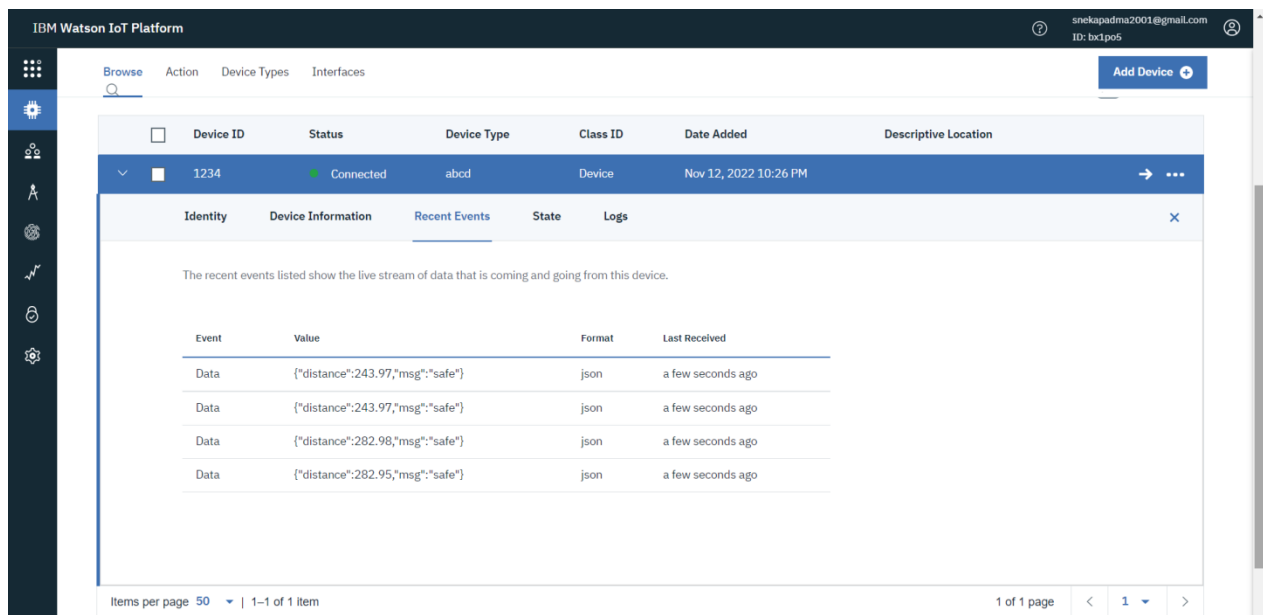
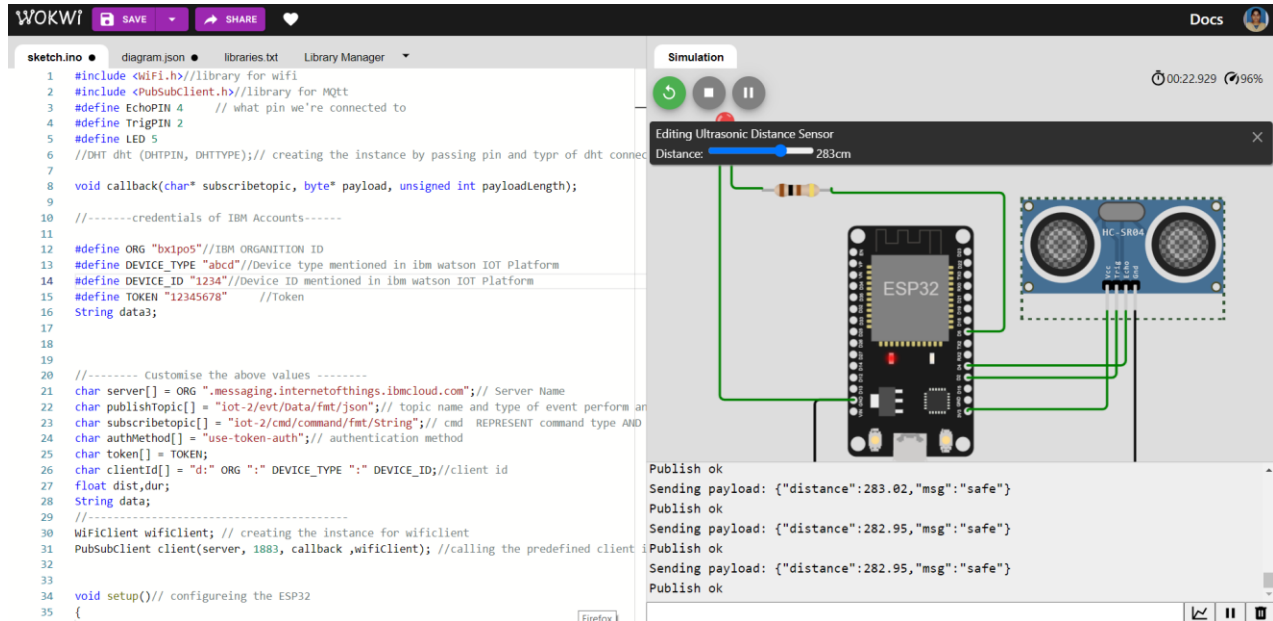


