

WOKWI

MicroPython MQTT Weather Logger (ESP32)

main.py

```
1 """
2 MicroPython IoT Weather Station Example for Wokwi.com
3
4 To view the data:
5
6 1. Go to http://www.hivemq.com/demos/websocket-client/
7 2. click "Connect"
8 3. Under Subscriptions, click "Add New Topic Subscription"
9 4. In the Topic field, type "wokwi-weather" then click "Subscribe"
10
11 Now click on the DHT22 sensor in the simulation,
12 change the temperature/humidity, and you should see
13 the message appear on the MQTT Broker, in the "Messages" pane.
14
15 Copyright (C) 2022, Uri Shaked
16
17 https://wokwi.com/arduino/projects/322577683855704658
18 """
19
20 import network
21 import time
22 from machine import Pin
23 import dht
24 import ujson
25 from umqtt.simple import MQTTClient
26
27 # MQTT Server Parameters
28 MQTT_CLIENT_ID = "micropython-weather-demo"
29 MQTT_BROKER = "broker.mqttdashboard.com"
30 MQTT_USER = ""
31 MQTT_PASSWORD = ""
32 MQTT_TOPIC = "wokwi-weather"
33
34 sensor = dht.DHT22(Pin(15))
```

Simulation

00:45.249 100%

Editing DHT22

Temperature: -21.1°C

Humidity: 13.5%

Measuring weather conditions... Updated!

Reporting to MQTT topic wokwi-weather: {"humidity": 78.0, "temp": -21.1}

Measuring weather conditions... Updated!

Reporting to MQTT topic wokwi-weather: {"humidity": 13.5, "temp": -21.1}

Measuring weather conditions... No change

Measuring weather conditions... No change

Measuring weather conditions... No change

Measuring weather conditions... No change

Measuring weather conditions... No change

Measuring weather conditions... No change

Measuring weather conditions... No change

HIVEMQ CLOUD

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Connection

connected

Publish

Topic: testtopic/1

QoS: 0

Retain: ☐

Message

Subscriptions

Add New Topic Subscription

Qos: 2

wokwi-weather

Messages

| | | | |
|---------------------|----------------------|--------|-----------------------------------|
| 2025-05-03 06:32:36 | Topic: wokwi-weather | Qos: 0 | {"humidity": 13.5, "temp": -21.1} |
| 2025-05-03 06:32:35 | Topic: wokwi-weather | Qos: 0 | {"humidity": 78.0, "temp": -21.1} |
| 2025-05-03 06:32:23 | Topic: wokwi-weather | Qos: 0 | {"humidity": 78.0, "temp": 63.0} |