

## M. CURIE

### ASSIGNMENT 4

**Write code and connections in wokwi for ultrasonic. Whenever distance is less than 100 cm's send "alert" to IBM cloud and display in device recent**

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization ="m040km"
#define deviceType=" Arduino"
#define deviceId ="12345"
#define authMethod ="use-token-auth"
#define authToken ="2YvKHr)ujgdHS7y?dM"

void setup() {
    // put your setup code here, to run once:
    Serial.begin(9600);
    pinMode(TRIG_PIN,OUTPUT);
    pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
    digitalWrite(TRIG_PIN, LOW);
    delayMicroseconds(2);
    digitalWrite(TRIG_PIN, HIGH);
    delayMicroseconds(10);
    digitalWrite(TRIG_PIN, LOW);
    int duration = pulseIn(ECHO_PIN, HIGH);
    return duration * 0.034 / 2;
}

void loop() {
    // put your main code here, to run repeatedly:
    float distance = readDistanceCM();
    if(distance <= 100)
    {
        Serial.println("person detected ");
    }
    else{
        Serial.print("Measured distance: ");
        Serial.println(readDistanceCM());
    }
    delay(1000);
}
```

WOKWI PROJECT LINK: <https://wokwi.com/projects/346952017986454099>

IBM Watson IoT Platform

Device Drilldown - 12345

Connection Information

Recent Events

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	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago

State

This table shows a list of data points that are reported by this device.

6 Simulations running

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes the IBM logo and the text 'IBM Watson IoT Platform'. The user's profile is visible in the top right corner with the email 'curiemanocharan155@gmail.com' and ID 'm040km'. The main content area is titled 'Device Drilldown - arduino\_1'. On the left, there is a sidebar with a 'Back' button and a list of navigation items: 'Recent Events', 'State', 'Device Information', 'Metadata', 'Diagnostics', 'Connection Logs', and 'Device Actions'. The main content area is divided into two sections: 'Connection Information' and 'Recent Events'. The 'Connection Information' section provides basic details about the device, including its ID, type, date added, and connection status. The 'Recent Events' section shows a table of events, with the first event being 'event\_1' with a value of '["version":1,"author":"CURIE M","editor":"wokwi...'. A notification banner at the bottom of the events section states '6 Simulations running'.

IBM Watson IoT Platform

curiemanocharan155@gmail.com  
ID: m040km

← Back

## Device Drilldown - arduino\_1

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

### Connection Information

Basic connection information about this device.

Device ID	arduino_1
Device Type	arduino
Date Added	Nov 2, 2022 10:38 AM
Added By	curiemanocharan155@gmail.com
Connection Status	<p>Connected</p> <p>Connection Time: Nov 2, 2022 10:38 AM</p> <p>Client Address: 223.187.115.252 SecureToken</p>

### Recent Events

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

Event	Value
event_1	["version":1,"author":"CURIE M","editor":"wokwi...

6 Simulations running

26°C Rain coming

10:41 02-11-2022



sketch.ino

diagram.json ●

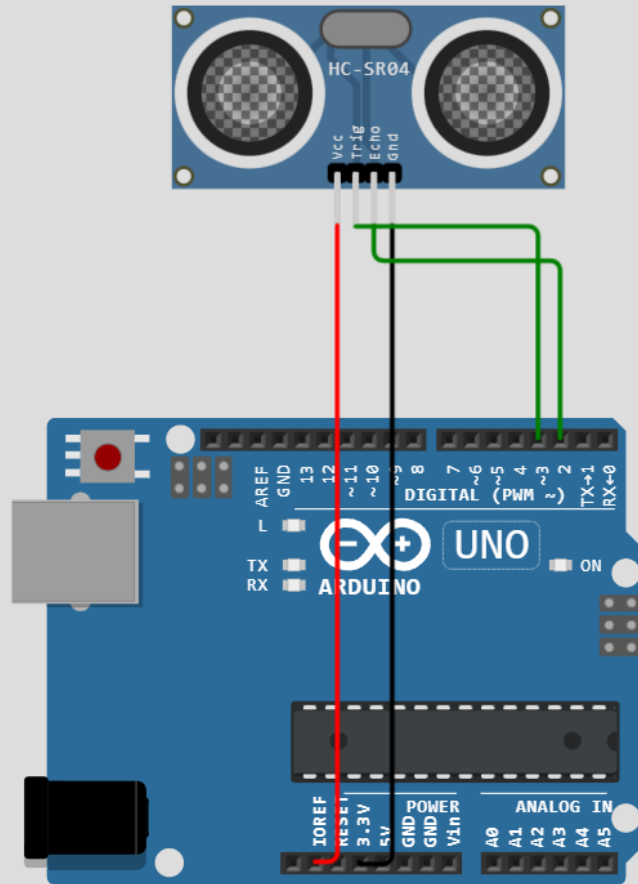
Library Manager



```
1  #define ECHO_PIN 2
2  #define TRIG_PIN 3
3  #define organization="m040km"
4  #define deviceType=" Arduino"
5  #define deviceId="12345"
6  #define authMethod="use-token-auth"
7  #define authToken="2YvKHr)ujgdHS7y?dM"
8
9  void setup() {
10     // put your setup code here, to run once:
11     Serial.begin(9600);
12     pinMode(TRIG_PIN, OUTPUT);
13     pinMode(ECHO_PIN, INPUT);
14 }
15 float readDistanceCM() {
16     digitalWrite(TRIG_PIN, LOW);
17     delayMicroseconds(2);
18     digitalWrite(TRIG_PIN, HIGH);
19     delayMicroseconds(10);
20     digitalWrite(TRIG_PIN, LOW);
21     int duration = pulseIn(ECHO_PIN, HIGH);
22     return duration * 0.034 / 2;
23
24
25 }
26
27 void loop() {
28     // put your main code here, to run repeatedly:
29     float distance = readDistanceCM();
30     if(distance <= 100)
31     {
32         Serial.println("person detected ");
33     }
34     else{
35         Serial.print("Measured distance: ");
```



Simulation



WOKWI

SAVE SHARE

Docs

Simulation

00:51.424 93%

```
1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3 #define organization "m040km"
4 #define deviceType "Arduino"
5 #define deviceId "12345"
6 #define authMethod "use-token-auth"
7 #define authToken "2vYKHrUjgdH57yZdM"
8
9 void setup() {
10   // put your setup code here, to run once:
11   Serial.begin(9600);
12   pinMode(TRIG_PIN, OUTPUT);
13   pinMode(ECHO_PIN, INPUT);
14 }
15 float readDistanceCM() {
16   digitalWrite(TRIG_PIN, LOW);
17   delayMicroseconds(2);
18   digitalWrite(TRIG_PIN, HIGH);
19   delayMicroseconds(10);
20   digitalWrite(TRIG_PIN, LOW);
21   int duration = pulseIn(ECHO_PIN, HIGH);
22   return duration * 0.034 / 2;
23 }
24
25 }
26
27 void loop() {
28   // put your main code here, to run repeatedly:
29   float distance = readDistanceCM();
30   if(distance <= 100)
31   {
32     Serial.println("person detected ");
33   }
34   else{
35     Serial.print("Measured distance: ");
```

Measured distance: 395.27  
Measured distance: 395.35  
Measured distance: 395.27  
Measured distance: 395.25  
Measured distance: 395.25  
Measured distance: 395.25  
Measured distance: 395.27

24°C Cloudy 19:23 30-10-2022



The screenshot shows the IBM Watson IoT Platform interface. The browser address bar indicates the URL: <https://m040km.internetofthings.ibmcloud.com/dashboard/devices/drilldown/arduino:12345?returnTo=/devices/browse>. The user is logged in as **curiemanoaharen155@gmail.com** with ID **m040km**.

The main heading is **Device Drilldown - 12345**. A sidebar on the left contains navigation links: **Back**, **Recent Events** (selected), **State**, **Device Information**, **Metadata**, **Diagnostics**, **Connection Logs**, and **Device Actions**.

The **Recent Events** section displays a table of events:

Event	Value	Format	Last Received
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago
event_1	{"version":1,"author":"CURIE M","editor":"wokwi..."}	json	a few seconds ago

The **State** section indicates that the table shows a list of data points reported by the device. A box on the right states **6 Simulations running**.