

ASSIGNMENT 4

Write code and connections in wokwi for ultrasonic. Whenever distance is less than 100 cm's send "alert" to IBM cloud and display in device recent.

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define Organization ID = "mtjjvf"
#define Device Type = "Ardunio"
#define Device ID = "Aedunio_123"
#define Authentication Method = "use-token-auth"
#define Authentication Token = "eC9Dm0*JDf7J51T4Ib"

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);
}
```

IBM Watson IoT Platform x sketch.ino copy - Wokwi Arduino x +

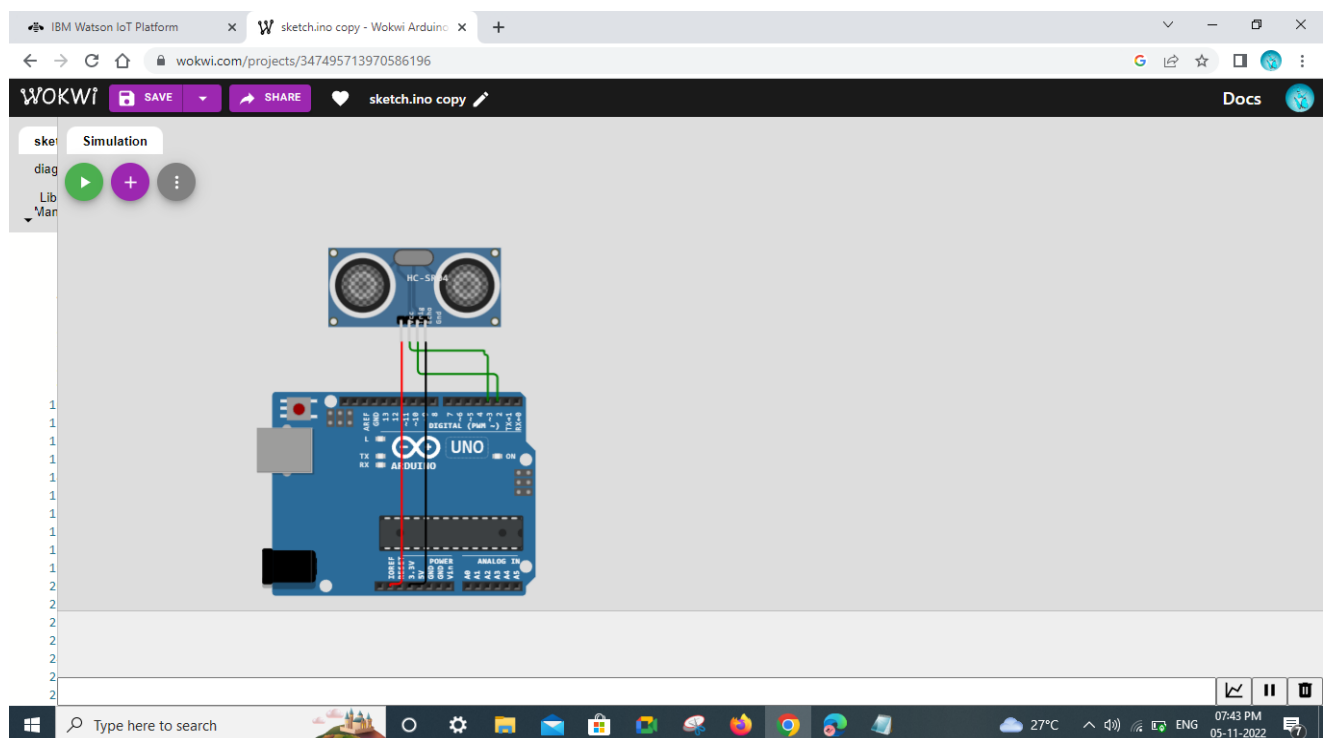
wokwi.com/projects/347495713970586196

WOKWI SAVE SHARE sketch.ino copy

sketch.ino diagram.json Library Manager

```
1 #define ECHO_PIN 2
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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 void loop() {
25 // put your main code here, to run repeatedly:
26 float distance = readDistanceCM();
27 if(distance <= 100)
28 {
29 Serial.println("person detected ");
30 }
31 }
```

Type here to search 27°C



WOKWI PROJECT LINK: <https://wokwi.com/projects/347495713970586196>

The screenshot displays the Wokwi online IDE interface. The top navigation bar includes the Wokwi logo, a 'SAVE' button, a 'SHARE' button, and the project name 'sketch.ino copy'. The browser address bar shows the project URL: wokwi.com/projects/347495713970586196.

The main workspace is divided into two panels. The left panel, titled 'sketch.ino', contains the following code:

```
1 #define ECHO_PIN 2
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21 int duration = pulseIn(ECHO_PIN, HIGH);
22 return duration * 0.034 / 2;
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24 void loop() {
25 // put your main code here, to run repeatedly:
26 float distance = readDistanceCM();
27 if(distance <= 100)
28 {
29 Serial.println("person detected ");
30 }
31 }
```

The right panel, titled 'Simulation', shows a virtual Arduino Uno board with an HC-SR04 ultrasonic sensor connected to pins 2 and 3. The simulation is running, as indicated by the play button and the timer '00:58.804' with a 5% battery level. The output window at the bottom of the simulation panel displays the following data:

Measured distance
395.25
395.25
395.27
395.25
395.27
395.25
395.25

The Windows taskbar at the bottom shows the system time as 07:48 PM on 05-11-2022, with a temperature of 27°C and various system icons.

W sketch.ino copy - Wokwi Arduino x IBM Watson IoT Platform x +

mtijvf.internetofthings.ibmcloud.com/dashboard/devices/drilldown/Deepika:1102001?returnTo=/devices/browse

510819106001@smartinternz.com ID: mtijvf

IBM Watson IoT Platform

Back

Device Drilldown - 1102001

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Connection Information

Basic connection information about this device.

Device ID

1102001

Device Type

Deepika

Date Added

Nov 3, 2022 6:09 PM

Added By

510819106001@smartinternz.com

Connection Status

Disconnected

Last Connected: Nov 5, 2022 6:01 PM

Client Address: 120.138.12.255 SecureToken

Duration: 4 minutes

Data Transferred: 11.2 KB

Recent Events

2 Simulations running

Type here to search 24°C 08:10 PM 05-11-2022

W sketch.ino copy - Wokwi Arduino x IBM Watson IoT Platform x +

mtijvf.internetofthings.ibmcloud.com/dashboard/devices/browse

510819106001@smartinternz.com ID: mtijvf

IBM Watson IoT Platform

Browse

Action

Device Types

Interfaces

Add Device +

Aedunio_123

Disconnected

Arduino

Device

Nov 5, 2022 6:06 PM

...

Identity

Device Information

Recent Events

State

Logs

X

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_test	{"version":1,"author":"DEEPIKA","editor":"WOK...	json	a few seconds ago
event_test	{"version":1,"author":"DEEPIKA","editor":"WOK...	json	a few seconds ago
event_test	{"version":1,"author":"DEEPIKA","editor":"WOK...	json	a few seconds ago
event_test	{"version":1,"author":"DEEPIKA","editor":"WOK...	json	a few seconds ago
event_test	{"version":1,"author":"DEEPIKA","editor":"WOK...	json	a few seconds ago

2 Simulations running

Type here to search 24°C 08:12 PM 05-11-2022

