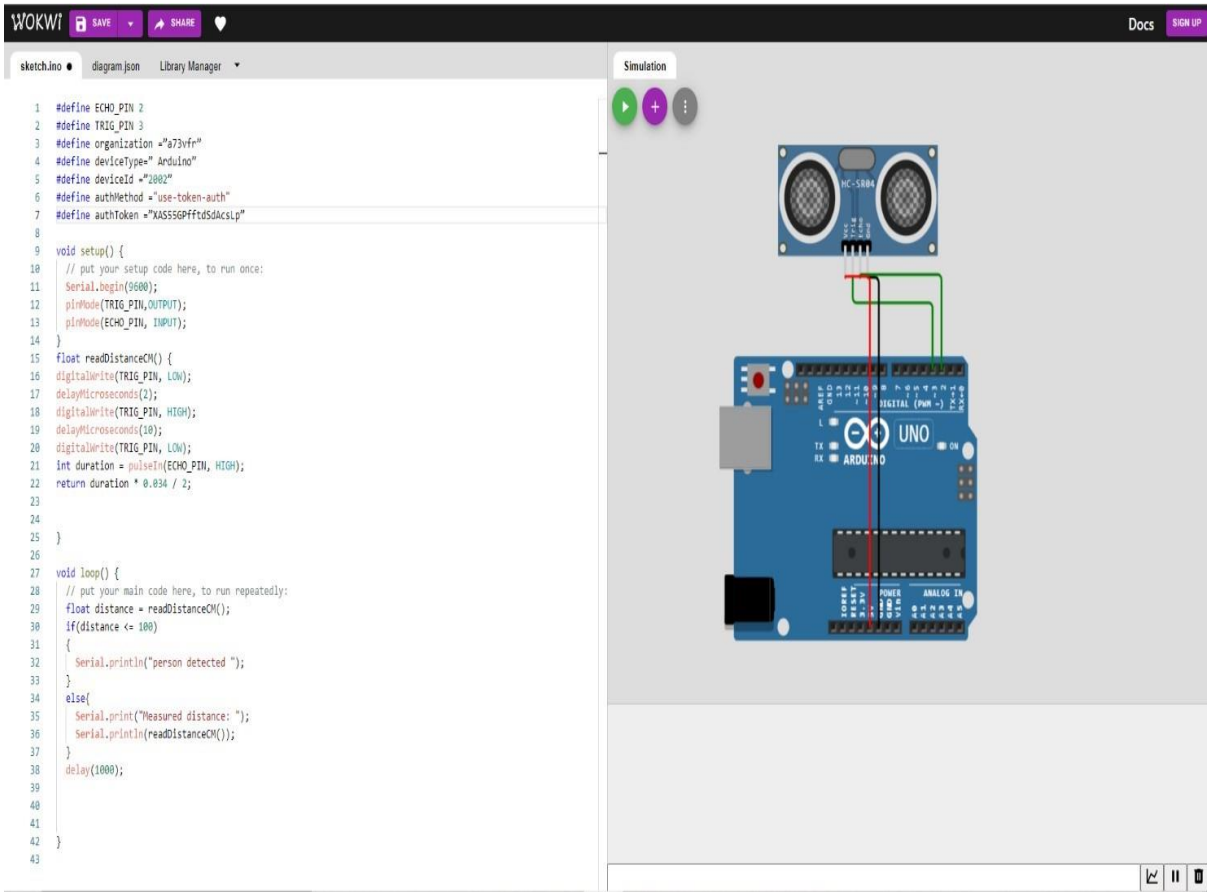
T. L. Gayathri Assignment -4

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 =”a73vfr”
#define deviceType=” Arduino”
#define deviceId =”2002”
#define authMethod ="use-token-auth"
#define authToken =”XAS55GPfftdSdAcsLp”

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);




}
```

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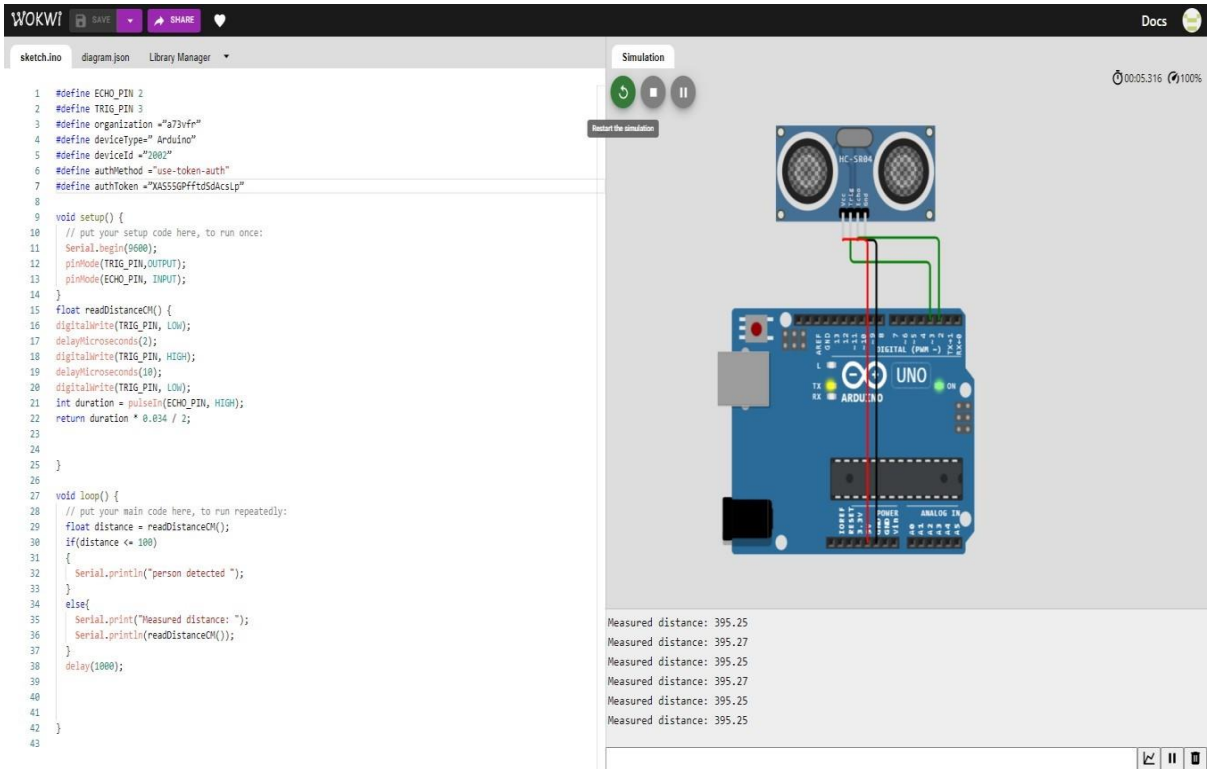
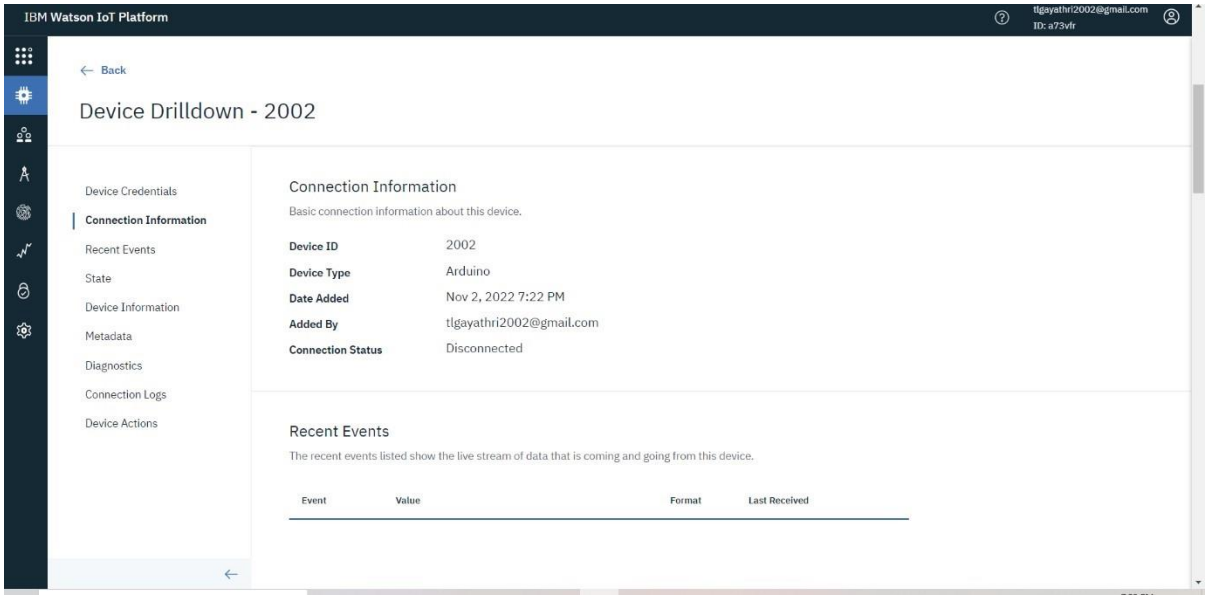
