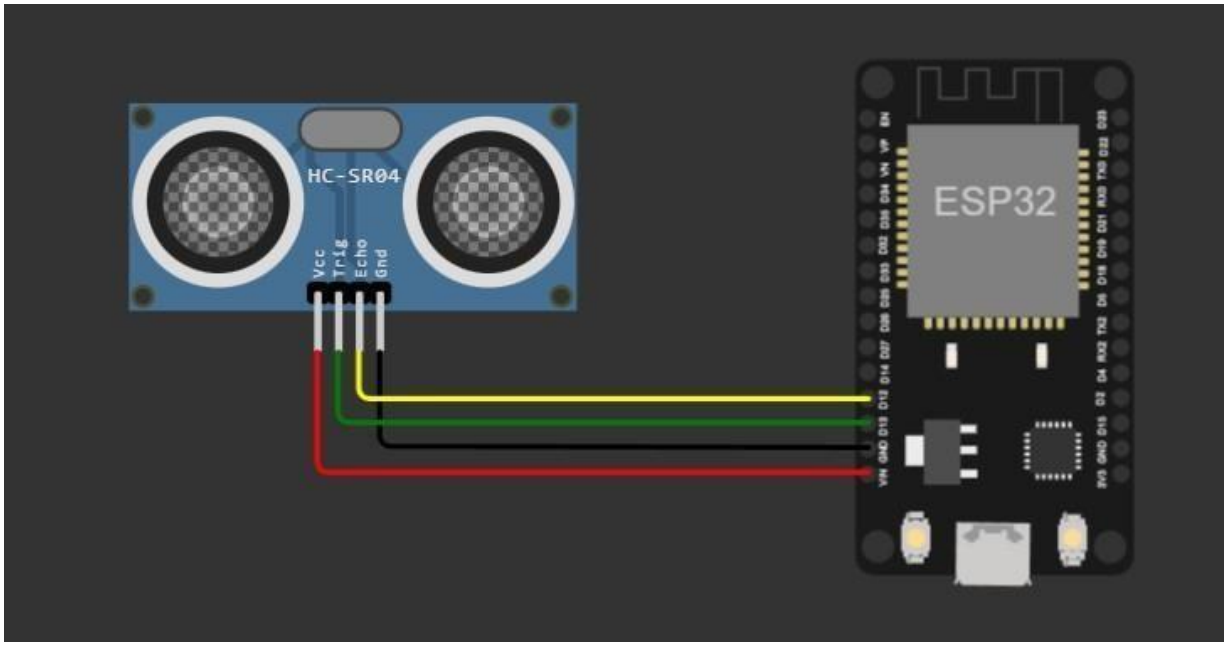
ASSIGNMENT - 4

Objective:

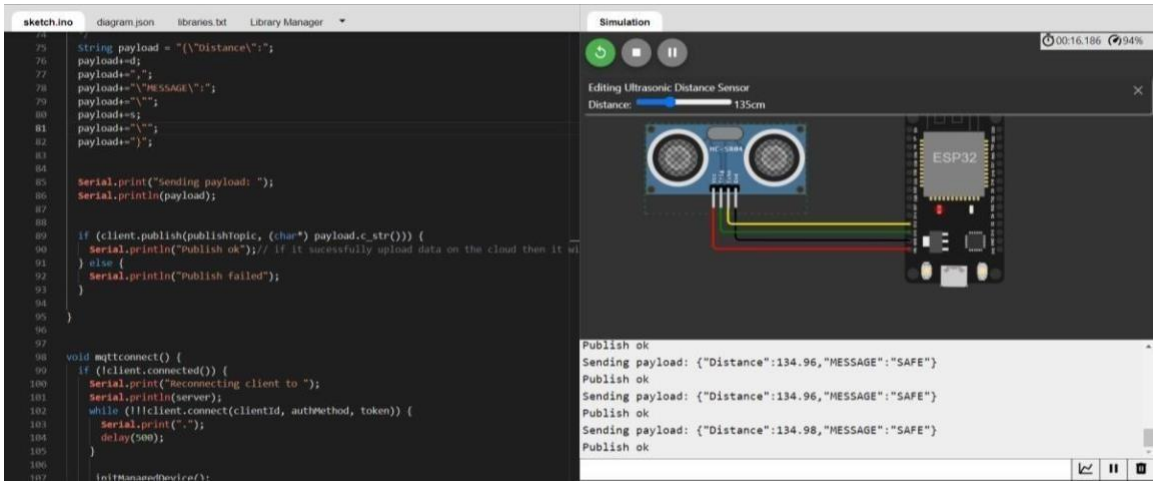
Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events.

