Sprint 4

Team ID	PNT2022TMID27334
Project Name	Personal Assistance for Seniors Who Are Self Reliant

Code for Simulation:

```
#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 "mjse7u"//IBM ORGANITION ID
#define DEVICE_TYPE "abcddevicetype"//Device type mentioned in ibm
watson IOT Platform
#define DEVICE_ID "12345edeviceid"//Device ID mentioned in ibm
watson IOT Platform
#define TOKEN "1234567890"     //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="";
}
```

Output: