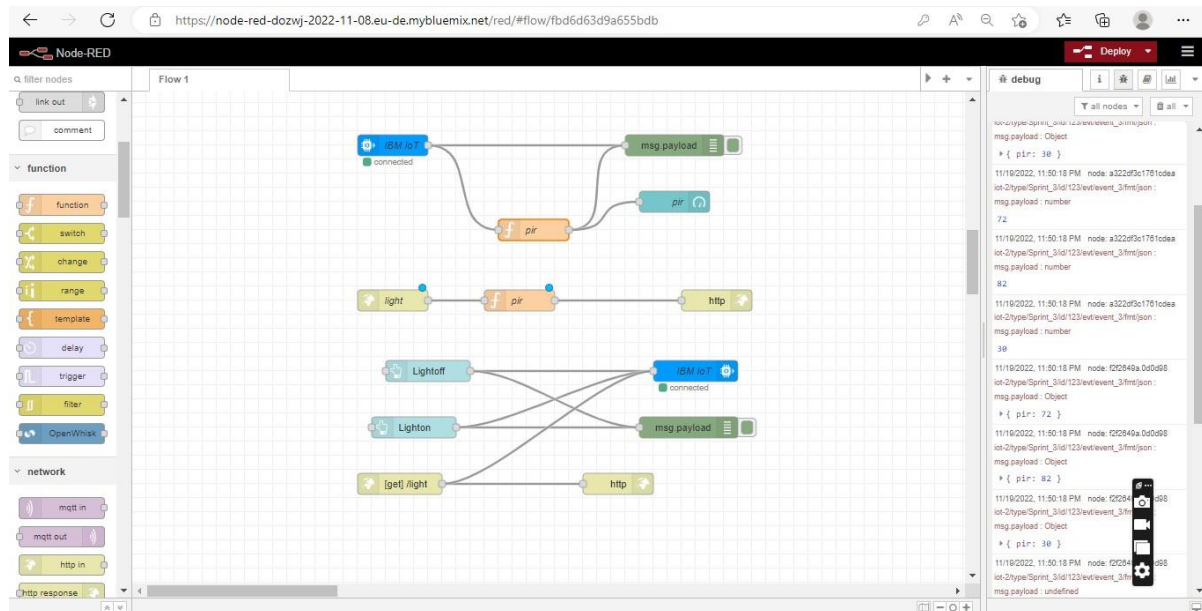
Device ID	Status	Device Type	Class ID	Date Added
123	Disconnected	Sprint_3	Device	Nov 19, 2022 6:26 PM
12345	Disconnected	Sprint_1	Device	Nov 12, 2022 1:21 PM
12345678	Disconnected	Sprint1		

Below the table, a detailed view for device 123 is shown:

Identity	Device Information	Recent Events	State	Logs
Device ID	123			
Device Type	Sprint_3			
Date Added	Nov 19, 2022 6:26 PM			
Added By	910619104092@smartinternz.com			
Connection Status	Disconnected			

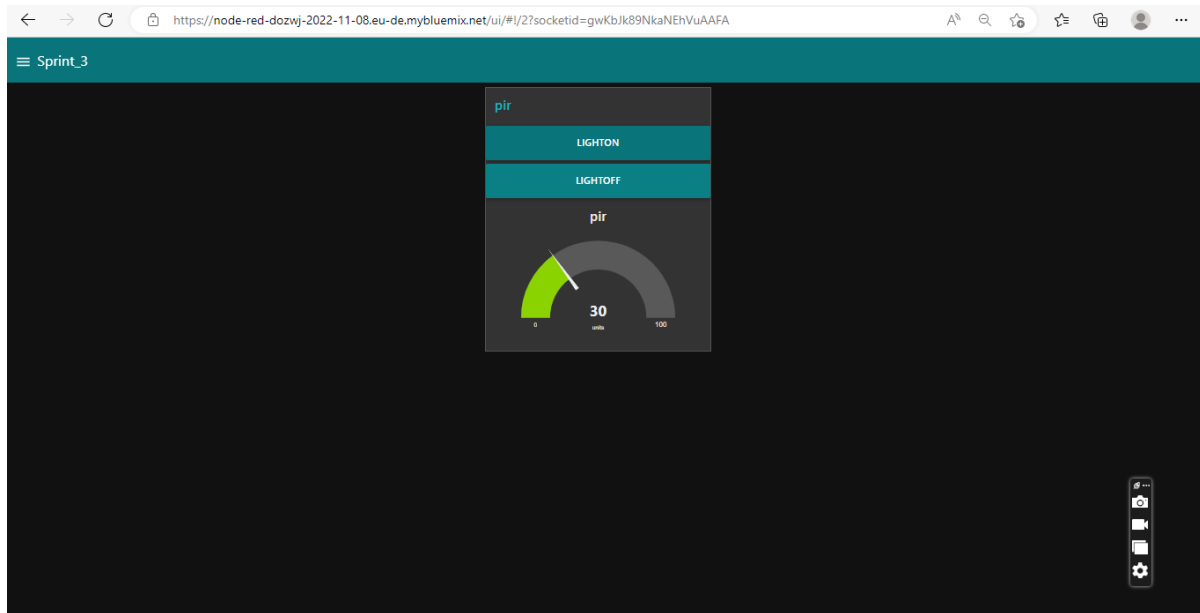
A status indicator at the bottom right shows '1 Simulation running'.

Node red flow is created that the distance between the object is detected, and the value is send to the user interface further the two buttons are created where the led can be on and off its controlled by the user and they can monitor the current situation.

