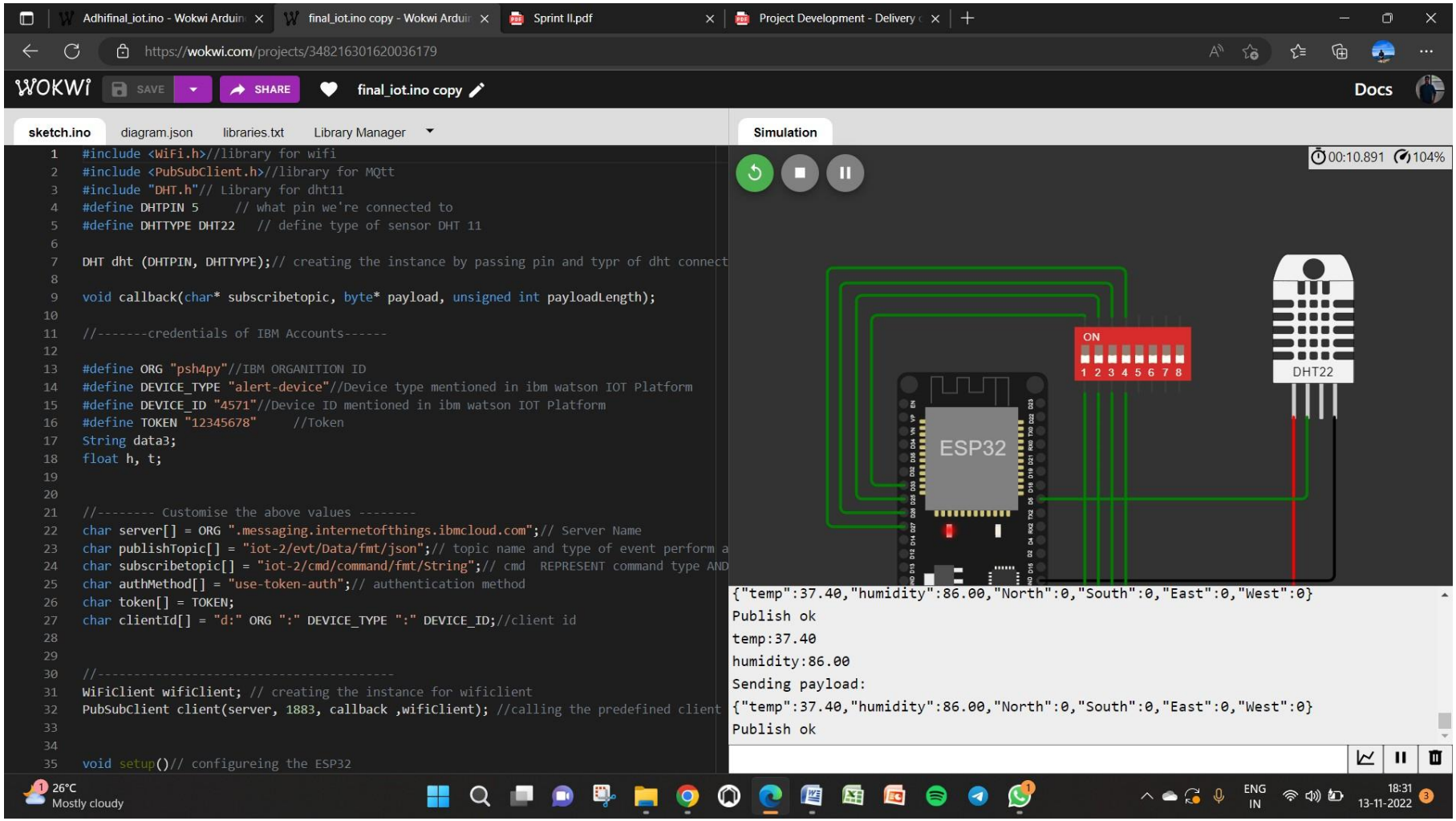
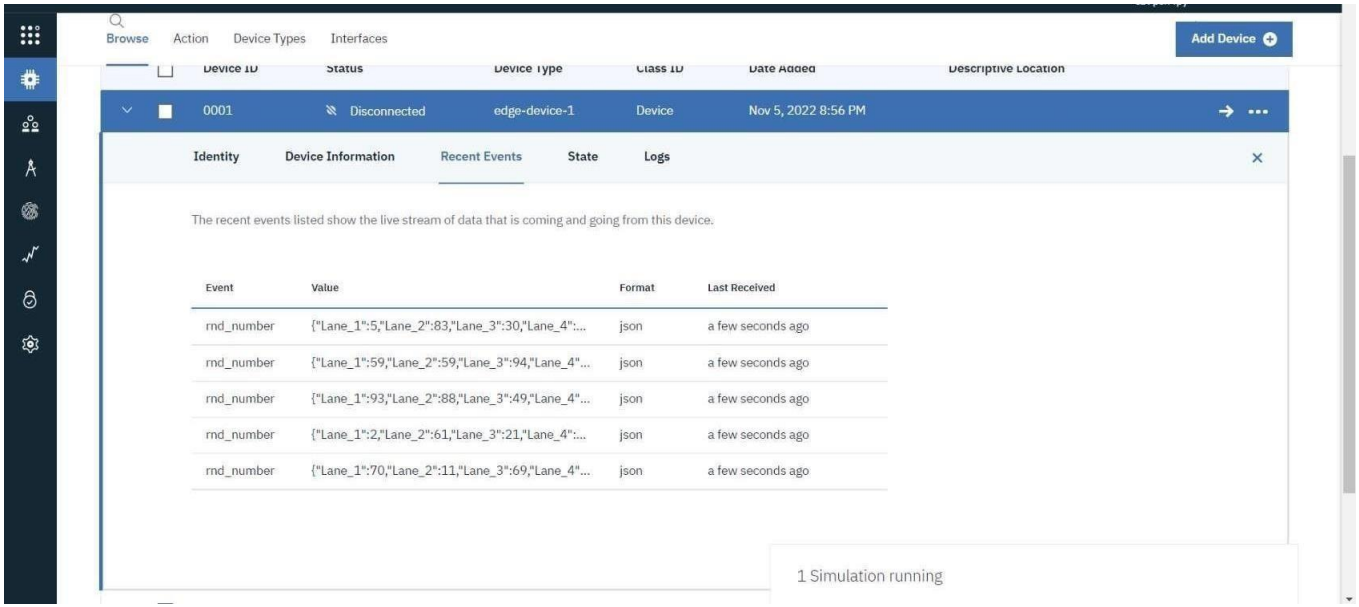
Wokwi Simulation

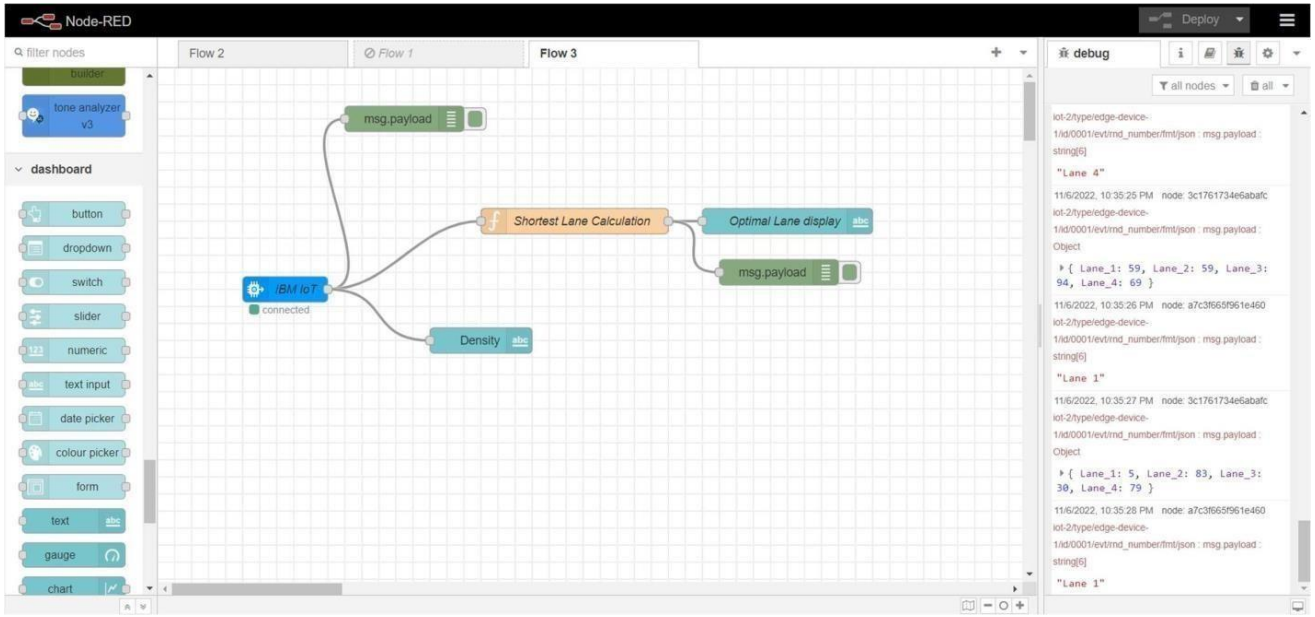


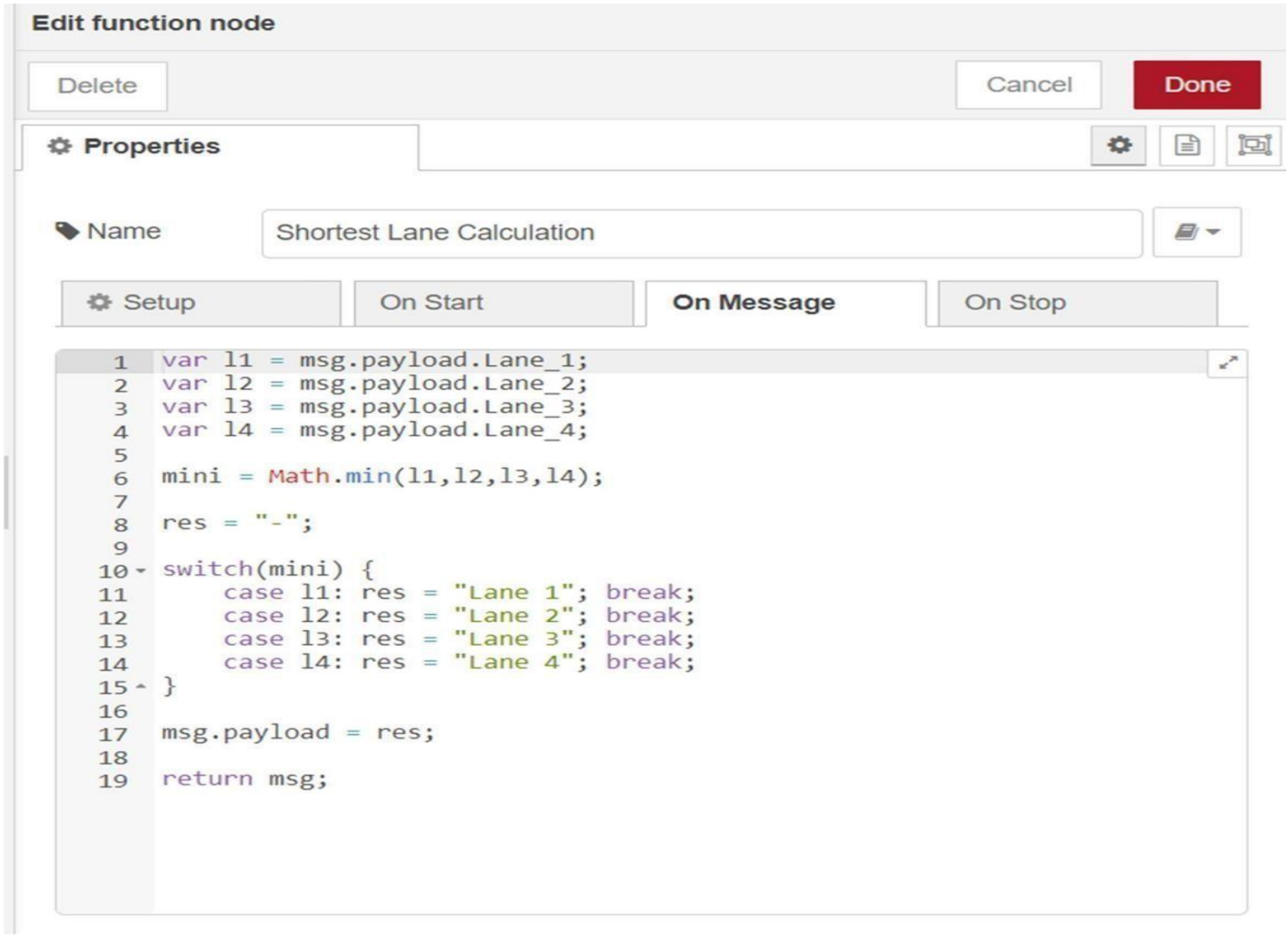

```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQtt
#include "DHT.h"// Library for dht11
#define DHTPIN 5     // what pin we're connected to
#define DHTTYPE DHT22   // define type of sensor DHT 11

DHT dht (DHTPIN, DHTTYPE);// creating the instance by passing pin and typr of dht connect

void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);

//-------credentials of IBM Accounts------

