**Assignment – 4**

|  |  |
| --- | --- |
| Date | 29 October 2022 |
| Team ID | PNT2022TMID15636 |
| Project Name | Real-Time River Water Quality Monitoring and Control System |
| Maximum Marks | 2 Marks |

**Question:**

Write code and connections in wokwi for the ultrasonic sensor.

Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events.

Upload document with wokwi share link and images of IBM cloud

**Solution:**

#define ECHO\_PIN 2

#define TRIG\_PIN 3

#define organization = “5b7mor”

#define deviceType = “ultrasonic”

#define deviceId = “ultrasonic”

#define authMethod = “use-token-auth”

#define authToken = “12345678”

void setup() {

**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() {

  float distance = readDistanceCM();

  if (distance <= 100)

  {

**Serial**.println("!!!ALERT  Required Object was Detected   ALERT!!!");

  }

  else {

**Serial**.print("Measured distance: ");

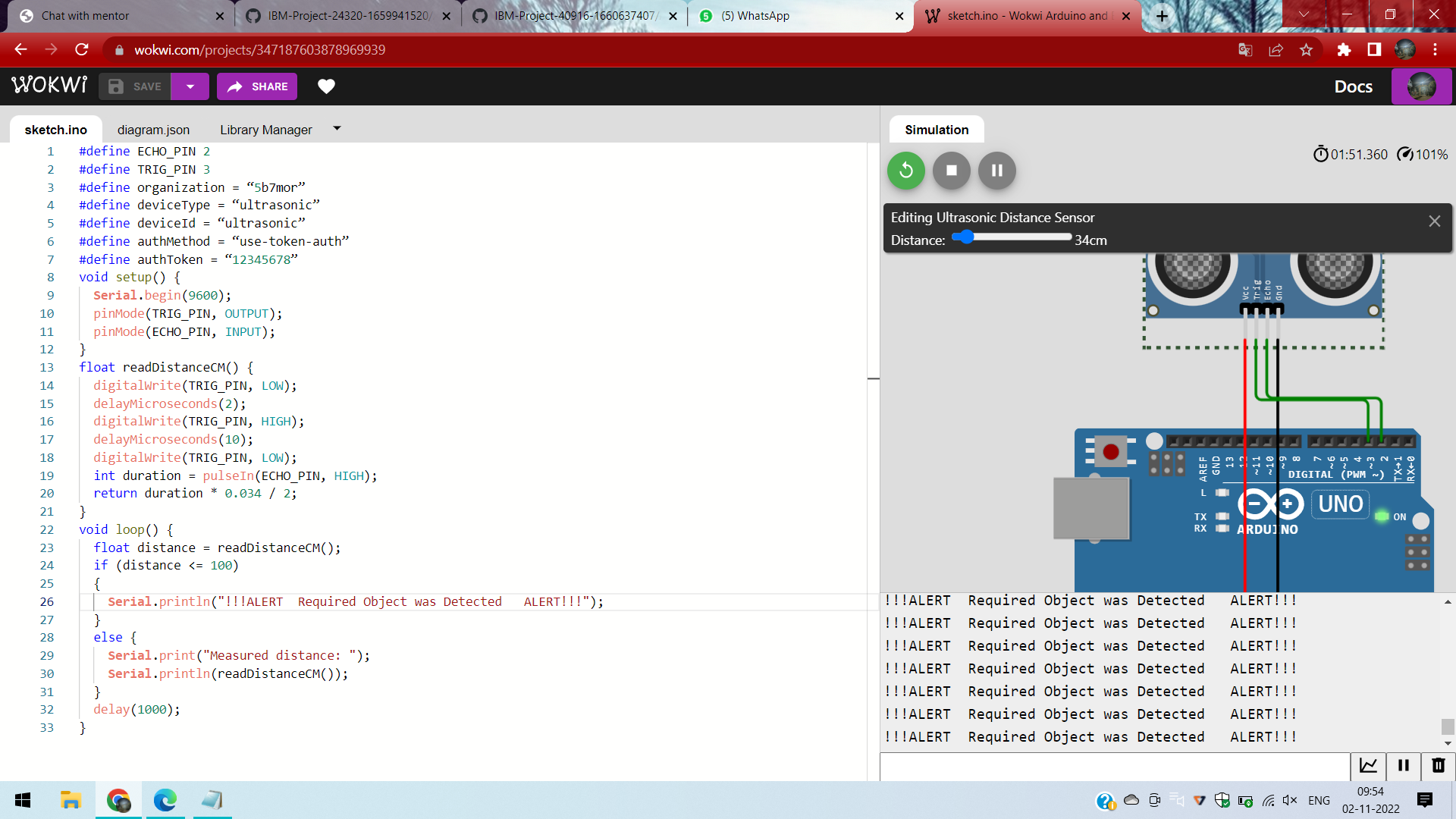
**Serial**.println(readDistanceCM());

