

Project Development Phase
Sprint III

Team ID	PNT2022TMID38970
Project Name	Signs with Smart Connectivity for better road safety

Sprint Targets :

Sprint	Functional Requirement (Epic)	UserStory Number	User Story /Task	Story Points	Priority	Team Members
Sprint-3	Login	USN-5	As an administrator , I should have an account of the website	7	Low	Sowndharya, Akshaya, Ramani, umamaheswari
Sprint-3	Dashboard	USN-6SSS	As an admin, I should be able to monitor and add sign nodes	13	Medium	Sowndharya, Akshaya, Ramani, umamaheswari

Wokwi Simulation: <https://wokwi.com/projects/348578517287436883>

WOKWI

SAVE SHARE

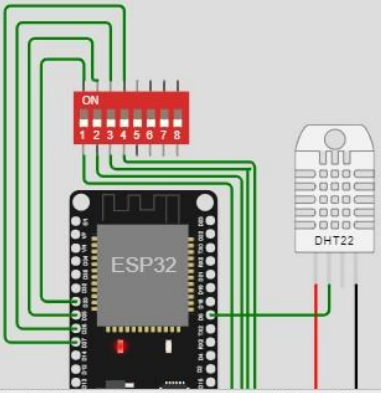
Docs

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* subscribetopic, byte* payload, unsigned int payloadLength)
10
11 //-----credentials of IBM Accounts-----
12
13 #define ORG "4qbk92"//IBM ORGANIZATION ID
14 #define DEVICE_TYPE "rasperrypi"//Device type mentioned in ibm watson IOT Platform
15 #define DEVICE_ID "12345"//Device ID mentioned in ibm watson IOT Platform
16 #define TOKEN "123456789" //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 comma
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
```

Simulation

00:07.659 103%



ON 1 2 3 4 5 6 7 8

ESP32

DHT22

```
{"temp":24.00,"humidity":40.00,"North":0,"South":0,"East":0,"West":0}
```

Publish ok

temp:24.00

humidity:40.00

Sending payload:

```
{"temp":24.00,"humidity":40.00,"North":0,"South":0,"East":0,"West":0}
```

Publish ok

Activate Windows

Go to Settings to activate Windows.

IoT Device – IoT Platform

Watson IoT Platform

shakinsha@student.tce.edu
ID: 4qbk92

Browse

Action

Device Types

Interfaces

Add Device +

12345

Connected

raspberry pi

Device

Identity

Device Information

Recent Events

State

Logs

X

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

Event	Value	Format	Last Received
Data	{"temp":24,"humidity":40,"North":0,"South":0,"E...	json	a few seconds ago
Data	{"temp":24,"humidity":40,"North":0,"South":0,"E...	json	a few seconds ago
Data	{"temp":24,"humidity":40,"North":0,"South":0,"E...	json	a few seconds ago
Data	{"temp":24,"humidity":40,"North":0,"South":0,"E...	json	a few seconds ago
Data	{"temp":24,"humidity":40,"North":0,"South":0,"E...	json	a few seconds ago

>

☐

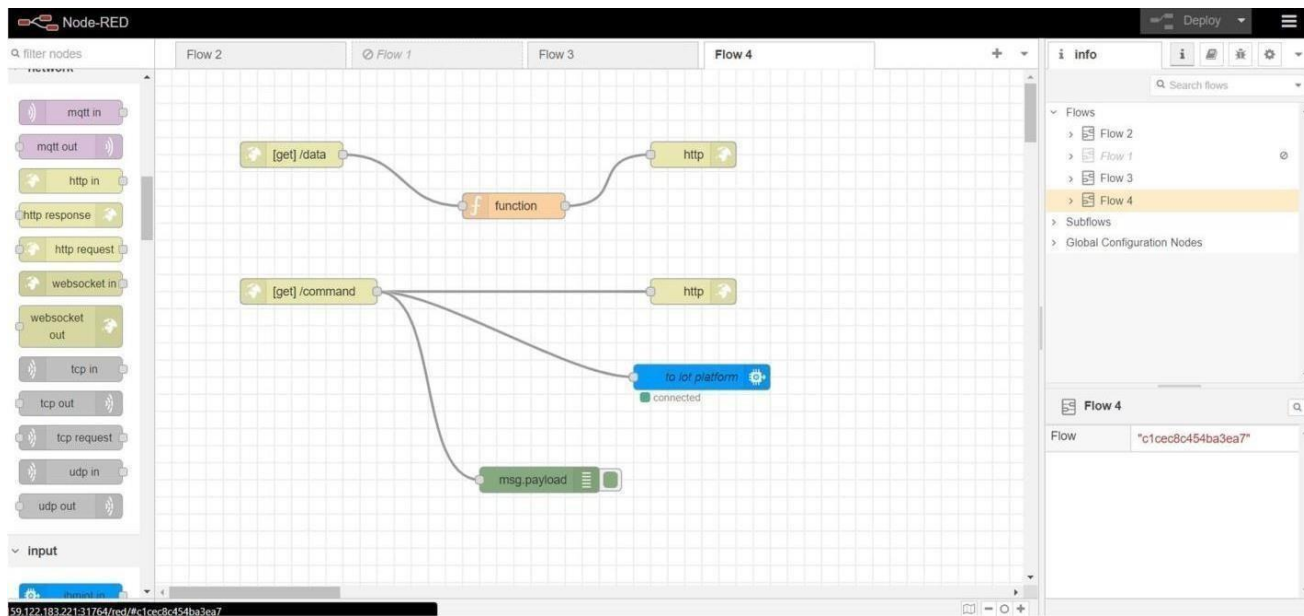
34567

Disconnected

rasperry pi

Device

Node Red – Connect with MIT AppInventor



Edit function node

Delete

Cancel

Done

⚙ Properties

📁 Name

Name



⚙ Setup

On Start

On Message

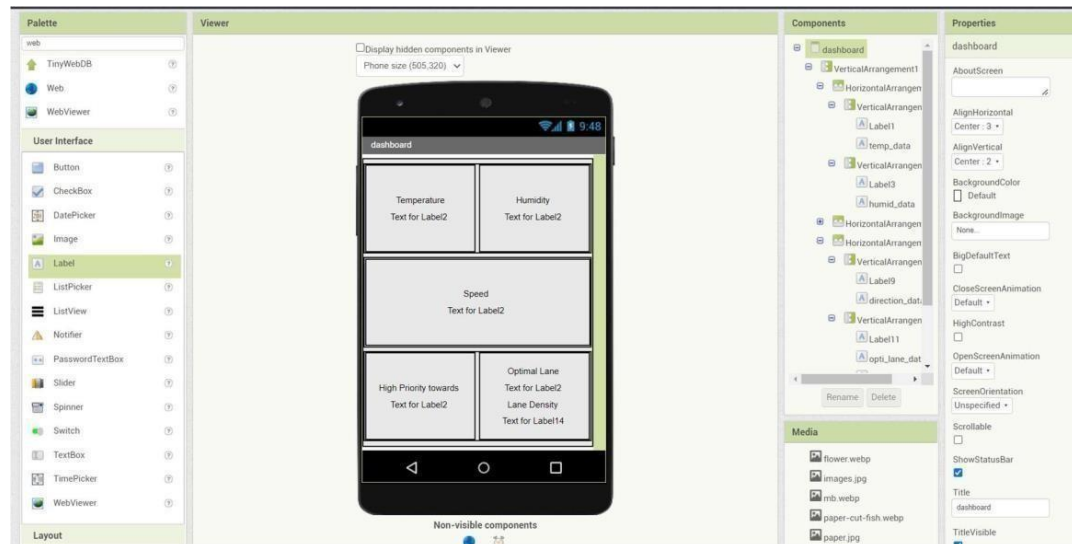
On Stop

