SPRINT 2

TEAM ID : PNT2022TMID41407

```
#include <WiFi.h>
#include <PubSubClient.h>
#include <DHT.h>
WiFiClient wifiClient;
String data3;
#define DHTTYPE DHT11
#define DHTPIN 9
DHT dht(DHTPIN, DHTTYPE);

#define ORG "v6wg8x"
#define DEVICE_TYPE "nodeMcu"
#define DEVICE_ID "NodeMCU"
#define TOKEN "123456789"
#define speed 0.034

void callback(char* topic, byte* playload, unsigned int payloadLength);

char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/Data/fmt/json"; char topic[] =
"iot-2/cmd/test/fmt/String"; char authMethod[] = "use-token-
auth"; char token[] = TOKEN; char clientId[] = "d:" ORG ":"
DEVICE_TYPE ":" DEVICE_ID; PubSubClient client(server, 1883,
callback , wifiClient); void publishData();

String command;
```

```
String data = "";

long duration; float
dist;




void setup()
{
  Serial.begin(115200);
dht.begin();   wifiConnect();
mqttConnect();
}

void loop() {
publishData();
delay(500);

  if (!client.loop()) {
mqttConnect();
  }
}

void wifiConnect() {
  Serial.print("Connecting to "); Serial.print("Wifi");
WiFi.begin("SSID","Passord");   while (WiFi.status()
!= WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
```

```
  Serial.print("WiFi connected, IP address: "); Serial.println(WiFi.localIP());
}

void mqttConnect() {
  if (!client.connected()) {
    Serial.print("Reconnecting MQTT client to "); Serial.println(server);
while (!client.connect(clientId, authMethod, token)) {
Serial.print(".");       delay(500);
    }
    initManagedDevice();
    Serial.println();
  }
}

void initManagedDevice() {
  if (client.subscribe(topic)) {
    Serial.println("IBM subscribe to cmd OK");
  } else {
    Serial.println("subscribe to cmd FAILED");
  }
}

void publishData()
{
  int sensorValue = analogRead(34); //MQT 135 connected to GPIO 34 (Analog ADC1_CH6)
  Serial.print("AirQua=");
  Serial.print(sensorValue, DEC);
Serial.println(" PPM");   float humid =
dht.readHumidity();   float temp =
dht.readTemperature(true);   float airQty
= sensorValue/4095;   String payload =
```

```
"{\"Temperature\":";   payload += temp;
payload += "}";

  if (client.publish(publishTopic, (char*) payload.c_str())) {
    Serial.println("Publish OK");
  }
  payload = "{\"Air Quality\":";   payload += airQty;
payload += "%}";   if (client.publish(publishTopic, (char*)
payload.c_str())) {
    Serial.println("Publish OK");
  }
}
void callback(char* subscribeTopic, byte* payload, unsigned int payloadLength) {
  Serial.print("callback invoked for topic:");
Serial.println(subscribeTopic);   for (int i =
0; i < payloadLength; i++) {     dist +=
(char)payload[i];
  }
  Serial.println("data:" + data3);
if (data3 == "lighton") {
    Serial.println(data3);
  }
  data3 = "";
}
```