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wokwi.com/projects/346782026684170836

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sketch.ino ● diagram.json libraries.txt Library Manager

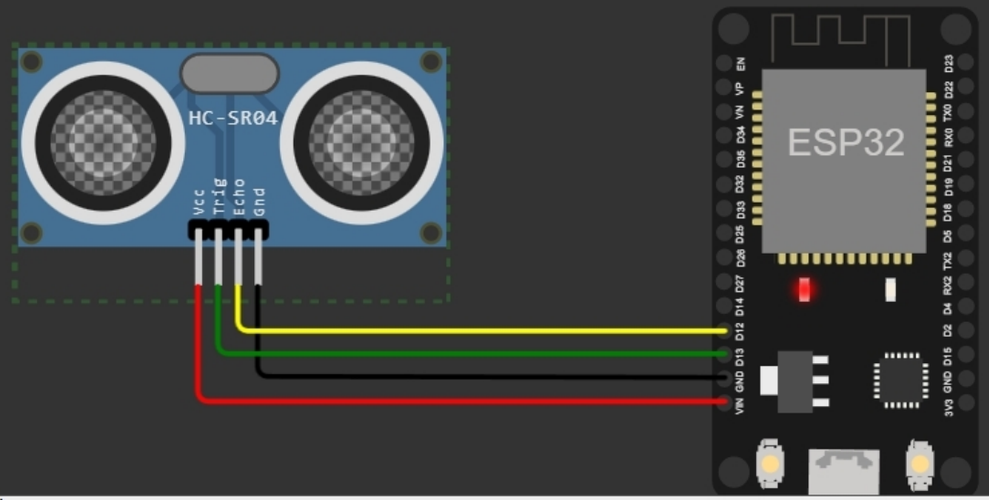
```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQtt
#define TrigPIN 15
#define EchoPIN 4
#define MINDIST 100



void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);

//-------credentials of IBM Accounts------

#define ORG "8tiskp"//IBM ORGANITION ID
#define DEVICE_TYPE "Bigbang"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "0431"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "12345678"      //Token
String data3;
float h, t;


//-------- Customise the above values --------
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform a
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd  REPRESENT command type AND
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id


//-----------------------------------------
WiFiClient wificlient; // creating the instance for wificlient
PubSubClient client(server, 1883, callback ,wificlient);  //calling the predefined client


void setup()// configureing the ESP32
```

Simulation

00:57.509 50%

Editing Ultrasonic Distance Sensor

Distance: 228cm




```
Publish ok
Sending payload: {"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"MESSAGE":"ALERT"}
Publish ok
```

Type here to search 26°C Cloudy 10:22 AM 11/9/2022

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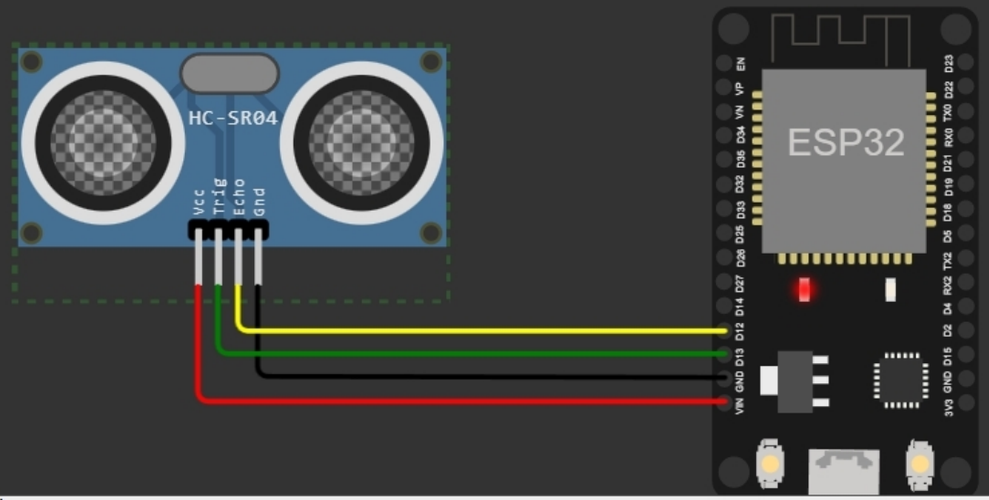
```
34
35  void setup()// configureing the ESP32
36  {
37    Serial.begin(115200);
38    pinMode(TrigPIN, OUTPUT);
39    digitalWrite(TrigPIN, LOW);
40    pinMode(EchoPIN, INPUT);
41    delay(10);
42    Serial.println();
43    wificonnect();
44    mqttconnect();
45  }
46
47  void loop()// Recursive Function
48  {
49    unsigned long t1;
50    unsigned long t2;
51    unsigned long pulse_Width;
52    float distance;
53
54    digitalWrite(TrigPIN, HIGH);
55    delayMicroseconds(10);
56    digitalWrite(TrigPIN, LOW);
57
58    pulse_Width = pulseIn(EchoPIN,HIGH);
59
60    distance= pulse_Width *0.034 / 2;
61
62    if(distance<100)
63    {
64      PublishData();
65    }
66
67    delay(1000);
68    if (!client.loop()) {
69      mqttconnect();
```

