

# Project Development Phase

## Sprint – III

Date	14 November 2022
Team id	PNT2022TMID51172
Project name	Signs with smart connectivity for better road safety

### Sprint targets:

Sprint	Functional requirements	USN	User story/Task	Story points	Priority	Team members
Sprint-3	Login	USN-5	As an admin, I should have an account	7	Low	Poorna Aiswaryalakshmi
Sprint-3	Dashboard	USN-6	As an admin, I should be able to see and observe the sign nodes	13	Medium	Swathika Gayathri

### Wowki Simulation:

**WOKWI** SAVE SHARE final\_iot Docs

**sketch.ino** **diagram.json** **libraries.txt** **Library Manager**

```
1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3 #include "DHT.h" // Library for dht11
4 #define DHTPIN 5 // what pin we're connected to
5 #define DHTTYPE DHT22 // define type of sensor DHT 11
6
7 DHT dht (DHTPIN, DHTTYPE); // creating the instance by passing pin and type of
8
9 void callback(char* topic, byte* payload, unsigned int payloadLength)
10
11 //-----credentials of IBM Accounts-----
12
13 #define ORG "twndrq" //IBM ORGANIZATION ID
14 #define DEVICE_TYPE "Sample_one" //Device type mentioned in IBM Watson IoT Platform
15 #define DEVICE_ID "4054" //Device ID mentioned in IBM Watson IoT Platform
16 #define TOKEN "12345678" //Token
17 String data3;
18 float h, t;
19
20
21 //-----Customise the above values -----
22 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
23 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of event
24 char subscribeTopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT command
25 char authMethod[] = "use-token-auth"; // authentication method
26 char token[] = TOKEN;
27 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
28
29
30 //-----
```

**Simulation**

02:15:539 81%

temp:37.40, humidity:86.00, North:0, South:0, East:0, West:0

Publish ok

temp:37.40

humidity:86.00

Sending payload:

{ "temp":37.40, "humidity":86.00, "North":0, "South":0, "East":0, "West":0 }

Publish ok

temp:37.40

## IoT Device in IoT Platform:

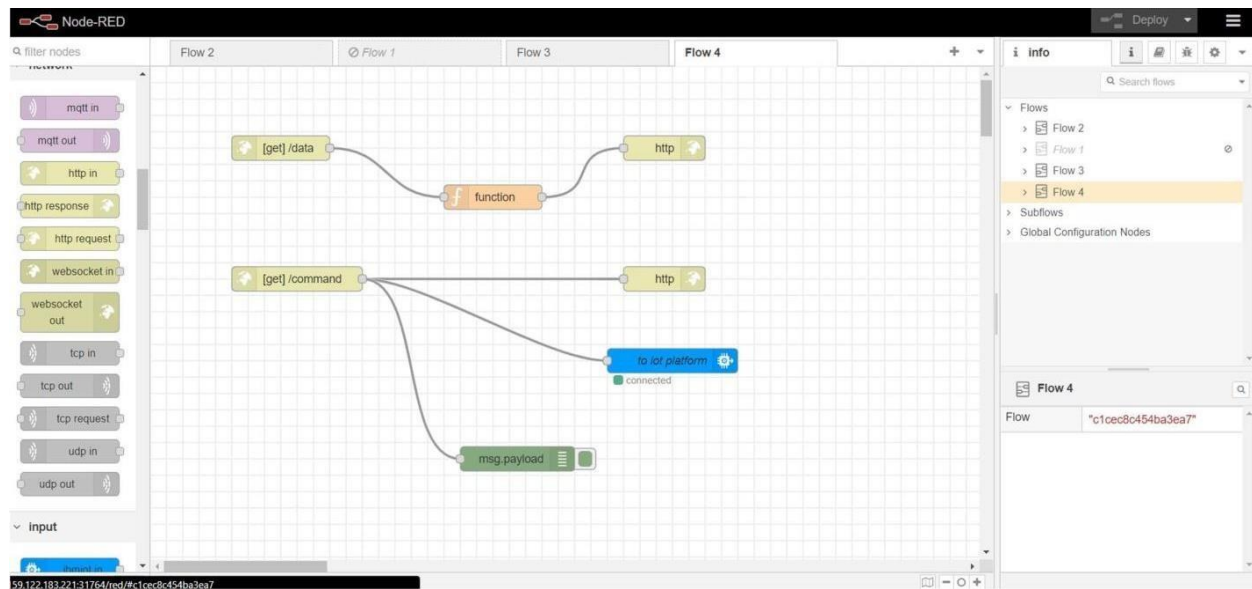
The screenshot shows an IoT Platform interface with a sidebar on the left containing icons for various functions. The main area displays details for a device with ID 4054, which is currently 'Disconnected'. The device is of type 'Sample\_one' and was added on 'Nov 7, 2022 10:15 PM'. Below this, there are tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing a table of recent data events.

