

Assignment – 4

Date	29 October 2022
Team ID	PNT2022TMID15915
Project Name	Project – Smart Waste Management System For Metropolitan Cities
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:

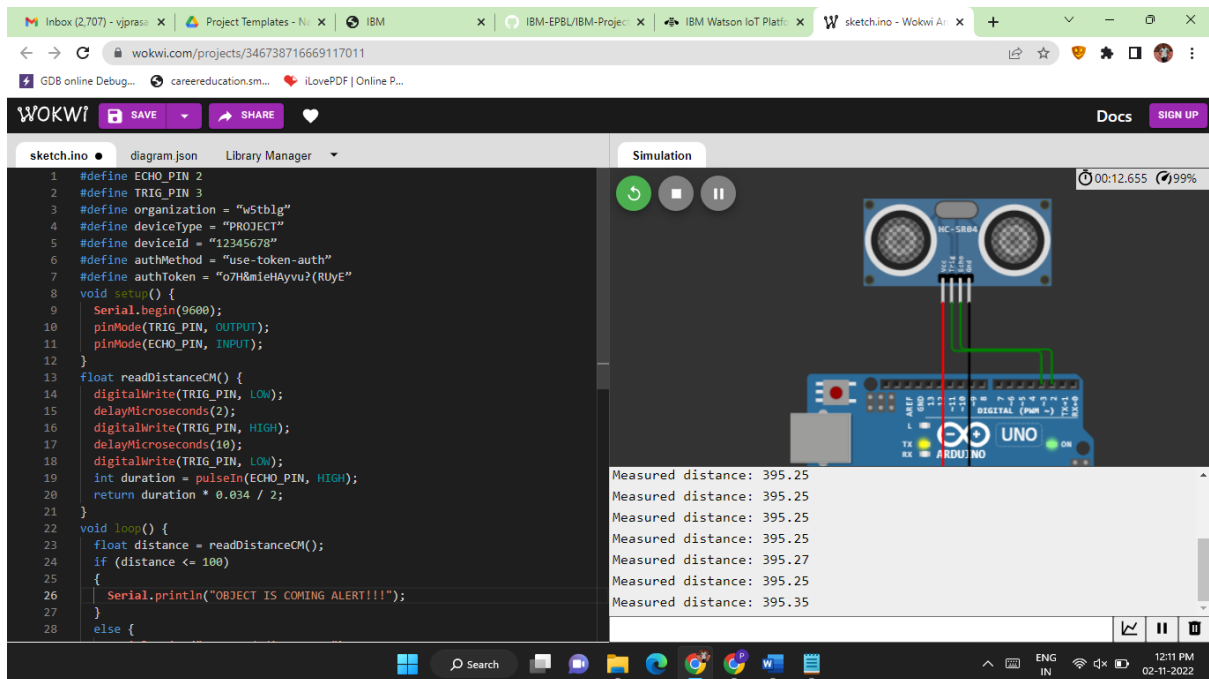
```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization = "w5tblg"
#define deviceType = "PROJECT"
#define deviceId = "12345678"
#define authMethod = "use-token-auth"
#define authToken = "o7H&mieHAyvu?(RUyE"
void setup()
{
  Serial.begin(9600);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}
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)
{
  Serial.println("OBJECT IS COMING ALERT!!!");
}
else
{
  Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());
}
delay(1000);
}

```

Simulation Output:



Wokwi Share Link

<https://wokwi.com/projects/346738716669117011>

IBM Cloud Device Details:

Inbox (2,707) - vjpras...Project Templates - N...IBMIBM-EPBL/IBM-Proje...IBM Watson IoT Platf...sketch.ino - Wokwi Ar...+v

w5tdlg.internetofthings.ibmcloud.com/dashboard/devices/drilldown/PROJECT:12345678?returnTo=/devices/browseGDB online Debug...careereducation.sm...iLovePDF | Online P...

IBM Watson IoT Platformvjprasanth37@gmail.comID: w5tdlg

← Back

Device Drilldown - 12345678

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Connection Information

Basic connection information about this device.

Device ID

12345678

Device Type

PROJECT

Date Added

Nov 2, 2022 12:01 PM

Added By

vjprasanth37@gmail.com

Connection Status

Connected

Connection Time: Nov 2, 2022 11:58 AM

Client Address: 157.46.121.175 SecureToken

Recent Events

1 Simulation running

Search

ENG IN

12:11 PM02-11-2022

IBM Cloud Device Recent Events

Inbox (2,707) - vjpras...Project Templates - N...IBMIBM-EPBL/IBM-Proje...IBM Watson IoT Platf...sketch.ino - Wokwi Ar...+v

w5tdlg.internetofthings.ibmcloud.com/dashboard/devices/drilldown/PROJECT:12345678?returnTo=/devices/browseGDB online Debug...careereducation.sm...iLovePDF | Online P...

IBM Watson IoT Platformvjprasanth37@gmail.comID: w5tdlg

← Back

Device Drilldown - 12345678

Connection Information

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Client Address: 157.46.121.175 SecureToken

Recent Events

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"OBJECT IS COMING ALERT!!!!":45}	json	a minute ago

State

1 Simulation running

Search

ENG IN

12:09 PM02-11-2022