```
1 msg.payload = {  
2   "temp":global.get("temp"),  
3   "humid":global.get("humid"),  
4   "speed":global.get("speed"),  
5   "n":global.get("n"),  
6   "s":global.get("s"),  
7   "e":global.get("e"),  
8   "w":global.get("w"),  
9   "res":global.get("res"),  
10  "l1":global.get("l1"),  
11  "l2":global.get("l2"),  
12  "l3":global.get("l3"),  
13  "l4":global.get("l4"),  
14  "optimal_lane":global.get("optimal_lane")  
15 };  
16 };  
17  
18 return msg;
```

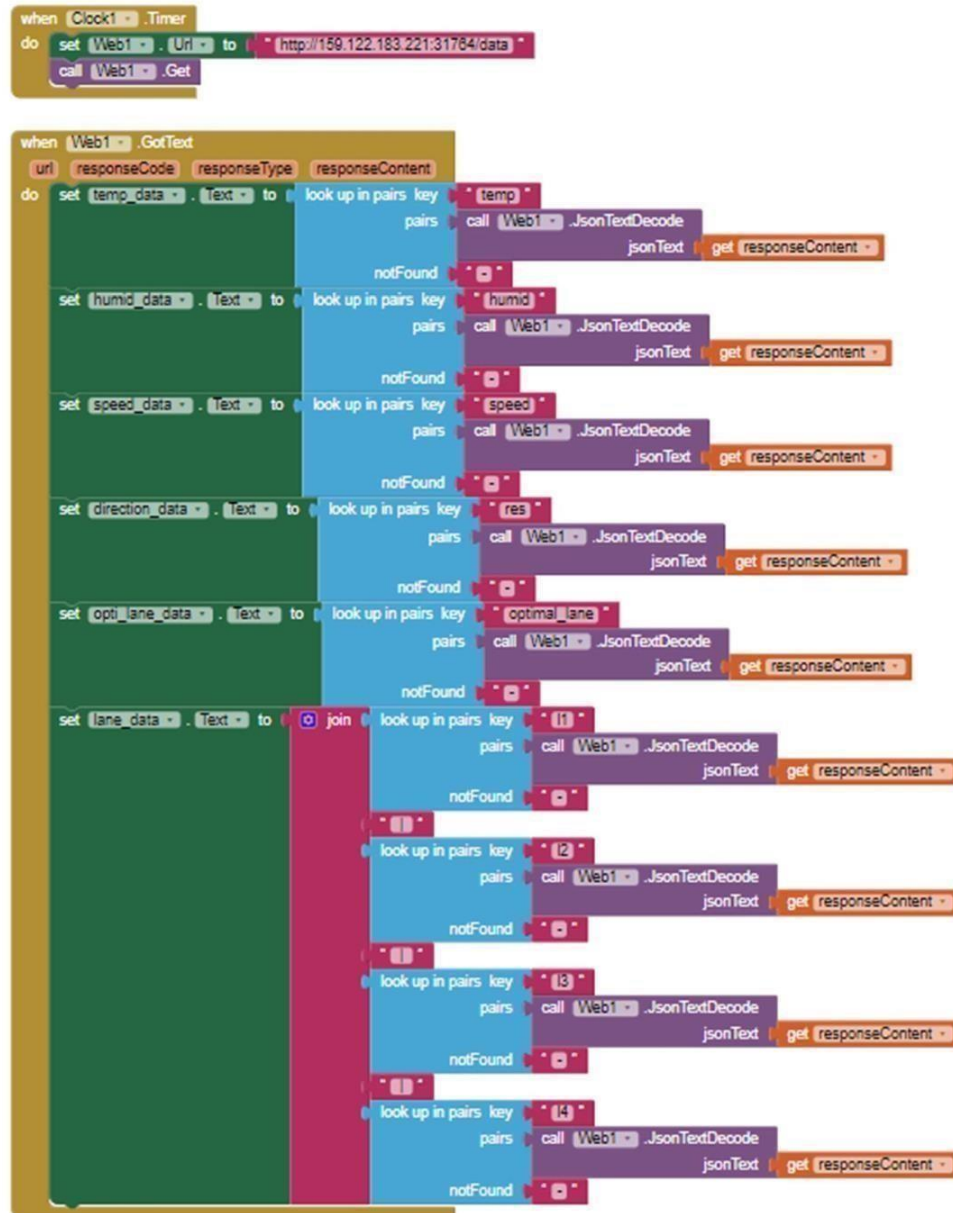
Output from Node red:

```
← → ↻ Not secure | 159.122.183.221:31764/data
Google YouTube MATLAB Document... LaTeX Base | Online... ECE Notes Seniors' Download - Know... see eSim Sanskrit Word List...
{"temp":14.9,"humid":86,"speed":80,"n":0,"s":0,"e":0,"w":1,"res":"West","11":69,"12":99,"13":19,"14":40,"optimal_lane":"Lane 3"}
```

MIT App Inventor UI design:



MIT App Inventor Backend design:



Sprint 3 delivery:

(OUTPUT) Display from MIT App:

