

## R.P.Umadevi Assignment -4

Question-1: Write code and connections in wokwi for ultrasonic sensor.

Whenever distance is less than 100 cms send “alert” to IBM cloud and display in device recent events.

Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization ="ezeslp"
#define deviceType=" arduino"
#define deviceId ="2003"
#define authMethod ="use-token-auth"
#define authToken ="tW4nOHQYiYAuEL6(*)"
```

```
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

SAVE

SHARE

sketch.ino copy

sketch.ino

diagram.json

Library Manager

```

1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3 #define organization "ezesip"
4 #define deviceType "arduino"
5 #define deviceId "2003"
6 #define authMethod "use-token-auth"
7 #define authToken "tw4n0hQyIyAUeL6(*)"
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: ");
36         Serial.println(readDistanceCM());
37     }
38     delay(1000);

```

Simulation

Docs

prakashumadev611@gmail.com

Discord

My projects

The Club

Feature Roadmap

Language

Logout

## Output:

WOKWI

SAVE

SHARE

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sketch.ino

diagram.json

Library Manager

```

1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3 #define organization "ezesip"
4 #define deviceType "arduino"
5 #define deviceId "2003"
6 #define authMethod "use-token-auth"
7 #define authToken "tw4n0hQyIyAUeL6(*)"
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: ");
36         Serial.println(readDistanceCM());
37     }
38     delay(1000);

```

Simulation

00:05.831 94%

Measured distance: 395.25

Measured distance: 395.27

Measured distance: 395.25

Measured distance: 395.27

Measured distance: 395.25

Measured distance: 395.25

**Wokwi Link:** <https://wokwi.com/projects/347742693878661715>

# IBM CLOUD

## Device Recent Events

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes the IBM logo, a search bar, and user information (prakashumadevi611@gmail.com, ID: ezeslp). The left sidebar contains icons for various functions. The main content area is titled "Device Drilldown - 2003" and features a "Back" button. A sidebar on the left lists navigation options: Connection Information, Recent Events, State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The "Connection Information" section displays the following details:

| Property          | Value                       |
|-------------------|-----------------------------|
| Device ID         | 2003                        |
| Device Type       | arduino                     |
| Date Added        | Nov 8, 2022 12:33 PM        |
| Added By          | prakashumadevi611@gmail.com |
| Connection Status | Disconnected                |

The "Recent Events" section shows a live stream of data. A table with columns "Event" and "Value" displays the event "3 Simulations running".

The screenshot shows the IBM Watson IoT Platform interface with a list of devices. The top navigation bar includes the IBM logo, a search bar, and user information (prakashumadevi611@gmail.com, ID: ezeslp). The left sidebar contains icons for various functions. The main content area is titled "Browse" and includes tabs for "Action", "Device Types", and "Interfaces". A table lists the devices:

| Device ID | Status       | Device Type | Class ID | Date Added           |
|-----------|--------------|-------------|----------|----------------------|
| 2003      | Disconnected | arduino     | Device   | Nov 8, 2022 12:33 PM |

The "Recent Events" tab is selected for device 2003. It displays a live stream of data. A table with columns "Event", "Value", "Format", and "Last Received" shows the following events:

| Event   | Value   | Format | Last Received     |
|---------|---|--------|-------------------|
| event_1 | {"version":1,"author":"Anonymous maker","edito... | json   | a few seconds ago |
| event_1 | {"version":1,"author":"Anonymous maker","edito... | json   | a few seconds ago |
| event_1 | {"version":1,"author":"Anonymous maker","edito... | json   | a few seconds ago |
| event_1 | {"version":1,"author":"Anonymous maker","edito... | json   | a few seconds ago |
| event_1 | {"version":1,"author":"Anonymous maker","edito... | json   | a few seconds ago |

The "Recent Events" section also shows a live stream of data. A table with columns "Event" and "Value" displays the event "3 Simulations running".