

20BCE10471 | VIT Bhopal Campus

# Suresh Mahalingam Konar

## Assignment : 2

In Wokwi connect push button and upload 0 and 1 to ibm cloud

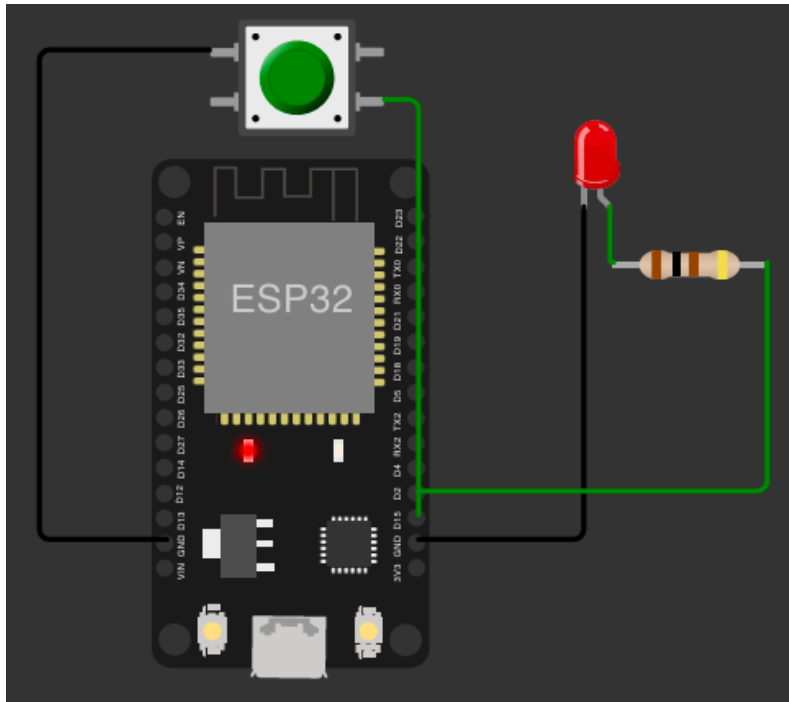
## Implementation

Code :

```
1  #include <WiFi.h>//Library for wifi
2  #include <PubSubClient.h>//library for MQTT
3  #include "DHT.h"// Library for dht11
4  //define DHTPIN 15      // what pin we're connected to
5  // #define DHTTYPE DHT22  // define type of sensor DHT 11
6  #define BUTTON 15
7  #define LED 2
8
9  //DHT dht (DHTPIN, DHTTYPE);// creating the instance by passing pin and type of dht connected
10
11 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
12
13 //-----credentials of IBM Accounts-----
14
15 #define ORG "2wwjtl"//IBM ORGANIZATION ID
16 #define DEVICE_TYPE "Demo_Device"//Device type mentioned in ibm watson IOT Platform
17 #define DEVICE_ID "1234"//Device ID mentioned in ibm watson IOT Platform
18 #define TOKEN "12345678" //Token
19 String data3;
20 float z =1 ,y=0 ;
21 // int z, y;
22
23
24 //----- Customise the above values -----
25 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
26 char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform and format in which data to be send
27 char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd REPRESENT command type AND COMMAND IS TEST OF FORMAT STRING
28 char authMethod[] = "use-token-auth";// authentication method
29 char token[] = TOKEN;
30 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id
31
32
33 //-----
34 WiFiClient wifiClient; // creating the instance for wifiClient
35 PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client id by passing parameter like server id,port and wifi credential
```

```
38 void setup()// configuring the ESP32
39 {
40     Serial.begin(115200);
41     // dht.begin();
42     pinMode(LED,OUTPUT);
43     pinMode(BUTTON,INPUT);
44     delay(10);
45     Serial.println();
46     wificonnect();
47     mqttconnect();
48 }
49
50 void loop()// Recursive Function
51 {
52
53     //h = dht.readHumidity();
54     //t = dht.readTemperature();
55     int suresh = digitalRead(BUTTON);
56     if(suresh==true){
57         Serial.print("ON");
58         PublishData(z,y);
59         delay(1000);
60     }
61     else {
62         Serial.print("OFF");
63         // int z= Serial.println("2");
64         PublishData(y,z);
65         delay(1000);
66     }
67
68     // PublishData(z);
69     // delay(1000);
70     if (!client.loop()) {
71         mqttconnect();
72     }
73 }
```

Simulation:



WOKWI

SAVE SHARE Assignment 2 Docs

sketch.ino diagram.json libraries.txt Library Manager

```
37
38 void setup()// configuring
39 {
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44   delay(10);
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68   // PublishData(z);
69   // delay(1000);
70   if (!client.loop()) {
71     mqttConnect();
72   }
73 }
74
75
```

Simulation

00:41.661 70%

OFFSending payload: { \"ON\":1.00, \"OFF\":0.00}  
Publish ok  
OFFSending payload: { \"ON\":1.00,\"OFF\":0.00}  
Publish ok  
OFFSending payload: { \"ON\":1.00,\"OFF\":0.00}  
Publish ok

## IBM Cloud Platform Data:

The screenshot shows the IBM Watson IoT Platform interface for a device named '1234'. The left sidebar contains navigation links: Connection Information, Recent Events, State (selected), Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The main content area is divided into two sections. The top section, 'Showing Raw Data | No Interfaces Available', displays a table with the following data:

Property	Value	Type	Event	Last Received
ON	1	Number	Data	a few seconds ago
OFF	0	Number	Data	a few seconds ago

The bottom section, 'Device Information', includes a description: 'View basic device information including location and manufacturer.' and an 'Edit Device Information' button. Below this, there are input fields for Serial Number, Model, Description, Hardware Version, Manufacturer, Device Class, and Firmware Version. A status bar at the bottom right indicates '0 Simulations running'.

The screenshot shows the same IBM Watson IoT Platform interface for device '1234', but with the 'Recent Events' tab selected in the sidebar. The main content area is divided into two sections. The top section, 'Recent Events', includes a description: 'The recent events listed show the live stream of data that is coming and going from this device.' and a table with the following data:

Event	Value	Format	Last Received
Data	{"ON":1,"OFF":0}	json	a few seconds ago
Data	{"ON":1,"OFF":0}	json	a few seconds ago
Data	{"ON":1,"OFF":0}	json	a few seconds ago
Data	{"ON":1,"OFF":0}	json	a few seconds ago
Data	{"ON":1,"OFF":0}	json	a few seconds ago

The bottom section, 'State', includes a description: 'This table shows a list of data points that are reported by this device.' and a 'Showing Raw Data | No Interfaces Available' status bar. A status bar at the bottom right indicates '0 Simulations running'.



## Wokwi Link

Assignemnt Open link : [Link](#)

