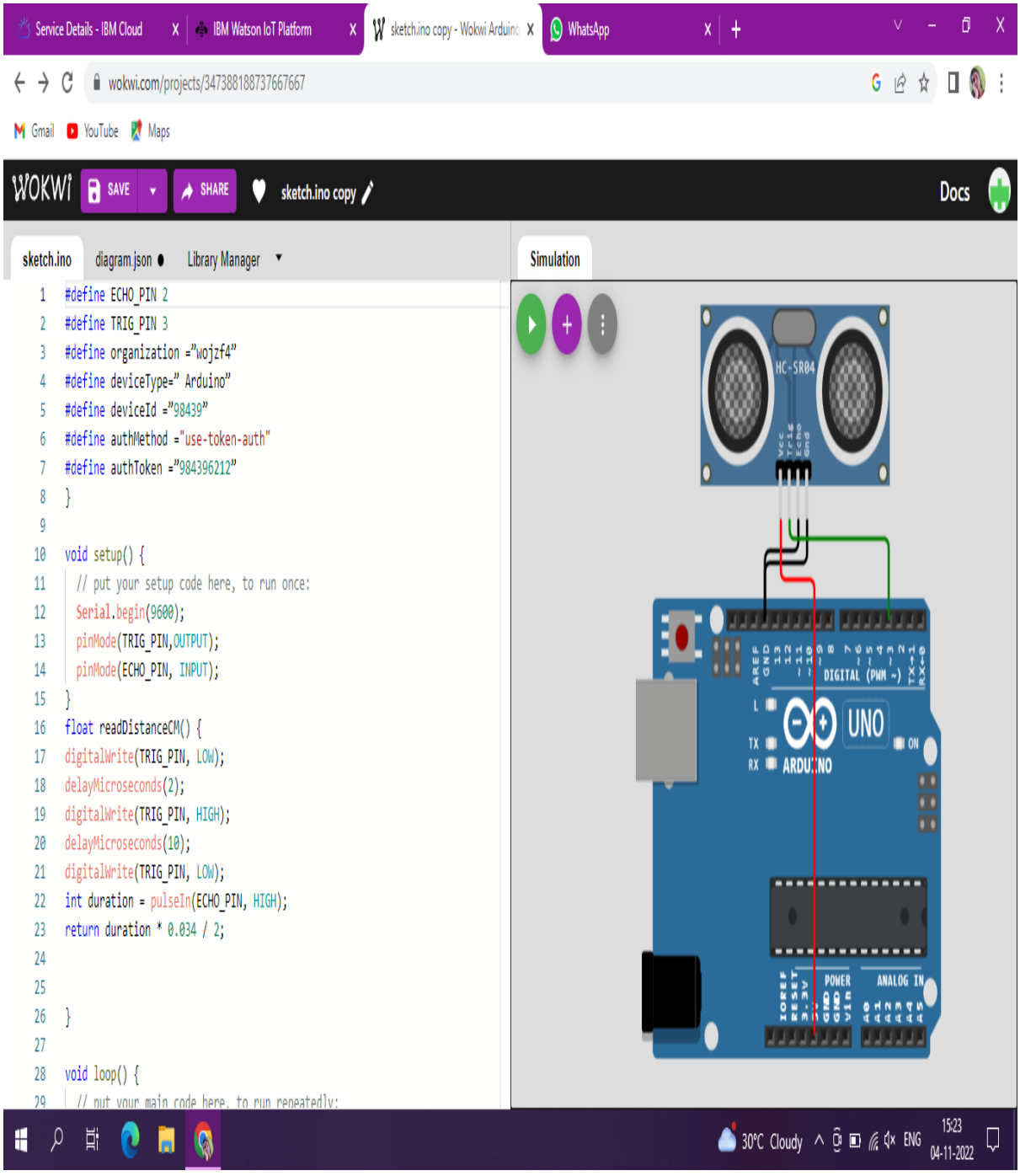
Assignment -4

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.

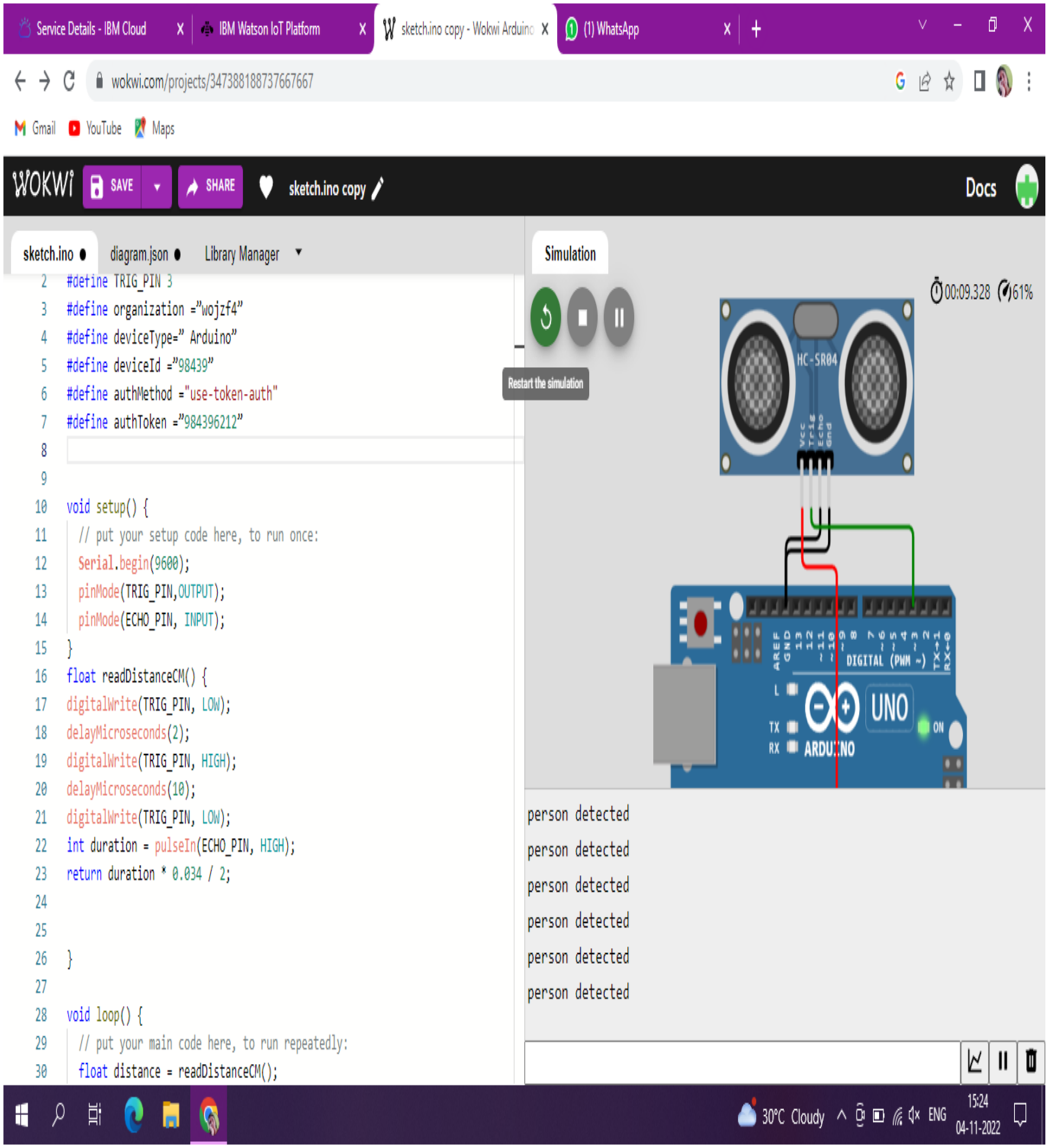
Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization =”wojzf4”
#define deviceType=” Arduino”
#define deviceId =”98439”
#define authMethod ="use-token-auth"
#define authToken =”984396212”

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
sketch.ino copy - Wokwi Arduino
WhatsApp
wokwi.com/projects/347388188737667667
Gmail
YouTube
Maps
WOKWI
SAVE
SHARE
sketch.ino copy
Docs
sketch.ino
diagram.json
Library Manager
Simulation
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization ="wojzf4"
#define deviceType=" Arduino"
#define deviceId ="98439"
#define authMethod ="use-token-auth"
#define authToken ="984396212"
}
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:
HC-SR04
UNO
ARDUINO
DIGITAL (PWM ~)
POWER
ANALOG IN
30°C Cloudy
ENG
15:23
04-11-2022

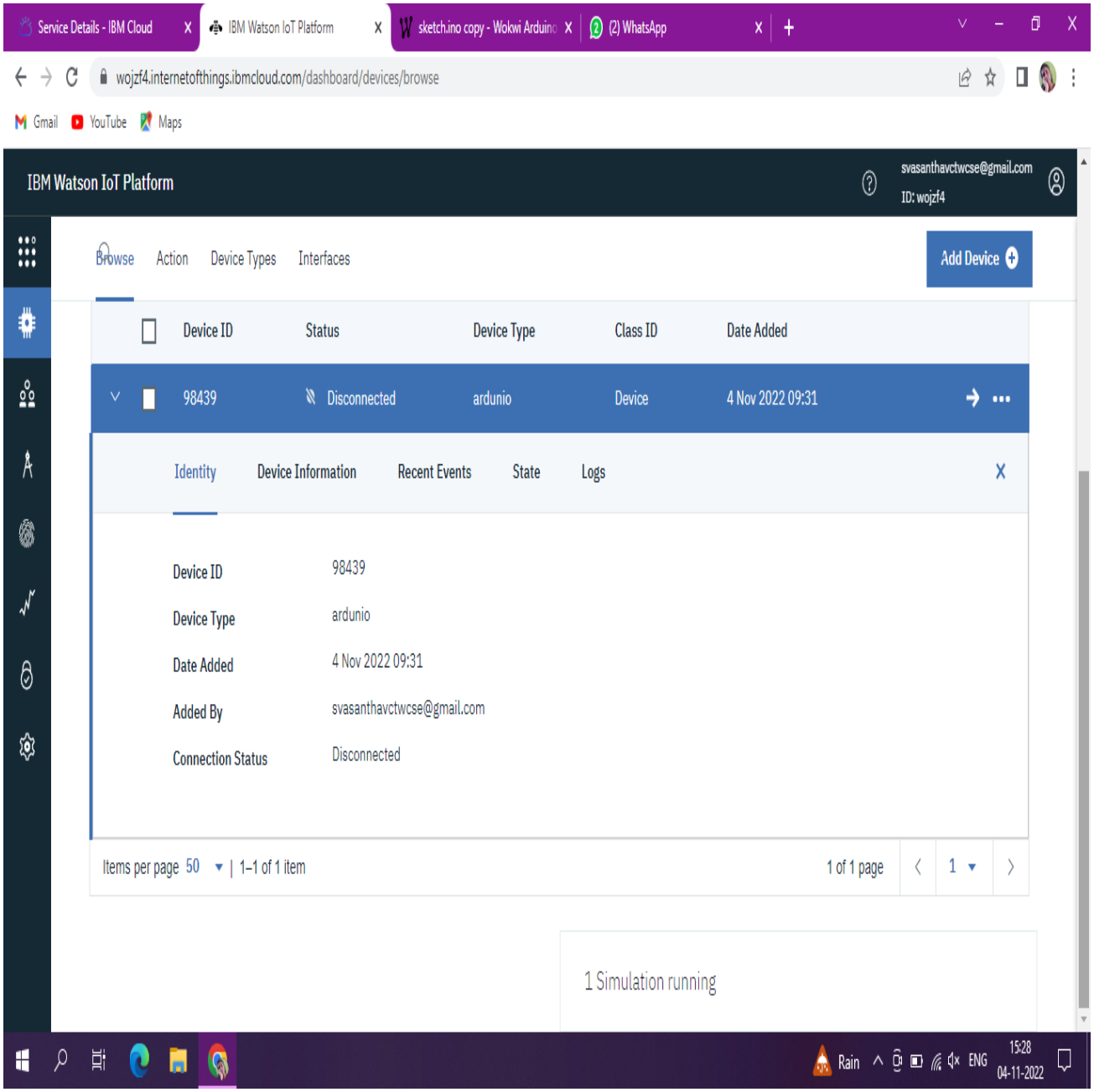
Output:

