SPRINT 4

Team ID	PNT2022TMID30378
Project Title	Hazardous Area Monitoring for Industrial Plant Powered By IOT

Code:

```
#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <PubSubClient.h>
#include <ESP8266WebServer.h>
#include <ESP8266HTTPClient.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);
int i =0;
#define ID "duozdv"
#define DEVICE_TYPE "ESP8266"
#define DEVICE_ID "TEST"
#define TOKEN "TEST-12345"

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(digitalRead(D1), 0, 1, 100, 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("SOIL MOITURE: ");
//  Serial.print(MOI);
//  Serial.print("ANIMAL AND BIRD: ");
//  Serial.print(bi);
//  if(MOI<=10)
//  {
//     digitalWrite(D0,LOW);
//     delay(100);
//     digitalWrite(D0,HIGH);
//   }
//   else
//   {
//     digitalWrite(D0,HIGH);
//   }
```

```
      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 += ",\"Moiture\":";
//            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 += ",\"Animal&Bird\":";
//            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");
//       }
//
//
  HTTPClient http;
  String postData;
  //String key = Serial.readString();
    //Serial.print(key);
  if(temp >= 35)//8870599026
  {
```

```
   i++;
   if(i<=1)
  {
   postData="username=fantasy&password=596692&to=9361692114&from=FSSMSS&message=Dear user your msg is ABNORMAL TEMPERATURE DETECTED LEVEL IS "+String(temp)+" C H is"+String(hum)+ " Sent By FSMSG FSSMSS&PEID=1501563800000030506&templateid=1507162882948811640";
    Serial.print(postData);
   http.begin("http://smsserver9.creativepoint.in/api.php");
  http.addHeader("Content-Type", "application/x-www-form-urlencoded");
  int httpCode = http.POST(postData);
  String payload = http.getString();
  Serial.println(payload);
  http.end();
  delay(1000);
  }
  }
if(temp<35)
{
   i=0;
}
 }
}
```