SUGASAHILA.R ASSIGNMENT-4

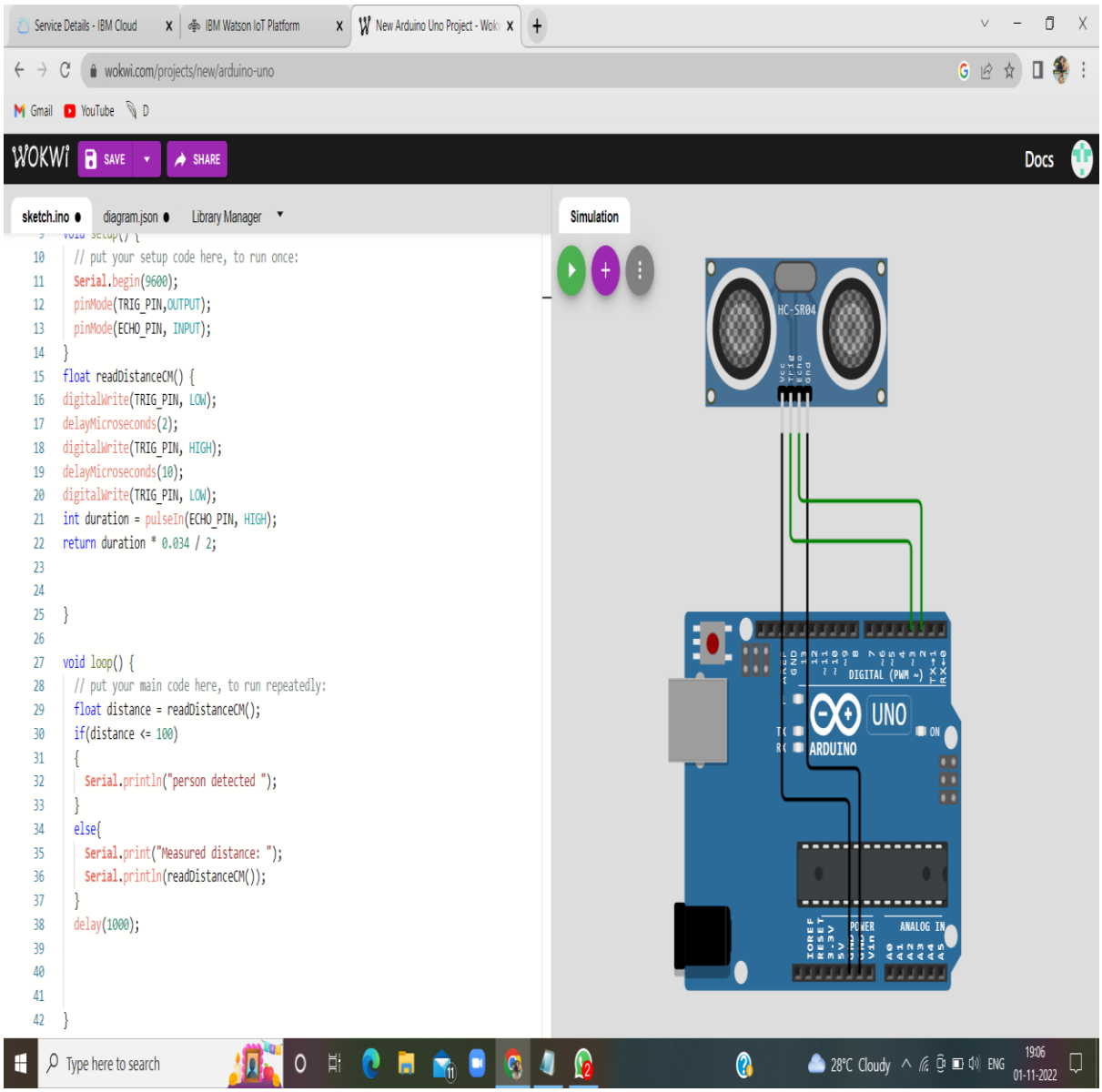
QUESTION- 1: Write code and connection in wokwi for ultrasonic sensor. Whenever distances is less than 100 cms send “alert” to ibm cloud and display in device recent events.

