

## **N.TAMIL SELVI**

### **Assignment -4**

Question-1: Write code and connections in wokwi for ultrasonic sensor.  
Whenever distance is less than 100 cms send “alert” to ibm cloud and display in device recent events.

Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization ="klzv76"
#define deviceType="ARDUINO"
#define deviceId ="1234"
#define authMethod ="use-token-auth"
#define authToken ="87654321"

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);
```

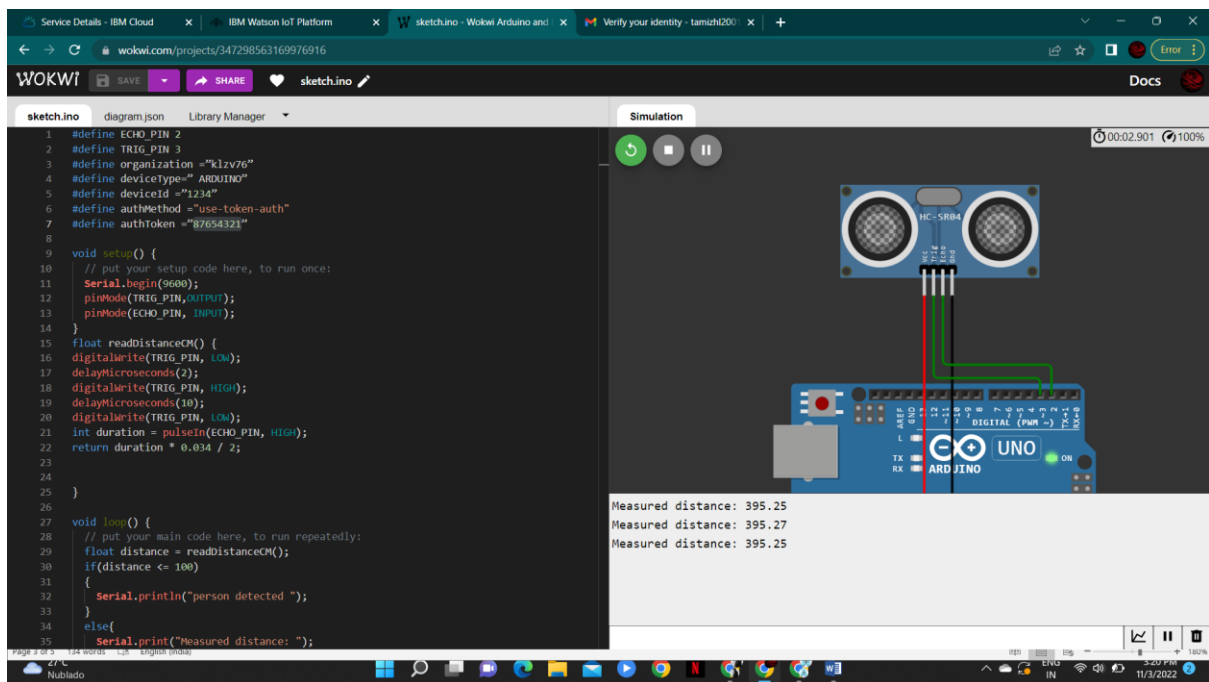
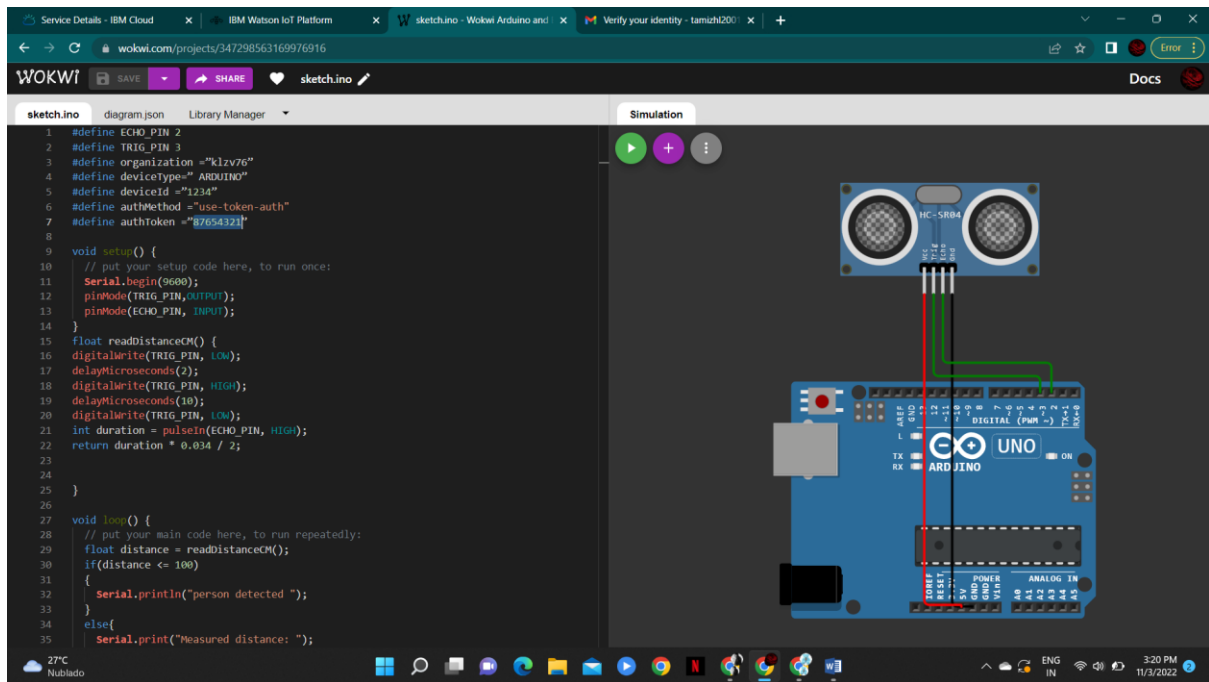
```
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);
int duration = pulseIn(ECHO_PIN, HIGH);
return duration * 0.034 / 2;