The recent events listed show the live stream of data that is coming and going from this device.

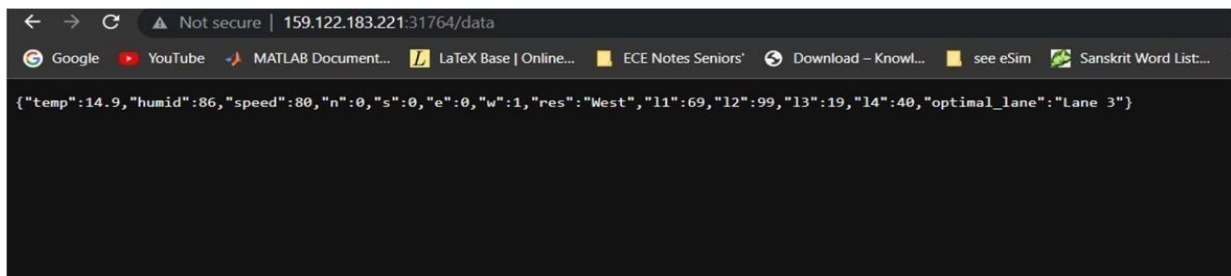
Event	Value	Format	Last Received
event_1	{"temperature":40,"humidity":38}	json	a few seconds ago
event_1	{"temperature":21,"humidity":72}	json	a few seconds ago
event_1	{"temperature":28,"humidity":74}	json	a few seconds ago
event_1	{"temperature":15,"humidity":32}	json	a few seconds ago
event_1	{"temperature":47,"humidity":26}	json	a few seconds ago

1 Simulation running

## Node red:



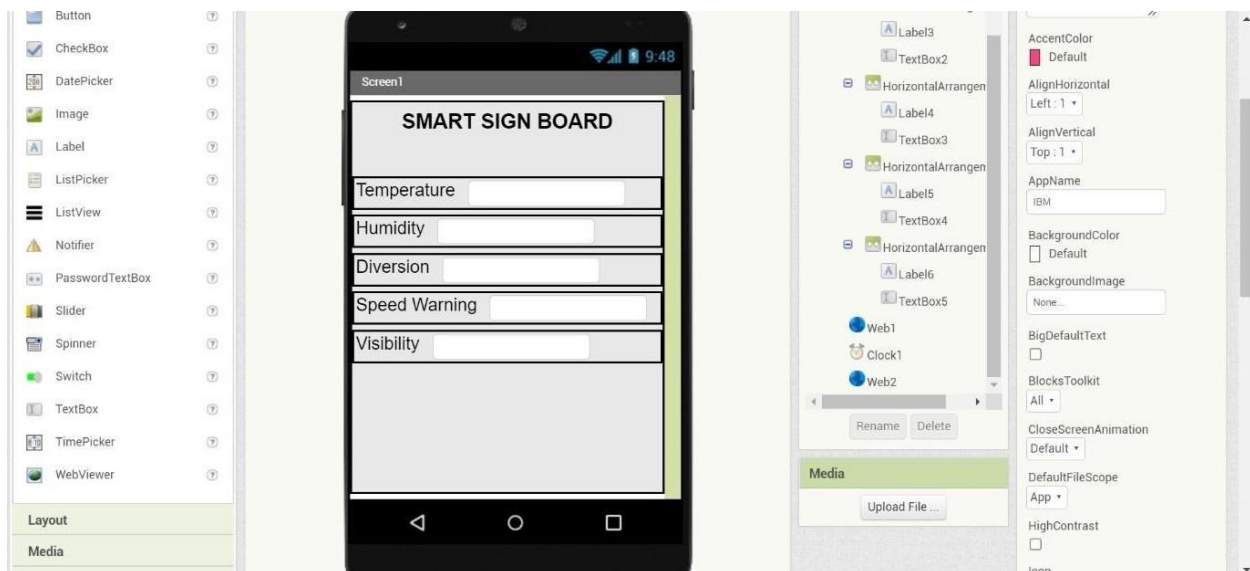
## Creating link for connecting with the MIT app Inventor and getting the output:



