

## S.MONIKA ASSIGNMENT-4

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

Whenever distance is less than 100 cms send “alter “to ibm cloud and display in device recent events.

Solution

```
#define ECHO_PIN 2

#define TRIG_PIN 3

#define organization ="74rq7"

#define deviceType=" Arduino"

#define deviceId ="54321"

#define authMethod ="use-token-auth"

#define authToken ="yrMEE6&w78QOYrdG+E"


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);  
  
}
```

Service Details - IBM Cloud x IBM Watson IoT Platform x IBM Watson IoT Platform x New Arduino Uno Project - V x (11) WhatsApp x

wokwi.com/projects/new/arduino-uno

WOKWI SAVE SHARE Docs

sketch.ino diagram.json Library Manager

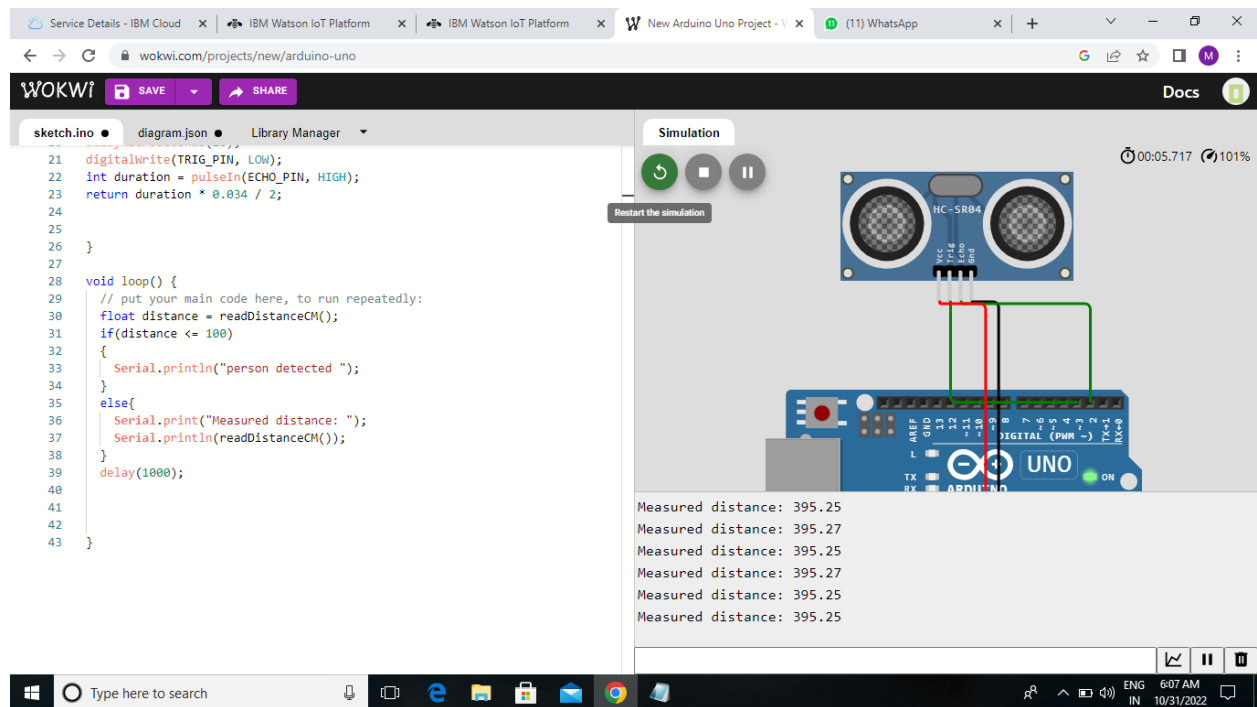
```
1
2 #define ECHO_PIN 2
3 #define TRIG_PIN 3
4 #define organization "74rq7"
5 #define deviceType "Arduino"
6 #define deviceId "54321"
7 #define authMethod "use-token-auth"
8 #define authToken "9876543210"
9
10 void setup() {
11   // put your setup code here, to run once:
12   Serial.begin(9600);
13   pinMode(TRIG_PIN, OUTPUT);
14   pinMode(ECHO_PIN, INPUT);
15 }
16 float readDistanceCM() {
17   digitalWrite(TRIG_PIN, LOW);
18   delayMicroseconds(2);
19   digitalWrite(TRIG_PIN, HIGH);
20   delayMicroseconds(10);
21   digitalWrite(TRIG_PIN, LOW);
22   int duration = pulseIn(ECHO_PIN, HIGH);
23   return duration * 0.034 / 2;
24 }
25
26 }
27
28 void loop() {
29   // put your main code here, to run repeatedly:
30   float distance = readDistanceCM();
31 }
```

Simulation

HC-SR04

ARDUINO UNO

6:06 AM 10/31/2022



Wokwi link: <https://wokwi.com/projects/347039661873431124>

IBM CLOUD

Device Recent Events

IBM Watson IoT Platform

monikasenthil26@gmail.com  
ID: 74rq7

Browse Action Device Types Interfaces

Add Device

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	
54321	Disconnected	arduino	Device	Oct 31, 2022 6:23 AM	

Identity

Device Information

Recent Events

State

Logs

Device ID

54321

Device Type

arduino

Date Added

Oct 31, 2022 6:23 AM

Added By

monikasenthil26@gmail.com

Connection Status

Disconnected

Items per page 50 | 1-1 of 1 item

1 Simulation running

Type here to search

ENG IN 7:05 AM 10/31/2022

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes the IBM logo and the text "IBM Watson IoT Platform". The main content area is titled "Browse" and contains a table with the following columns: "Event", "Value", "Format", and "Last Received". The table displays five rows of data, all with the event name "event\_1" and a value of "{\"version\":\"1\",\"author\":\"Anonymous maker\",\"edito...\"". The format for all events is "json", and the last received time for all is "a few seconds ago".

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

At the bottom of the table, there is a pagination control showing "Items per page 50" and "1-1 of 1 item". Below the table, there is a status bar indicating "1 Simulation running".