#define ORG "psh4py"//IBM ORGANITION ID
#define DEVICE_TYPE "alert-device"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "4571"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "12345678"     //Token
String data3;
float h, t;


//-------- Customise the above values --------
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform a
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd  REPRESENT command type AND
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id


//-----------------------------------------
WiFiClient wifiClient; // creating the instance for wificlient
PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client


void setup()// configureing the ESP32
```

IoT Device – IoT Platform



Node Red


Node-RED
Deploy
filter nodes
Flow 2
Flow 1
Flow 3
debug
all nodes
all
builder
tone analyzer v3
dashboard
button
dropdown
switch
slider
numeric
text input
date picker
colour picker
form
text
gauge
chart
msg.payload
Shortest Lane Calculation
Optimal Lane display
msg.payload
IBM IoT
connected
Density
iot-2/type/edge-device-1/id/0001/evt/rnd_number/fmt/json : msg.payload : string[6]
"Lane 4"
11/6/2022, 10:35:25 PM node: 3c1761734e6abafc
iot-2/type/edge-device-1/id/0001/evt/rnd_number/fmt/json : msg.payload : Object
{ Lane_1: 59, Lane_2: 59, Lane_3: 94, Lane_4: 69 }
11/6/2022, 10:35:26 PM node: a7c3f665f961e460
iot-2/type/edge-device-1/id/0001/evt/rnd_number/fmt/json : msg.payload : string[6]
"Lane 1"
11/6/2022, 10:35:27 PM node: 3c1761734e6abafc
iot-2/type/edge-device-1/id/0001/evt/rnd_number/fmt/json : msg.payload : Object
{ Lane_1: 5, Lane_2: 83, Lane_3: 30, Lane_4: 79 }
11/6/2022, 10:35:28 PM node: a7c3f665f961e460
iot-2/type/edge-device-1/id/0001/evt/rnd_number/fmt/json : msg.payload : string[6]
"Lane 1"


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