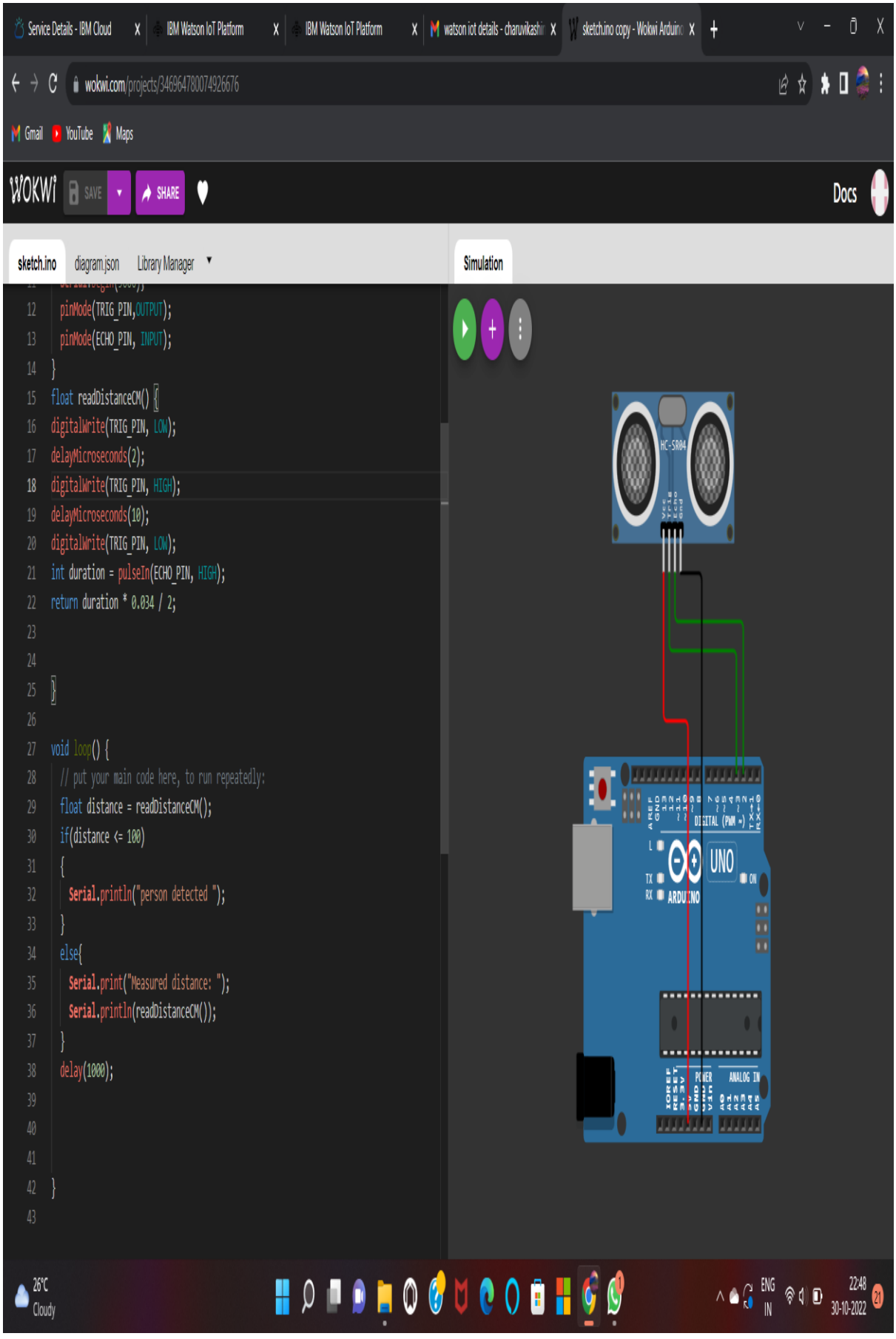
T. Charu Vikashini Assignment -4

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.

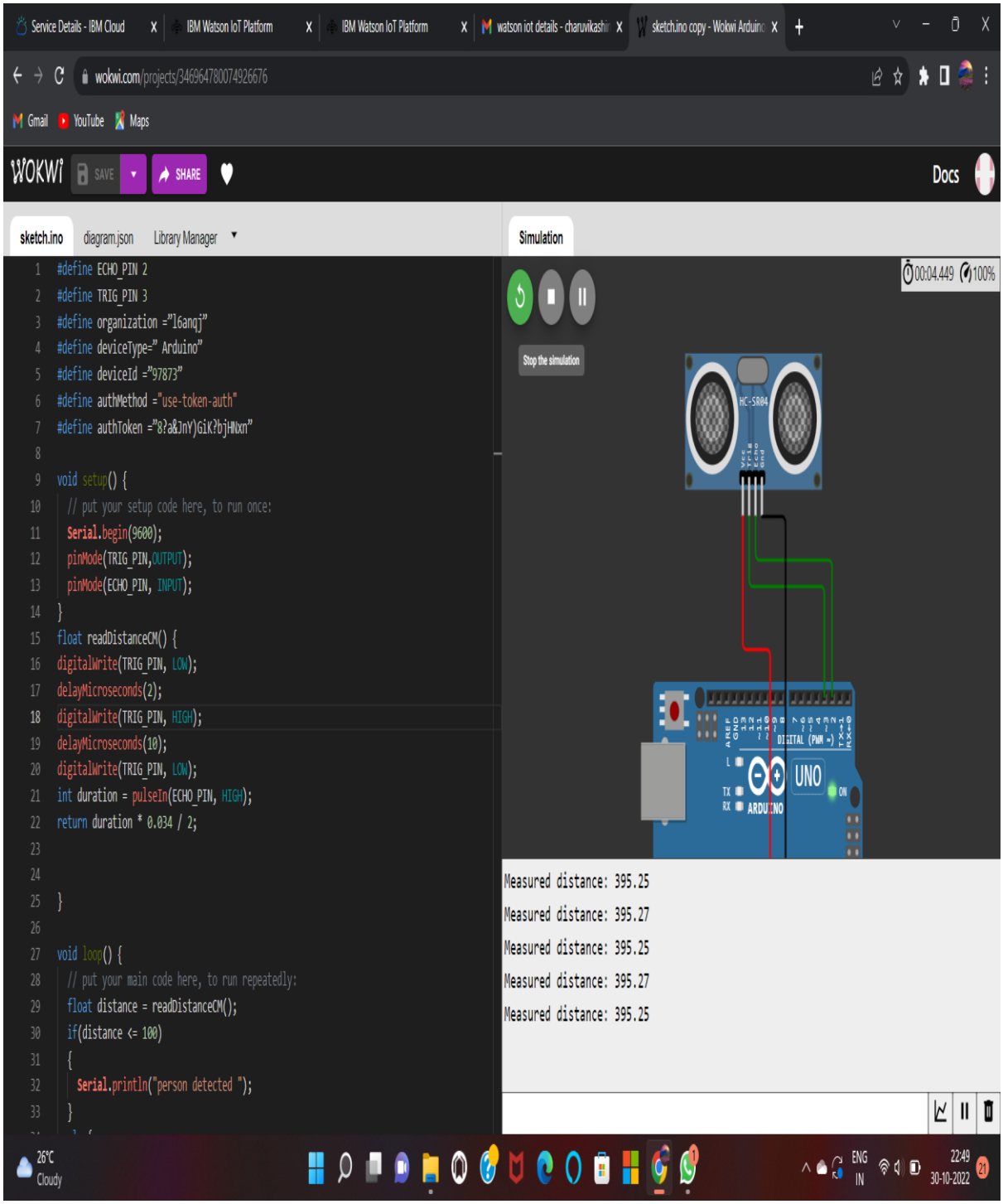
Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization =”l6anqj”
#define deviceType=” Arduino”
#define deviceId =”97873”
#define authMethod ="use-token-auth"
#define authToken =”8?a&JnY)GiK?bjHNxn”

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
watson iot details - charuvikashi
sketch.ino copy - Wokwi Arduino
wokwi.com/projects/346964780074926676
Gmail
YouTube
Maps
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
Simulation
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);
}
HC-SR04
UNO
ARDUINO
DIGITAL (PWM ~)
POWER
ANALOG IN
26°C
Cloudy
ENG
IN
22:48
30-10-2022

