



DEVELOP A PYTHON SCRIPT

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TEAM ID	PNT2022TMID30647
Project Name	IoT Based smart crop Protection system for agriculture

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```
#include <ESP8266WiFi.h>
```

```
#include <WiFiClient.h>
```

```
#include <PubSubClient.h>
```

```
#include "DHT.h"
```

```
const char* ssid = "project1";
```

```
const char* password = "22222222";
```

```
#define DHTPIN 12
```

```
#define DHTTYPE DHT22
```

```
DHT dht(DHTPIN, DHTTYPE);
```

```
#define ID "jpg7s5"

#define DEVICE_TYPE "ESP8266"

#define DEVICE_ID "PRO"

#define TOKEN "JEEVITHAECE"


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 authMethod[] = "use-token-auth";
char token[] = TOKEN;
char clientId[] = "d:" ID ":" DEVICE_TYPE ":" DEVICE_ID;////////a-6758fk-
gbpgmf1xf8///SyKj8fKYlys)9wQ9at


WiFiClient wifiClient;

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


void setup() {
    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 = 34;  
        float temp = 35;  
        float level = 1;  
        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("%");
```

```
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 payload2 = "{\"d\":{\"Name\":\"" DEVICE_ID "\"";
    payload2 += ",\"Level\":";
    payload2 += level;
    payload2 += "\"}";
    Serial.print("Sending payload: ");
    Serial.println(payload2);
    Serial.println('\n');

    if (client.publish(publish_Topic2, (char*) payload1.c_str())) {
        Serial.println("Published successfully");
    } else {
        Serial.println("Failed");
    }

}

}

```