ASSIGNMENT 4

TEAM ID : PNT2022TMID26692

NAME : JAYASURIYAN N

REGISTER NUMBER : 212919205017

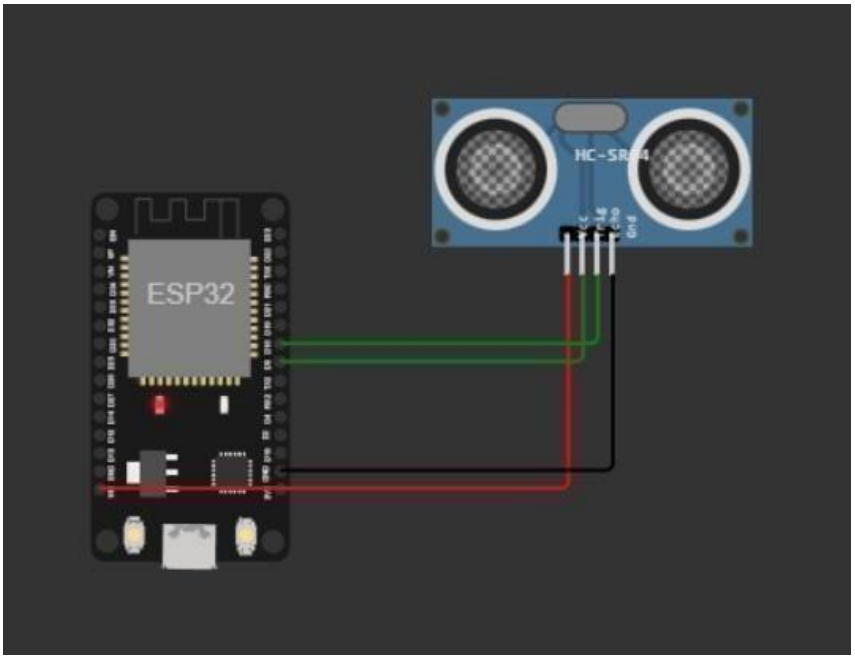
CODE:

```
#include <WiFi.h>
#include <PubSubClient.h> WiFiClient;

#define ORG "nhpwjc"
#define DEVICE_TYPE "NodeMCU"
#define DEVICE_ID "USE YOUR ID"
#define TOKEN "USE YOUR TOKEN"
#define speed 0.034
char server[] = ORG
".messaging.internetofthings.ibmcloud.com"; char publishTopic[] = "iot-
2/evt/Data/fmt/json"; char topic[] = "iot-2/cmd/home/fmt/String"; char
authMethod[] = "usetoken- auth"; char token[] = TOKEN; char clientId[]
= "d:" ORG ":"
DEVICE_TYPE ":" DEVICE_ID; PubSubClient client(server,
1883, wifiClient); void publishData(); const int trigpin=5;
const int echopin=18;
String command;
String data=""; long
duration; float
dist; void
setup()
{
  Serial.begin(115200); pinMode(trigpin, OUTPUT);
```

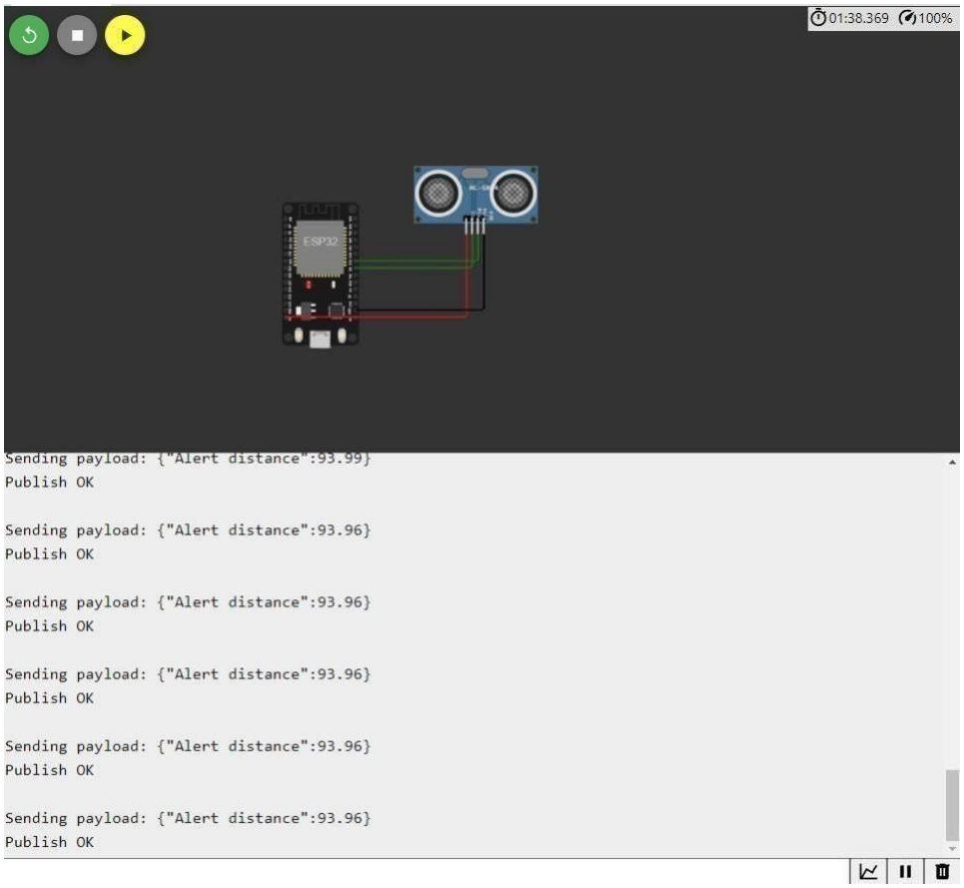
```
pinMode(echopin,            INPUT);   wifiConnect();  mqttConnect();
}           void           loop()          {

   publishData(); delay(500);

   if  (!client.loop())  {
mqttConnect(); } }

void wifiConnect() {
   Serial.print("Connecting  to  "); Serial.print("Wifi");
   WiFi.begin("Wokwi-GUEST",  "",  6);  while  (WiFi.status()  !=
   WL_CONNECTED)  {  delay(500);
   Serial.print("."); }
   Serial.print("WiFi  connected,  IP  address:  "); Serial.println(WiFi.localIP());
}

void mqttConnect() { if (!client.connected())  {
      Serial.print("Reconnecting  MQTT  client  to  "); Serial.println(server);  while
      (!client.connect(clientId,   authMethod,    token)) {   Serial.print("."); delay(500);
      } initManagedDevice();
   Serial.println();  }  }

void initManagedDevice() { if (client.subscribe(topic))  {
      //  Serial.println(client.subscribe(topic));  Serial.println("subscribe  to  cmd OK");
   } else {
      Serial.println("subscribe    to    cmd    FAILED");    }    }  void
publishData()
{  digitalWrite(trigpin,LOW); digitalWrite(trigpin,HIGH);
```

