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TASK 2

QUESTION

In wokwi connect push button and upload 0 and 1 to IBM cloud.

SOLUTION:

CODE:

```
1  #include <WiFi.h>
2  #include <PubSubClient.h>
3  #define LED 5
4  #define BUTTON 23
5
6  void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
7
8
9  #define ORG "8edt29"
10 #define DEVICE_TYPE "wokwi"
11 #define DEVICE_ID "2311"
12 #define TOKEN "12345678"
13 String data3;
14
15 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
16 char subscribetopic[] = "iot-2/cmd/command/fmt/String";
17 char authMethod[] = "use-token-auth";
18 char token[] = TOKEN;
19 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
20
21 WiFiClient wifiClient;
22 PubSubClient client(server, 1883, callback ,wifiClient);
23 void setup()
24 {
25     Serial.begin(115200);
26     pinMode(LED,OUTPUT);
27     delay(10);
28     Serial.println();
29     wificonnect();
30     mqttconnect();
31 }
32
33 void loop()
34 {
35     delay(1000);
```

```

33 void loop()
34 {
35     delay(1000);
36     if (!client.loop())
37     {
38         mqttconnect();
39     }
40 }
41
42 void mqttconnect()
43 {
44     if (!client.connected())
45     {
46         Serial.print("Reconnecting client to ");
47         Serial.println(server);
48         while (!client.connect(clientId, authMethod, token))
49         {
50             Serial.print(".");
51             delay(500);
52         }
53         initManagedDevice();
54         Serial.println();
55     }
56 }
57
58 void wificonnect()
59 {
60     Serial.println();
61     Serial.print("Connecting to ");
62
63     WiFi.begin("Wokwi-GUEST", "", 6)
64     while (WiFi.status() != WL_CONNECTED)
65     {
66         delay(500);

```

```

66         delay(500);
67         Serial.print(".");
68     }
69     Serial.println("");
70     Serial.println("WiFi connected");
71     Serial.println("IP address: ");
72     Serial.println(WiFi.localIP());
73 }
74
75 void initManagedDevice()
76 {
77     if (client.subscribe(subscribetopic))
78     {
79         Serial.println((subscribetopic));
80         Serial.println("subscribe to cmd OK");
81     }
82     else
83     {
84         Serial.println("subscribe to cmd FAILED");
85     }
86 }
87
88 void callback(char* subscribetopic, byte* payload, unsigned int payloadLength)
89 {
90
91     Serial.print("callback invoked for topic: ");
92     Serial.println(subscribetopic);
93     for (int i = 0; i < payloadLength; i++) {
94         data3 += (char)payload[i];
95     }
96
97     Serial.println("data: " + data3);
98     if(data3==1)
99     {
100         Serial.println(data3);

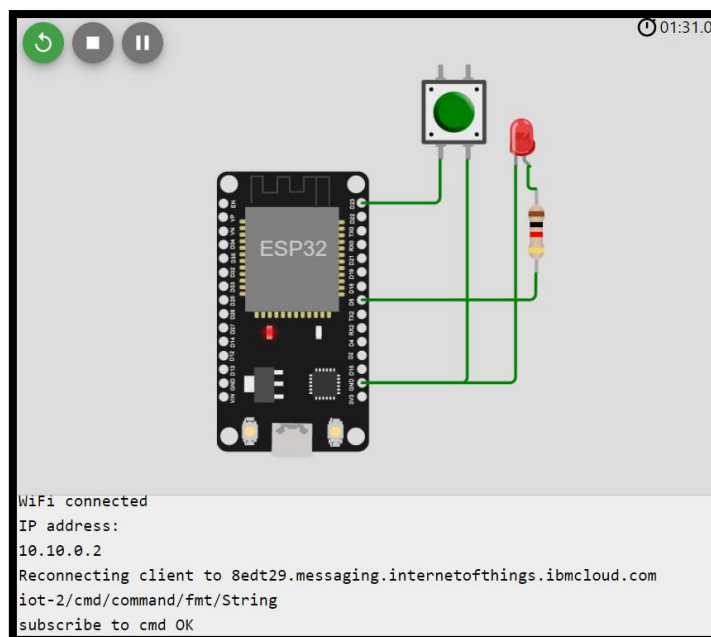
```

```

90
91     Serial.print("callback invoked for topic: ");
92     Serial.println(subscribetopic);
93     for (int i = 0; i < payloadLength; i++) {
94         data3 += (char)payload[i];
95     }
96
97     Serial.println("data: " + data3);
98     if(data3=1)
99     {
100         Serial.println(data3);
101         digitalWrite(LED,HIGH);
102     }
103
104     else
105     {
106         Serial.println(data3);
107         digitalWrite(LED,LOW);
108     }
109     data3="";
110
111 }

```

OUTPUT:



Device ID	Status	Device Type	Class ID	Date Added
2311	Connected	wokwi	Device	May 25, 2023 10:37 AM

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	
Waiting for device events...				