Output:

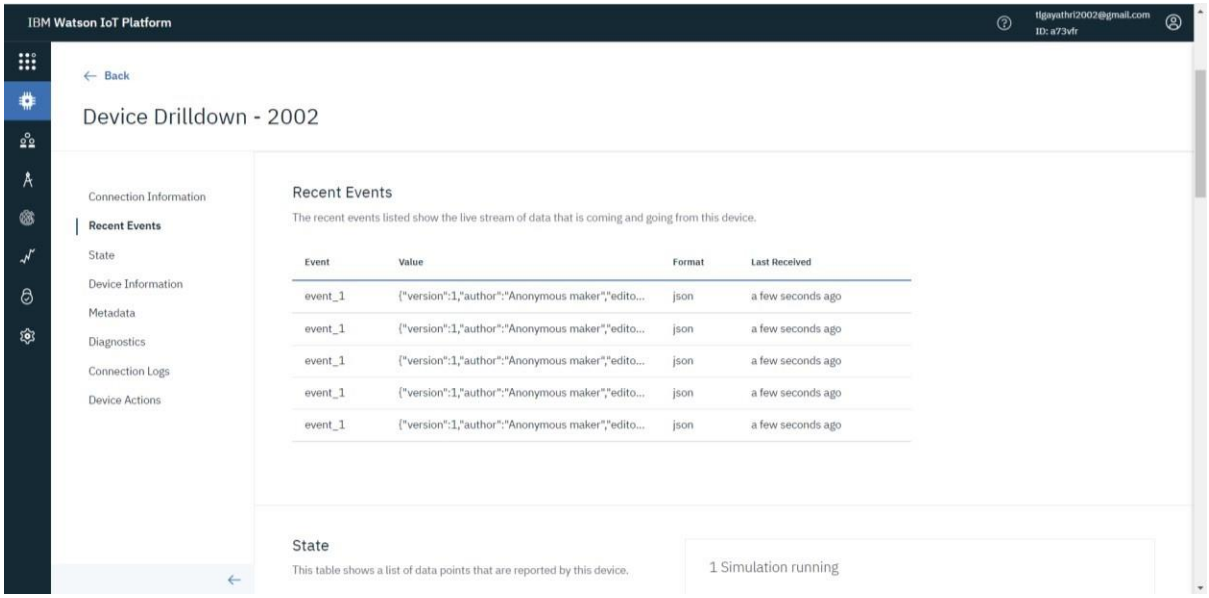


Wokwi Link: https://wokwi.com/projects/347224372934607443

IBM CLOUD

Device Recent Events


IBM Watson IoT Platform
tlgayathri2002@gmail.com
ID: a73vlr
Back
Device Drilldown - 2002
Device Credentials
Connection Information
Recent Events
State
Device Information
Metadata
Diagnostics
Connection Logs
Device Actions
Connection Information
Basic connection information about this device.
Device ID 2002
Device Type Arduino
Date Added Nov 2, 2022 7:22 PM
Added By tlgayathri2002@gmail.com
Connection Status Disconnected
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


IBM Watson IoT Platform
tlgayathri2002@gmail.com
ID: a73vfr
Back
Device Drilldown - 2002
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":"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
State
This table shows a list of data points that are reported by this device.
1 Simulation running