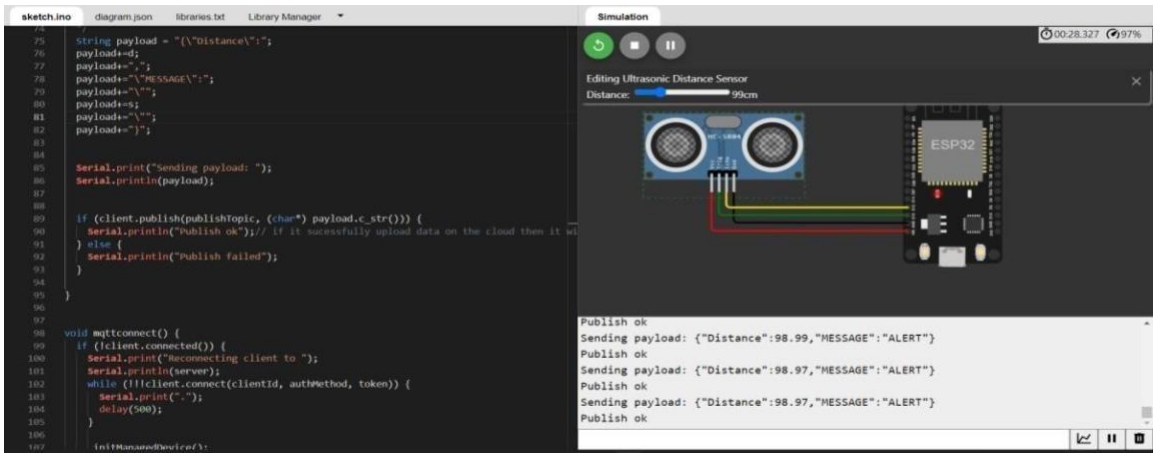
Circuit Diagram:

Link: https://wokwi.com/projects/346775166279221842


HC-SR04
Vcc
Trig
Echo
Gnd
ESP32

OUTPUT:


sketch.ino
diagram.json
libraries.txt
Library Manager
String payload = "{\"Distance\":";
payload+=d;
payload+=",";
payload+="\"MESSAGE\":";
payload+="\"";
payload+=s;
payload+="\"";
payload+="}";
Serial.print("Sending payload: ");
Serial.println(payload);
if (client.publish(publishTopic, (char*) payload.c_str())) {
Serial.println("Publish ok");// if it sucessfully upload data on the cloud then it wi
} 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();
Simulation
00:16.186
94%
Editing Ultrasonic Distance Sensor
Distance:
135cm
ESP32
Publish ok
Sending payload: {"Distance":134.96,"MESSAGE":"SAFE"}
Publish ok
Sending payload: {"Distance":134.96,"MESSAGE":"SAFE"}
Publish ok
Sending payload: {"Distance":134.98,"MESSAGE":"SAFE"}
Publish ok


sketch.ino
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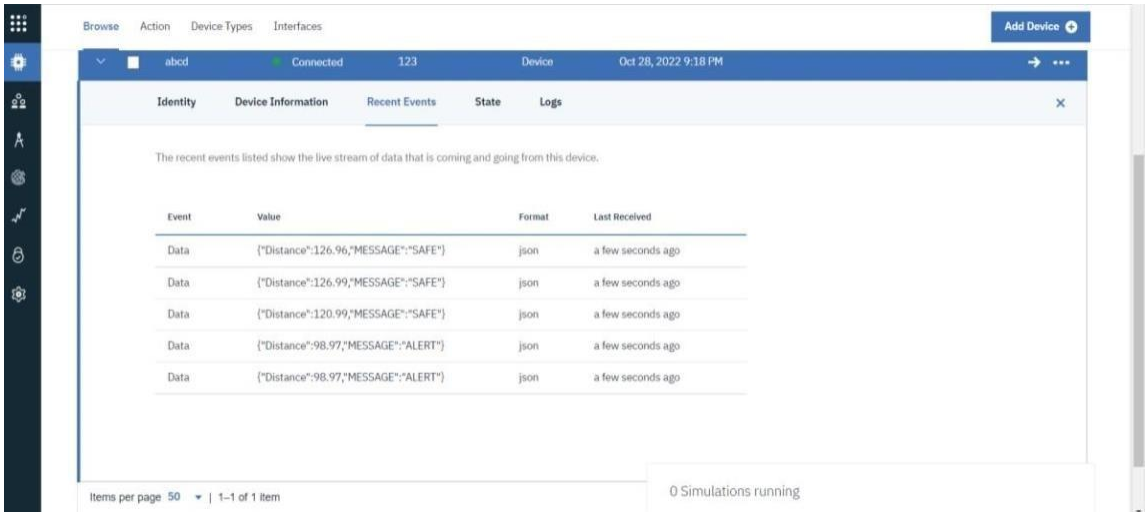
Serial.print("Reconnecting client to ");
Serial.println(server);
while (!!!client.connect(clientId, authMethod, token)) {
Serial.print(".");
delay(500);
}
initManagedDevice();
Simulation
00:28.327
97%
Editing Ultrasonic Distance Sensor
Distance:
99cm
ESP32
Publish ok
Sending payload: {"Distance":98.99,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":98.97,"MESSAGE":"ALERT"}
Publish ok
Sending payload: {"Distance":98.97,"MESSAGE":"ALERT"}
Publish ok


Browse
Action
Device Types
Interfaces
Add Device
abcd
Connected
123
Device
Oct 28, 2022 9:18 PM
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
Data
{"Distance":126.96,"MESSAGE":"SAFE"}
json
a few seconds ago
Data
{"Distance":126.99,"MESSAGE":"SAFE"}
json
a few seconds ago
Data
{"Distance":120.99,"MESSAGE":"SAFE"}
json
a few seconds ago
Data
{"Distance":98.97,"MESSAGE":"ALERT"}
json
a few seconds ago
Data
{"Distance":98.97,"MESSAGE":"ALERT"}
json
a few seconds ago
Items per page 50
1–1 of 1 item
0 Simulations running