

```
CODE
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization = "55i2ca"
#define deviceType = "sara"
#define deviceId = "21032002"
#define authMethod = "use-token-auth"
#define authToken = "12345678"

void setup() {
    Serial.begin(9600);
    pinMode(LED_BUILTIN, OUTPUT);
    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(100);
    }
}
```

IBM Watson IoT Platform

Ultrasonic sensor

Line chart

1 minute

distance randomNumber

Device Type: sara

Events 1

New event type +

Event type name ultrasonic Send

Schedule 1 Every Minute

Payload

Specify the event payload in the editor window or by uploading a [CSV file](#).

```
0 {
1   "randomNumber": random(0, 100)
2   "distance": random(10, 100)
3 }
4
```

Upload a CSV file

Service Details - IBM Cloud | Chat with mentor | IBM Watson IoT Platform | IBM | Roundcube Webmail : Inbox

55i2ca.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

613519106046@smartinternz.com ID: 55i2ca

21032002 Disconnected sara Device 29 Oct 2022 09:22

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
ultrasonic	{"randomNumber":22,"distance":45}	json	a few seconds ago
ultrasonic	{"randomNumber":38,"distance":98}	json	a few seconds ago
ultrasonic	{"randomNumber":31,"distance":66}	json	a few seconds ago
ultrasonic	{"randomNumber":10,"distance":45}	json	a few seconds ago

2 Simulations running

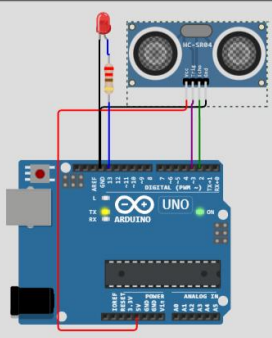
Wokwi! [SAVE](#) [SHARE](#) Docs

helloworld.ino Diagrams Library Manager

```
1 /*  
2  HC-SR04 Ultrasonic Sensor Example.  
3  
4  Turn the LED on when an object is within 100cm range.  
5  
6  */  
7  
8 #define ECHO_PIN 2  
9 #define TRIG_PIN 3  
10 #define organization "5512ca"  
11 #define deviceType "sara"  
12 #define deviceId "21032002"  
13 #define authMethod "use-token-auth"  
14 #define authToken "12345678"  
15  
16 void setup() {  
17   Serial.begin(9600);  
18   pinMode(LED_BUILTIN, OUTPUT);  
19   pinMode(TRIG_PIN, OUTPUT);  
20   pinMode(ECHO_PIN, INPUT);  
21 }  
22  
23 float readDistanceCM() {  
24   digitalWrite(TRIG_PIN, LOW);  
25   delayMicroseconds(2);  
26   digitalWrite(TRIG_PIN, HIGH);  
27   delayMicroseconds(10);  
28   digitalWrite(TRIG_PIN, LOW);  
29   int duration = pulseIn(ECHO_PIN, HIGH);  
30   return duration * 0.034 / 2;  
31 }  
32  
33 void loop() {  
34   float distance = readDistanceCM();  
35  
36   if(distance < 100)  
37   {  
38     Serial.println("person detected");  
39     digitalWrite(LED_BUILTIN, HIGH);  
40   }  
41   else  
42   {  
43     Serial.println("Measured distance: ");  
44     Serial.println(readDistanceCM());  
45     delay(100);  
46   }
```

Simulation

Editing Ultrasonic Distance Sensor
Distance: 0.00 cm 100 cm



Measured distance: 117.47
Measured distance: 117.37
person detected
person detected
person detected
person detected
person detected

LINK:

<https://wokwi.com/projects/346829645847462482>