  }

  delay(1000);

}

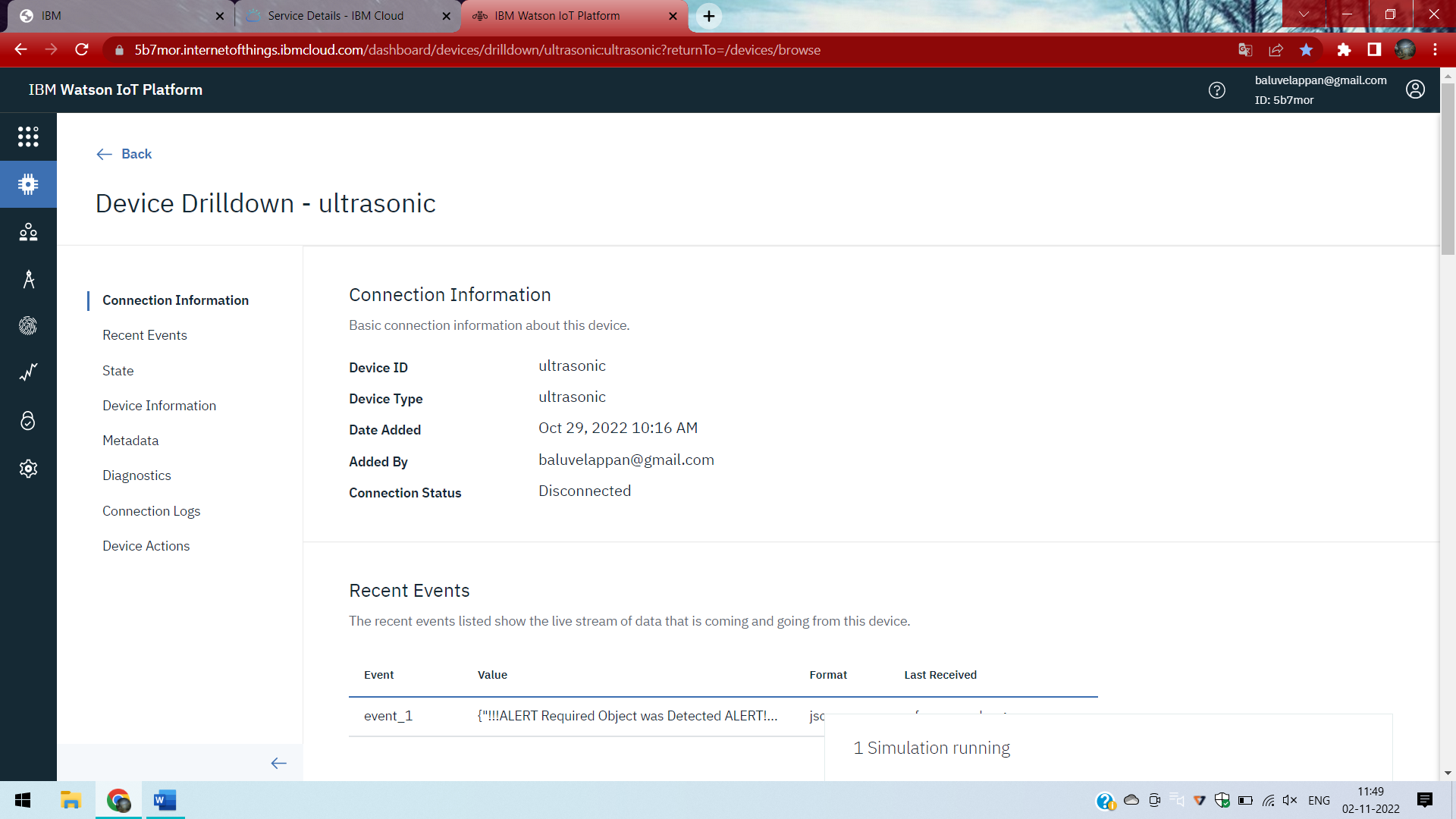
**Simulation Output:**



**Wokwi Share Link**

https://wokwi.com/projects/347187603878969939

**IBM Cloud Device Details:**



**IBM Cloud Device Recent Events**

