SPRINT-1

Date	18 November 2022
Team ID	PNT2022TMID06107
Project Name	Personal Assistance for Seniors Who Are Self-Reliant

ESP-32 SIMULATION:

Source Code:

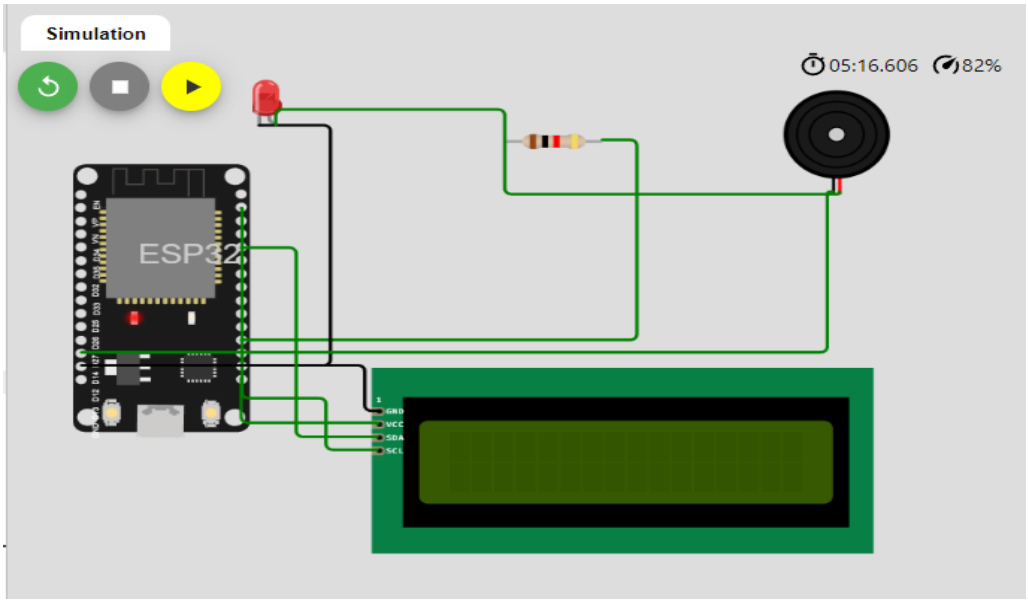
```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQtt
#include <LiquidCrystal_I2C.h>
#include "DHT.h"// Library for dht11
#define DHTPIN 15     // what pin we're connected to
#define DHTTYPE DHT11   // define type of sensor DHT 11
#define LED 2
DHT dht (DHTPIN, DHTTYPE);// creating the instance by passing pin and typr of dht connected
void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);


//-------credentials of IBM Accounts------

#define ORG "iucela"//IBM ORGANITION ID
#define DEVICE_TYPE "TestDevice"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "54321"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "dsV4JL8GjQvbPooovs"     //Token
String data3="";
int buzz= 13;

//-------- Customise the above values --------
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform and format in which data to be send
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd  REPRESENT command type AND COMMAND IS TEST OF FORMAT STRING
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id
```