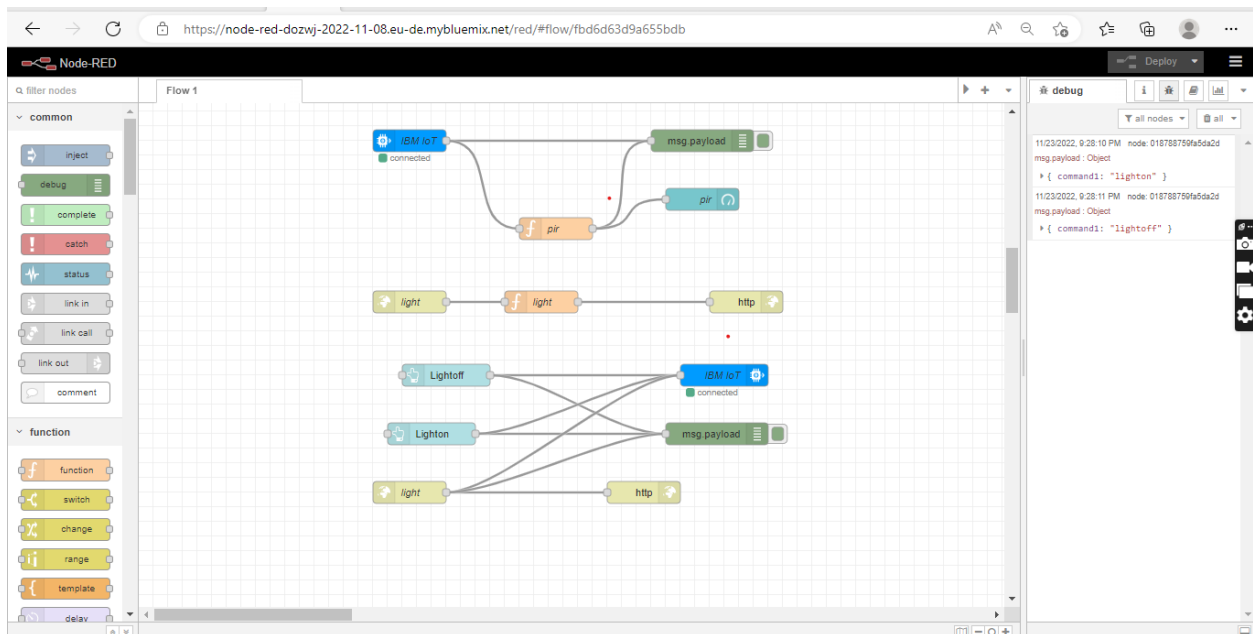




Distance and light control buttons are displayed in the Node red dashboard.

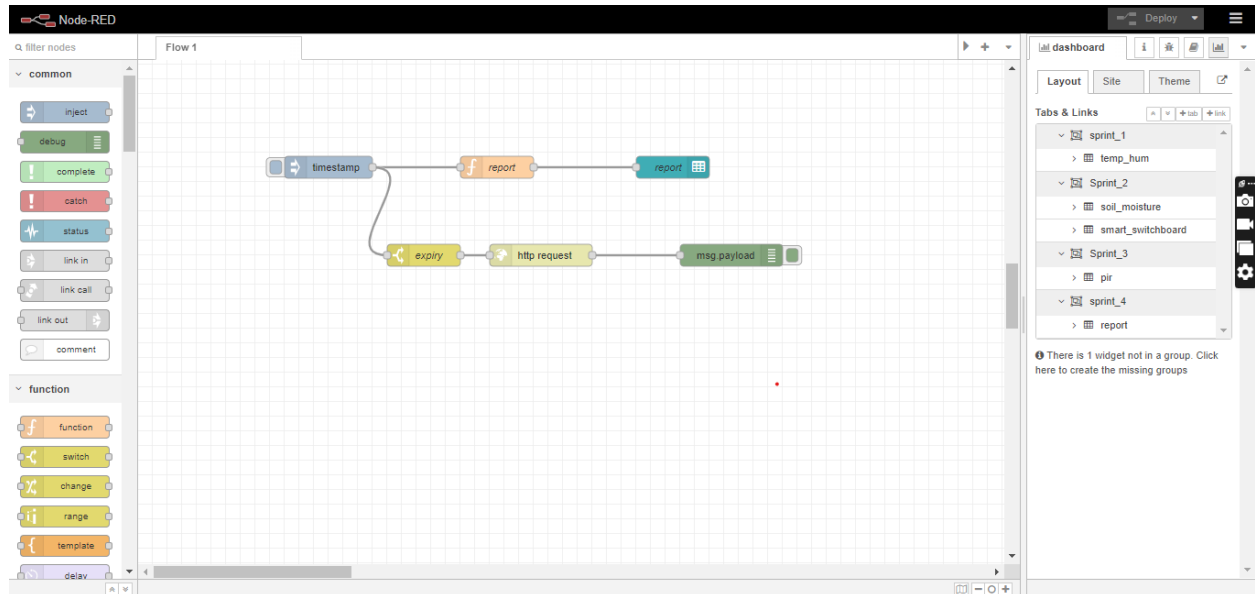


Here the light on and light off message is displayed in node red which is controlled by the user.



## WAREHOUSE MANAGEMENT:

The data base is created in the node red.



Here use should enter current date, crop name, crop condition and expiry date.

sprint\_4

Date	Crop name	crop condition	Expiry date
05/08/2022	wheat	Good	12/09/2023
27/06/2022	Milletts	Average	12/05/2023
07/06/2019	Barley	Good	02/06/2021
19/04/2022	Barley	Bad	12/06/2022
08/12/2021	Maize	Average	24/03/2022
08/05/2021	Sorghum	Bad	04/12/2021

