N.Akshaya Assignment-4

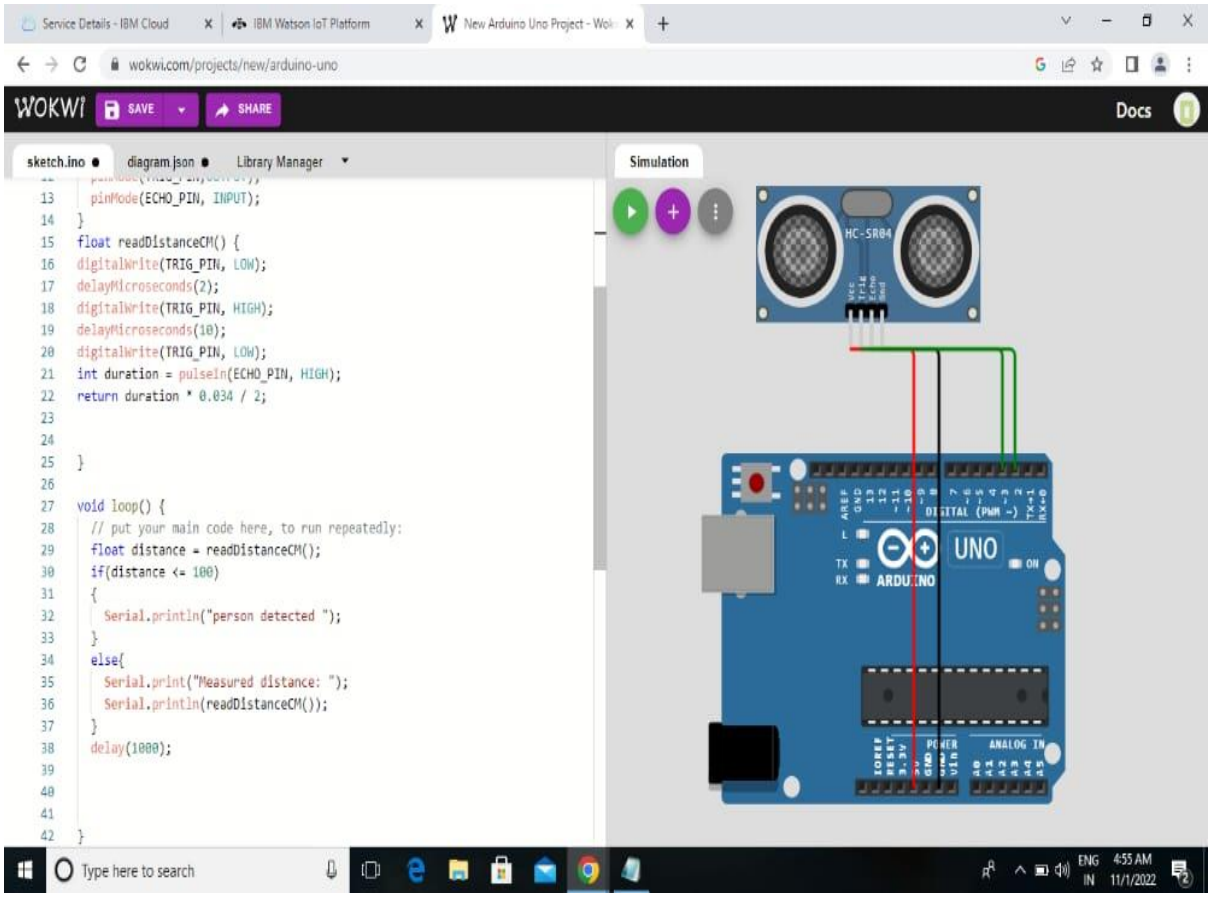
Question : Write code and connection in wokwi for ultrasonic sensor.

Whenever distance is less than 100cms send “alter” to Ibm cloud and display in device recent events.

Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization =”r4qknz”
#define deviceType=” Arduino”
#define deviceId =”55555”
#define authMethod ="use-token-auth"
#define authToken =”P&hOucocMIH9EGVF_t”

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 - Wok
wokwi.com/projects/new/arduino-uno
WOKWI
SAVE
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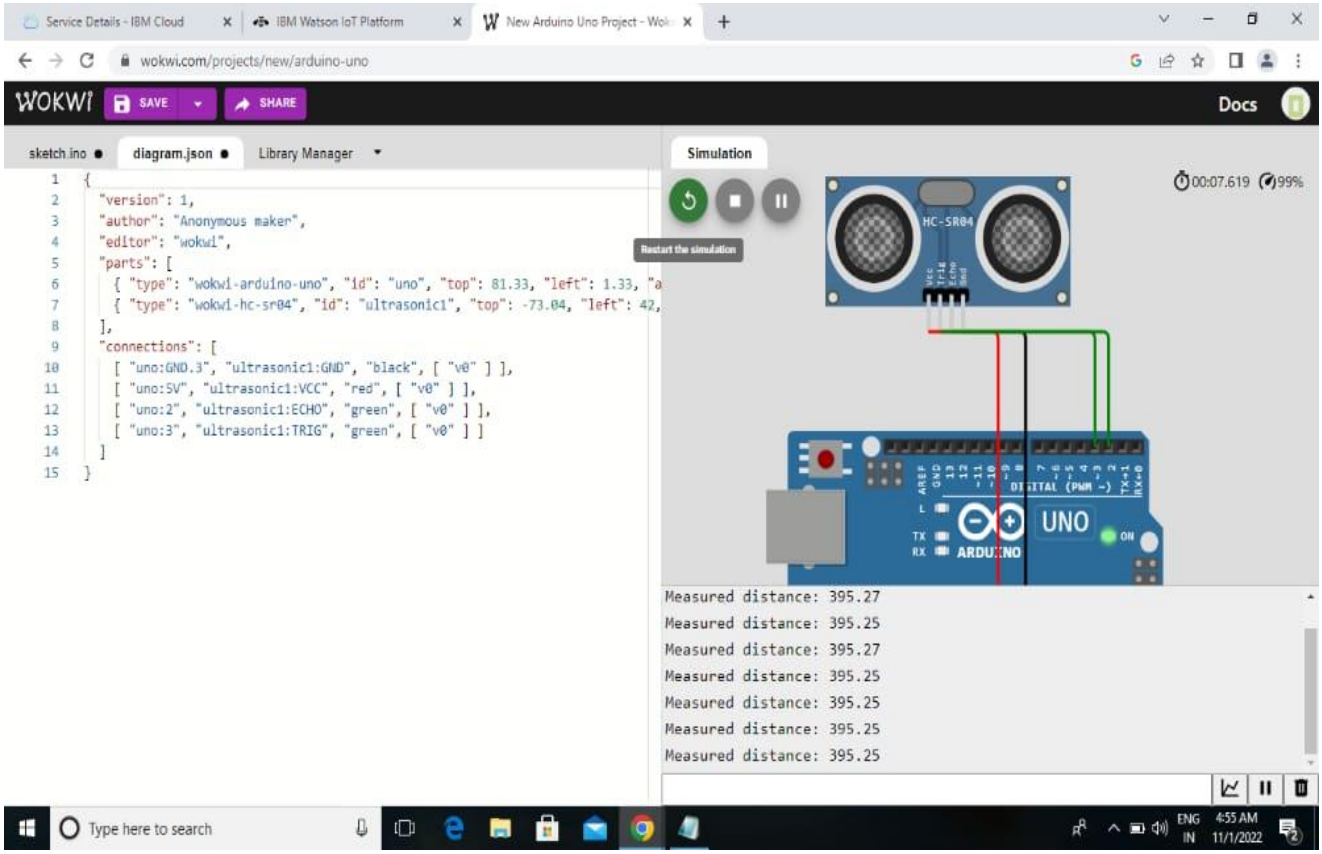
sketch.ino
diagram.json
Library Manager
Simulation
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM() {
digitalWrite(TRIG_PIN, LOW);
delayMicroseconds(2);
digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);
int duration = pulseIn(ECHO_PIN, HIGH);
return duration * 0.034 / 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
Type here to search
ENG
IN
4:55 AM
11/1/2022