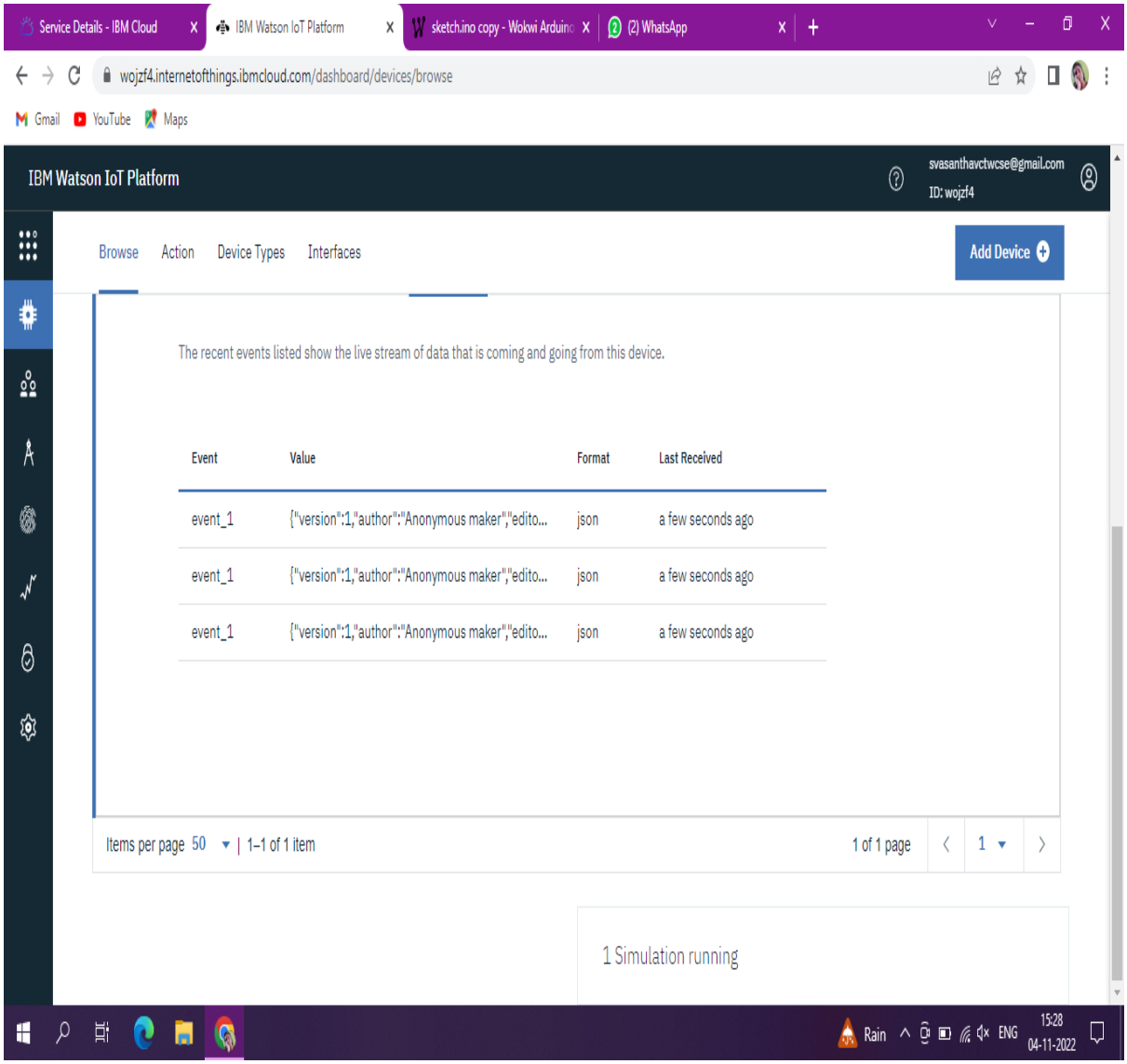


Wokwi Link: https://wokwi.com/projects/347388188737667667

IBM CLOUD

Device Recent Events




Service Details - IBM Cloud
IBM Watson IoT Platform
sketch.ino copy - Wokwi Arduino
(2) WhatsApp
wojzf4.internetofthings.ibmcloud.com/dashboard/devices/browse
Gmail
YouTube
Maps
IBM Watson IoT Platform
svasanthavctwcse@gmail.com
ID: wojzf4
Browse
Action
Device Types
Interfaces
Add Device
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
Items per page 50
1–1 of 1 item
1 of 1 page
1
1 Simulation running
Rain
ENG
15:28
04-11-2022