

ASSIGNMENT 4

Question-1: 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 events.

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization ="pmfjq"
#define deviceType=" Arduino"
#define deviceId ="12345"
#define authMethod ="use-token-auth"
#define authToken ="LiPN*370ejvSuc&+k"

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);
}
```

WOKWI PROJECT LINK: <https://wokwi.com/projects/346989318757155410>

W sketch.ino - Wokwi Arduino and x +

wokwi.com/projects/346989318757155410

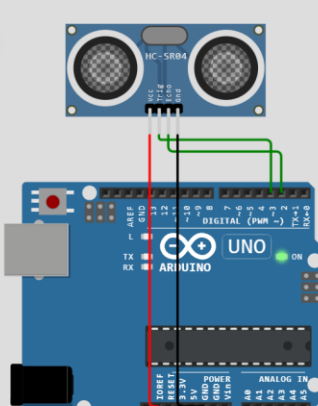
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Docs

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9 void setup() {
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12 pinMode(TRIG_PIN,OUTPUT);
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36 Serial.println(readDistanceCM());
37 }
```

Simulation



00:10.230 86%

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

Type here to search

28°C Cloudy 11:15 31-10-2022

W sketch.ino - Wokwi Arduino and x +

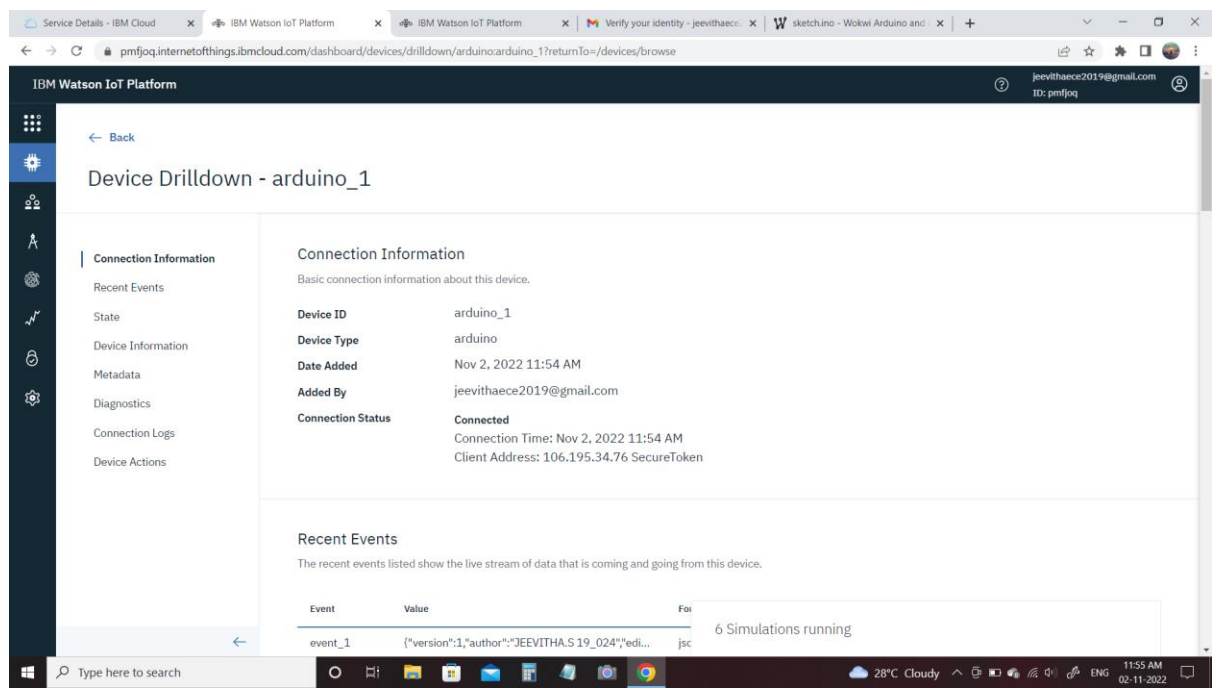
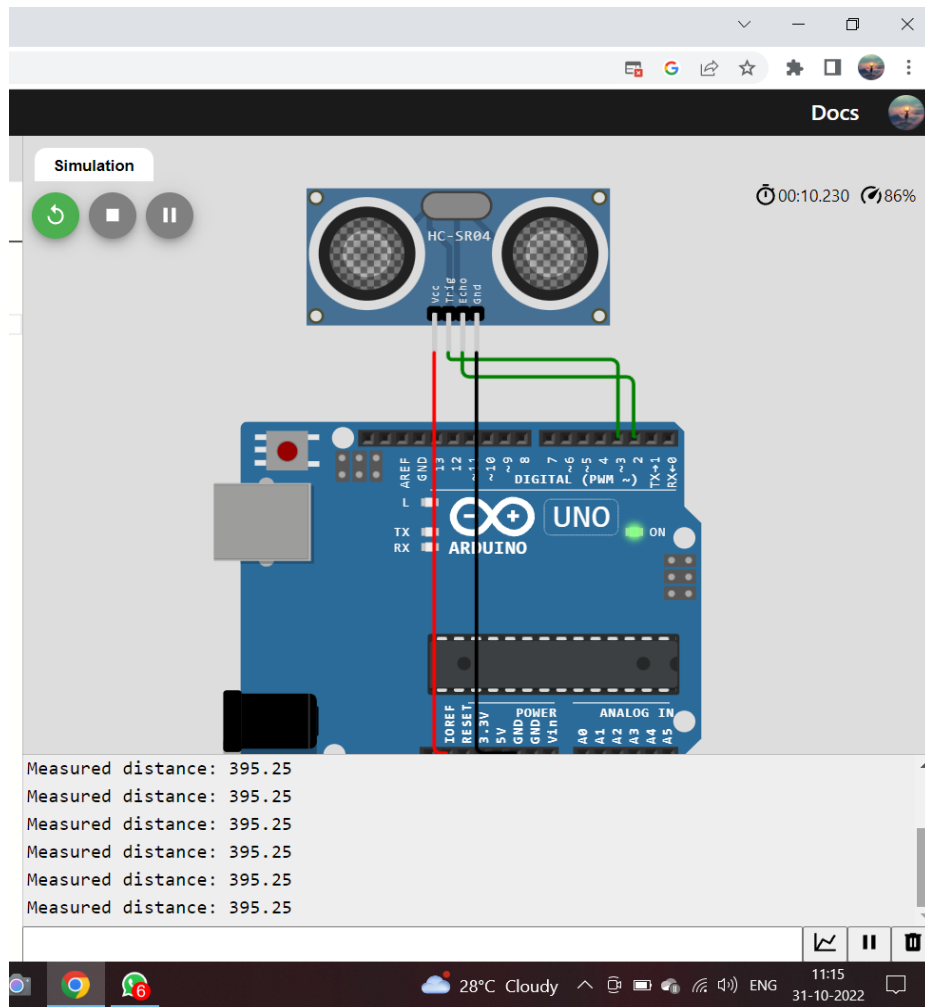
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Type here to search



