

Team leader :Sanjipriya. E

Member 1: Sanjipriya. E

Register number :622420121038

Collage Name :Salem College of Engineering and Technology



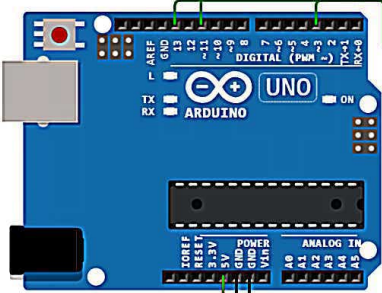
Wokwi link:<https://wokwi.com/projects/364261585485707265>

New Arduino Uno Project - Wokwi | wokwi-servo Reference | Wokwi | cm in distance - Google Search

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Simulation



Wiring diagram showing an Arduino Uno connected to an HC-SR04 ultrasonic sensor and a servo motor. The sensor's VCC is connected to 5V, GND to GND, and TRIG to digital pin 2. The servo's VCC is connected to 5V, GND to GND, and the signal wire to digital pin 3.

No Obstacle on Front side

297

No Obstacle on right side

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24°C | 20:45 | 09-05-2023

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```
1 #include <Servo.h>
2 #define trig 13
3 #define echo 11
4 #define servo 3
5 Servo myservo;
6 void setup()
7 {
8   pinMode(LED_BUILTIN, OUTPUT);
9   myservo.attach(10);
10  myservo.write(90);
11  Serial.begin(9600);
12  pinMode(trig, OUTPUT);
13  pinMode(echo, INPUT);
14 }
15 void loop()
16 {
17   myservo.write(90);
18   delay(100);
19   bool front = sense();
20   if(front==HIGH) {
21     Serial.println("Obstacle Found on Front side");
22   }else{
23     Serial.println("No Obstacle on Front side");
24   }
25   myservo.write(180);
26   delay(100);
27   bool right = sense();
28   if(right==HIGH) {
```

Simulation

No Obstacle on Front side  
297  
No Obstacle on right side

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```
22 }else{
23   Serial.println("No Obstacle on Front side");
24 }
25 myservo.write(180);
26 delay(100);
27 bool right = sense();
28 if(right==HIGH) {
29   Serial.println("Obstacle Found on right side");
30 }else{
31   Serial.println("No Obstacle on right side");
32 }
33 myservo.write(0);
34 delay(100);
35 bool left = sense();
36 if(left==HIGH) {
37   Serial.println("Obstacle Found on left side");
38 }else{
39   Serial.println("No Obstacle on Front side");
40 }
41 }
42 bool sense () {
43   long duration, distance;
44   digitalWrite(trig, HIGH);
45   delayMicroseconds(10);
46   digitalWrite(trig, LOW);
47   duration= pulseIn(echo, HIGH);
48   distance = 0.017 * duration;
49   Serial.println(distance);
}
```

