

# SPRINT 1

Date	05 November 2022
Team ID	PNT2022TMID04749
Project Name	Industry-Specific Intelligent Fire Management System

Wokwi project link:

<https://wokwi.com/projects/348649268096008787>

Output:

The screenshot shows the Wokwi IDE interface. The code editor on the left displays the initial code for the esp32-dht22.ino project. The simulation window on the right shows the hardware components (ESP32 and DHT22) and the status 'WIFI CONNECTED'.

```
1 #include <WiFi.h>
2 #include <PubSubClient.h>
3 #include <time.h>
4 #include "DHTesp.h"
5 #define temp_pin 15
6 void callback(char* topic, byte* payload, unsigned int payloadLength);
7 #define ORG "b33ga"
8 #define DEVICE_TYPE "Sound"
9 #define DEVICE_ID "2002"
10 #define TOKEN "12345678"
11 String data;
12 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
13 char publishTopic[] = "iot-2/evt/Data/fmt/json";
14 char subscribeTopic[] = "iot-2/cmd/test/fmt/String";
15 char authMethod[] = "use-token-auth";
16 char token[] = TOKEN;
17 char clientId[] = "d:" + ORG + ":" + DEVICE_TYPE + ":" + DEVICE_ID;
18 WiFiClient wifiClient;
19 PubSubClient client(server, 1883, callback, wifiClient);
20
21 const int DHT_PIN = 15;
22
23 DHTesp dhtSensor;
24
25
26 bool exhaust_fan_on = false;
27 bool sprinkler_on = false;
28
29 float temperature = 0;
30 int gas = 0;
31 int flame = 0;
32
33 String flame_status = "";
34 String accident_status = "";
35 String sprinkler_status = "";
36
37 void setup() {
38   Serial.begin(999999);
39   wifiConnect();
40   mqttConnect();
41   dhtSensor.setup(DHT_PIN, DHTesp::DHT22);
42 }
```

Simulation

Connecting to.....  
WIFI CONNECTED  
IP address:

The screenshot shows the Wokwi IDE interface. The code editor on the left displays the full code for the esp32-dht22.ino project. The simulation window on the right shows the output of the program, including temperature and humidity readings.

```
1 #include <WiFi.h>
2 #include <PubSubClient.h>
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37 void setup() {
38   Serial.begin(999999);
39   wifiConnect();
40   mqttConnect();
41   dhtSensor.setup(DHT_PIN, DHTesp::DHT22);
42 }
43
44
45
```

Simulation

Connecting to.....  
WIFI CONNECTED  
IP address:  
10.10.0.2  
Reconnecting to b33ga.messaging.internetofthings.ibmcloud.com  
iot-2/cmd/test/fmt/String  
subscribe to cmd ok

Temperature: 24.00°C  
Humidity: 40.0%

---  
Sending payload:{"temp normal"}  
publish ok  
Flame Status: No Fire  
Gas Status: There is no sign of a gas leak  
Sprinkler Status: not functioning  
Exhaust fan Status: Not functioning

\*\*\*\*\*

Temperature: 24.00°C  
Humidity: 40.0%

---  
Sending payload:{"temp normal"}  
publish ok  
Flame Status: No Fire  
Gas Status: There is no sign of a gas leak  
Sprinkler Status: not functioning  
Exhaust fan Status: Not functioning