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.

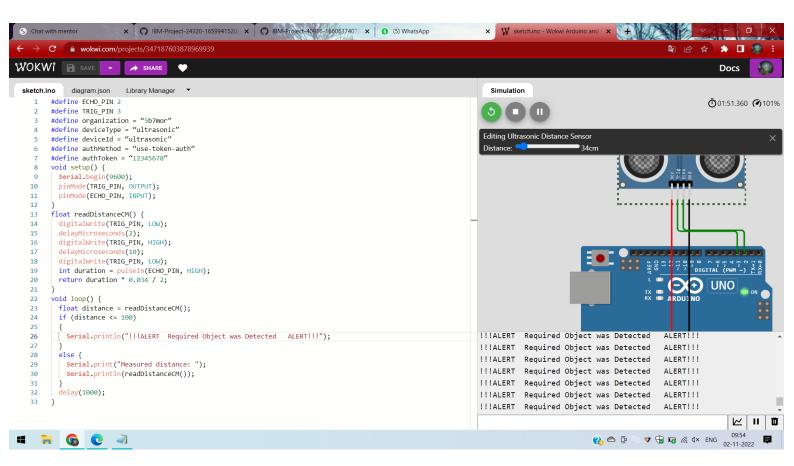
Upload document with wokwi share link and images of IBM cloud

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)</pre>
    Serial.println("!!!ALERT Required Object was Detected ALERT!!!");
  }
    Serial.print("Measured distance: ");
    Serial.println(readDistanceCM());
  }
```

```
delay(1000);
```

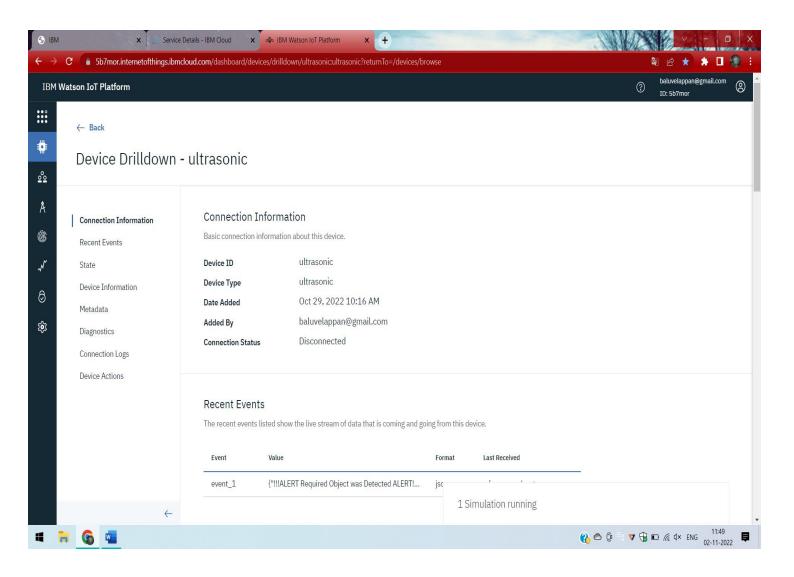
Simulation Output:



Wokwi Share Link

https://wokwi.com/projects/347187603878969939

IBM Cloud Device Details:



IBM Cloud Device Recent Events

