

Assignment -4

Student's Name	SANGEETHA S
Assignment Date	01 November 2022
Team ID	PNT2022TMID18137
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	2 Marks

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 = "mmbh4c"
#define deviceType = "Ultrasonic"
#define deviceId = "1112"
#define authMethod = "use-token-auth"
#define authToken = "123456789"

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(100);
}
```

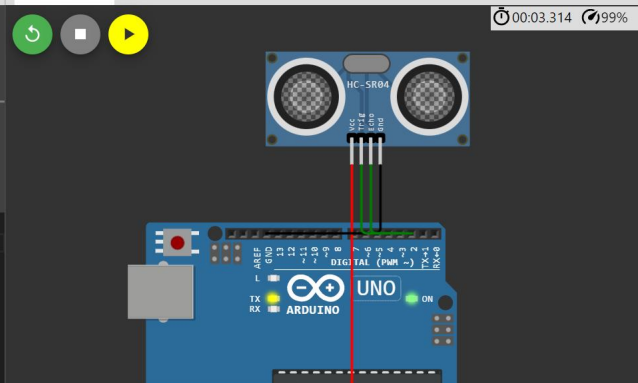
WOKWI SAVE SHARE Docs SIGN UP

sketch.ino • diagram.json • libraries.txt Library Manager

```
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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
25 void loop() {
26   float distance = readDistanceCM();
```

Simulation

00:03.314 99%



Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.27

Wokwi Link: <https://wokwi.com/projects/345395196387656275>

OUTPUT:

```
Measured distance: 395.25
Measured distance: 395.35
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.
```

IBM Cloud

Device Recent Events

Browse

Action

Device Types

Interfaces

Add Device

▼

■

Ultrasonic_1

Connected

Ultrasonic

Device

Oct 26, 2022 7:54 PM

→

...

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
event_1	{"status":"Person Detected"}	json	a few seconds ago
event_1	{"status":"Person Detected"}	json	a few seconds ago
event_1	{"status":"Person Detected"}	json	a few seconds ago
event_1	{"status":"Person Detected"}	json	a few seconds ago

1 Simulation running