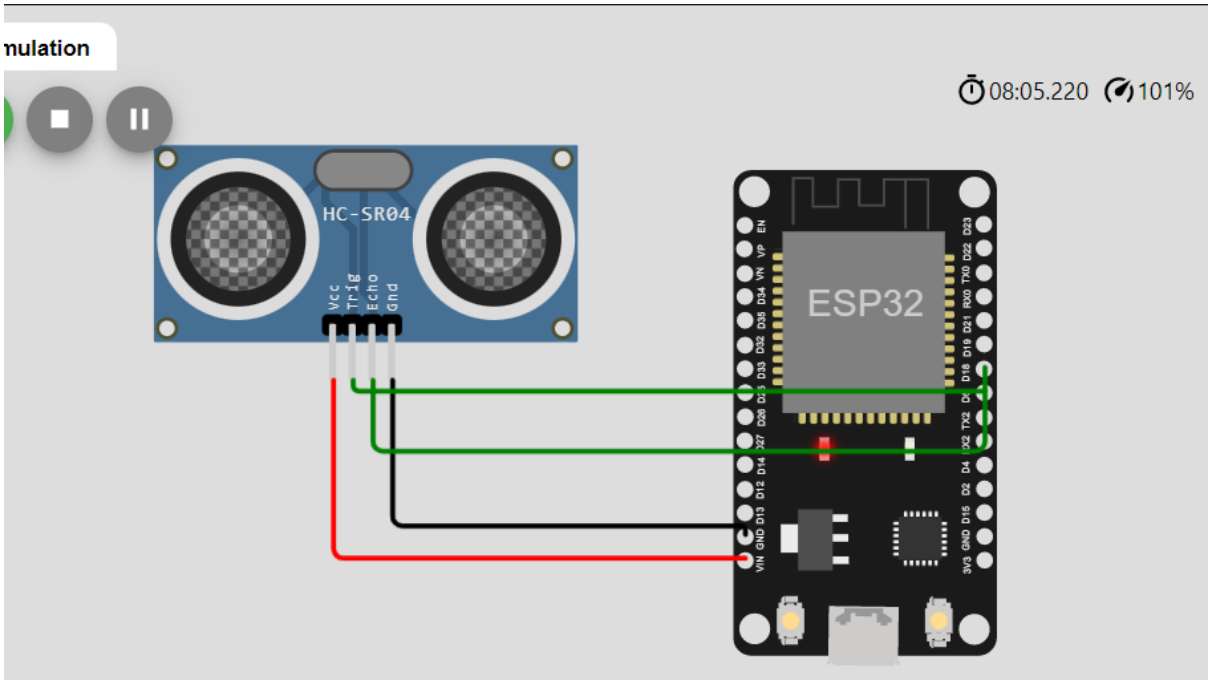
DATE	30 OCTOBER 2022
TEAM ID	PNT2022TMID31072
PROJECT NAME	IOT BASED SAFETY GADGET FOR CHILD SAFETY MONTORING AND NOTIFICATION
MAXIMUM MARKS	2 MARKS

```
#include <WiFi.h>
#include <PubSubClient.h>
void callback(char* subscribetopic, byte* payload, unsigned int
payloadLength);
#define ORG "4fvzwi"
#define DEVICE_TYPE "ultra_sonic"
#define DEVICE_ID "54321"
#define TOKEN "eBa&dxHr!cOlvcSZg7"
String data3;
float dist;
IPAddress myDns(127, 0, 0, 53);
char server[]= ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/Data/fmt/json";
char subscribetopic[] = "iot-2/cmd/test/fmt/String";
char authMethod[] = "use-token-auth";
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
WiFiClient wificlient;
PubSubClient client (server, 1883, callback,wificlient);
int LED = 4;
int trig = 5;
int echo = 18;
void setup()
{
  Serial.begin(115200);
  pinMode(trig, OUTPUT);
  pinMode(echo, INPUT);
  pinMode(LED, OUTPUT);
  delay(10);
  wificonnect();
  mqttconnect();
}
void loop()
{
  digitalWrite(trig, LOW);
  digitalWrite(trig,HIGH);
  delayMicroseconds(10);
  digitalWrite(trig, LOW);
  float dur = pulseIn(echo, HIGH);
  float dist = (dur*0.0343)/2;
```

```
  Serial.print ("Distancein cm");
  Serial.println(dist);
  PublishData(dist);
  delay(1000);
  if (!client.loop()) {
    mqttconnect();
  }
}
void PublishData(float dist)
{
  mqttconnect();
  String object;
  if (dist <100)
  {
    digitalWrite(LED, HIGH);
    Serial.println("object is near");
    object ="Near";
  }
  else
  {
    digitalWrite(LED, LOW);
    Serial.println("no object found");
    object = "No";
  }
  String payload = "{\"distance\":";
  payload += dist;
  payload += "," "\"object\":\"";
  payload += "\"}";
  Serial.print("Sending payload: ");
  Serial.println(payload);
  if (client.publish(publishTopic, (char*) payload.c_str()))
  {
    Serial.println("Publish ok");
  }
  else
  {
    Serial.println("Publish failed");
  }
}
void mqttconnect()
{
  if (!client.connected())
  {
    Serial.print("Reconnecting client to ");
    Serial.println(server);
    while (!!!client.connect(clientId, authMethod, token))
    {
      Serial.print(".");
```

```
      delay(500);
    }
    initManagedDevice();
    Serial.println();
  }
}
void wificonnect()
{
  Serial.println();
  Serial.print("Connecting to ");
  WiFi.begin("Wokwi-GUEST", "", 6);
  while (WiFi.status() != WL_CONNECTED)
  {
    delay(500);
    Serial.print(".");
    // Serial.print("inside");
  }
  Serial.println("");
  Serial.println("WiFi connected");
  Serial.println("IP address: ");
  Serial.println(WiFi.localIP());
}
void initManagedDevice()
{
  if (client.subscribe(subscribetopic))
  {
    Serial.println((subscribetopic));
    Serial.println("subscribe to cmd OK");
  }
  else
  {
    Serial.println("subscribe to cmd FAILED");
  }
}
void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
{
  Serial.print("callback invoked for topic: ");
  Serial.println(subscribetopic);
  for (int i = 0; i < payloadLength; i++)
  {
    data3 += (char)payload[i];
  }
  data3="";
}
```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