

J.DivyaAssignment -4

Question-1: Write code and connections in wokwi for ultrasonic sensor.
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 ="jxexvd"
#define deviceType=" arduino"
#define deviceId ="12345"
#define authMethod ="use-token-auth"
#define authToken ="0987654321"

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 sketch.ino - Wokwi Arduino and +

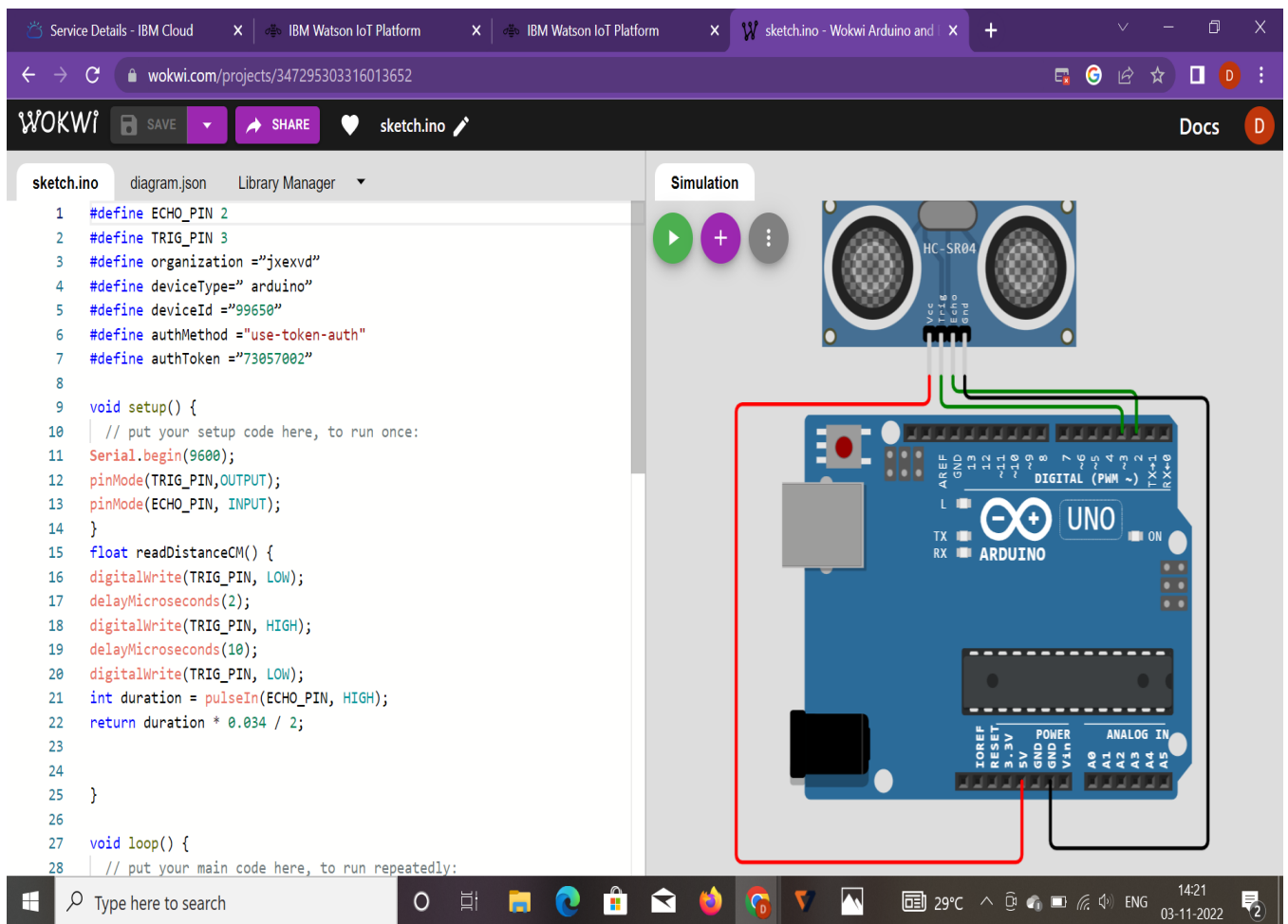
wokwi.com/projects/347295303316013652

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sketch.ino diagram.json Library Manager

```
1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3 #define organization ="jxexvd"
4 #define deviceType=" arduino"
5 #define deviceId ="99650"
6 #define authMethod ="use-token-auth"
7 #define authToken ="73057002"
8
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 }
25
26
27 void loop() {
28 | // put your main code here, to run repeatedly:
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Simulation



Output:

Service Details - IBM Cloud | IBM Watson IoT Platform | IBM Watson IoT Platform | New Arduino Uno Project - Wokwi

wokwi.com/projects/new/arduino-uno

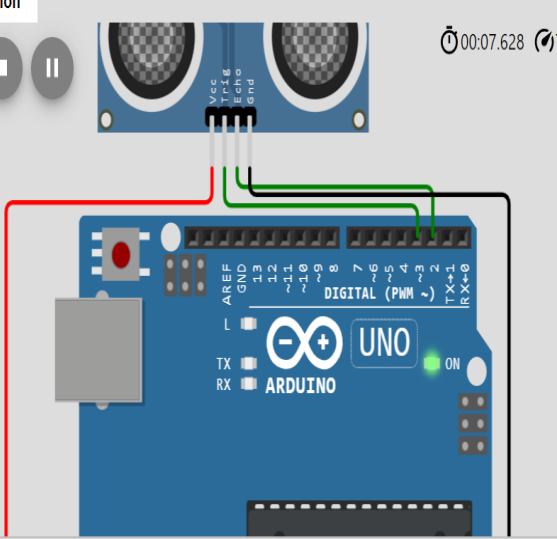
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Simulation

00:07.628 79%



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

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IBM CLOUD

Device Recent Events