Assignment-4

IoT Based Smart crop Protection System For Agriculture

Wokwi Link: <https://wokwi.com/projects/347118572579848787>

Distance when greater than 100cm-no alert sent to IBM CLOUD



Distance when less than 100cm-alert sent to IBM CLOUD

WOKWI

SAVE SHARE

Docs

sketch.ino diagram.json libraries.txt Library Manager

```
1 #include <WiFi.h> //library for wifi
2 #include <PubSubClient.h> //library for MQTT
3 #define EchoPIN 4 // what pin we're connected to
4 #define TrigPIN 2
5 #define LED 5
6 //DHT dht (DHTPIN, DHTTYPE); // creating the instance by passing pin and type of dht connected
7
8 void callback(char* subscribtopic, byte* payload, unsigned int payloadLength);
9
10 //-----credentials of IBM Accounts-----
11
12 #define ORG "bx1po5" //IBM ORGANIZATION ID
13 #define DEVICE_TYPE "abcd" //Device type mentioned in IBM Watson IoT Platform
14 #define DEVICE_ID "1234" //Device ID mentioned in IBM Watson IoT Platform
15 #define TOKEN "12345678" //Token
16 String data3;
17
18
19
20 //----- Customise the above values -----
21 char server[] = ORG ".messaging.internetofthings.ibmcloud.com"; // Server Name
22 char publishTopic[] = "iot-2/evt/Data/fmt/json"; // topic name and type of event perform and
23 char subscribtopic[] = "iot-2/cmd/command/fmt/String"; // cmd REPRESENT command type AND
24 char authMethod[] = "use-token-auth"; // authentication method
25 char token[] = TOKEN;
26 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID; //client id
27 float dist,dur;
28 String data;
29 //-----
30 WiFiClient wificlient; // creating the instance for wificlient
31 PubSubClient client(server, 1883, callback, wificlient); //calling the predefined client
32
33
34 void setup() // configuring the ESP32
35 {
36   // pinMode(LED, OUTPUT);
37 }
```

Simulation

00:08.299 100%

Editing Ultrasonic Distance Sensor

Distance: 47cm

ESP32

HC-SR04

Publish ok

Sending payload: {"distance":46.97,"msg":"alert"}

Publish ok

Sending payload: {"distance":46.97,"msg":"alert"}

Publish ok

Sending payload: {"distance":46.97,"msg":"alert"}

Publish ok

IBM Watson IoT Platform

snepakadma2001@gmail.com ID: bx1po5

Browse Action Device Types Interfaces

Add Device

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
1234	Connected	abcd	Device	Nov 12, 2022 10:26 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":46.97,"msg":"alert"}	json	a few seconds ago
Data	{"distance":46.97,"msg":"alert"}	json	a few seconds ago
Data	{"distance":46.97,"msg":"alert"}	json	a few seconds ago
Data	{"distance":46.97,"msg":"alert"}	json	a few seconds ago
Data	{"distance":46.97,"msg":"alert"}	json	a few seconds ago