

SPRINT – 1

| | |
|----------------|---|
| Project Title: | Personal Assistance for Senior Who are Self Reliant |
| Team ID: | PNT2022TMID33565 |

Created IOT device configuration in IBM IOT Watson

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar labeled 'Search by Device ID' is present. The main content area shows a table of devices. The first device, with ID 33565, is highlighted, and its details are shown in a sidebar. The details include:

- Device ID: 33565
- Device Type: Remainder
- Date Added: Nov 17, 2022 10:17 PM
- Added By: 922519106094@smartinternz.com
- Connection Status: Disconnected

The table also shows a second device with ID 8778, which is also disconnected. The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 10:18 PM on 17-11-2022.

Connected IBM IOT watson cloud with wokwi(nodemcu)

Wokwi url: <https://wokwi.com/projects/348594509931610706>

Code:

```
#include<WiFi.h>//library for wifi module
#include<PubSubClient.h>//library for MQTT
void callback(char* subscribetopic, byte* payload,unsigned int payloadlength);
//-----credentials of IBM Account-----
#define ORG "None"// IBM ORGANIZATION ID
#define DEVICE_TYPE "Remainder"//DEVICE TYPE MENTIONED IN IOT WATSON PLATFORM
#define DEVICE_ID "33565"//DEVICE ID MENTIONED IN IOT WATSON PLATEFORM
#define TOKEN "PNT2022TMID33565"//Token
String data3;
float dist;
//-----customize the above value-----
char server[]=ORG ".messaging.internetofthings.ibmcloud.com";//server name
char publishtopic[]="ultrasonic/evt/Data/fmt/json";/*topic name and type of event
perform
and format in which data to be send*/
char subscribetopic[]="ultrasonic/cmd/test/fmt/String";/*cmd REPRESENT Command tupe
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
//-----
WiFiClient wifiClient;// creating an instance for wificlient
PubSubClient client(server, 1883 , wifiClient);

void setup()
{
    Serial.begin(115200);
    wificonnect();
    mqttconnect();
}
void loop()//recursive function
{
    if (!client.loop()){
        mqttconnect();
    }
}
```

```

/*.....retriving to
cloud.....*/

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();
  }
  else{
    Serial.println("Connected :");
  }
}

void wificonnect()//function defenition for wificonnects
{
  Serial.println();
  Serial.print("Connecting to ");
  WiFi.begin("Wokwi-GUEST", "",6);//PASSING THE WIFI CREDIDENTIALS TO ESTABLISH
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");
  }
}
}

```

WOKWI

SAVE SHARE

sketch.ino diagram.json libraries.txt Library Manager

```
1 #include<WiFi.h>//library for wifi module
2 #include<PubSubClient.h>//library for MQTT
3 void callback(char* subscribetopic, byte* payload,unsigned int payloadlength);
4 //-----credentials of IBM Account-----
5 #define ORG "None"// IBM ORGANIZATION ID
6 #define DEVICE_TYPE "Remainder"//DEVICE TYPE MENTIONED IN IOT WATSON PLATFORM
7 #define DEVICE_ID "33565"//DEVICE ID MENTIONED IN IOT WATSON PLATFORM
8 #define TOKEN "PNT2022TMDID33565"//Token
9 String data3;
10 float dist;
11 //-----customize the above value-----
12 char server[]=ORG ".messaging.internetofthings.ibmcloud.com";//server name
13 char publishtopic[]="ultrasonic/evt/Data/fmt/json";//topic name and type of ev
14 |and format in which data to be send*/
15 char subscribetopic[]="ultrasonic/cmd/test/fmt/String";//cmd REPRESENT Command
16 COMMAND IS TEST OF FORMAT STRING*/
17 char authMethod[]="use-token-auth";//authentication method
18 char token[]=TOKEN;
19 char clientId[]="d:" ORG ":" DEVICE_TYPE":" DEVICE_ID;//CLIENT ID
20 //-----
21 WiFiClient wificlient;// creating an instance for wificlient
22 PubSubClient client(server, 1883 , wificlient);
23
24
25 void setup()
26 {
27   Serial.begin(115200);
28   wificlient.connect();
29   mqtt.connect();
30 }
```

Simulation

00:05.166 99%

ESP32

Connecting to ...
Wifi connected
IP address
10.10.0.2
Reconnecting client to None.messaging.internetofthings.ibmcloud.com
....

Windows taskbar: 10:27 PM 17-11-2022