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wokwi.com/projects/346782026684170836

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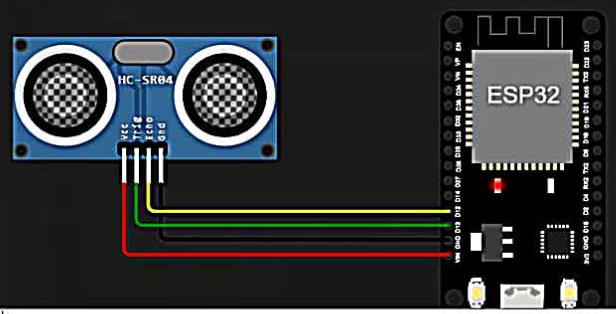
sketch.ino ● diagram.json libraries.txt Library Manager

```
#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 "q1cni1"//IBM ORGANITION ID
#define DEVICE_TYPE "gas"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "1361"//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

00:29.790 102%




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

86°F Partly sunny

ENG IN 14:40 09-11-2022

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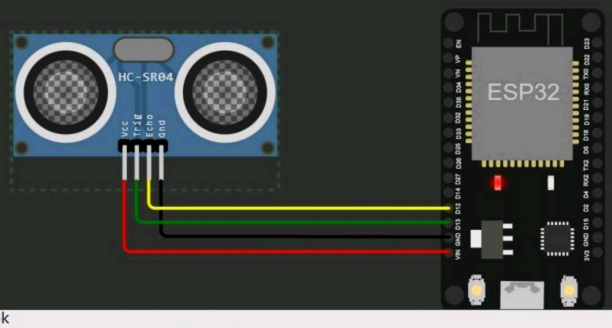
```
void setup()// configureing the ESP32
{
  Serial.begin(115200);
  pinMode(TrigPIN, OUTPUT);
  digitalWrite(TrigPIN, LOW);
  pinMode(EchoPIN, INPUT);
  delay(10);
  Serial.println();
  wificonnect();
  mqttconnect();
}

void loop()// Recursive Function
{
  unsigned long t1;
  unsigned long t2;
  unsigned long pulse_Width;
  float distance;

  digitalWrite(TrigPIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TrigPIN, LOW);

  pulse_Width = pulseIn(EchoPIN,HIGH);

  distance= pulse_Width *0.034 / 2;

  if(distance<100)
  {
    PublishData();
  }

  delay(1000);
  if (!client.loop()) {
    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

26°C Cloudy

10:22 AM 11/9/2022

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WOKWI SAVE SHARE Docs SIGN IN

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

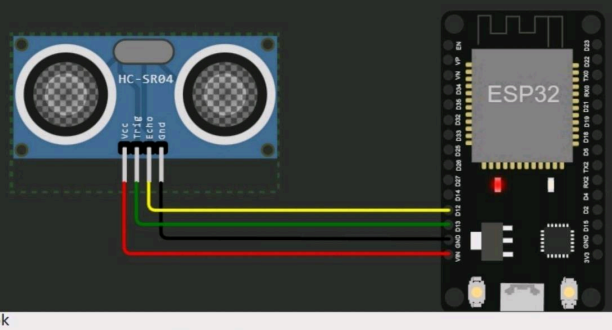
```
  delay(1000);
  if (!client.loop()) {
    mqttconnect();
  }
}



/*.....................................retrieving to Cloud.............................

void PublishData() {
  mqttconnect();//function call for connecting to ibm
  /*
     creating the String in in form JSon to update the data to ibm cloud
  */
  String payload = "{\"MESSAGE\":\"ALERT\"}";


  Serial.print("Sending payload: ");
  Serial.println(payload);


  if (client.publish(publishTopic, (char*) payload.c_str())) {
    Serial.println("Publish ok");// if it sucessfully upload data on the cloud then it wi
  } else {
    Serial.println("Publish failed");
  }

}


void mqttconnect() {
  if (!client.connected()) {
    Serial.print("Reconnecting client to ");
    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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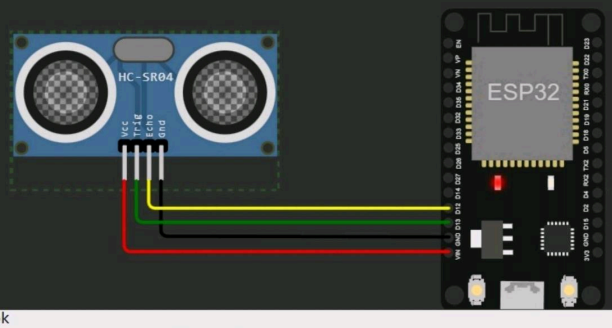
```
    initManagedDevice();
    Serial.println();
  }
}
void wificonnect() //function defination for wificonnect
{
  Serial.println();
  Serial.print("Connecting to ");

