Assignment -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 =”sms611”
#define deviceType=” Arduino”
#define deviceId =”14061”
#define authMethod ="use-token-auth"
#define authToken =”753998223”

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 | IBM Watson IoT Platform | IBM Watson IoT Platform | New Arduino Uno Project - Wok | Fwd: Document from - saran

wokwi.com/projects/new/arduino-uno

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sketch.ino diagram.json Library Manager

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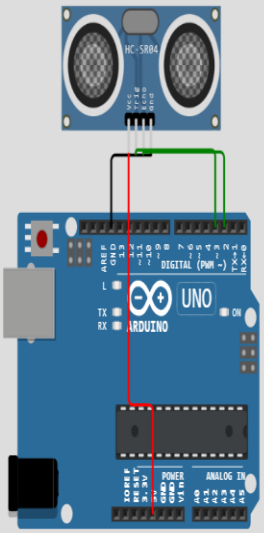
  // put your setup code here, to run once:
Serial.begin(9600);
pinMode(TRIG_PIN,OUTPUT);
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM() {
digitalWrite(TRIG_PIN, LOW);
delayMicroseconds(2);
digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);
int duration = pulseIn(ECHO_PIN, HIGH);
return duration * 0.034 / 2;+

}

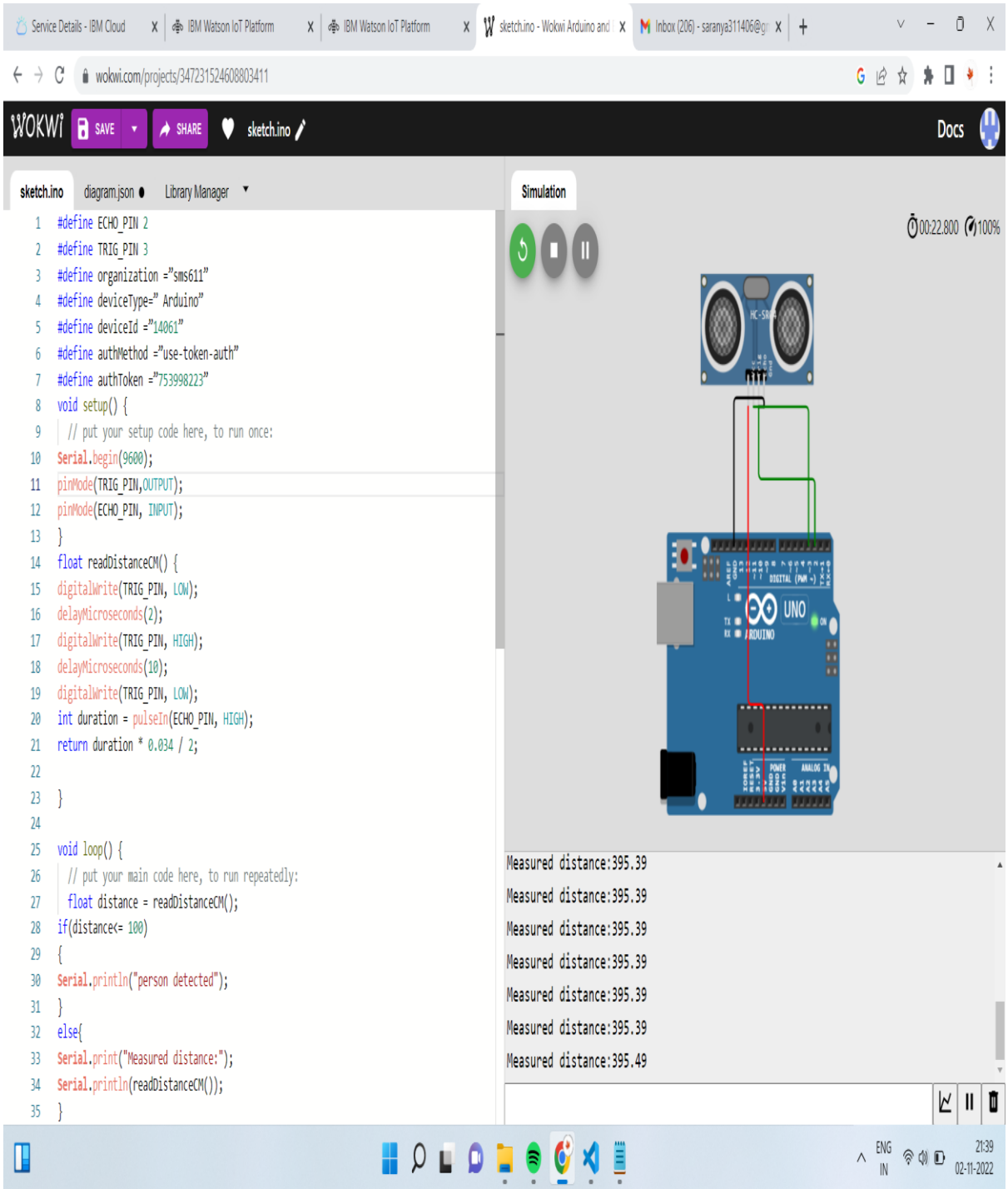
void loop() {
  // put your main code here, to run repeatedly:
  float distance = readDistanceCM();
if(distance &lt;= 100)
{
Serial.println(&quot;person detected &quot;);
}
else{
Serial.print(&quot;Measured distance: &quot;);
Serial.println(readDistanceCM());
}
```

Simulation



ENG IN 21:18 02-11-2022

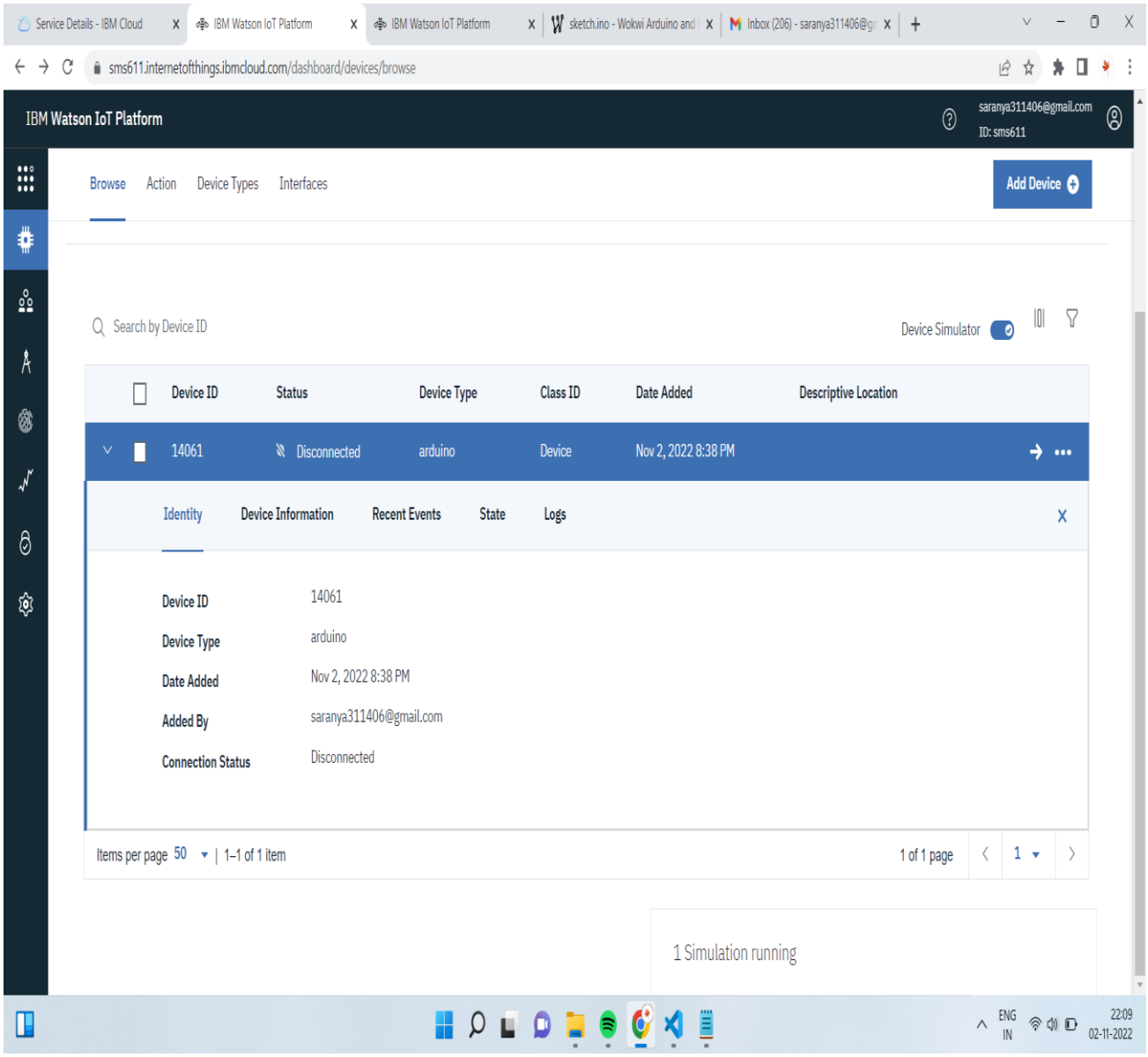
Output:

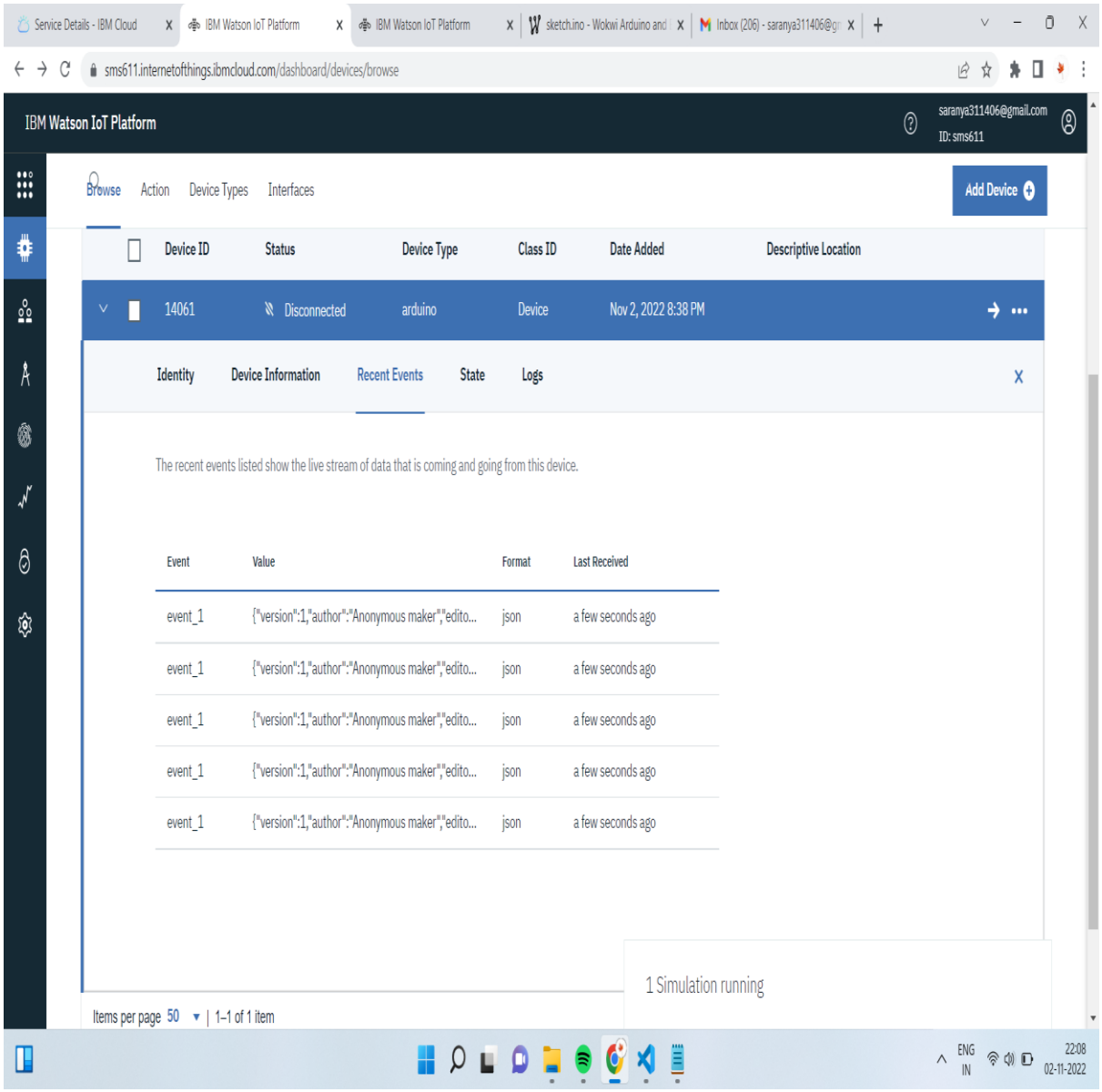


Wokwi Link: https://wokwi.com/projects/347231524608803411

IBM CLOUD

Device Recent Events




Service Details - IBM Cloud
IBM Watson IoT Platform
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sketch.ino - Wokwi Arduino and
Inbox (206) - saranya31140@gr
sms611.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
saranya311406@gmail.com
ID: sms611
Browse
Action
Device Types
Interfaces
Add Device
Device ID
Status
Device Type
Class ID
Date Added
Descriptive Location
14061
Disconnected
arduino
Device
Nov 2, 2022 8:38 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
{"version":1,"author":"Anonymous maker","edito...
json
a few seconds ago
event_1
{"version":1,"author":"Anonymous maker","edito...
json
a few seconds ago
event_1
{"version":1,"author":"Anonymous maker","edito...
json
a few seconds ago
event_1
{"version":1,"author":"Anonymous maker","edito...
json
a few seconds ago
event_1
{"version":1,"author":"Anonymous maker","edito...
json
a few seconds ago
1 Simulation running
Items per page 50
1–1 of 1 item
ENG
IN
22:08
02-11-2022