

VFBOX

MQTT 网关连接 Mosquitto 使用手册

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1 使用介绍

本文介绍使用 mosquitto 软件和 MQTT 网关测试 MQTT 协议通信的过程。mosquitto 软件运行在本地电脑上，可以作为 MQTT 的服务器，也可以作为一个订阅用户。MQTT 网关采集一个温湿度传感器的数据，把采集的数据发送给 mosquitto 服务器，并通过服务器转发给订阅用户。

准备工作：

1. VFBOX MQTT 网关
2. VFBOX Studio 软件，以下简称 VS 软件
3. Mosquitto 软件
4. 温湿度传感器（或其他数据设备）

1.1 搭建 MQTT 服务器

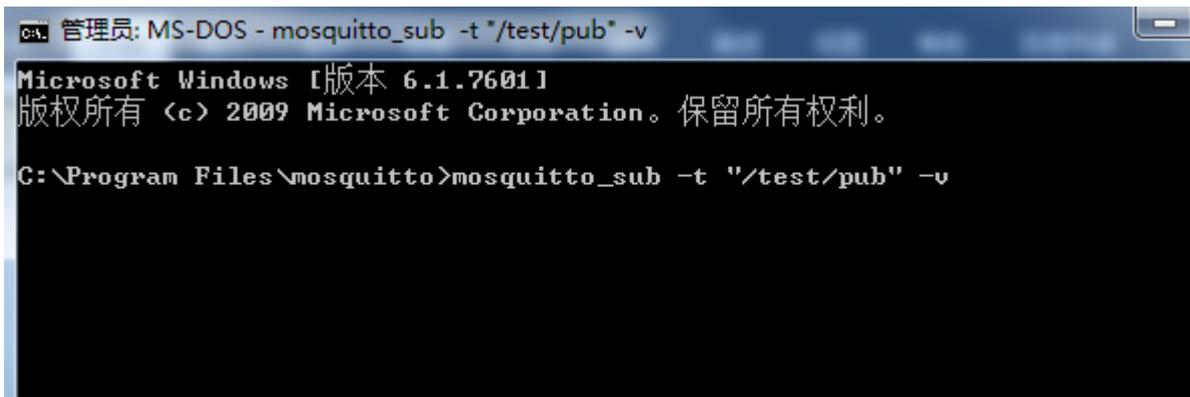
1. 安装 Mosquitto 软件。
2. 默认安装路径 C:\Program Files\mosquitto
3. 在此目录下建立一个文档 1.conf，文档内容如下：

```
listener 1883  
  
allow_anonymous true
```
4. 打开 cmd 程序，到目录 C:\Program Files\mosquitto 下。
5. 运行：`mosquitto.exe -c 1.conf -v` 启动 MQTT 服务器程序



```
C:\Program Files\mosquitto>mosquitto.exe -c 1.conf -v  
Microsoft Windows [版本 6.1.7601]  
版权所有 (c) 2009 Microsoft Corporation。保留所有权利。  
  
C:\Program Files\mosquitto>mosquitto.exe -c 1.conf -v  
1620615451: mosquitto version 2.0.10 starting  
1620615451: Config loaded from 1.conf.  
1620615451: Opening ipv6 listen socket on port 1883.  
1620615451: Opening ipv4 listen socket on port 1883.  
1620615451: mosquitto version 2.0.10 running
```

