Project name	IOT- Based safety gadget for child safety Monitoring and notification
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Write code and connections in wokwi for ultrasonic sensors. That whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events.

Upload document with wokwi share link and images

Code:

```
#include <WiFi.h>
#include <PubSubClient.h>

WiFiClient wifiClient;

#define ORG "krs15q"
#define DEVICE_TYPE "ESP32_Controller"
#define DEVICE_ID "BME280_Sensor"
#define TOKEN ")dwZk7QRVVwIyKUbQ("
#define speed 0.034


char server[] =
ORG".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/event_1/fmt/json";
char topic[] = "iot-2/cmd/home/fmt/String";
char authMethod[] = "use-token-auth";
```

```cpp
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":"
DEVICE_ID;
PubSubClient client(server, 1883, wifiClient);
void publishData();
const int trigpin=5;
const int echopin=18;
String command;
String data="";
long duration;
float dist;
void setup()
{
Serial.begin(115200);
pinMode(trigpin, OUTPUT);
pinMode(echopin, INPUT);
wifiConnect();
mqttConnect();
}
void loop() {
publishData();
delay(500);
if (!client.loop()) {
mqttConnect();
}
}
void wifiConnect() {
Serial.print("Connecting to ");
Serial.print("Wifi");
WiFi.begin("Wokwi-GUEST", "", 6);
while (WiFi.status() != WL_CONNECTED) {
delay(500);
Serial.print(".");
}
Serial.print("WiFi connected, IP address: ");
Serial.println(WiFi.localIP()); }
void mqttConnect() {
```

```cpp
if (!client.connected()) {
Serial.print("Reconnecting MQTT client to ");
Serial.println(server);
while (!client.connect(clientId, authMethod,
token)) {
Serial.print(".");
delay(500);
}
initManagedDevice();
Serial.println();
}
}
void initManagedDevice() {
if (client.subscribe(topic)) {
// Serial.println(client.subscribe(topic));
Serial.println("subscribe to cmd OK");
}
else {
Serial.println("subscribe to cmd FAILED");
}
}
void publishData()
{
digitalWrite(trigpin,LOW);
digitalWrite(trigpin,HIGH);
delayMicroseconds(10);
digitalWrite(trigpin,LOW);
duration=pulseIn(echopin,HIGH);
dist=duration*speed/2;
if(dist<100){
String payload = "{\"Alert distance\":";
payload += dist;
payload += "}";
Serial.print("\n");
Serial.print("Sending payload: ");
Serial.println(payload);
```
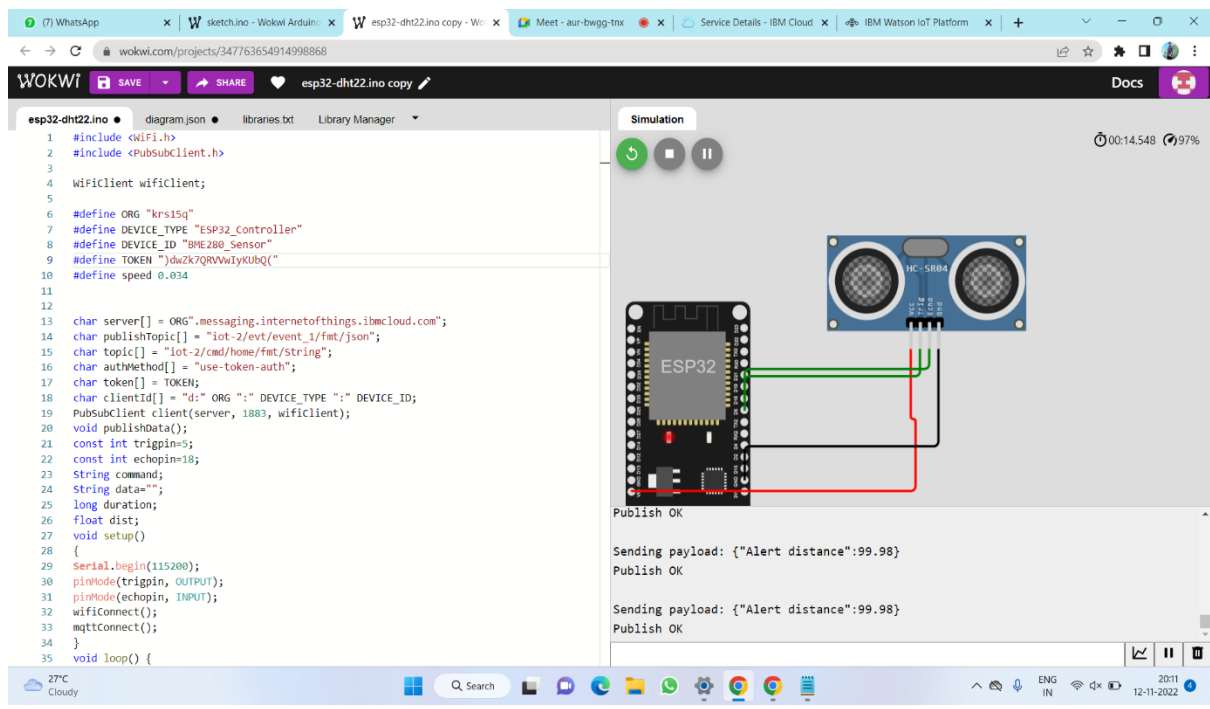
```
if (client.publish(publishTopic, (char*)
payload.c_str()))
{ Serial.println("Publish OK");
} else {
Serial.println("Publish FAILED");
}
}
}
```

Wokwi link:

https://wokwi.com/projects/347763654914998868

Output:

riyaswetha172002@gmail.com
ID: krs15q

Browse Action Device Types Interfaces

Add Device

	Device ID	Status	Device Type ▲	Class ID	Date Added	Descriptive Location
	BME280_Sensor	● Connected	ESP32_Controller	Device	8 Nov 2022 6:58 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
event_1	{"randomNumber":60}	json	a few seconds ago
event_1	{"Alert distance":99.94}	json	a few seconds ago
event_1	{"randomNumber":35}	json	a few seconds ago
event_1	{"randomNumber":45}	json	a few seconds ago
event_1	{"randomNumber":8}	json	a few seconds ago

meet.google.com is sharing your screen.   Stop sharing   Hide   ation running

27°C
Cloudy