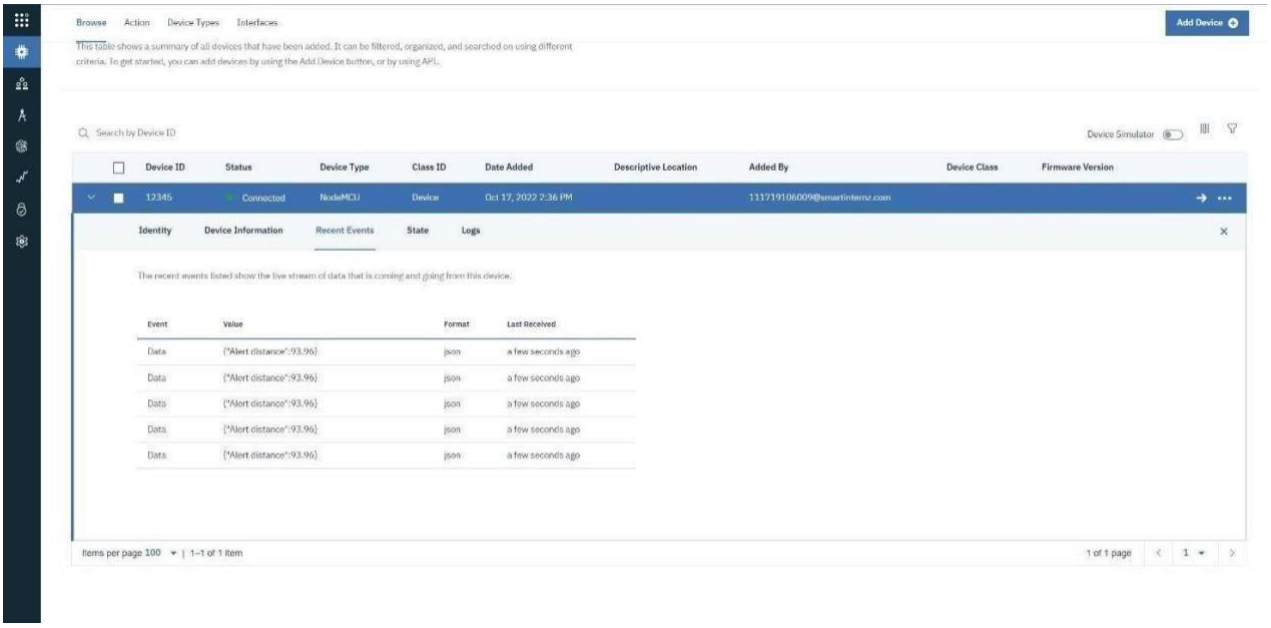
```
delayMicroseconds(10);  digitalWrite(trigpin,LOW);                                    {
duration=pulseIn(echopin,HIGH);   dist=duration*speed/2;   if(dist<100){ String   payload   =
   "{\"Alert  distance\":"; payload  +=  dist;  payload  +=
   "}";
   Serial.print("\n");
            Serial.print("Sending  payload:  "); Serial.println(payload);              if
           (client.publish(publishTopic,          (char*)              payload.c_str()))
   Serial.println("Publish  OK");
   } else {
      Serial.println("Publish  FAILED");  }   } }
```

CONNECTIONS:



OUTPUT:





WOKWI LINK - https://wokwi.com/projects/346405970317935188