- 6.
7. 在打开一个 cmd 程序，运行 `mosquitto_sub -t "/test/pub" -v` 启动客户订阅程序。



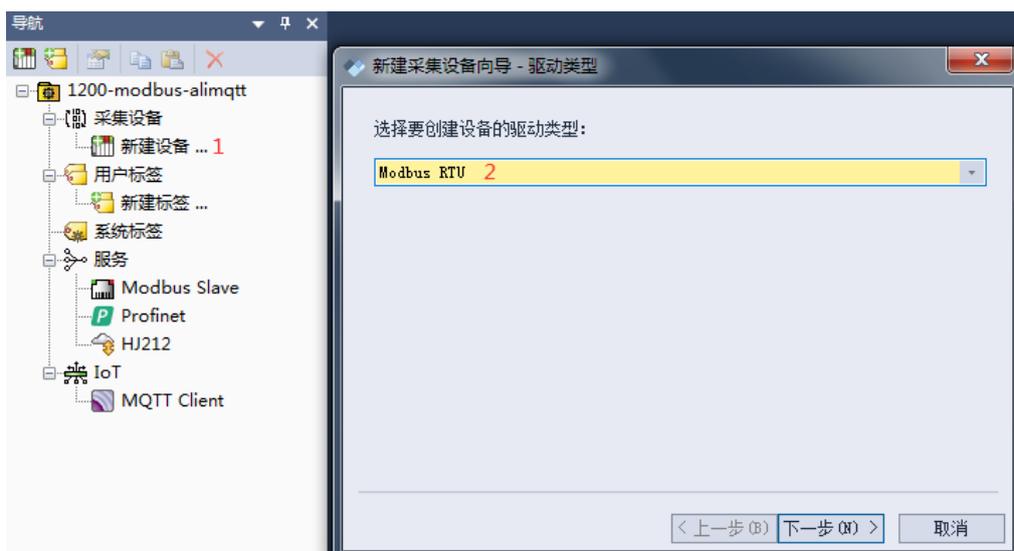
- 8.
9. 至此 MQTT 服务器程序和客户订阅程序已运行完成。

1.2 配置 MQTT 网关

1. 连接温湿度传感器到网关的 COM1。
2. 打开 VFBOX Studio 软件，新建工程，通过 modbus 采集温湿度传感器数据。

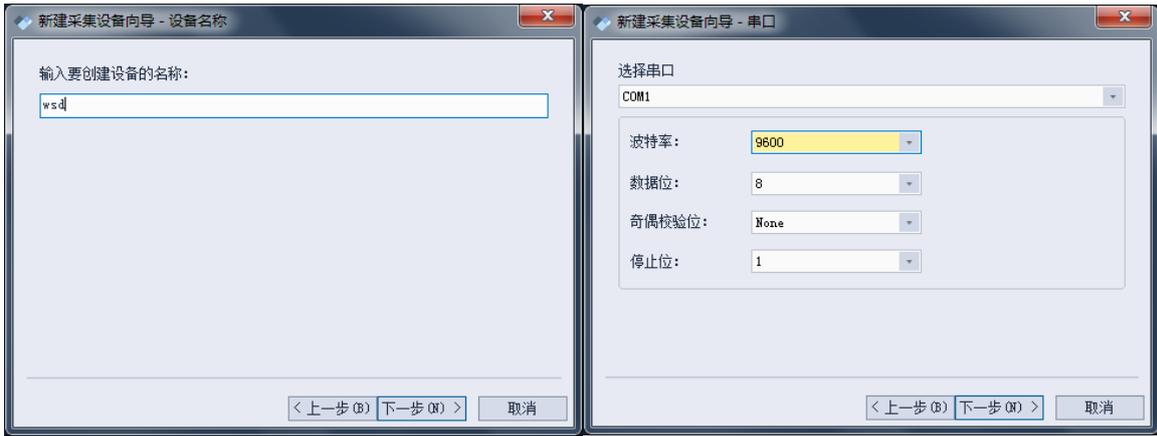


3.

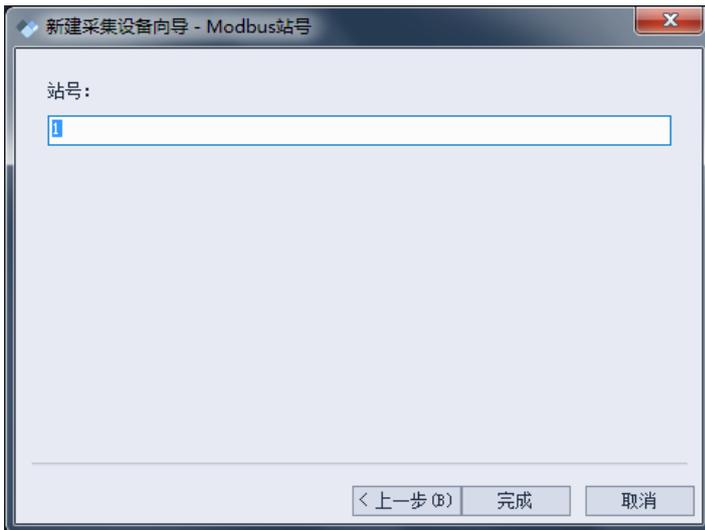


4.

