

Project Development Phase
Sprint 2

Date	16/11/2022
Team ID	PNT2022TMID29476
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-2	Safe Ride	USN-4	As a traveler , I should have a hustie free journey	20	Medium	N.SURYA N.SATHYAMOORTHY S.VADIVEL E.VETRISELVAN

Wokwi Simulation:

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 typr of dht connect
8
9 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
10
11 //-----credentials of IBM Accounts-----
12
13 #define ORG "psh4py"//IBM ORGANITION ID
14 #define DEVICE_TYPE "alert-device"//Device type mentioned in ibm watson IOT Platform
15 #define DEVICE_ID "4571"//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 perform a
24 char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd REPRESENT command type AND
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 //-----
31 WiFiClient wifiClient; // creating the instance for wificlient
32 PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client
33
34
35 void setup()// configureing the ESP32
```

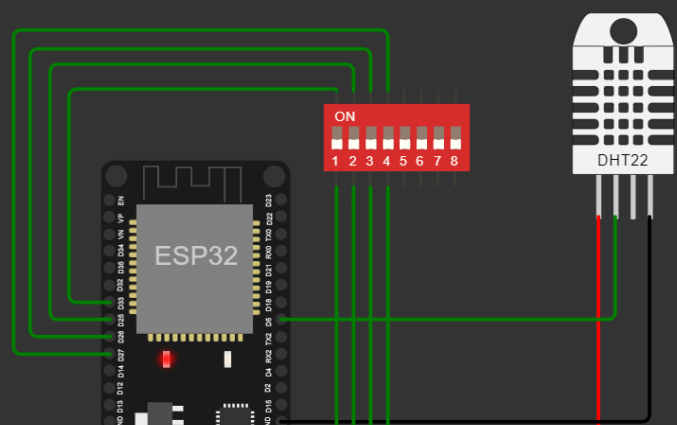
Simulation

00:10.891 104%

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```
{ "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
```

IoT Device – IoT Platform

Browse

Action

Device Types

Interfaces

Add Device

Device ID	Status	Device type	Class ID	Date Added	Descriptive Location
0001	Disconnected	edge-device-1	Device	Nov 5, 2022 8:56 PM	

Identity

Device Information

Recent Events

State

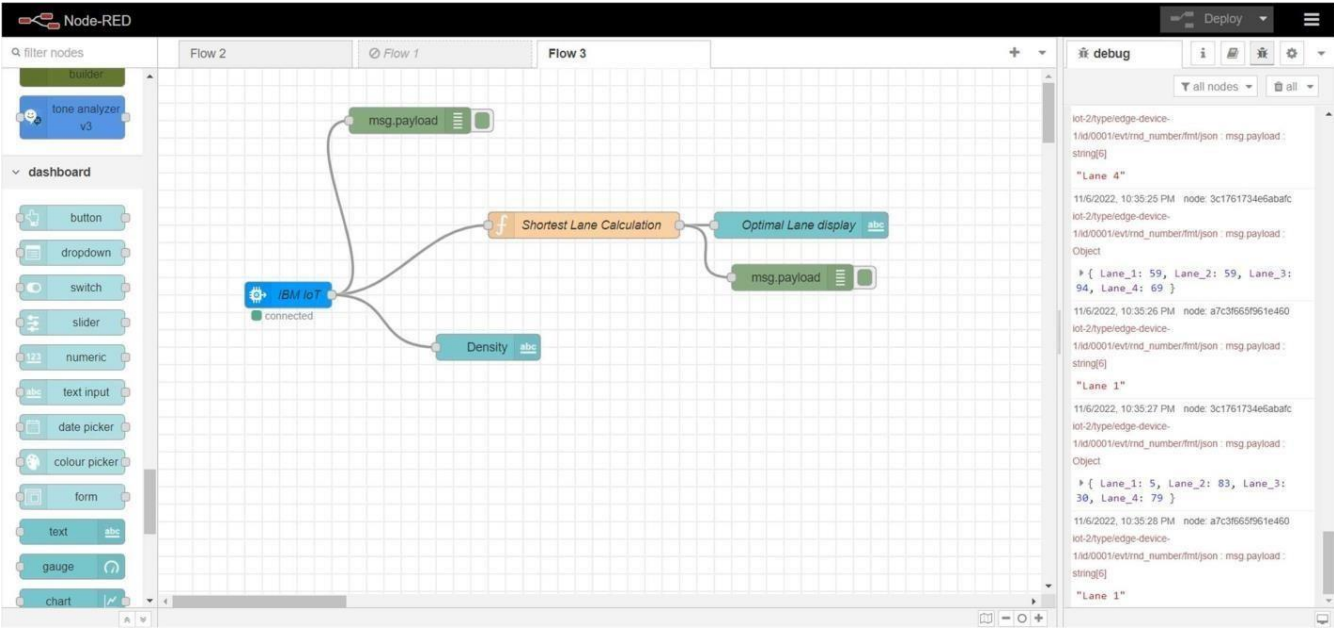
Logs

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

Event	Value	Format	Last Received
rnd_number	{"Lane_1":5,"Lane_2":83,"Lane_3":30,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":59,"Lane_2":59,"Lane_3":94,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":93,"Lane_2":88,"Lane_3":49,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":2,"Lane_2":61,"Lane_3":21,"Lane_4":...	json	a few seconds ago
rnd_number	{"Lane_1":70,"Lane_2":11,"Lane_3":69,"Lane_4":...	json	a few seconds ago

1 Simulation running

Node Red :



Edit function node

Delete

Cancel

Done

Properties

Name

Shortest Lane Calculation

Setup

On Start

On Message

On Stop

```
1 var l1 = msg.payload.Lane_1;
2 var l2 = msg.payload.Lane_2;
3 var l3 = msg.payload.Lane_3;
4 var l4 = msg.payload.Lane_4;
5
6 mini = Math.min(l1,l2,l3,l4);
7
8 res = "-";
9
10 switch(mini) {
11     case l1: res = "Lane 1"; break;
12     case l2: res = "Lane 2"; break;
13     case l3: res = "Lane 3"; break;
14     case l4: res = "Lane 4"; break;
15 }
16
17 msg.payload = res;
18
19 return msg;
```

Node Red Web UI

