```
#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <PubSubClient.h>
#include "DHT.h"

const char* ssid = "SMART-G";
const char* password = "10112019";

#define DHTPIN D6
#define G D0
#define DHTTYPE DHT11
DHT dht(DHTPIN, DHTTYPE);

#define ID "wvk75l"
#define DEVICE_TYPE "ESP8266"
#define DEVICE_ID "TEST"
#define TOKEN "TEST-1234"

char server[] = ID ".messaging.internetofthings.ibmcloud.com";
char publish_Topic1[] = "iot-2/evt/Data1/fmt/json";
char publish_Topic2[] = "iot-2/evt/Data2/fmt/json";
char publish_Topic3[] = "iot-2/evt/Data2/fmt/json";
char publish_Topic4[] = "iot-2/evt/Data2/fmt/json";
char authMethod[] = "use-token-auth";
char token[] = TOKEN;
char clientId[] = "d:" ID ":" DEVICE_TYPE ":" DEVICE_ID;

WiFiClient wifiClient;
PubSubClient client(server, 1883, NULL, wifiClient);

void setup() {
```

```
  pinMode(D0,OUTPUT);
  digitalWrite(D0,HIGH);
   Serial.begin(115200);
   dht.begin();
   Serial.println();
   WiFi.begin(ssid, password);
   while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
   }
   Serial.println("");
   Serial.println(WiFi.localIP());

   if (!client.connected()) {
      Serial.print("Reconnecting client to ");
      Serial.println(server);
      while (!client.connect(clientId, authMethod, token)) {
         Serial.print(".");
         delay(500);
      }
      Serial.println("Connected TO IBM IoT cloud!");
   }
}

long previous_message = 0;
void loop() {
   client.loop();
   long current = millis();
   if (current - previous_message > 3000) {
      previous_message = current;
       float hum = dht.readHumidity();
```

```
      float temp = dht.readTemperature();
      float MOI =  map(analogRead(A0), 0, 1023, 100, 0);
      float bi = map(MOI, 0, 100, 80, 0);
      if (isnan(hum) || isnan(temp)  ){
  Serial.println(F("Failed to read from DHT sensor!"));
  return;
}

Serial.print("Temperature: ");
Serial.print(temp);
Serial.print("°C");
Serial.print(" Humidity: ");
Serial.print(hum);
Serial.print("%");
Serial.print("RAIN FALL: ");
Serial.print(MOI);
    String payload = "{\"d\":{\"Name\":\"" DEVICE_ID "\"";
          payload += ",\"Temperature\":";
          payload += temp;
          payload += "}}";

     Serial.print("Sending payload: ");
     Serial.println(payload);

     if (client.publish(publish_Topic1, (char*) payload.c_str())) {
        Serial.println("Published successfully");
     } else {
        Serial.println("Failed");
     }
     String payload1 = "{\"d\":{\"Name\":\"" DEVICE_ID "\"";
          payload1 += ",\"Humidity\":";
```

```
        payload1 += hum;
        payload1 += "}}";
        Serial.print("Sending payload: ");
        Serial.println(payload1);
        Serial.println('\n');

     if (client.publish(publish_Topic2, (char*) payload1.c_str())) {
       Serial.println("Published successfully");
     } else {
       Serial.println("Failed");
     }
    String payload3 = "{\"d\":{\"Name\":\"" DEVICE_ID "\"";
        payload3 += ",\"RAIN FALL\":";
        payload3 += MOI;
        payload3 += "}}";

     Serial.print("Sending payload: ");
     Serial.println(payload3);

     if (client.publish(publish_Topic3, (char*) payload3.c_str())) {
       Serial.println("Published successfully");
     } else {
       Serial.println("Failed");
     }


String payload4 = "{\"d\":{\"Name\":\"" DEVICE_ID "\"";
        payload4 += ",\"SPEED LIMIT\":";
        payload4 += bi;
        payload4 += "}}";
```

```
      Serial.print("Sending payload: ");
      Serial.println(payload4);

      if (client.publish(publish_Topic4, (char*) payload4.c_str())) {
        Serial.println("Published successfully");
      } else {
        Serial.println("Failed");
      }
    }
}
```