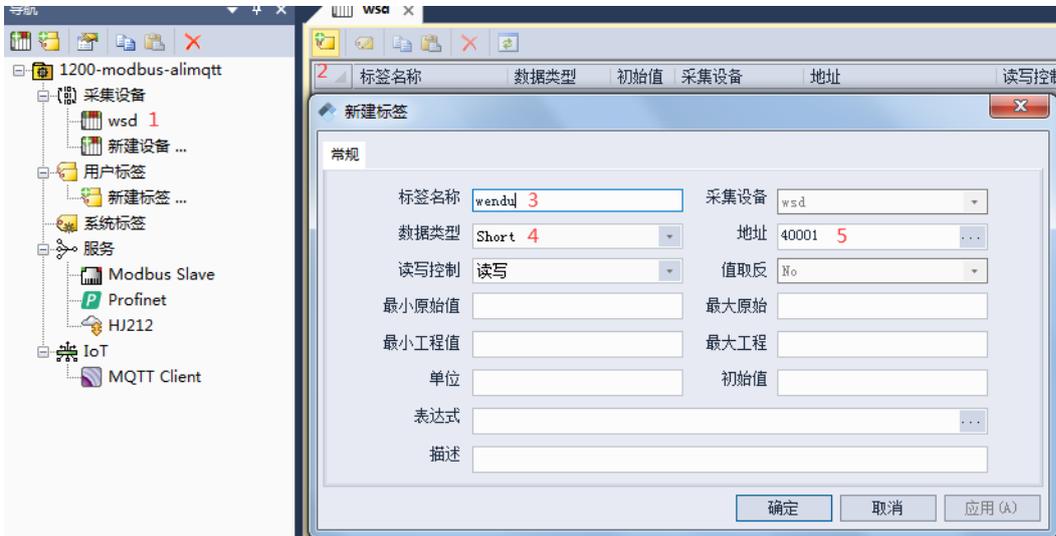
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6.



7.



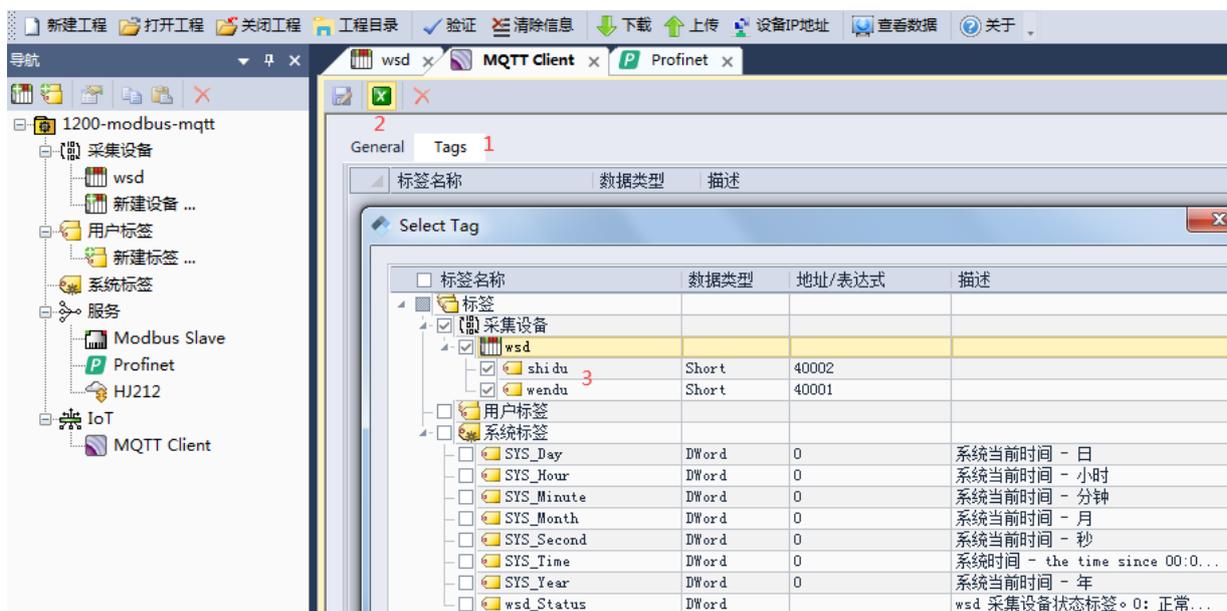
8.



