

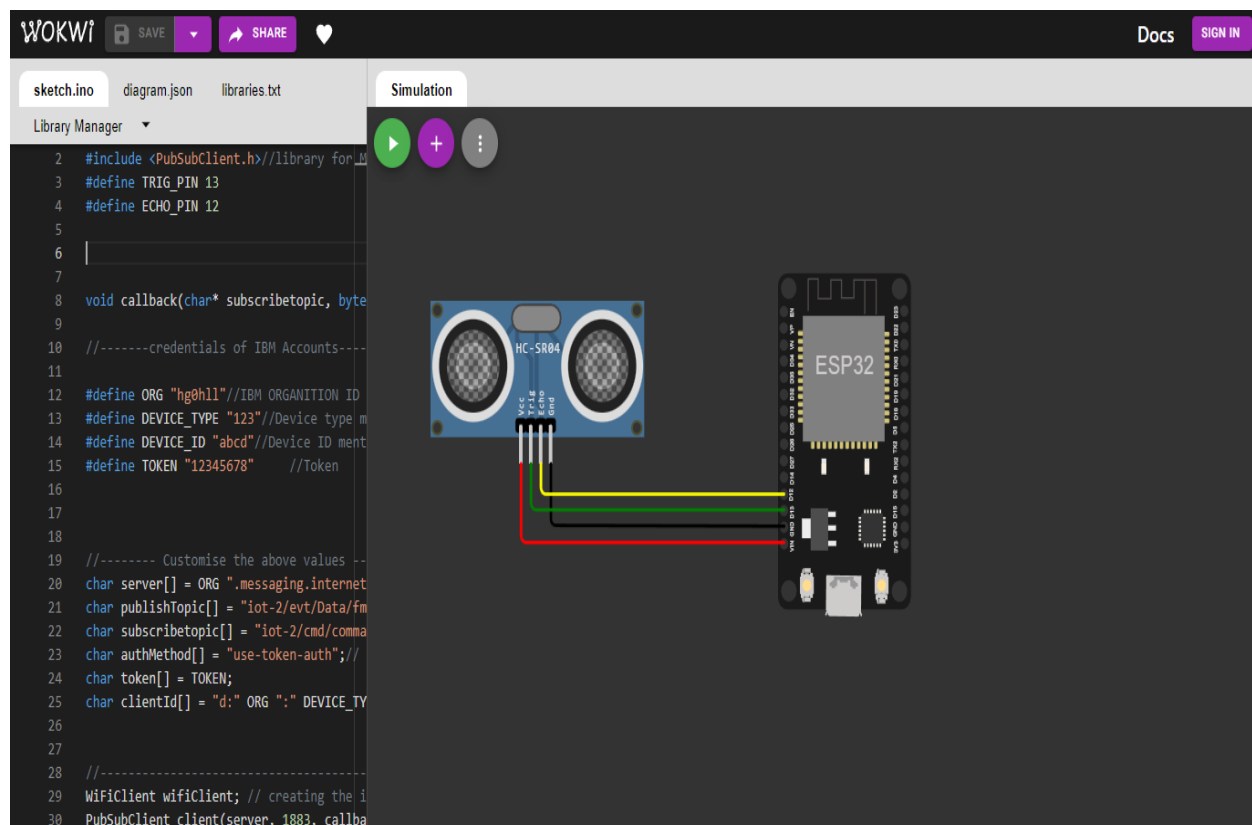
ASSIGNMENT – 4

| | |
|--------------|--|
| Date | 05-11-2022 |
| Team ID | PNT2022TMID06806 |
| Project name | Gas leakage monitoring and alerting system |

Objective:

Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events.

Circuit diagram:



WOKWI

SAVE

SHARE

Docs

SIGN UP

sketch.ino

diagram.json

libraries.txt

Library Manager

Simulation

00:17.262 53%

```

2 #include <PubSubClient.h> //library for MQTT
3 #define TRIG_PIN 13
4 #define ECHO_PIN 12
5
6
7
8 void callback(char* subscribetopic, byte
9
10 //-----credentials of IBM Accounts-----
11
12 #define ORG "hg0hl1" //IBM ORGANITION ID
13 #define DEVICE_TYPE "123" //Device type m
14 #define DEVICE_ID "abcd" //Device ID ment
15 #define TOKEN "12345678" //Token
16
17
18 //----- Customise the above values --
19
20 char server[] = ORG ".messaging.internet
21 char publishTopic[] = "iot-2/evt/Data/fm
22 char subscribetopic[] = "iot-2/cmd/commo
23 char authMethod[] = "use-token-auth"; //
24 char token[] = TOKEN;
25 char clientId[] = "d:" ORG ":" DEVICE_TY
26
27
28 //-----
29 WiFiClient wifiClient; // creating the
30 PubSubClient client(server, 1883, callba

```

Publish ok

Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}

Publish ok

Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}

Publish ok

Sending payload: {"Distance":84.98,"MESSAGE":"ALERT"}

Publish ok

Output:

Browse

Action

Device Types

Interfaces

Add Device

12

Connected

abcd

Device

Oct 19, 2022 10:06 PM

→ ...

Identity

Device Information

Recent Events

State

Logs

×

The recent events listed show the live stream of data that is coming and going from this device.

| Event | Value | Format | Last Received |
|-------|---------------------|--------|-------------------|
| Data | {"MESSAGE":"ALERT"} | json | a few seconds ago |
| Data | {"MESSAGE":"ALERT"} | json | a few seconds ago |
| Data | {"MESSAGE":"ALERT"} | json | a few seconds ago |
| Data | {"MESSAGE":"ALERT"} | json | a few seconds ago |
| Data | {"MESSAGE":"ALERT"} | json | a few seconds ago |

>

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Disconnected

ZXCV

Device

Oct 20, 2022 6:11 PM