

Sprint 2

Program:

```
#include <WiFi.h>
#include <WiFiClient.h>
#include <PubSubClient.h>
const char* ssid = "Wokwi-GUEST";
const char* password = "";
#define ORG "4fvguz"
#define DEVICE_TYPE "ESP32"
#define DEVICE_ID "ultrasonic_sensor"
#define TOKEN "12345678"
#define led 14
#define buzzer 15
int sensor_value=0;
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char pubTopic[] = "iot-2/evt/status1/fmt/json";
char authMethod[] = "use-token-auth";
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
WiFiClient wifiClient;
PubSubClient client(server, 1883, NULL, wifiClient);
void setup()
{
    Serial.begin(115200);
    pinMode(led, OUTPUT);
    pinMode(buzzer, OUTPUT);
    Serial.print("Connecting to ");
    Serial.print(ssid);
    WiFi.begin(ssid, password);
    while (WiFi.status() != WL_CONNECTED)
    {
        delay(500);
        Serial.print(".");
    }
    Serial.println("");
    Serial.print("WiFi connected, IP address: ");
    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("Bluemix connected");
}
}
void loop()
{
    sensor_value=random(300,10000);
    String payload = "{\"d\":{\"Name\":\"\" DEVICE_ID \"\"";
    payload += "\",\"GasValue\":\"";
    payload += sensor_value;
    payload += "ppm";
    payload += "}}";
    if(sensor_value>1000)
    {
        digitalWrite(led, HIGH);
        delay(500);
        tone(buzzer,1000);
        delay(1000);
        payload += "High";
    }
    Serial.print("Sending value: ");
    Serial.println(payload);
    if (client.publish(pubTopic, (char*) payload.c_str()))
    {
        Serial.println("Publish Success");
    }
    else
    {
        Serial.println("Publish Failed");
    }
    delay(100);
}

```

Output:

Event Payload

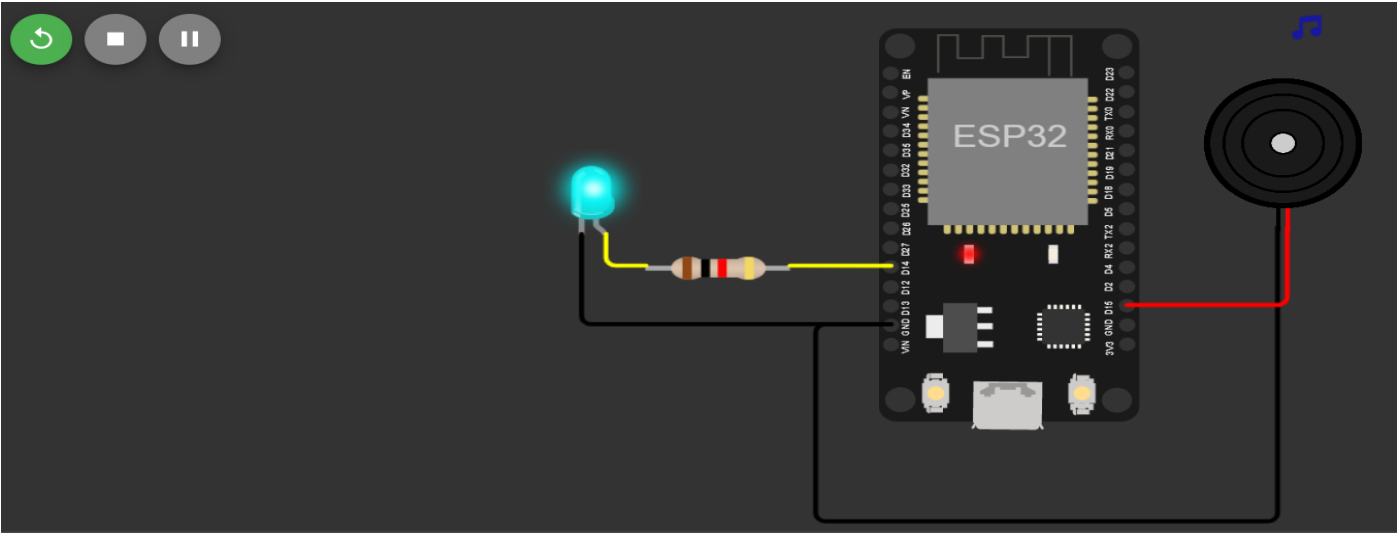
Event Name status1

Time Received Nov 4, 2022 10:06 AM

```

1  {
2  "type": "Buffer",
3  "data": [
4    123,
5    34,
6    100,

```



```
Publish Success
Sending value: {"d":{"Name":"ultrasonic_sensor","GasValue":8244ppm}}High
Publish Success
Sending value: {"d":{"Name":"ultrasonic_sensor","GasValue":2205ppm}}High
Publish Success
Sending value: {"d":{"Name":"ultrasonic_sensor","GasValue":4055ppm}}High
Publish Success
```

Identity	Device Information	Recent Events	State	Logs
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The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
status1	{"type":"Buffer","data":[123,34,100,34,58,123,3...	json	a few seconds ago
status1	{"type":"Buffer","data":[123,34,100,34,58,123,3...	json	a few seconds ago
status1	{"type":"Buffer","data":[123,34,100,34,58,123,3...	json	a few seconds ago
status1	{"type":"Buffer","data":[123,34,100,34,58,123,3...	json	a few seconds ago
status1	{"type":"Buffer","data":[123,34,100,34,58,123,3...	json	a few seconds ago

Link:
<https://wokwi.com/projects/347296885763998292>