Solution:

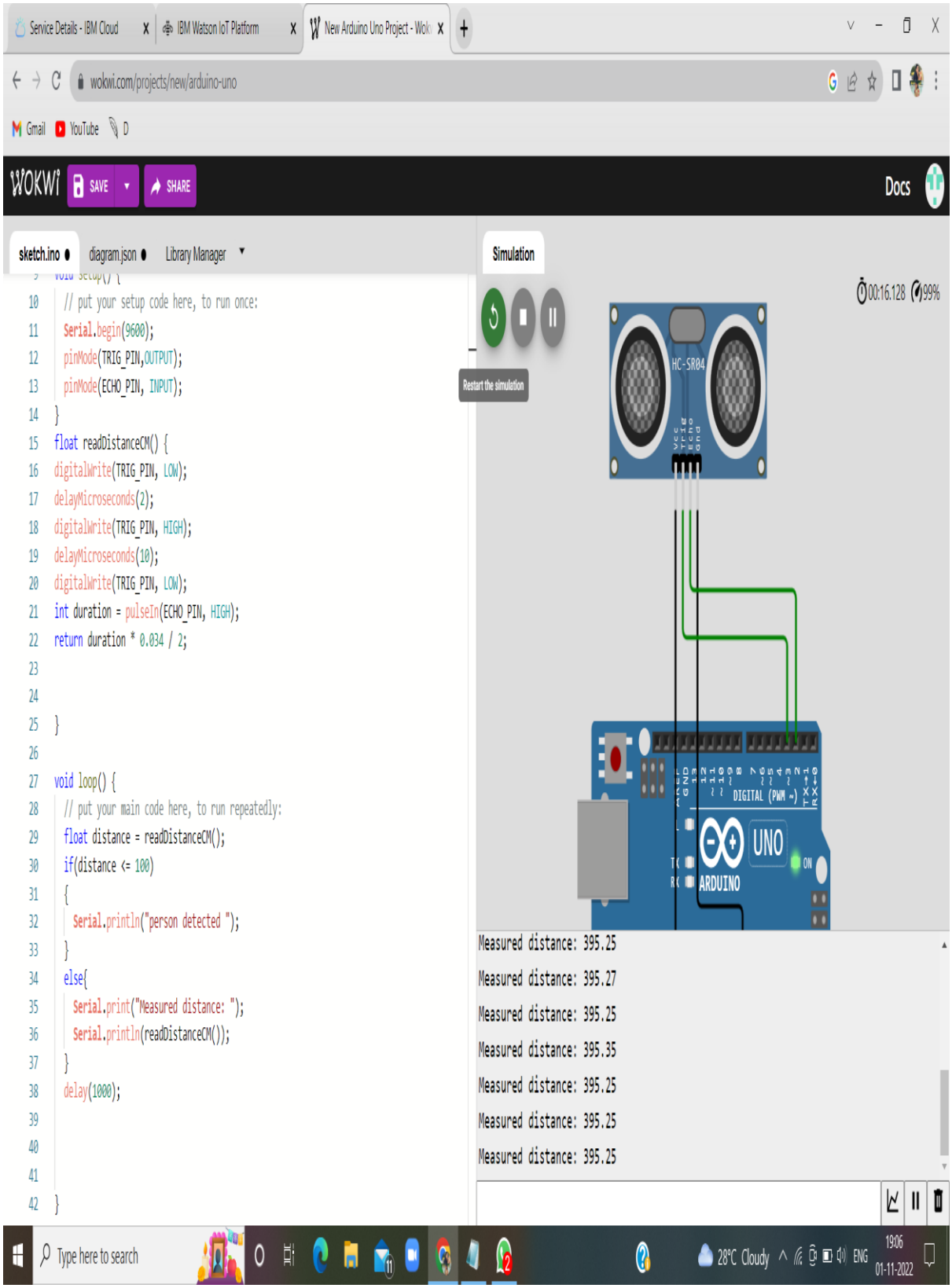
```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization =”26kfi7”
#define deviceType=” Arduino”
#define deviceId =”77777”
#define authMethod ="use-token-auth"
#define authToken =”PvXOirUN7@IXsblWUv”

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
New Arduino Uno Project - Woki
wokwi.com/projects/new/arduino-uno
Gmail
YouTube
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