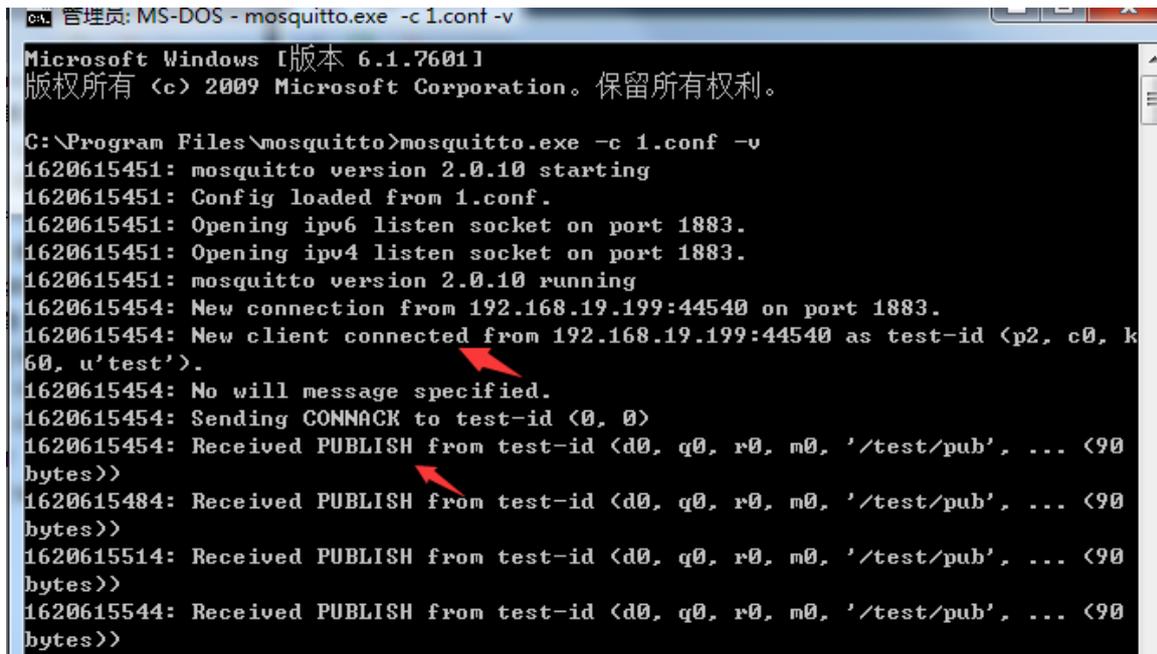
9. 点击 MQTT Client 菜单，配置 MQTT 参数。其中服务器 IP 地址是运行 mosquitto 程序的电脑的 IP 地址。



- 10.
11. 点击 Tags 绑定上报的数据，设置完成后点击保存。



- 12.
13. 点击 VS 软件的“下载”按钮，下载工程到网关中。
14. 运行之后，可以看到 mosquitto 服务器程序有收到 client 连接上来。

