

## Assignment - 4

Link:

<https://wokwi.com/projects/347029083402535506>

Program Code:

```
1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3 #define organization = "qalqhc"
4 #define deviceType = "abcd"
5 #define deviceId = "12"
6 #define authMethod = "token"
7 #define authToken = "12345678"
8
9 void setup(){
10     Serial.begin(9600);
11     pinMode(TRIG_PIN,OUTPUT);
12     pinMode(ECHO_PIN,INPUT);
13 }
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 void loop(){
25     float distance=readDistanceCM();
26
27
28     if(distance<=100)
29     {
30         Serial.println("person detected");
31     }
32     else{
33         Serial.print("Measured distance:");
34         Serial.println(readDistanceCM());
35     }
```

```
36     delay(1000);
37 }
38
```

## IBM CLOUD :

The screenshot displays the IBM Watson IoT Platform interface. The main view shows a list of recent events for a device named 'abcd'. The events are listed in a table with columns: Event, Value, Format, and Last Received. The events are generated by a script that sends random numbers and distances every minute.

Event	Value	Format	Last Received
event_1	{"randomNumber":97,"distance":141}	json	a few seconds ago
event_1	{"randomNumber":14,"distance":124}	json	a few seconds ago
event_1	{"randomNumber":12,"distance":83}	json	a few seconds ago
event_1	{"randomNumber":47,"distance":90}	json	a few seconds ago
event_1	{"randomNumber":36,"distance":82}	json	a few seconds ago

A modal window is open for configuring a new event type named 'event\_1'. The modal includes fields for the event type name, a schedule (set to 'Every Minute'), and a payload editor. The payload is a JSON object with 'randomNumber' and 'distance' fields, both using the 'random' function to generate values between 0 and 100 and 0 and 150, respectively. The modal also has buttons for 'Send', 'Upload a CSV file', 'Cancel', and 'Save'.

IBM Watson IoT Platform

Device Type: abcd

Events 1

Event type name: event\_1

Schedule: 1 Every Minute

Payload

```
0 {
1   "randomNumber": random(0, 100)
2   "distance": random(0, 150)
3 }
4
```

Device ID 12 Status Disconnected Device Type abcd Class ID Device Date

Identity Device Information Recent Events State Logs

Device ID 12  
Device Type abcd  
Date Added Oct 30, 2022 11:58 AM  
Added By 613519106022@smartinternz.com  
Connection Status Disconnected

Items per page 50 | 1-2 of 2 items

IBM Watson IoT Platform

Device Type: abcd

Events 1

Event type name: event\_1

Schedule: 1 Every Minute

Payload

```
0 {
1   "randomNumber": random(0, 100)
2   "distance": random(0, 150)
3 }
4
```

ultrasonic

Line chart

150  
100  
50  
0

15:34:30 15:35

1 minute distance now

WOKWI

SAVE SHARE

Docs

sketch.ino diagram.json Library Manager

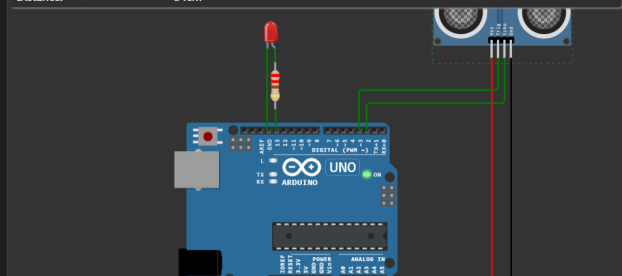
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```

Simulation

00:27.846 100%

Editing Ultrasonic Distance Sensor

Distance: 54cm



Measured distance:218.18  
Measured distance:218.18  
Measured distance:218.18  
person detected  
person detected  
person detected  
person detected

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