Simulation
HC-SR04
UNO
ARDUINO
DIGITAL (PWM~)
POWER
ANALOG IN
Type here to search
28°C Cloudy
ENG
19:06
01-11-2022

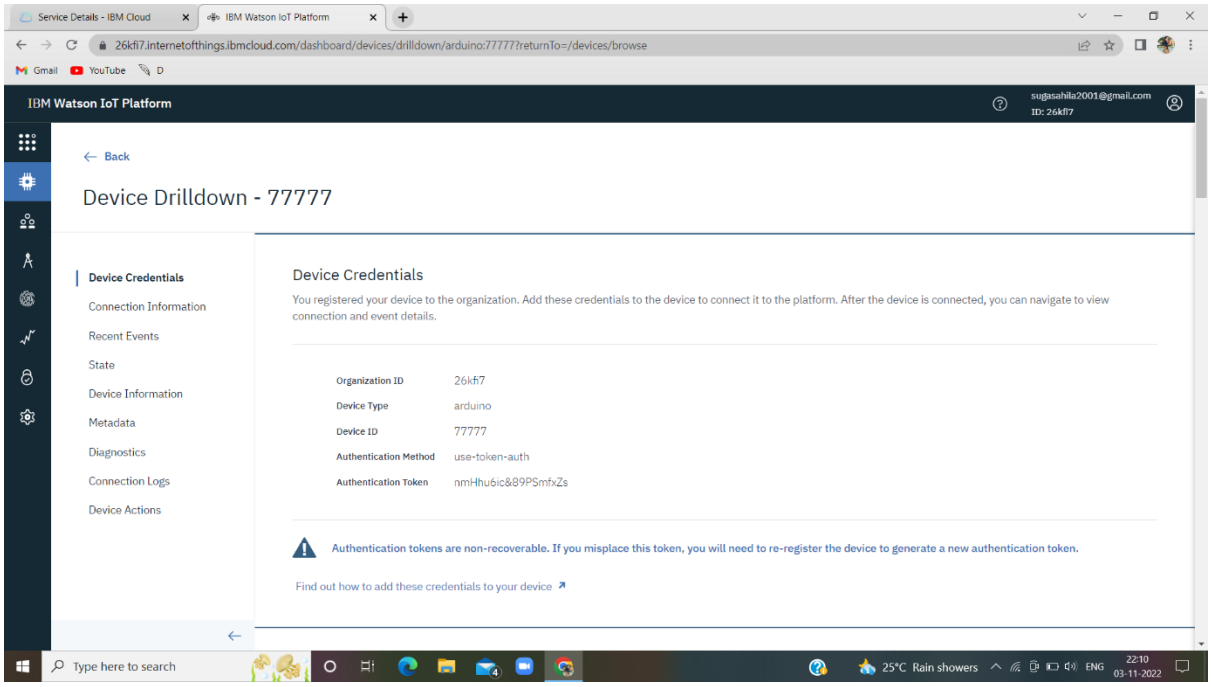
Output:

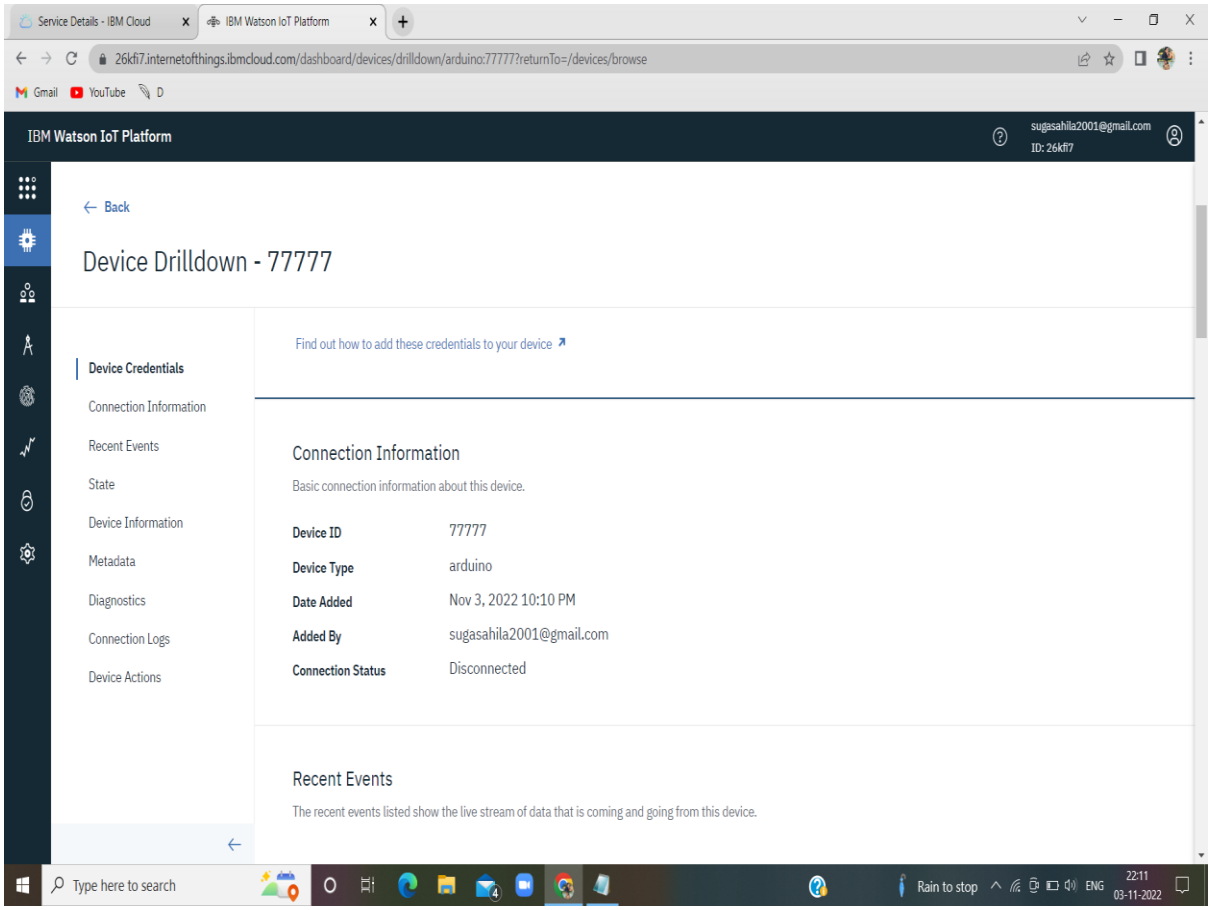

Service Details - IBM Cloud
IBM Watson IoT Platform
New Arduino Uno Project - Wok
wokwi.com/projects/new/arduino-uno
Gmail
YouTube
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
Simulation
00:16.128