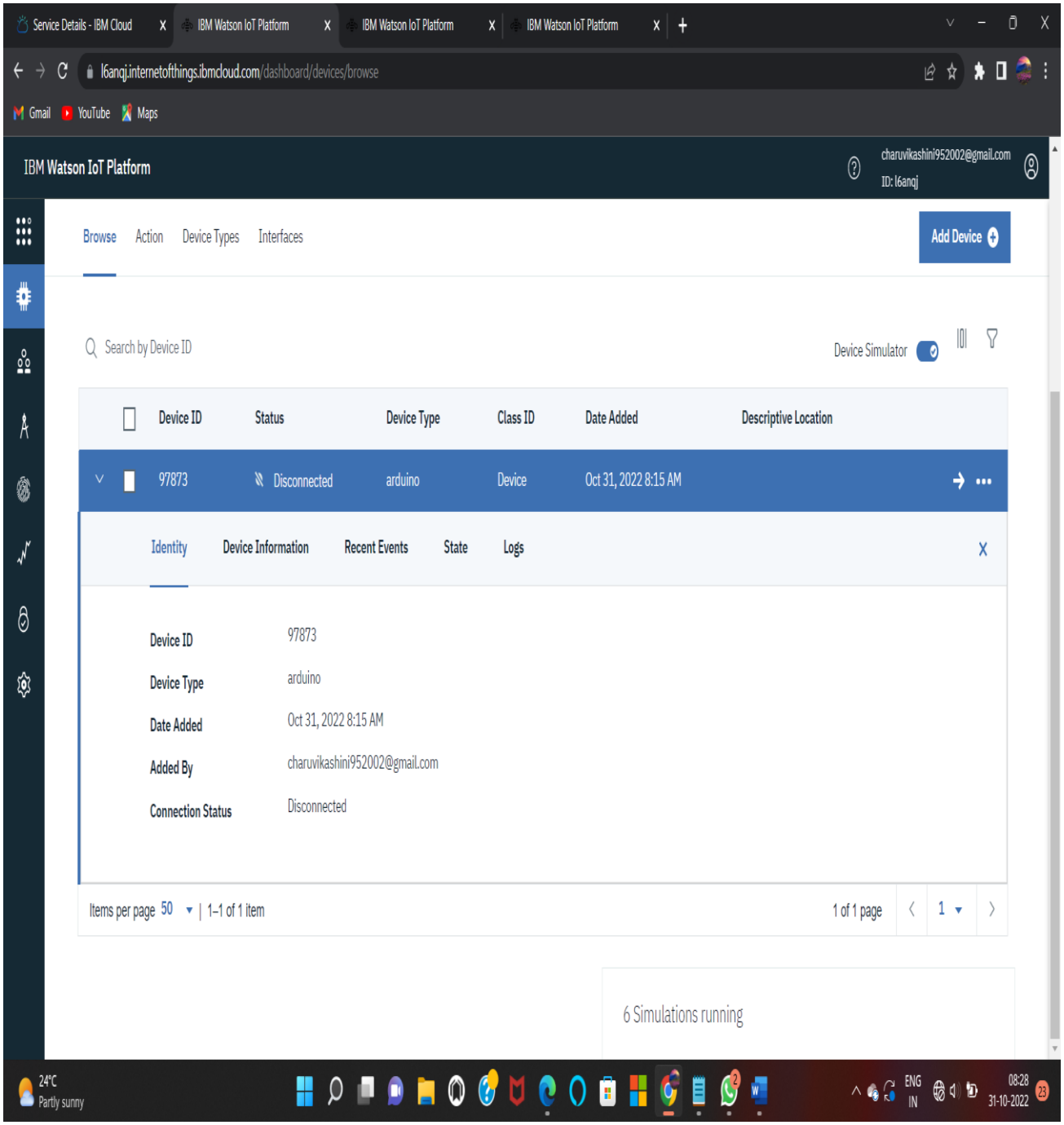
Output:

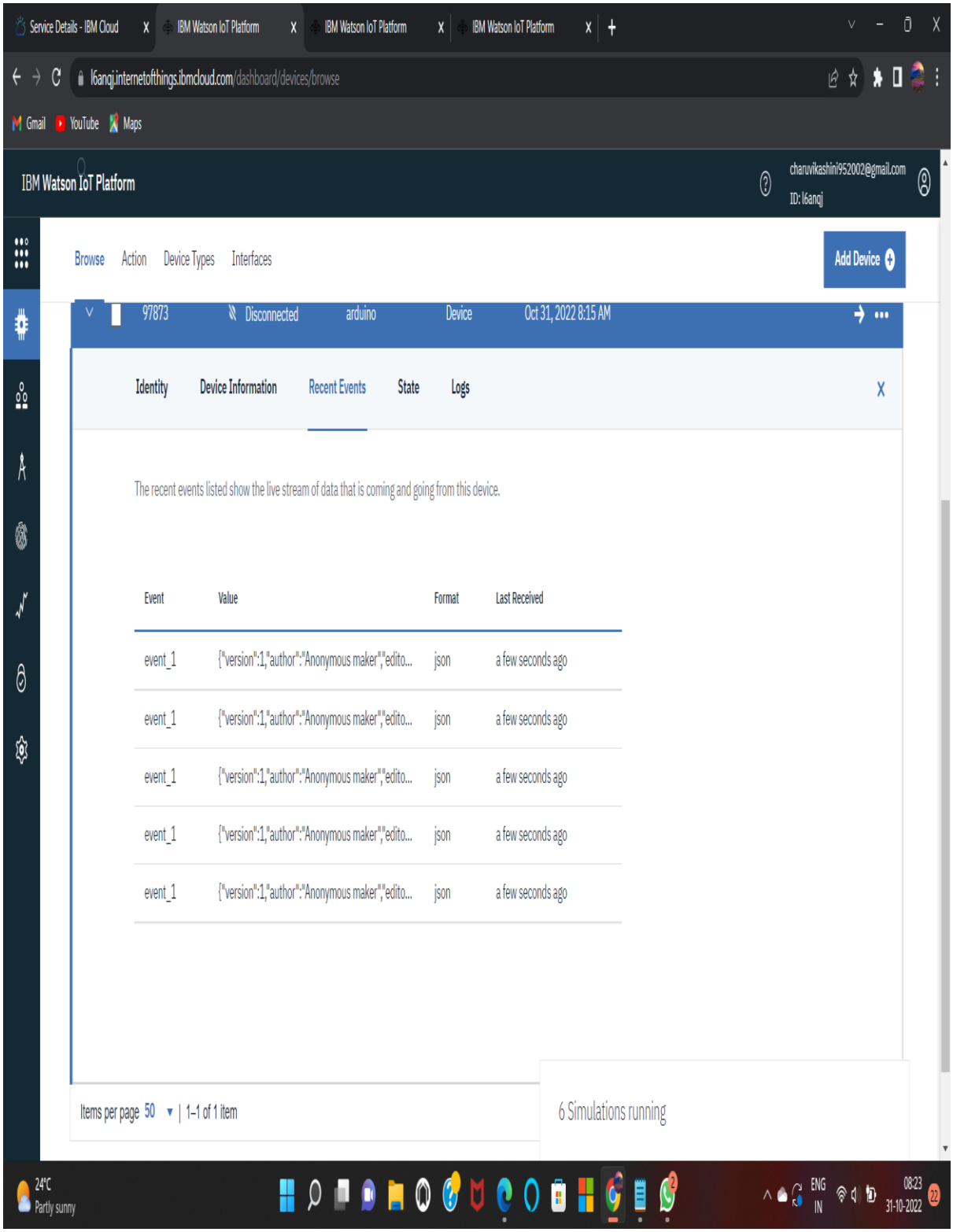


Wokwi Link: https://wokwi.com/projects/346964780074926676

IBM CLOUD

Device Recent Events




Service Details - IBM Cloud
IBM Watson IoT Platform
IBM Watson IoT Platform
IBM Watson IoT Platform
l6anqj.internetofthings.ibmcloud.com/dashboard/devices/browse
Gmail
YouTube
Maps
IBM Watson IoT Platform
charuvikashini952002@gmail.com
ID: l6anqj
Browse
Action
Device Types
Interfaces
Add Device
97873
Disconnected
arduino
Device
Oct 31, 2022 8:15 AM
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
Items per page 50
1–1 of 1 item
6 Simulations running
24°C
Partly sunny
ENG
IN
08:23
31-10-2022