

STUDENT NAME:	V.THIRU KUMARAN
PROJECT NAME:	Real-Time River Water Quality Monitoring And Control
ASSIGNMENT:	4

Wokwi Link: <https://wokwi.com/projects/347660551453672020>

Distance when less than 100cm-alert sent to IBM CLOUD

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SAVE SHARE Esp_sensor Docs

sketch.ino diagram.json libraries.txt Library Manager

```

1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3 #define EchoPIN 4 // what pin we're connected to
4 #define TrigPIN 2
5 #define LED 5
6 //DHT dht (DHTPIN, DHTTYPE); // creating the instance by passing pin and type
7
8 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
9
10 //-----credentials of IBM Accounts-----
11 #define ORG "a9vpmk"
12 #define DEVICE_TYPE "Esp_controller"
13 #define DEVICE_ID "Esp_sensor"
14 #define TOKEN "123456789" //Token
15 String data3;
16
17
18 //----- Customise the above values -----
19
20 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
21 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of event
22 char subscribetopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT command
23 char authMethod[] = "use-token-auth"; // authentication method
24 char token[] = TOKEN;
25 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
26 float dist,dur;
27 String data;
28 //-----
29 WiFiClient wifiClient; // creating the instance for wifiClient
30 PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined

```

Simulation

00:07.600 8%

Publish ok
Sending payload: {"distance":36.97,"msg":"alert"}
Publish ok
Sending payload: {"distance":36.97,"msg":"alert"}
Publish ok
Sending payload: {"distance":36.96,"msg":"alert"}
Publish ok

IBM Watson IoT Platform

311519106102@smartinternz.com ID: a9vpmk

Browse Action Device Types Interfaces Add Device

▼ Esp_sensor Connected Esp_controller Device Nov 7, 2022 1:50 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	{"distance":36.97,"msg":"alert"}	json	a few seconds ago
Data	{"distance":36.97,"msg":"alert"}	json	a few seconds ago
Data	{"distance":36.97,"msg":"alert"}	json	a few seconds ago
Data	{"distance":36.96,"msg":"alert"}	json	a few seconds ago

Distance when greater than 100cm-no alert sent to IBM CLOUD

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♥

Esp_sensor

Docs

sketch.ino

diagram.json

libraries.txt

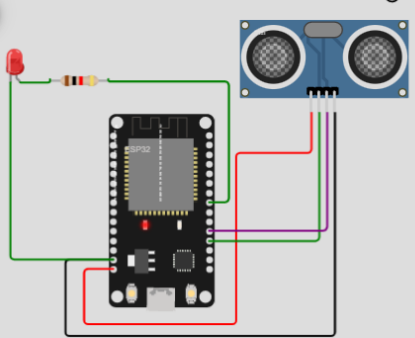
Library Manager

```
1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3 #define EchoPIN 4 // what pin we're connected to
4 #define TrigPIN 2
5 #define LED 5
6 //DHT dht (DHTPIN, DHTTYPE); // creating the instance by passing pin and type
7
8 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
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10 //-----credentials of IBM Accounts-----
11 #define ORG "a9vpmk"
12 #define DEVICE_TYPE "Esp_controller"
13 #define DEVICE_ID "Esp_sensor"
14 #define TOKEN "123456789" //Token
15 String data3;
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17
18 //----- Customise the above values -----
19
20 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
21 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of event
22 char subscribetopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT command
23 char authMethod[] = "use-token-auth"; // authentication method
24 char token[] = TOKEN;
25 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
26 float dist,dur;
27 String data;
28 //-----
29 WiFiClient wificlient; // creating the instance for wificlient
30 PubSubClient client(server, 1883, callback ,wificlient); //calling the predefined
```

Simulation

01:02:500

4%



Publish ok

Sending payload: {"distance":170.97,"msg":"safe"}

Publish ok

Sending payload: {"distance":170.97,"msg":"safe"}

Publish ok

Sending payload: {"distance":170.51,"msg":"safe"}

Publish ok

← → ↻

a9vpmk.internetofthings.ibmcloud.com/dashboard/devices/browse

Guest

IBM Watson IoT Platform

311519106102@smartinternz.com

ID: a9vpmk

Browse

Action

Device Types

Interfaces

Add Device +

▼

■

Esp_sensor

Connected

Esp_controller

Device

Nov 7, 2022 1:50 PM

→ ...

Identity

Device Information

Recent Events

State

Logs

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

Event	Value	Format	Last Received
Data	{"distance":170.97,"msg":"safe"}	json	a few seconds ago
Data	{"distance":170.97,"msg":"safe"}	json	a few seconds ago
Data	{"distance":170.99,"msg":"safe"}	json	a few seconds ago
Data	{"distance":170.97,"msg":"safe"}	json	a few seconds ago
Data	{"distance":171,"msg":"safe"}	json	a few seconds ago