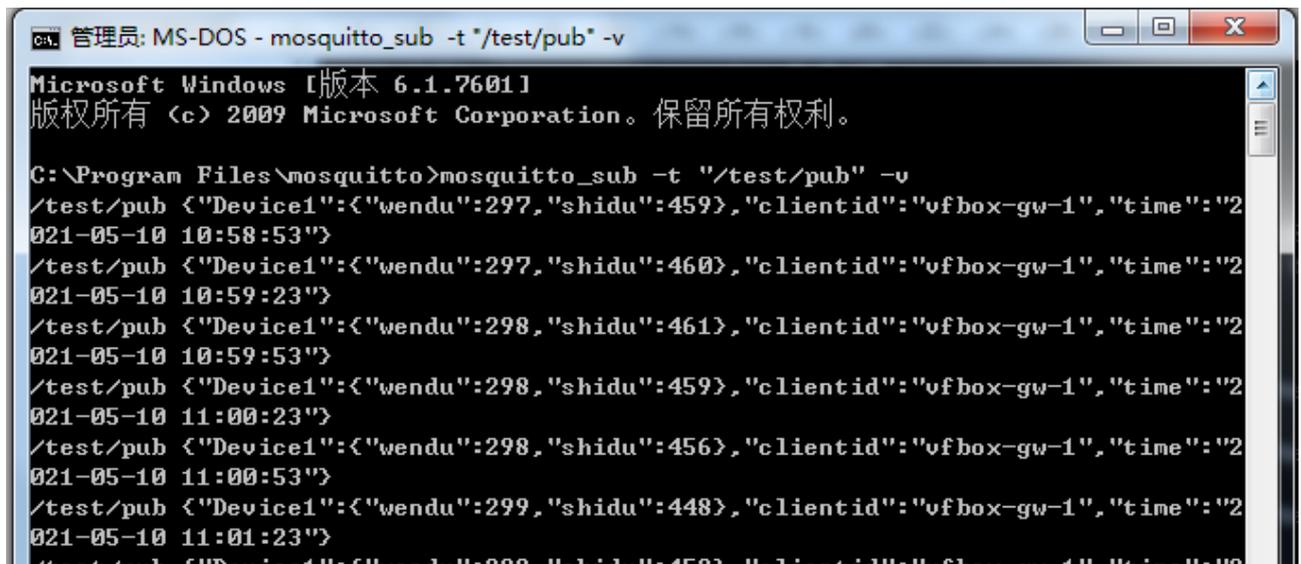


```

C:\Program Files\mosquitto>mosquitto.exe -c 1.conf -v
1620615451: mosquitto version 2.0.10 starting
1620615451: Config loaded from 1.conf.
1620615451: Opening ipv6 listen socket on port 1883.
1620615451: Opening ipv4 listen socket on port 1883.
1620615451: mosquitto version 2.0.10 running
1620615454: New connection from 192.168.19.199:44540 on port 1883.
1620615454: New client connected from 192.168.19.199:44540 as test-id <p2, c0, k60, u'test'>.
1620615454: No will message specified.
1620615454: Sending CONNACK to test-id <0, 0>
1620615454: Received PUBLISH from test-id <d0, q0, r0, m0, '/test/pub', ... <90 bytes>>
1620615484: Received PUBLISH from test-id <d0, q0, r0, m0, '/test/pub', ... <90 bytes>>
1620615514: Received PUBLISH from test-id <d0, q0, r0, m0, '/test/pub', ... <90 bytes>>
1620615544: Received PUBLISH from test-id <d0, q0, r0, m0, '/test/pub', ... <90 bytes>>

```

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16. Mosquitto 的客户订阅程序有收到订阅的信息。



```

C:\Program Files\mosquitto>mosquitto_sub -t "/test/pub" -v
/test/pub <"Device1":<"wendu":297,"shidu":459>,"clientid":"vfbox-gw-1","time":"2021-05-10 10:58:53">
/test/pub <"Device1":<"wendu":297,"shidu":460>,"clientid":"vfbox-gw-1","time":"2021-05-10 10:59:23">
/test/pub <"Device1":<"wendu":298,"shidu":461>,"clientid":"vfbox-gw-1","time":"2021-05-10 10:59:53">
/test/pub <"Device1":<"wendu":298,"shidu":459>,"clientid":"vfbox-gw-1","time":"2021-05-10 11:00:23">
/test/pub <"Device1":<"wendu":298,"shidu":456>,"clientid":"vfbox-gw-1","time":"2021-05-10 11:00:53">
/test/pub <"Device1":<"wendu":299,"shidu":448>,"clientid":"vfbox-gw-1","time":"2021-05-10 11:01:23">
/test/pub <"Device1":<"wendu":298,"shidu":452>,"clientid":"vfbox-gw-1","time":"2021-05-10 11:01:53">

```

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