

IBM Service Details - IBM Cloud IBM Watson IoT Platform WhatsApp sketch.ino copy - Wokwi

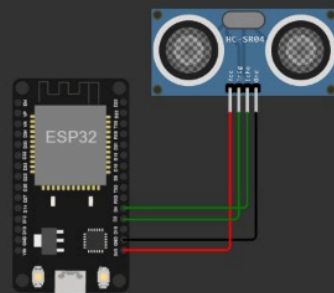
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sketch.ino diagram.json libraries.txt Library Manager

```
1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3
4 int trigpin=2;
5 int echopin=4;
6 String data3;
7
8 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength) {
9   #define ORG "p0bejs" //IBM ORGANITION ID
10  #define DEVICE_TYPE "gas" //Device type mentioned in ibm watson IOT Platform
11  #define DEVICE_ID "0809" //Device ID mentioned in ibm watson IOT Platform
12  #define TOKEN "12345678" //Token
13
14  char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server
15  char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of
16  char subscribetopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT
17  char authMethod[] = "use-token-auth"; // authentication method
18  char token[] = TOKEN;
19  char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
20
21  WiFiClient wifiClient; // creating the instance for wificlient
22  PubSubClient client(server, 1883, callback, wifiClient); //calling the p
23
24
25  void setup() {
26    Serial.begin(9600);
27    Serial.println("Hello, ESP32!");
28  }
```

Simulation



Sending payload: {"Distance":25.18,"Message":"alert"}
Publish ok
Distance: 25.24 cms
Sending payload: {"Distance":25.24,"Message":"alert"}
Publish ok
Distance: 171.52 cms
Distance: 171.43 cms

86°F Haze 14:49 10-11-2022

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```
34
35 void setup()// configuring 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();

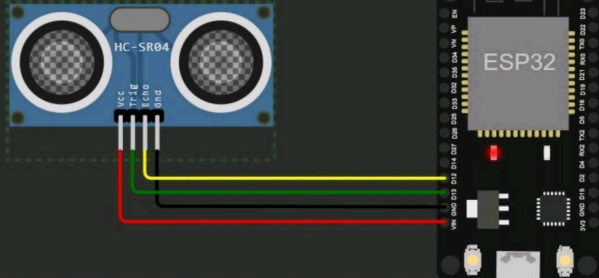
```

Simulation

01:02.193 81%

Editing Ultrasonic Distance Sensor

Distance: 228cm



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

Type here to search

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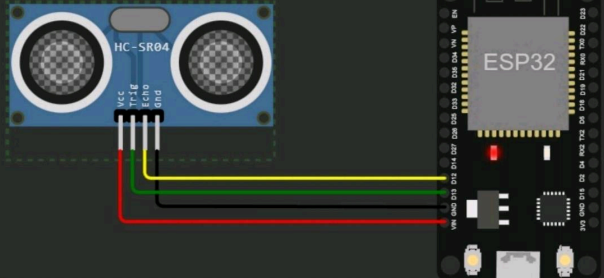
```
67 delay(1000);
68 if (!client.loop()) {
69   mqttconnect();
70 }
71 }
72
73
74
75 /*.....retrieving to Cloud.....*/
76
77 void PublishData() {
78   mqttconnect();//function call for connecting to ibm
79   /*
80    * creating the String in in form JSON to update the data to ibm cloud
81    */
82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



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

Type here to search

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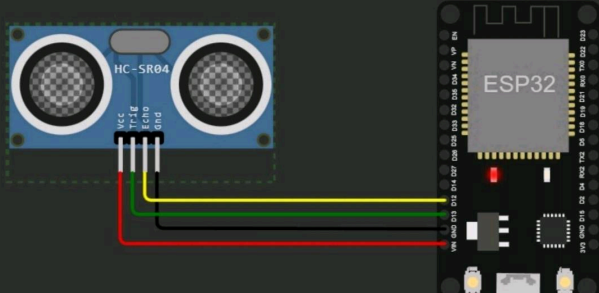
```
107 initManagedDevice();
108 Serial.println();
109 }
110
111 void wificonnect() //function definition for wificonnect
112 {
113     Serial.println();
114     Serial.print("connecting to ");
115
116     Wifi.begin("wokwi-GUEST", "", 6);//passing the wifi credentials to establish the connect
117     while (Wifi.status() != WL_CONNECTED) {
118         delay(500);
119         Serial.print(".");
120     }
121     Serial.println("");
122     Serial.println("Wifi connected");
123     Serial.println("IP address: ");
124     Serial.println(Wifi.localIP());
125 }
126
127 void initManagedDevice() {
128     if (client.subscribe(subscribetopic)) {
129         Serial.println(subscribetopic);
130         Serial.println("subscribe to cmd OK");
131     } else {
132         Serial.println("subscribe to cmd FAILED");
133     }
134 }
135
136 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
137 {
138 }
139 }
```

Simulation

01:12.778 93%

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

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