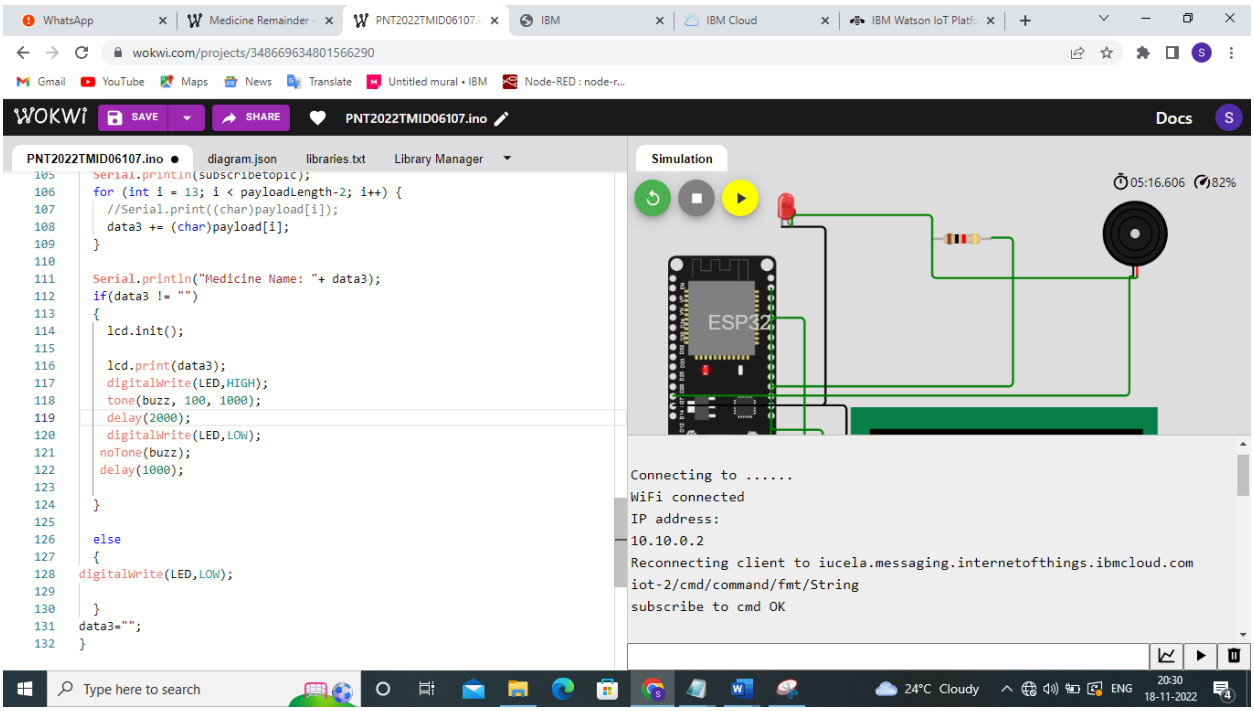
```
LiquidCrystal_I2C lcd(0x27,32,2);

//----------------------------------------
WiFiClient wifiClient; // creating the instance for wificlient
PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client id by passing parameter like server id,portand wificredential

void setup()// configureing the ESP32
{

  Serial.begin(115200);
  dht.begin();
  pinMode(buzz, OUTPUT);
  pinMode(LED,OUTPUT);
  delay(10);
  Serial.println();
  wificonnect();
  mqttconnect();
}

void loop()// Recursive Function
{
  if (!client.loop()) {
    mqttconnect();
  }

}



/*.....retrieving to Cloud.....*/

void PublishData(float temp, float humid) {
  mqttconnect();//function call for connecting to ibm

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

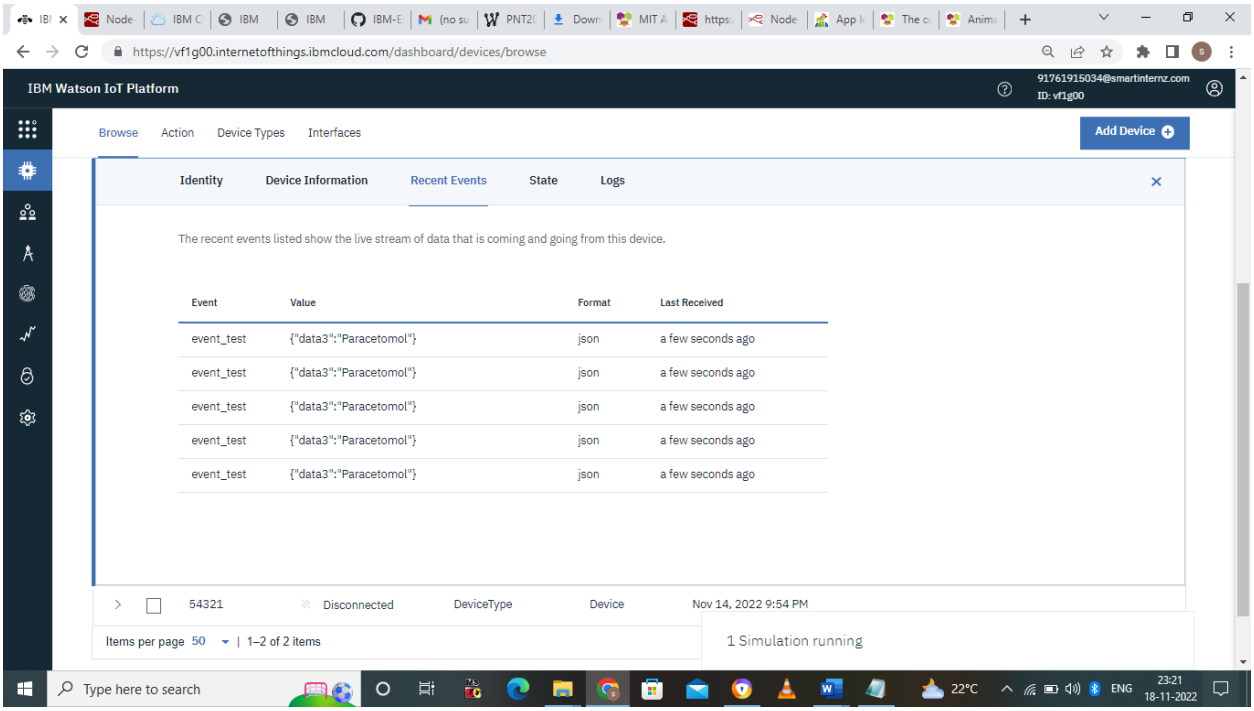
```
    initManagedDevice();
    Serial.println();
  }
}
void wificonnect() //function defination for wificonnect
{
  Serial.println();
  Serial.print("Connecting to ");

  WiFi.begin("Wokwi-GUEST", "", 6);//passing the wifi credentials to establish the connection
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
  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 = 13; i < payloadLength-2; i++) {
    //Serial.print((char)payload[i]);
    data3 += (char)payload[i];
  }

  Serial.println("Medicine Name: "+ data3);
  if(data3 != "")
  {
    lcd.init();

    lcd.print(data3);
```

```
    digitalWrite(LED,HIGH);
    tone(buzz, 100, 1000);
    delay(2000);
    digitalWrite(LED,LOW);
   noTone(buzz);
   delay(1000);

  }

  else
  {
digitalWrite(LED,LOW);

  }
data3="";
}
```

CIRCUIT AND OUTPUT:






https://vf1g00.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
91761915034@smartinternz.com
ID: vf1g00
Browse
Action
Device Types
Interfaces
Add Device
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
event_test
{"data3":"Paracetomol"}
json
a few seconds ago
event_test
{"data3":"Paracetomol"}
json
a few seconds ago
event_test
{"data3":"Paracetomol"}
json
a few seconds ago
event_test
{"data3":"Paracetomol"}
json
a few seconds ago
event_test
{"data3":"Paracetomol"}
json
a few seconds ago
54321
Disconnected
DeviceType
Device
Nov 14, 2022 9:54 PM
Items per page 50
1–2 of 2 items
1 Simulation running
Type here to search
22°C
ENG
23:21
18-11-2022