  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%

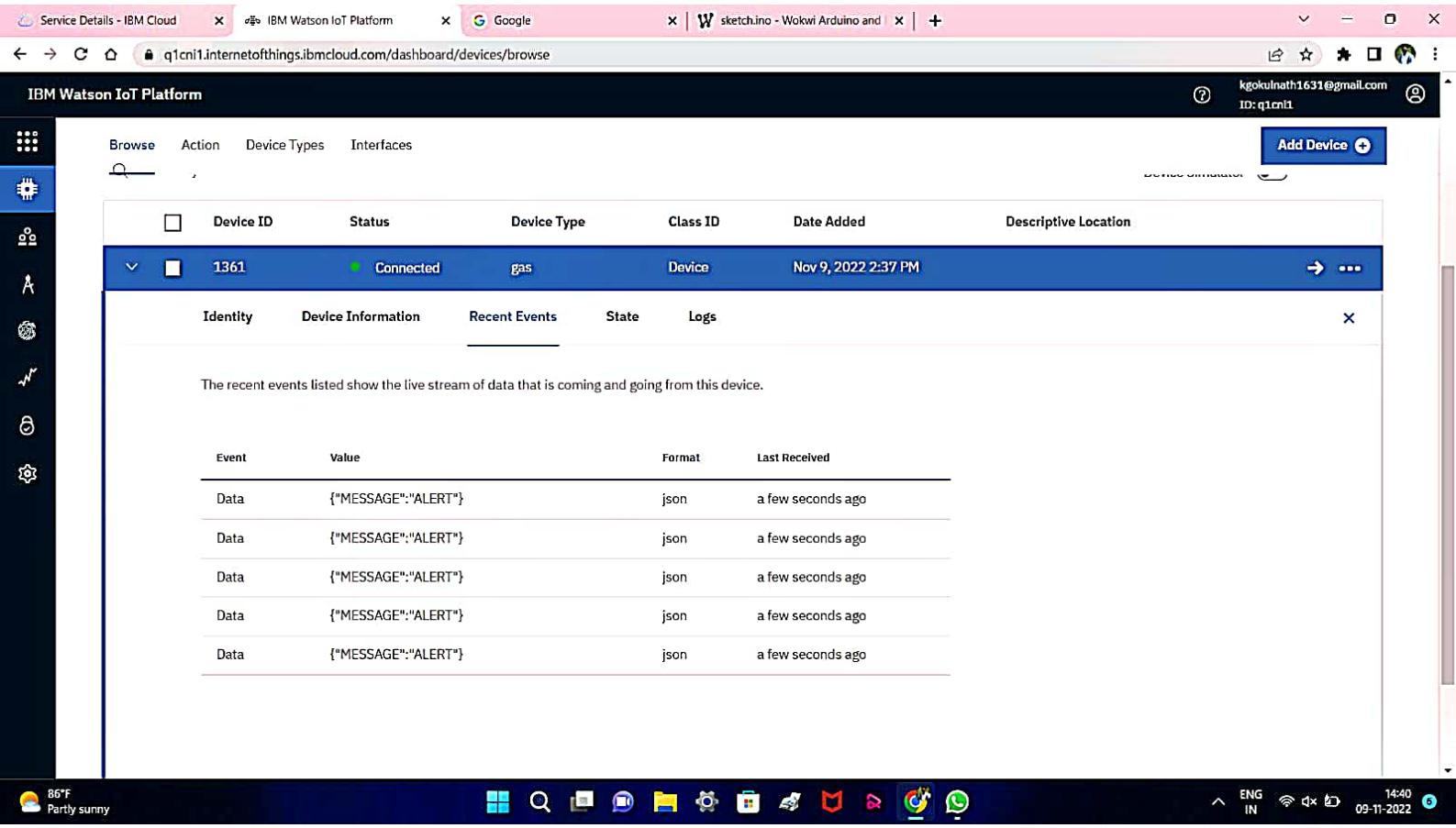
Editing Ultrasonic Distance Sensor

Distance: 228cm




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

Type here to search 26°C Cloudy 10:23 AM 11/9/2022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q1cni1.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
kgokulnath1631@gmail.com
ID: q1cni1
Browse
Action
Device Types
Interfaces
Add Device
Device ID
Status
Device Type
Class ID
Date Added
Descriptive Location
1361
Connected
gas
Device
Nov 9, 2022 2:37 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
86°F
Partly sunny
ENG
IN
14:40
09-11-2022