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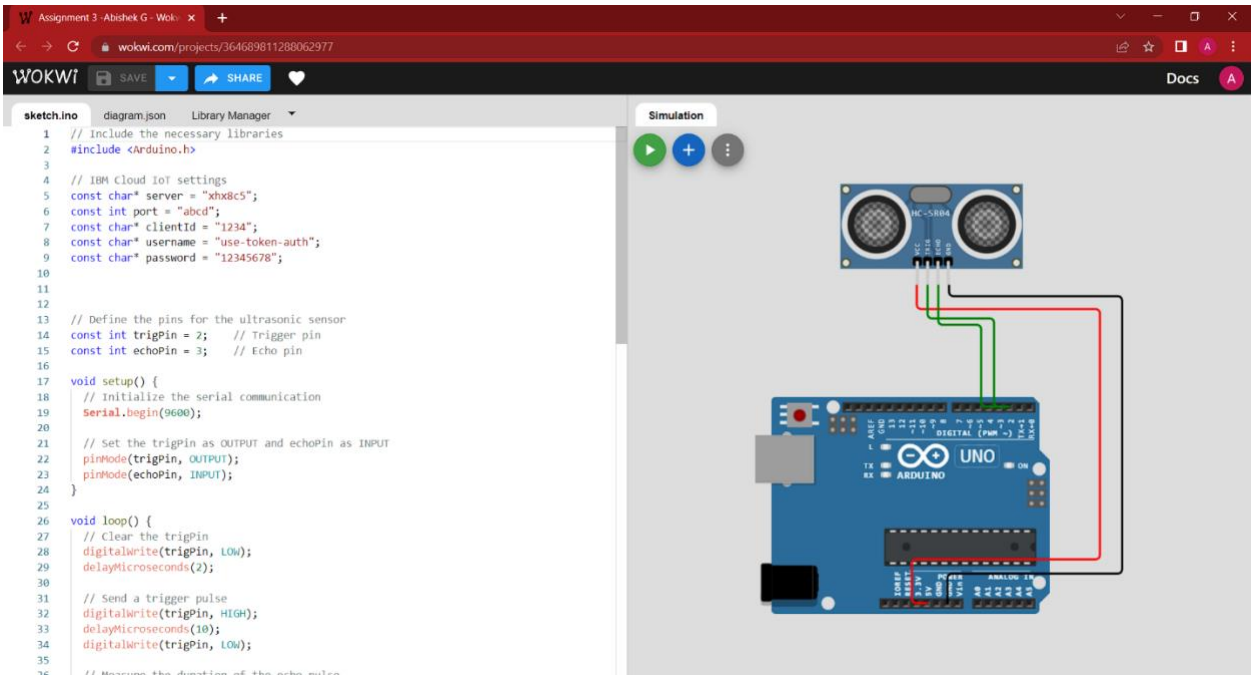
Link: https://wokwi.com/projects/364689811288062977



Code:

// Include the necessary libraries

#include <Arduino.h>

// IBM Cloud IoT settings

// my cloud account not created, so I didn't get my organization I'D.

// so I used my team leader's organization I'D

Const char* server = "xhx8c5";

Const int port = "abcd";

Const char* clientId = "1234";

Const char* username = "use-token-auth";

Const char* password = "12345678";

```
// Define the pins for the ultrasonic sensor
Const int trigPin = 2;    // Trigger pin
Const int echoPin = 3;    // Echo pin

Void setup() {
  // Initialize the serial communication
  Serial.begin(9600);

  // Set the trigPin as OUTPUT and echoPin as INPUT
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
}

Void loop() {
  // Clear the trigPin
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);

  // Send a trigger pulse
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);

  // Measure the duration of the echo pulse
  Long duration = pulseIn(echoPin, HIGH);

  // Calculate the distance
  // Speed of sound = 343 m/s or 34300 cm/s
  // Divide by 2 to account for the round trip of the sound wave
```

```
  // Distance in cm = duration * 34300 / 2
  Int distance = duration * 34300 / 2;

  // Print the distance to the serial monitor
  Serial.print("Distance: ");
  Serial.print(distance);
  Serial.println(" cm");

  Delay(1000);  // Wait for a second before taking the next measurement
}
```