Simulation

01:02.193 81%

Editing Ultrasonic Distance Sensor

Distance: 228cm

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Publish ok
Sending payload: {"MESSAGE":"ALERT"}
Publish ok
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Sending payload: {"MESSAGE":"ALERT"}
Publish ok
```

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sketch.ino ● diagram.json libraries.txt Library Manager

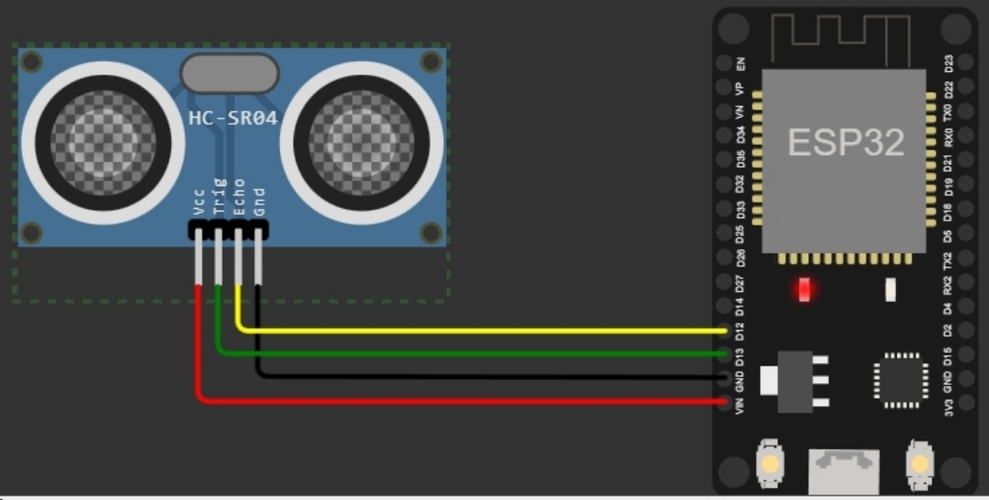
```
67    delay(1000);
68    if (!client.loop()) {
69      mqttconnect();
70    }
71  }
72
73
74
75  /*.....retrieving to Cloud.....
76
77  void PublishData() {
78    mqttconnect();//function call for connecting to ibm
79    /*
80       creating the String in in form JSon to update the data to ibm cloud
81    */
82    String payload = "{\"MESSAGE\":\"ALERT\"}";
83
84
85    Serial.print("Sending payload: ");
86    Serial.println(payload);
87
88
89    if (client.publish(publishTopic, (char*) payload.c_str())) {
90      Serial.println("Publish ok");// if it sucessfully upload data on the cloud then it wi
91    } else {
92      Serial.println("Publish failed");
93    }
94
95  }
96
97
98  void mqttconnect() {
99    if (!client.connected()) {
100     Serial.print("Reconnecting client to ");
101     Serial.println(server);
```

Simulation

01:06.743 83%

Editing Ultrasonic Distance Sensor

Distance: 228cm

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Publish ok
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Publish ok
```

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WOKWI SAVE SHARE Docs SIGN UP

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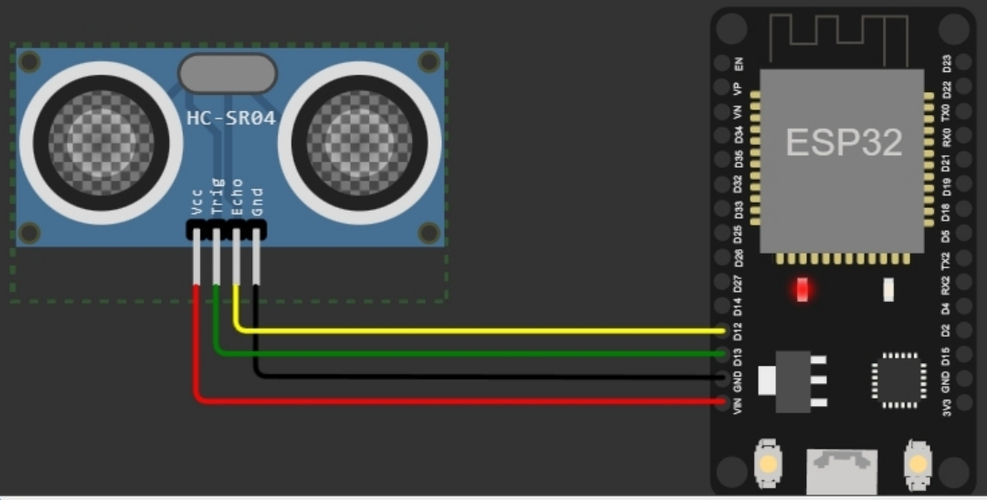
```
      initManagedDevice();
      Serial.println();
    }
}
void wificonnect() //function defination for wificonnect
{
  Serial.println();
  Serial.print("Connecting to ");

  WiFi.begin("Wokwi-GUEST", "", 6);//passing the wifi credentials to establish the connec
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");
  Serial.println("WiFi connected");
  Serial.println("IP address: ");
  Serial.println(WiFi.localIP());
}

void initManagedDevice() {
  if (client.subscribe(subscribetopic)) {
    Serial.println((subscribetopic));
    Serial.println("subscribe to cmd OK");
  } else {
    Serial.println("subscribe to cmd FAILED");
  }
}

void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
{

}
```

Simulation

01:12.778 93%

Editing Ultrasonic Distance Sensor

Distance: 228cm




```
Publish ok
Sending payload: {"MESSAGE":"ALERT"}
Publish ok
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Publish ok
Sending payload: {"MESSAGE":"ALERT"}
Publish ok
```

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8tiskp.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

keerthisnake0431@gmail.com
ID: 8tiskp

Browse | Action | Device Types | Interfaces

Add Device

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

Items per page 50 | 1–1 of 1 item

1 of 1 page 1

0 Simulations running

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