Internet of Things Assignment

Assignment 4:

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

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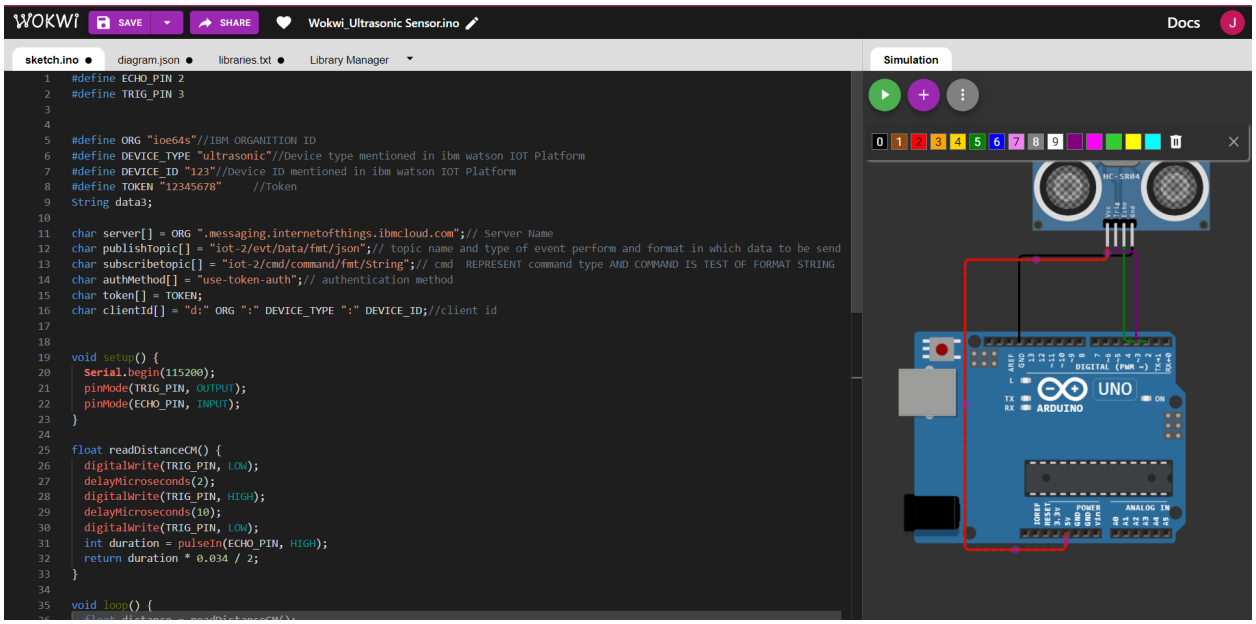
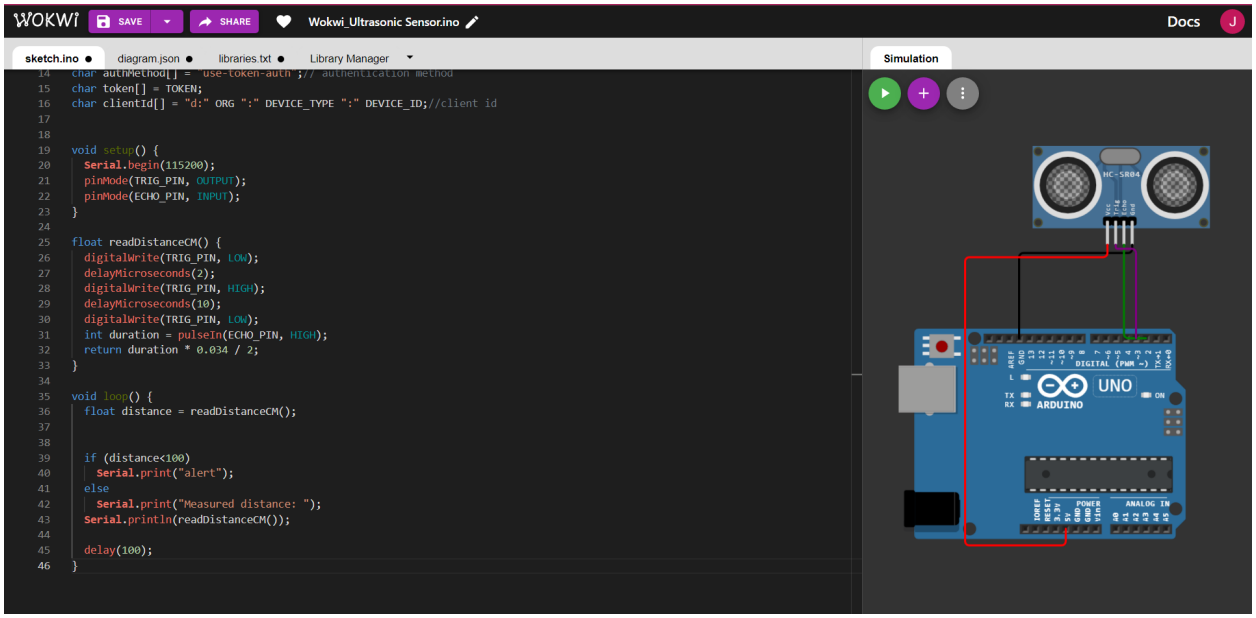
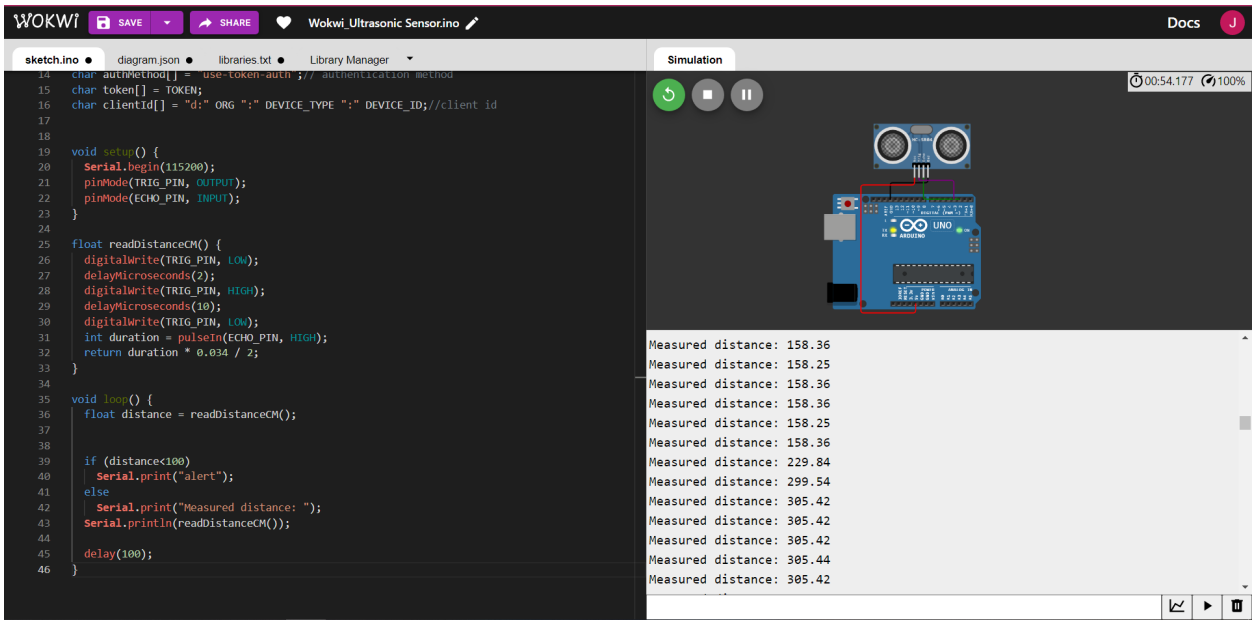
Link for Project Repository:

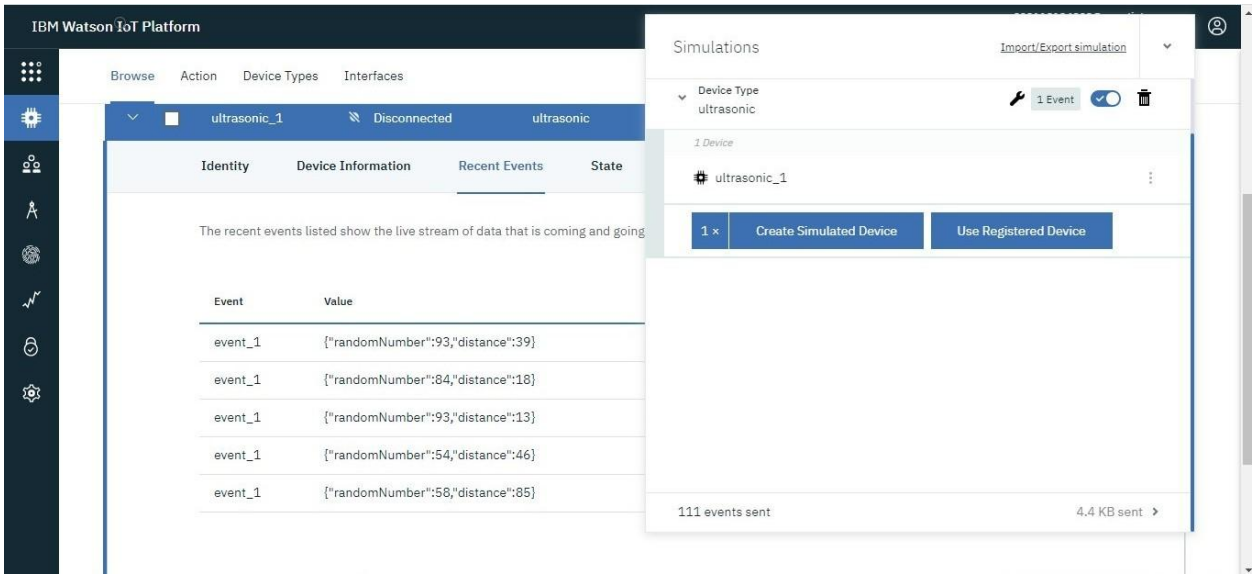
https://wokwi.com/projects/348599390542234196

Snapshots:




WOKWI
SAVE
SHARE
Wokwi_Ultrasonic Sensor.ino
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
Simulation
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id
void setup() {
Serial.begin(115200);
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.print("alert");
else
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
delay(100);
}
HC-SR04
UNO
ARDUINO


WOKWI
SAVE
SHARE
Wokwi_Ultrasonic Sensor.ino
Docs
sketch.ino
diagram.json
libraries.txt
Library Manager
Simulation
00:54.177
100%
Measured distance: 158.36
Measured distance: 158.25
Measured distance: 158.36
Measured distance: 158.36
Measured distance: 158.25
Measured distance: 158.36
Measured distance: 229.84
Measured distance: 299.54
Measured distance: 305.42
Measured distance: 305.42
Measured distance: 305.42
Measured distance: 305.44
Measured distance: 305.42


IBM Watson IoT Platform
Browse
Action
Device Types
Interfaces
ultrasonic_1
Disconnected
ultrasonic
Identity
Device Information
Recent Events
State
The recent events listed show the live stream of data that is coming and going
Event
Value
event_1
{"randomNumber":93,"distance":39}
event_1
{"randomNumber":84,"distance":18}
event_1
{"randomNumber":93,"distance":13}
event_1
{"randomNumber":54,"distance":46}
event_1
{"randomNumber":58,"distance":85}
Simulations
Import/Export simulation
Device Type
ultrasonic
1 Event
1 Device
ultrasonic_1
1 ×
Create Simulated Device
Use Registered Device
111 events sent
4.4 KB sent