

## Assignment -1

Assignment Date	08 NOVEMBER 2022
Student Name	DHIVANESH M R
Student Roll Number	111519106027
Maximum Marks	2 Marks

### Assignment 4:

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. Upload document with wokwi share link and images of IBM cloud.

**Solution:**

**CODE:**

```
esp32-blink.ino  diagram.json  libraries.txt  Library Manager  ▼

1  #include <WiFi.h>
2  #include <WiFiClient.h>
3  #include <PubSubClient.h>
4  const int trigPin = 5;
5  const int echoPin = 18;
6  //define sound speed in cm/us
7  #define SOUND_SPEED 0.034
8  #define CM_TO_INCH 0.393701
9  long duration;
10 float distanceCm;
11 float distanceInch;
12
13
14 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
15 //-----credentials of IBM Accounts-----
16
17 #define ORG "f1eg7e"//IBM ORGANITION ID
18 #define DEVICE_TYPE "ultrasonic"//Device type mentioned in ibm watson IOT Platform
19 #define DEVICE_ID "shud_2"//Device ID mentioned in ibm watson IOT Platform
20 #define TOKEN "CVzAxlfQuG7sa_?WKZ" //Token
21 String data3;
22
23
24
25 //----- Customise the above values -----
26 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
27 char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform a
28 char subscribetopic[] = "iot-2/cmd/test/fmt/String";// cmd REPRESENT command type AND CO
29 char authMethod[] = "use-token-auth";// authentication method
30 char token[] = TOKEN;
31 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id
32
33 WiFiClient wificlient; // creating the instance for wificlient
34 PubSubClient client(server, 1883, callback ,wificlient);
35
```



