Iot Smart Bridge Externship

Assignment – 2

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20BCE1405

Question: In Wokwi connectpush button and upload 0 and 1 to ibm cloud

https://wokwi.com/projects/365966676503839745

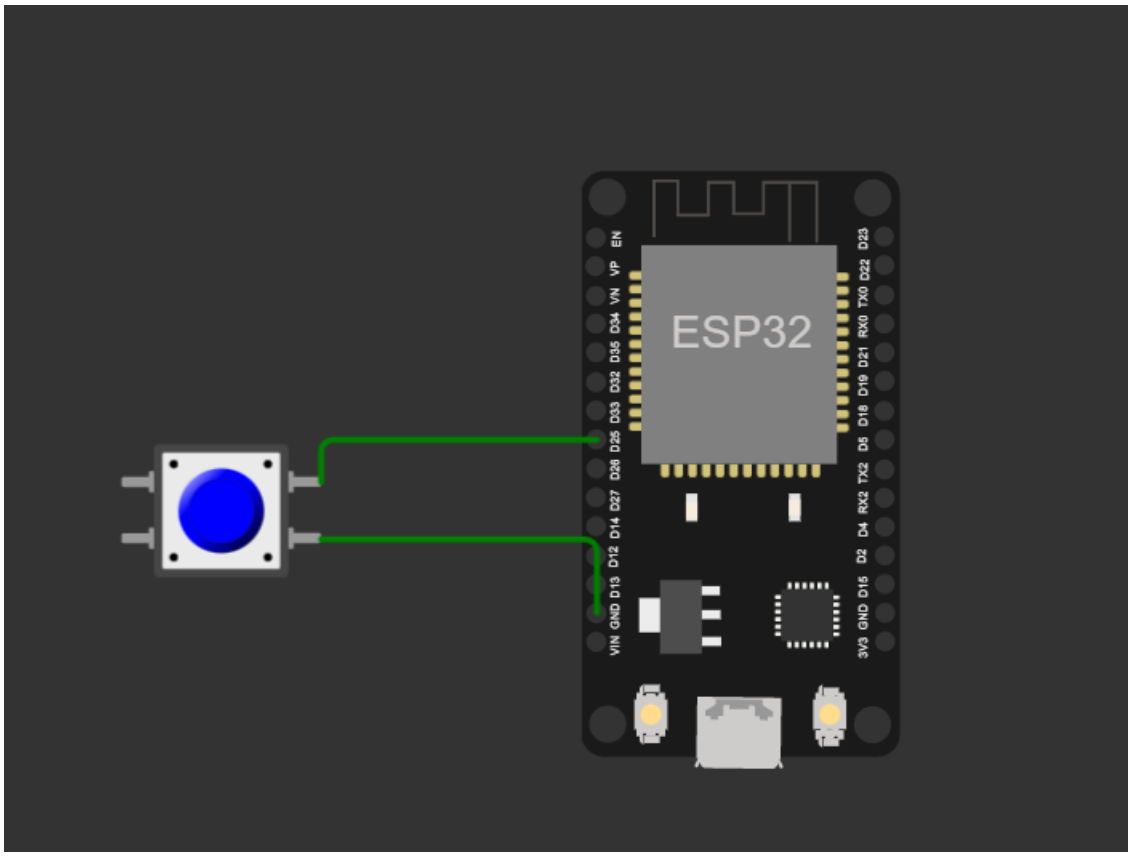
Code

```
#include <WiFi.h>
#include <PubSubClient.h>
#include "DHT.h"

void callback(char* subscribetopic, byte* payload, unsigned int
payloadLength);

#define ORG "3j24p3"
#define DEVICE_TYPE "abcd1"
#define DEVICE_ID "12345"
#define TOKEN "987654321"
String data3;
float h, t;
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/Data/fmt/json";
char subscribetopic[] = "iot-2/cmd/command/fmt/String";
char authMethod[] = "use-token-auth";
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;

WiFiClient wifiClient;
PubSubClient client(server, 1883, callback ,wifiClient);



void setup()
{
  Serial.begin(115200);
  pinMode(25, INPUT);
  wificonnect();
  mqttconnect();
}

void loop()
{
  int btnstate = digitalRead(25);
```

```
  if (digitalRead(btnstate) == 0)
  {
    Serial.print(digitalRead(btnstate));
  }
  else
  {
    Serial.print(digitalRead(btnstate));
  }

  PublishData(btnstate);
  delay(1000);
  if (!client.loop()) {
    mqttconnect();
  }
}

void PublishData(int btnstate) {
  mqttconnect();
  String payload = "{\"Value\":";
  payload += btnstate;
  payload += "}";


  Serial.print("Sending payload: ");
  Serial.println(payload);


  if (client.publish(publishTopic, (char*) payload.c_str())) {
    Serial.println("Publish ok");
  } else {
    Serial.println("Publish failed");
  }

}


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()
{
  Serial.println();
  Serial.print("Connecting to ");

  WiFi.begin("Wokwi-GUEST", "", 6);
  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 = 0; i < payloadLength; i++) {

    data3 += (char)payload[i];
  }
  Serial.println("data: "+ data3);
  if(data3 == 0)
  {
    Serial.println(data3);
  }
  else
  {
    Serial.println(data3);

  }
data3="";
}
```

Diagram




```
Connecting to ..
WiFi connected
IP address:
10.10.0.2
Reconnecting client to 3j24p3.messaging.internetofthings.ibmcloud.com
iot-2/cmd/command/fmt/String
subscribe to cmd OK

0Sending payload: {"Value":0}
Publish ok
0Sending payload: {"Value":0}
Publish ok
0Sending payload: {"Value":0}
Publish ok
0Sending payload: {"Value":0}
Publish ok
```