OUTPUT:


Service Details - IBM Cloud
IBM Watson IoT Platform
New Arduino Uno Project - Wok
wokwi.com/projects/new/arduino-uno
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
{
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"editor": "wokwi",
"parts": [
{ "type": "wokwi-arduino-uno", "id": "uno", "top": 81.33, "left": 1.33, "a
{ "type": "wokwi-hc-sr04", "id": "ultrasonic1", "top": -73.04, "left": 42,
],
"connections": [
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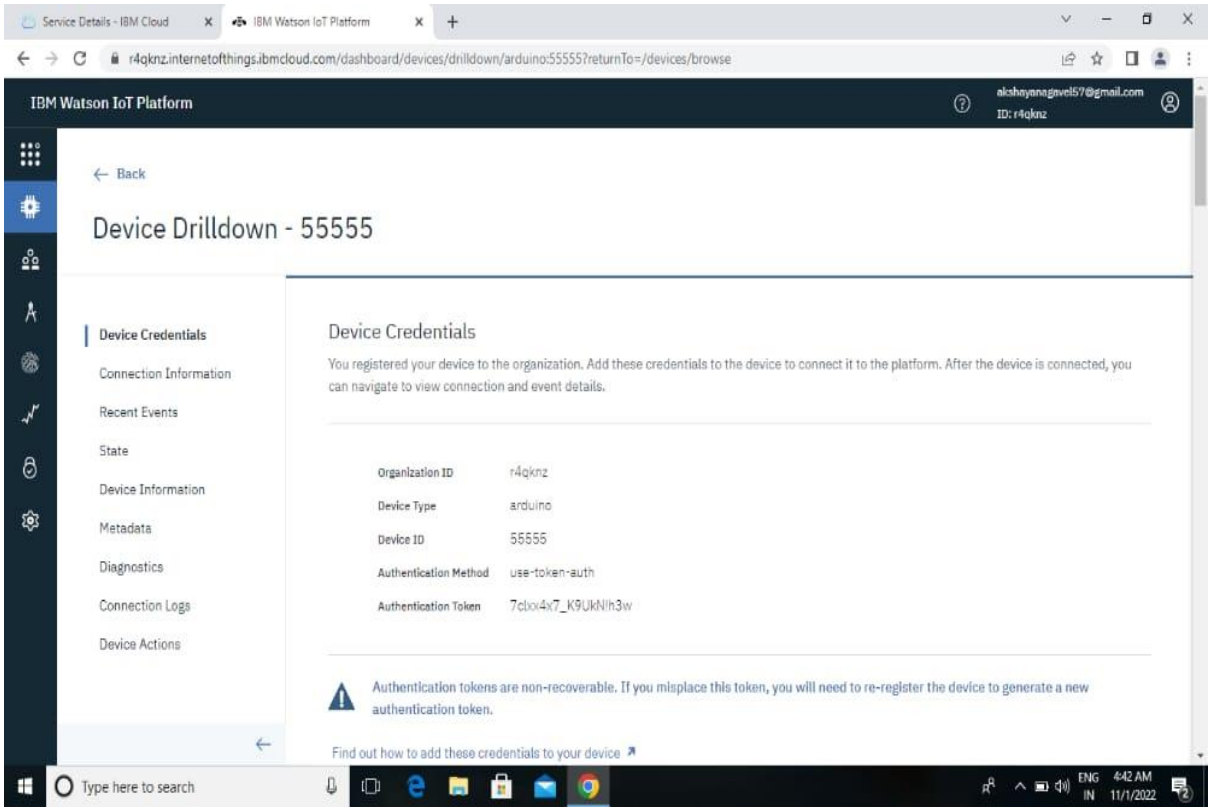
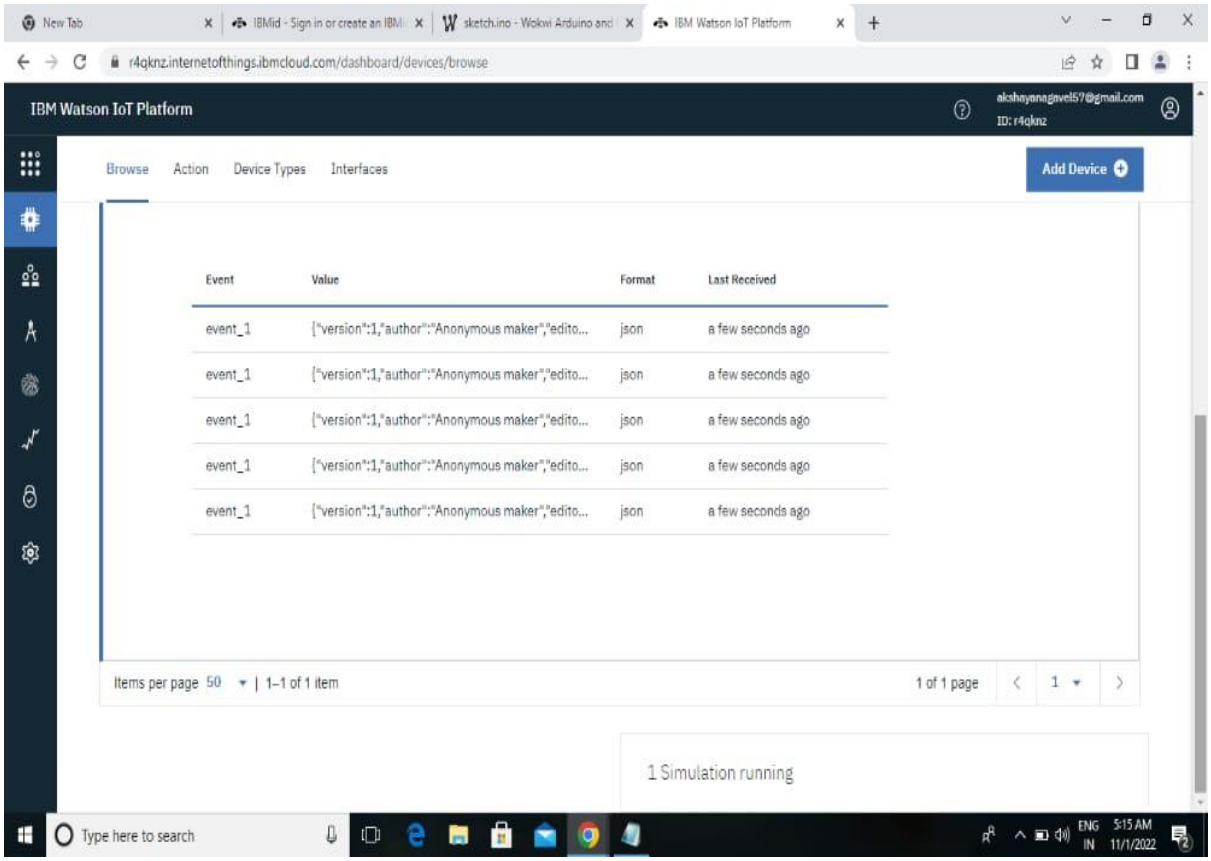
["uno:5V", "ultrasonic1:VCC", "red", ["v0"]],
["uno:2", "ultrasonic1:ECHO", "green", ["v0"]],
["uno:3", "ultrasonic1:TRIG", "green", ["v0"]]
]
}
Simulation
Restart the simulation
00:07.619
99%
HC-SR04
UNO
ARDUINO
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.25
Measured distance: 395.25
Type here to search
ENG
IN
4:55 AM
11/1/2022

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

IBM CLOUD

Device Recent Events




New Tab
IBMid - Sign in or create an IBM
sketch.ino - Wokwi Arduino and
IBM Watson IoT Platform
r4qknz.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
akshayanagavel57@gmail.com
ID: r4qknz
Browse
Action
Device Types
Interfaces
Add Device
Event
Value
Format
Last Received
event_1
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json
a few seconds ago
event_1
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json
a few seconds ago
event_1
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event_1
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event_1
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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
ENG
IN
5:15 AM
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