The screenshot shows the 'Device Drilldown' page for a device named 'arduino_1'. The page is part of the IBM Watson IoT Platform interface. On the left, there is a sidebar with navigation icons. The main content area is titled 'Device Drilldown - arduino_1' and includes a 'Back' link. Below the title, there is a 'Connection Information' section with a list of links: Recent Events, State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The 'Recent Events' section is expanded, showing a table of recent events. The table has four columns: Event, Value, Format, and Last Received. It lists five events, all with the same value and format. At the bottom of the page, there is a 'State' section showing '6 Simulations running'.

IBM Watson IoT Platform

Device Drilldown - arduino_1

← Back

Connection Information

- Recent Events
- State
- Device Information
- Metadata
- Diagnostics
- Connection Logs
- Device Actions

Recent Events

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	{"version":1,"author":"JEEVITHA.S 19_024","edi...	json	a few seconds ago
event_1	{"version":1,"author":"JEEVITHA.S 19_024","edi...	json	a few seconds ago
event_1	{"version":1,"author":"JEEVITHA.S 19_024","edi...	json	a few seconds ago
event_1	{"version":1,"author":"JEEVITHA.S 19_024","edi...	json	a few seconds ago
event_1	{"version":1,"author":"JEEVITHA.S 19_024","edi...	json	a few seconds ago

State

6 Simulations running