

```

#include <WiFi.h>
#include <PubSubClient.h>
#include "DHT.h"
#define DHTPIN 15
#define DHTTYPE DHT22

// WiFi credentials
const char* ssid = "Wokwi-GUEST";
const char* password = "";

// MQTT broker configuration
const char* mqttServer = "broker.emqx.io";
const int mqttPort = 1883;
const char* mqttUsername = "";
const char* mqttPassword = "";

// MQTT topics
const char* topic = "cibie/device/task01";

WiFiClient espClient;
PubSubClient client(espClient);
DHT dht (DHTPIN, DHTTYPE);
void setup() {
    Serial.begin(115200);
    dht.begin();
    delay(10);
    Serial.println();
    connectWiFi();
    client.setServer(mqttServer, mqttPort);
}

void loop() {
    float h, t;
    h = dht.readHumidity();
    t = dht.readTemperature();
    Serial.print("temp:");
    Serial.println(t);
    Serial.print("Humid:");
    Serial.println(h);
    if (!client.connected()) {
        reconnect();
    }

    String payload = "{\"temp\":";
    payload += t;
    payload += ", \"Humid\":";
    payload += h;
    payload += "}";

```

```

    client.publish(topic, payload.c_str());

    delay(5000);
}

void connectWiFi() {
    Serial.println("Connecting to WiFi...");
    WiFi.begin(ssid, password);
    while (WiFi.status() != WL_CONNECTED) {
        delay(1000);
        Serial.println("Connecting to WiFi...");
    }
    Serial.println("Connected to WiFi");
}

void reconnect() {
    while (!client.connected()) {
        Serial.println("Connecting to MQTT...");
        if (client.connect("YourClientID", mqttUsername, mqttPassword)) {
            Serial.println("Connected to MQTT broker");
        } else {
            Serial.print("Failed to connect to MQTT broker, retrying in 5
seconds...");
            delay(5000);
        }
    }
}
}

```

Wowki simulation link : <https://wokwi.com/projects/380399100802342913>

WOKWI

task3 Copy

sketch.ino

```
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4 #define DHTPIN 15
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16
17 // MQTT topics
18 const char* topic = "cibie/device/task01";
19
20 WiFiClient espClient;
21 PubSubClient client(espClient);
22 DHT dht (DHTPIN, DHTTYPE);
23
24 void setup() {
25   Serial.begin(115200);
26   dht.begin();
27   delay(10);
28   Serial.println();
29   connectWifi();
30   client.setServer(mqttServer, mqttPort);
31 }
32
33 void loop() {
34   float h, t;
35   h = dht.readHumidity();
36   t = dht.readTemperature();
37 }
```

Simulation

Connected to WiFi
temp:60.20
Humid:64.00
Connecting to MQTT...
Connected to MQTT broker
temp:60.20
Humid:64.00

WOKWI

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Connections

task01

JSON

Received

Published

2023-11-04 00:01:38:580

topic: cibie/device/task01 QoS: 0

```
{
  "temp": 60.2,
  "Humid": 64
}
```

2023-11-04 00:01:43:604

topic: cibie/device/task01 QoS: 0

```
{
  "temp": 60.2,
  "Humid": 64
}
```

2023-11-04 00:01:49:777

Topic

```
{
  "msg": "hello"
}
```

Simulation

00:40.574 84%

Editing DHT22

Temperature: 60.2°C

Humidity: 64.0%

Humid:64.00
temp:60.20
Humid:64.00
temp:60.20
Humid:64.00
temp:60.20
Humid:64.00