

Project Development Phase
Sprint II

Team ID	PNT2022TMID30708
Project Name	Signs with Smart Connectivity for better road safety

SPRINT TARGETS:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-2	Safe Ride	USN-4	I should experience a hustle-free voyage as a traveller.	20	Medium	Janani.S Preethi.S Mohanapriya.P Elavarasi.G

WOKWI Simulation:

WOKWI
SAVE
SHARE
final_jot.ino copy
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 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 ORGANIZATION 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

```

Simulation
01:47.514 98%

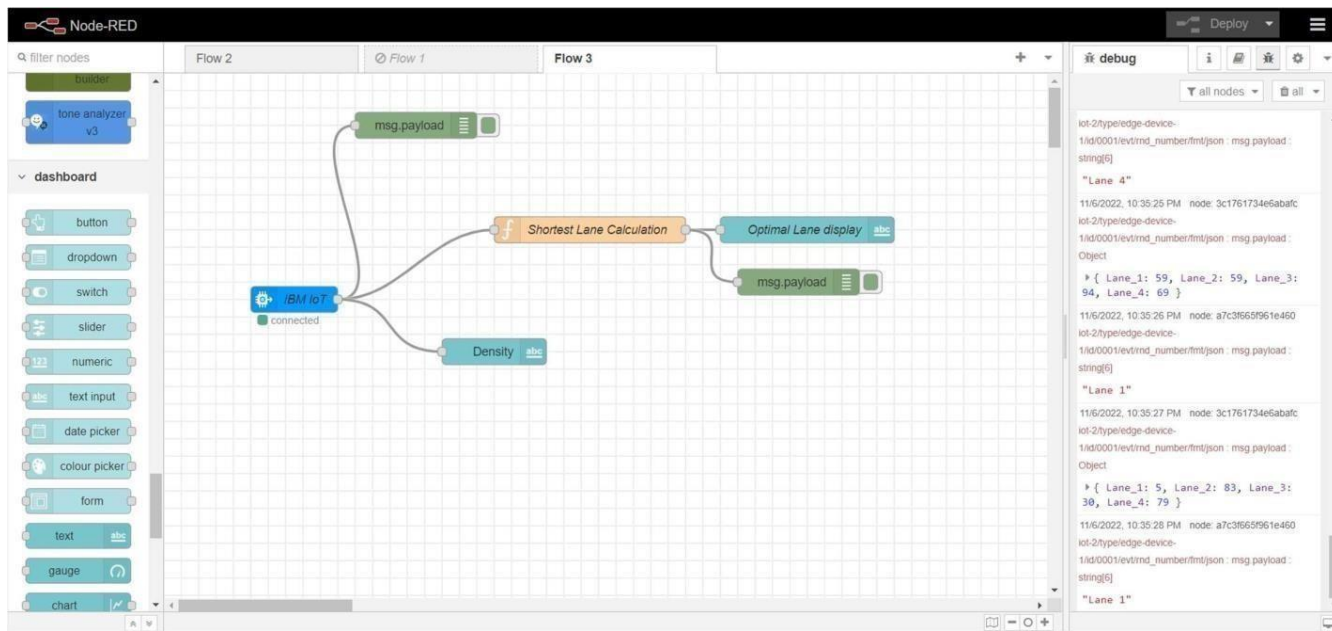
```

temp:37.40
humidity:86.00
Sending payload:
{"temp":37.40,"humidity":86.00,"North":0,"South":0,"East":0,"West":0}
Publish ok
Reconnecting client to psh4py.messaging.internetofthings.ibmcloud.com
.....

```

Type here to search
23°C Cloudy
08:23 13-11-2022

IoT Device – IoT Platform



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

Speed Limit



Environment Data

Temperature
16.1
Humidity
76.5

High Priority Vehicle Direction

High Priority
Towards North

Lane Density

Optimal Lane
Lane 1
Density
5 | 83 | 30 | 79