SMARTBRIDGE EXTERNSHIP

Internet Of Things

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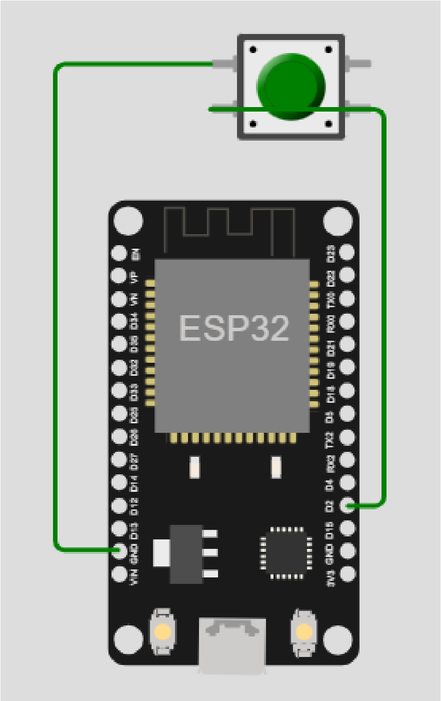
ASSIGNMENT-02

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

CODE:

```
#include <WiFiClient.h>
#include <PubSubClient.h>

// Replace with your network credentials
const char* ssid = "your_SSID";
const char* password = "your_PASSWORD";

// Replace with your IBM Cloud IoT device credentials
const char* server = "your_ORG_ID.messaging.internetofthings.ibmcloud.com";
const int port = 89grpi;
const char* deviceId = "abcd";
const char* apiKey = "1234";
const char* apiToken = "12345678";

// Initialize MQTT client
WiFiClient wifiClient;
PubSubClient client(wifiClient);

// Pin connected to the push button
const int buttonPin = 2;

// Variable to store the button state
int buttonState = 0;

// Callback function for receiving MQTT messages
void callback(char* topic, byte* payload, unsigned int length) {
  // Handle incoming messages if needed
}

// Connect to IBM Cloud IoT
void connectToIBMCloud() {
  while (!client.connected()) {
    Serial.print("Connecting to IBM Cloud IoT... ");
    if (client.connect(deviceId, apiKey, apiToken)) {
      Serial.println("connected!");
      // Subscribe to MQTT topics if needed
      // client.subscribe("your_topic");
    } else {
      Serial.print("failed, retrying in 5 seconds... ");
      delay(5000);
    }
  }
}

// Setup function
void setup() {
  // Initialize serial communication
  Serial.begin(9600);

  // Connect to Wi-Fi
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED) {
    delay(1000);
    Serial.print(".");
  }
  Serial.println("WiFi connected!");

  // Set up MQTT callback function
  client.setCallback(callback);
}

// Loop function
void loop() {
  // Connect to IBM Cloud IoT if not connected
  if (!client.connected()) {
    connectToIBMCloud();
  }
  // Maintain MQTT connection
  client.loop();

  // Read button state
  buttonState = digitalRead(buttonPin);

  // Send button state to IBM Cloud IoT
  char message[2];
  message[0] = buttonState + '0';
  message[1] = '\0';
  client.publish("your_topic", message);

  delay(1000);
}
```


ESP32
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