}

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);

}
```

**Output:**



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

# IBM CLOUD

## Device Recent Events

The screenshot shows the 'Device Drilldown - 1234' page in the IBM Watson IoT Platform. The left sidebar contains a navigation menu with options: Back, Device Credentials, Connection Information, Recent Events, State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The main content area is titled 'Device Credentials' and includes a warning: 'Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.' Below this, a table lists device details:

Property	Value
Organization ID	klzv76
Device Type	ARDUINO
Device ID	1234
Authentication Method	use-token-auth
Authentication Token	123456789

At the bottom of the main content area, there is a link: 'Find out how to add these credentials to your device'.

The screenshot shows the 'Device Recent Events' page in the IBM Watson IoT Platform. The left sidebar contains a navigation menu with options: Browse, Action, Device Types, Interfaces, Add Device, Identity, Device Information, Recent Events, State, and Logs. The main content area is titled 'Recent Events' and includes a table with the following data:

Event	Value	Format	Last Received
event_1	{\"version\":\"1\",\"author\":\"TAMIL SELVI.N\",\"editor\":\"...\"}	json	a few seconds ago
event_1	{\"version\":\"1\",\"author\":\"TAMIL SELVI.N\",\"editor\":\"...\"}	json	a few seconds ago
event_1	{\"version\":\"1\",\"author\":\"TAMIL SELVI.N\",\"editor\":\"...\"}	json	a few seconds ago
event_1	{\"version\":\"1\",\"author\":\"TAMIL SELVI.N\",\"editor\":\"...\"}	json	a few seconds ago
event_1	{\"version\":\"1\",\"author\":\"TAMIL SELVI.N\",\"editor\":\"...\"}	json	a few seconds ago

At the bottom of the main content area, there is a status bar that reads: '1 Simulation running'.