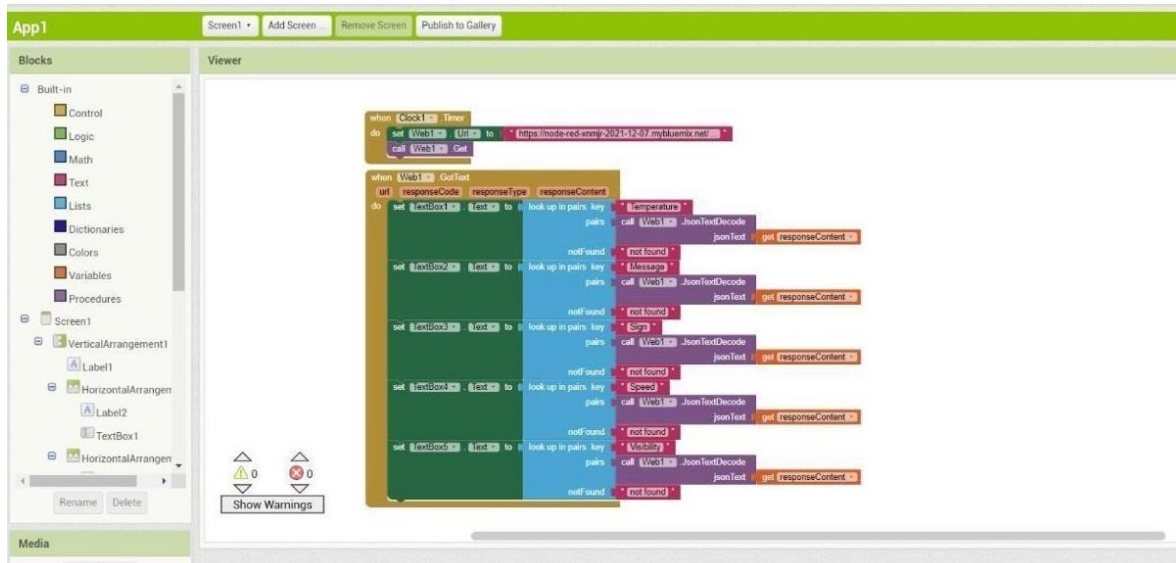
A screenshot of a web browser window. The address bar shows "Not secure | 159.122.183.221:31764/data". The browser's address bar and tabs are visible at the top. The main content area displays a JSON object: 

```
{"temp":14.9,"humid":86,"speed":80,"n":0,"s":0,"e":0,"w":1,"res":"West","l1":69,"l2":99,"l3":19,"l4":40,"optimal_lane":"Lane 3"}
```

## MIT App Inventor UI design: (Frontend design)



## Connecting created Node-RED link with the MIT App inventor :( Backend design)



## Display from MIT App: (Output)