99%
Restart the simulation
HC-SR04
DIGITAL (PWM ~)
UNO
ARDUINO
ON
// put your setup code 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);
}
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.35
Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.25
Type here to search
28°C Cloudy
ENG
19:06
01-11-2022

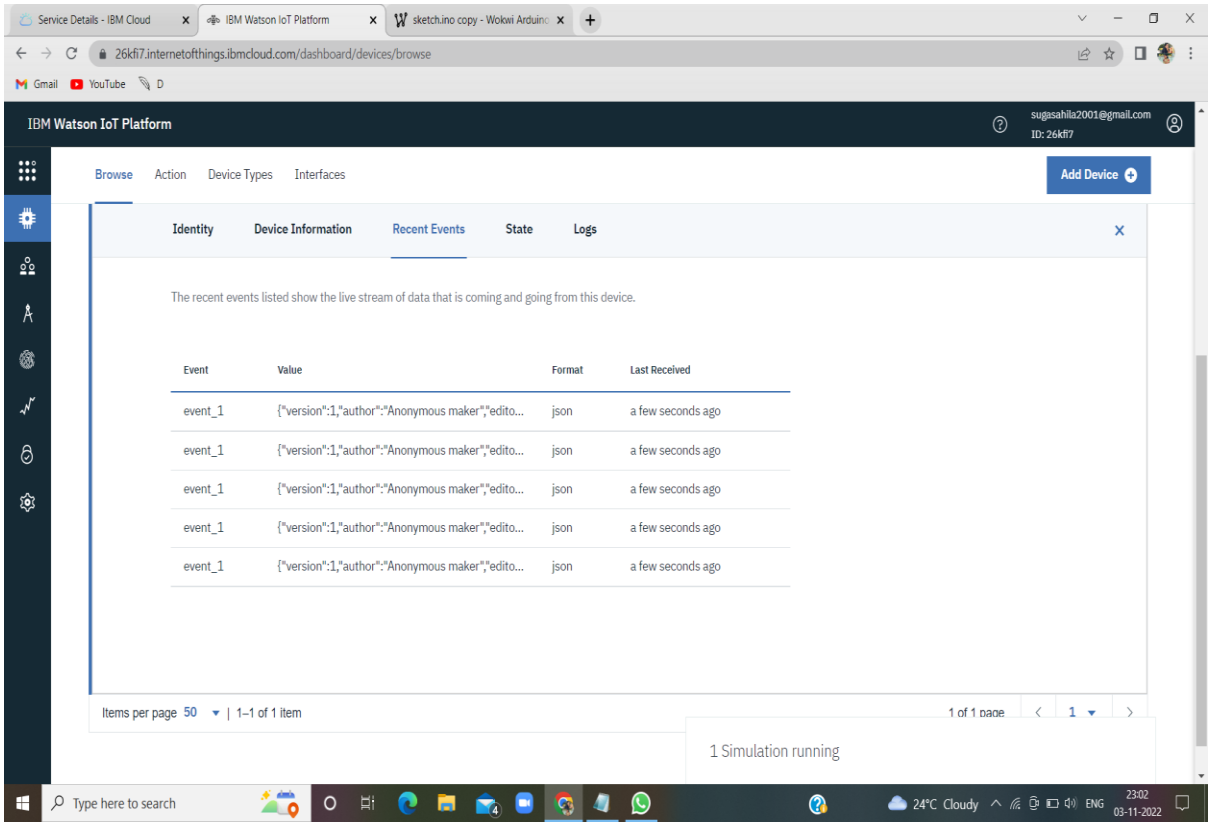
Wokwi link: https://wokwi.com/projects/347326623040668244

IBM

Devices recent events






Service Details - IBM Cloud
IBM Watson IoT Platform
sketch.ino copy - Wokwi Arduino
26kfi7.internetofthings.ibmcloud.com/dashboard/devices/browse
Gmail
YouTube
D
IBM Watson IoT Platform
sugasahila2001@gmail.com
ID: 26kfi7
Browse
Action
Device Types
Interfaces
Add Device
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
1 of 1 page
1
1 Simulation running
Type here to search
24°C Cloudy
ENG
23:02
03-11-2022