

DEVELOP A PYTHON SCRIPT

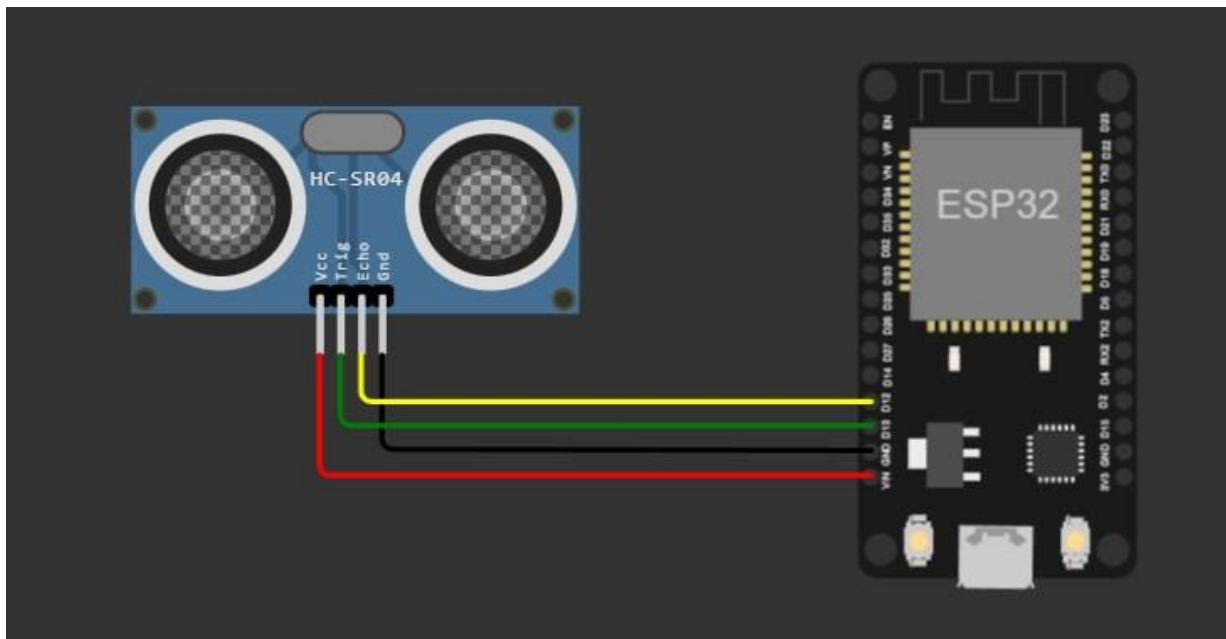
Team ID	PNT2022TMID21445
Project Name	Gas Leakage monitoring & Alerting system for Industries
Project TEAM members	19D114 – ARIKARASHRI. K 19D127 – NITHISH KUMAR. M 19D129 – RANJITH KUMAR. P 19D130 – RUTHRAM. M 19D135 – UDHAYAKUMAR. U

AIM:

- To Develop a python script to publish and subscribe to ibm iot platform

CIRCUIT DIAGRAM:

Link: <https://wokwi.com/projects/347227854809858643>



OUTPUTS:

WOKWI

Simulation

```

1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3 #define TRIG_PIN 13
4 #define ECHO_PIN 12
5
6
7
8 void callback(char* topic, byte* payload, unsigned int payloadLength);
9
10 //-----credentials of IBM Accounts-----
11
12 #define ORG "y9shro" //IBM ORGANIZATION ID
13 #define DEVICE_TYPE "abcde" //Device type mentioned in ibm watson IOT Platform
14 #define DEVICE_ID "13" //Device ID mentioned in ibm watson IOT Platform
15 #define TOKEN "12345678" //token
16
17
18 //----- Customise the above values -----
19 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
20 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of event perform a
21 char subscribeTopic[] = "iot-2/cmd/command/fmt/string"; // cmd REPRESENT command type AND
22 char authMethod[] = "use-token-auth"; // authentication method
23 char token[] = TOKEN;
24 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
25
26
27 //-----
28 WiFiClient wificlient; // creating the instance for wificlient
29 PubSubClient client(server, 1883, callback, wificlient); //calling the predefined client
30
31
32 void setup() // configuring the ESP32
33 {
34   Serial.begin(115200);
35 }

```

Sending payload: {"Distance":307.97,"MESSAGE":"SAFE"}
Publish ok
Sending payload: {"Distance":307.94,"MESSAGE":"SAFE"}
Publish ok
Sending payload: {"Distance":307.94,"MESSAGE":"SAFE"}
Publish ok
Sending payload: {"Distance":307.94,"MESSAGE":"SAFE"}
Publish ok

WOKWI

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```

Sending payload: {"Distance":41.99,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":41.99,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":41.99,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":41.99,"MESSAGE":"ALERT"}
Publish ok

IBM Watson IoT Platform

13 Connected abcde Device Nov 2, 2022 8:17 PM

Event	Value	Format	Received
Data	{"Distance":168.96,"MESSAGE":"SAFE"}	json	a few seconds ago
Data	{"Distance":168.96,"MESSAGE":"SAFE"}	json	a few seconds ago
Data	{"Distance":168.96,"MESSAGE":"SAFE"}	json	a few seconds ago
Data	{"Distance":41.99,"MESSAGE":"ALERT"}	json	a few seconds ago
Data	{"Distance":42.11,"MESSAGE":"ALERT"}	json	a few seconds ago