

**Question-1:**

**Write code and connections in wokwi for ultrasonic. 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 ="e03g10"

#define deviceType=" Arduino"

#define deviceId ="2502"

#define authMethod ="use-token-auth"

#define authToken ="12345678"

void setup() {
  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);

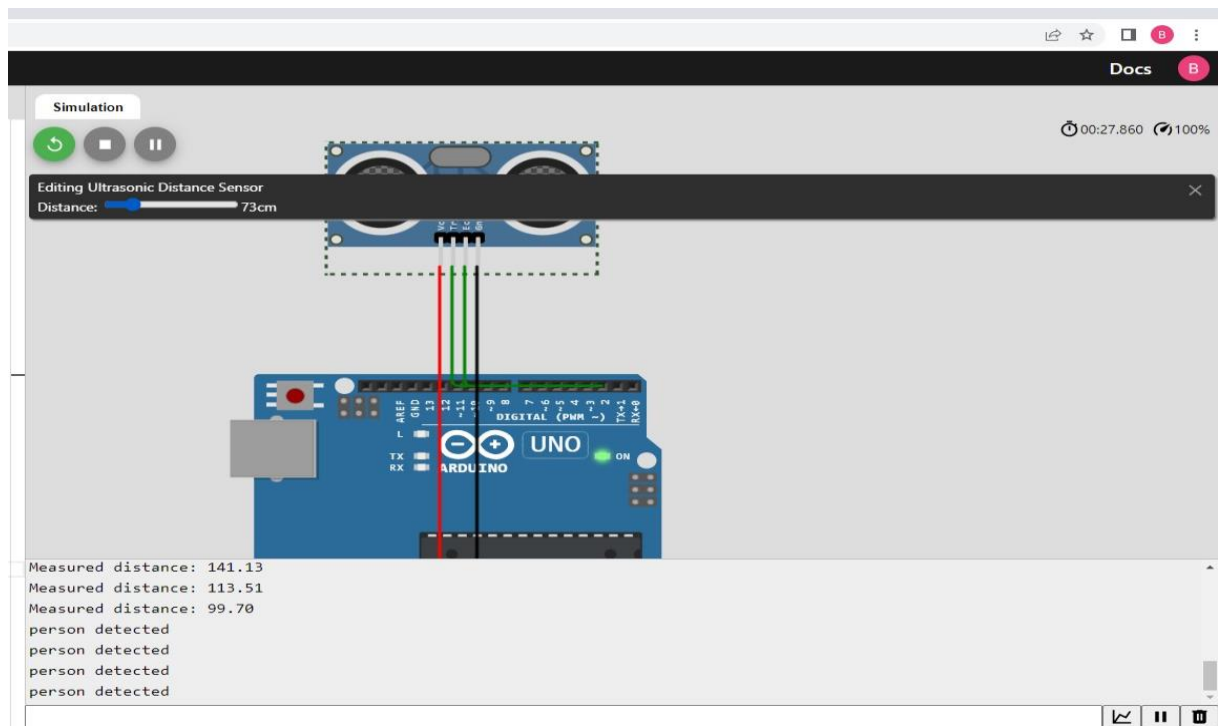
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
}

void loop() {
```

```

float distance = readDistanceCM();
if(distance <= 100)
{
    Serial.println("person detected ");
}
else{
    Serial.print("Measured distance: ");
    Serial.println(readDistanceCM());
}
delay(1000);
}

```



**Wokwi Link:** <https://wokwi.com/projects/346567349532361298>

# IBM Cloud

## Device Recent Events

IBM Watson IoT Platform

820419205010@smartinternz.com  
ID: e03g10

Browse

Action

Device Types

Interfaces

Add Device

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location	Added By	
<input checked="" type="checkbox"/>	2502	Disconnected	Arduino	Device	Oct 26, 2022 2:54 PM		820419205010@smartinternz.com	→ ...

Identity

Device Information

Recent Events

State

Logs

×

Device ID

Device Type

Date Added

Added By

Connection Status

2502

Arduino

Oct 26, 2022 2:54 PM

820419205010@smartinternz.com

Disconnected

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1 Simulation running

IBM Watson IoT Platform

ID: e03g10

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Device Drilldown - 2502

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Added By

820419205010@smartinternz.com

Connection Status

Disconnected

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	"persondetected"	json	a few seconds ago
event_1	"persondetected"	json	a few seconds ago
event_1	"persondetected"	json	a few seconds ago
event_1	"persondetected"	json	a few seconds ago
event_1	"persondetected"	json	a few seconds ago

1 Simulation running