

#### Assignment-4

Assignment Date	31 October 2022
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Team ID	PNT2022TMID01438
Project Name	SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES
Maximum Marks	2 Marks

##### Question-1:

**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 organisation =
"a09qmv" #define deviceType
= "device1"

#define deviceId ="1234"

#define authMethod ="use-token-auth"

#define authToken ="12345678"

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:
```

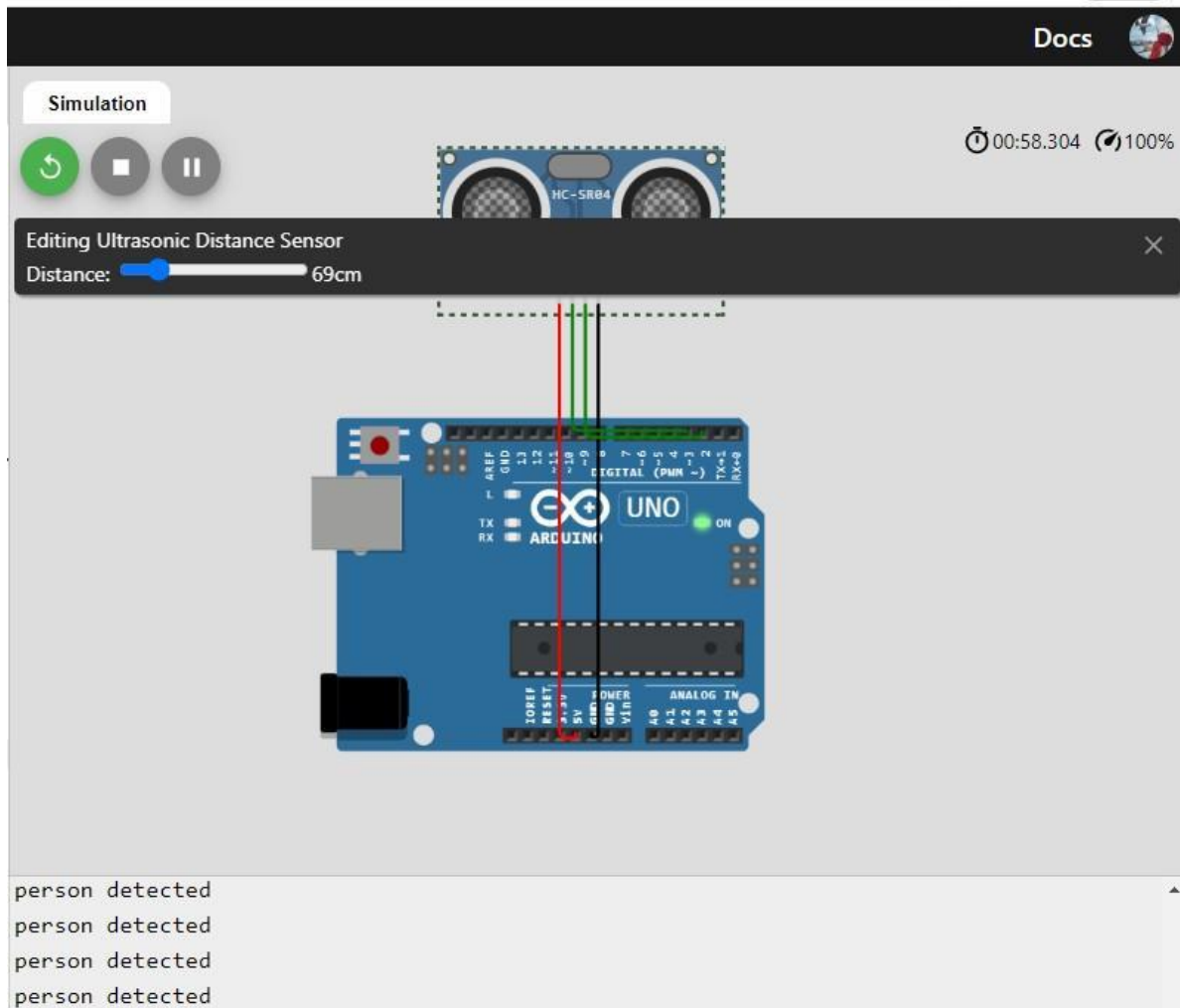
```
");
```

```
Serial.println(readDistanceCM())
```

```
;
```

```
}
```

```
delay(1000); }
```



<https://wokwi.com/projects/346567584774095442>  
Wokwi Link

## IBM Cloud

### Device Recent Events

The screenshot displays the IBM Watson IoT Platform interface. At the top, the header shows the user's email (820419205063@smartinternz.com) and ID (a09qmw). The main navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area shows a list of devices with columns: Device ID, Status, Device Type, Class ID, Date Added, Descriptive Location, and Added By. A single device with ID 1234 is listed, with a status of 'Disconnected' and a device type of 'device1'. Below the list, a sidebar for the selected device shows details: Device ID (1234), Device Type (device1), Date Added (Oct 26, 2022 1:15 PM), Added By (820419205063@smartinternz.com), and Connection Status (Disconnected). The bottom of the interface shows a Windows taskbar with the date and time (10/26/2022, 1:12 PM).

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location	Added By
1234	Disconnected	device1	Device	Oct 26, 2022 1:15 PM		820419205063@smartinternz.com

Identity	Device Information	Recent Events	State	Logs
Device ID	1234			
Device Type	device1			
Date Added	Oct 26, 2022 1:15 PM			
Added By	820419205063@smartinternz.com			
Connection Status	Disconnected			

