

Project Development Phase Sprint II

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

SPRINT TARGETS:

Sprint	Functional Requirement (Epic)	UserStory Number	UserStory/Task	StoryPoints	Priority	Team Members
Sprint-2	Safe Ride	USN-4	As a traveler , I should have a hustie free journey	20	Medium	Sowndharya, Akshaya, Ramani, umamaheswari

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

WOKWI

SAVE SHARE

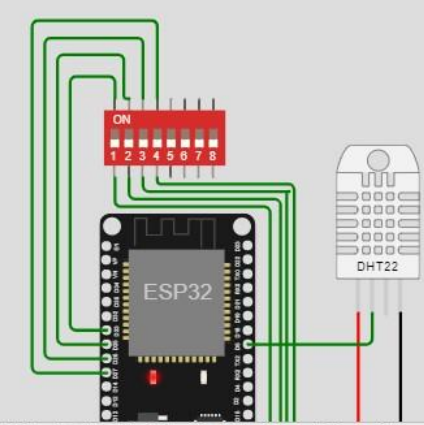
Docs

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 "rasperry"//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 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
```

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

rasperrypi

Device

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
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

>

☐

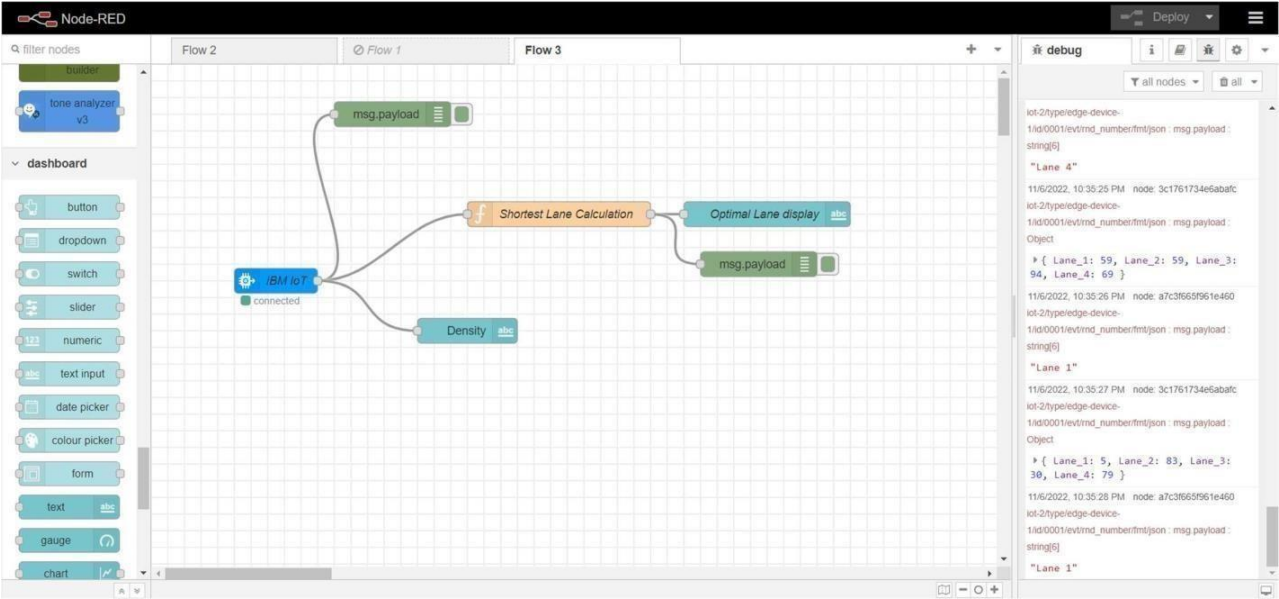
34567

Disconnected

rasperrypi

Device

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