Simulation

No Obstacle on Front side  
297  
No Obstacle on right side

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```
38 }else{
39   Serial.println("No Obstacle on Front side");
40 }
41 }
42 bool sense () {
43   long duration, distance;
44   digitalWrite(trig, HIGH);
45   delayMicroseconds(10);
46   digitalWrite(trig, LOW);
47   duration= pulseIn(echo, HIGH);
48   distance = 0.017 * duration;
49   Serial.println(distance);
50   if (distance< 100)
51   {
52     return HIGH;
53   } else
54   {
55     return LOW;
56   }
57 }
```

Simulation

No Obstacle on Front side  
297  
No Obstacle on right side

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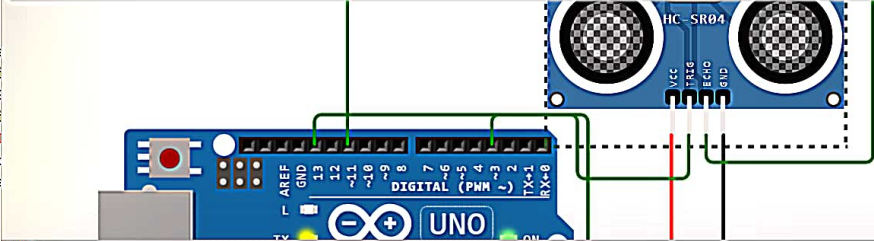
```
38 }else{
39   Serial.println("No c
40 }
41 }
42 bool sense () {
43   long duration, dista
44   digitalWrite(trig
45   delayMicroseconds(5
46   digitalWrite(trig
47   duration= pulseE
48   distance = 0.017 * c
49   Serial.println(dista
50   if (distance< 100)
51   {
52   return HIGH;
53   } else
54   {
55   return LOW;
56   }
57 }
```

Simulation

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Editing Ultrasonic Distance Sensor

Distance: 300cm



297 No Obstacle on Front sie

297

297 No Obstacle on right sie

297

297 No Obstacle on Front sie

297

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```
38 }else{
39   Serial.println("No obstacle found");
40 }
41 }
42 bool sense () {
43   long duration, distance;
44   digitalWrite(trigPin, LOW);
45   delayMicroseconds(2);
46   digitalWrite(trigPin, HIGH);
47   duration = pulseIn(trigPin, HIGH);
48   distance = 0.017 * duration;
49   Serial.println(distance);
50   if (distance < 100)
51   {
52     return HIGH;
53   } else
54   {
55     return LOW;
56   }
57 }
```

Simulation

00:17.510 99%

Editing Ultrasonic Distance Sensor

Distance: 80cm

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```
38 }else{
39   Serial.println("No obstacle found");
40 }
41 }
42 bool sense () {
43   long duration, distance;
44   digitalWrite(trigPin, LOW);
45   delayMicroseconds(2);
46   digitalWrite(trigPin, HIGH);
47   duration = pulseIn(trigPin, HIGH);
48   distance = 0.017 * duration;
49   Serial.println(distance);
50   if (distance < 100) {
51     {
52       return HIGH;
53     } else {
54       {
55         return LOW;
56       }
57     }
58   }
59 }
```

Simulation

00:13.445 99%

Editing Ultrasonic Distance Sensor  
Distance: 40cm

Obstacle Found on Front side  
39  
Obstacle Found on right side  
39  
Obstacle Found on left side  
39  
Obstacle Found on Front side

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o4vf65.internetofthings.ibmcloud.com/dashboard/devices/browse

sanjipriya06042002@gmail.com  
ID: o4vf65

IBM Watson IoT Platform

Browse

Action

Device Types

Interfaces

Add Device +

1234

Disconnected

Laptop

Device

9 May 2023 21:50

→ ...

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	{"randomNumber":13}	json	13 minutes ago
event_1	{"randomNumber":24}	json	14 minutes ago

Items per page 50 | 1-1 of 1 item

2 Simulations running

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22:12

09-05-2023

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sanjipriya06042002@gmail.comID: o4vf65

IBM Watson IoT Platform

BrowseActionDevice TypesInterfaces

Add Device +

IdentityDevice InformationRecent EventsStateLogs

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	{"randomNumber":24}	json	a few seconds ago

Items per page 50 | 1-1 of 1 item1 of 1 page<1>

1 Simulation running

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New Ard x | W wokwi-se x | G cm in dis x | IBM Clou x | IBM Clou x | IBM Clou x | IBM Aca: x | Service D x | IBM Wat x

o4vf65.internetofthings.ibmcloud.com/dashboard/devices/drilldown/Laptop:1234?returnTo=/devices/browse

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sanjipriya06042002@gmail.com ID: o4vf65

IBM Watson IoT Platform

Back

Device Drilldown - 1234

Device Credentials

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Device Credentials

You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.

Organization ID

Device Type

Device ID

Authentication Method

Authentication Token

o4vf65

Laptop

1234

use-token-auth

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⚠

Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.

Type here to search

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09-05-2023