Updated:May 12, 2019 / By steve

How to Install The Mosquitto MQTT Broker on Windows

Mosquitto In this tutorial you will learn how to install the mosquitto MQTT broker (server) on Windows.

See the installing Mosquitto on Linux tutorial for how to install on a local Linux server and also a cloud server (AWS).

Installing The Mosquitto Broker on Windows

Note: The term **server** instead of broker as been adopted as of MQTT version 3.1.1

There are two possibilities:

- Quick Install
- Standard Install

Quick Windows Install

The problem with the standard install is that there are certain dependencies that need to be installed before you can do the mosquitto install.

This involves installing software and copying files from other installs into the Mosquitto install folder.

You should note that from version 1.5 on support for **windows XP** was dropped, so if you need to run mosquitto on XP the you need to use an older version.

The version will also run on Windows ,7,8 and 10. It doesn't have web sockets support.

Hi - I'm Steve and this is my website on IOT technologies and services. The Site Covers MQTT, Node-Red,Mosquitto and general computer networking

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This tutorial cover the Install on XP and includes the download files

Quick Install Mosquitto v 1.5.8

This version works with websockets.

Here is my download package and includes the SSL files for encryption .

Mosquitto 1.5.8 Windows Files		**DOWNLOAD**
7z 📋 1 file(s) 🖴 1.33 MB		

Just unzip it go to the directory and run the broker manually as covered here.

Don't forget to virus check it let me know if you have any problems with it.

Video – How to Install Mosquitto Broker on Windows

Websockets on Windows Notes

Since mosquitto 1.5.1 websockets support has been enabled on the windows binary files.

However when using 1.5.1., 1.52 and 1.53 when you start mosquitto it appears to be listening on the websocket port but doesn't allow connections.

mosquitto v 1.5.4 and above works with websockets.

Manual Install Windows

To install manually you will need to download the files from Eclipse. Here is the link.

As mentioned earlier the big problem with the Windows Install is that there are lots of dependencies that you also need to install or have installed.

From version 1.5.8 the install script lets you install   mosquitto **as a service**.

When Mosquitto is installed as a service it starts automatically.

However this is not important for a test environment.

First you will need to download the Windows install files from here.

Windows

- mosquitto-1.5.4-install-windows-x64.exe (~360 kB) (64-bit build, Windows Vista and up, built with Visual Studio Community 2017)
- mosquitto-1.5.4-install-windows-x32.exe (~360 kB) (32-bit build, Windows Vista and up, built with Visual Studio Community 2017)
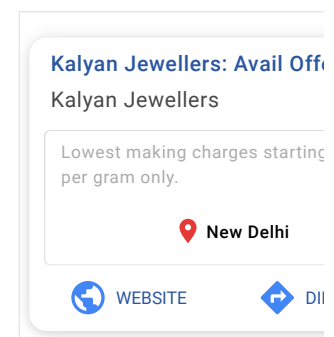
See also readme-windows.txt after installing.

Install Steps

1. Double Click on the install script

Google Ads

My Youtube Channel

2. Note the dependencies screen which tells you what additional files are required. The
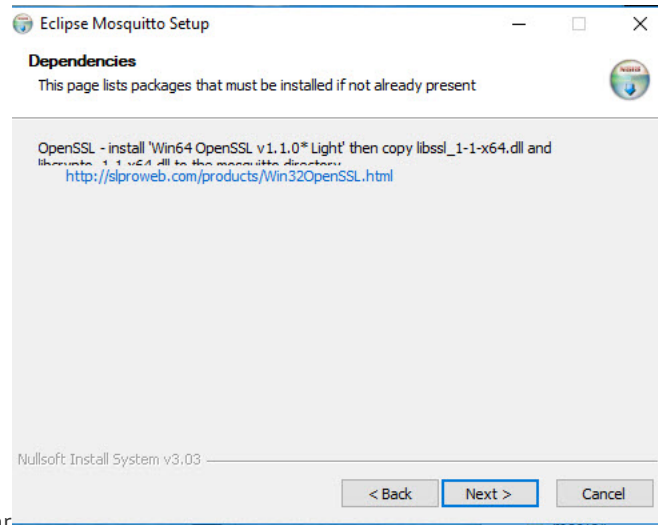
screen is note very clear

3. Select components check service to install as a service.
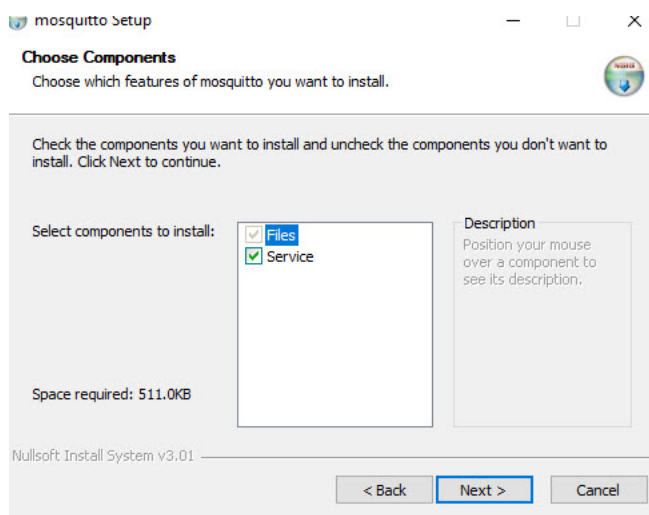
4. Choose a location it defaults to c:\program files\mosquitto.

5. Finish

You then need to copy the additional files to the install directory after the install again.

The additional files are

- libcrypto-1_1_x64.dll
- libssl-1_1_x64.dll

Note 1: You can obtain these files by installing openssl using the files from here or by downloading my package.

Note2: They are now included in the 1.5.8 install package.

Starting Mosquitto on Windows

To start the broker manually open a command prompt and go to the mosquitto install directory and type **mosquitto**.
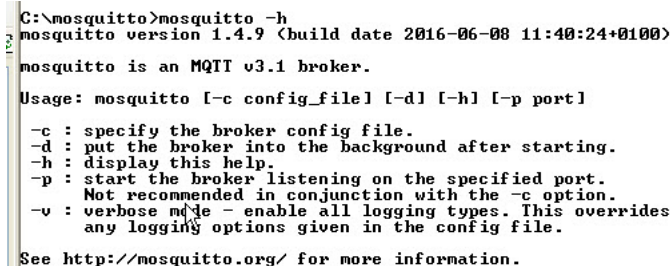
```
Command Prompt - mosquitto

C:\mosquitto>mosquitto
```

You can also use various command line switches. Type

mosquitto -h

for help.

```
C:\mosquitto>mosquitto -h
mosquitto version 1.4.9 (build date 2016-06-08 11:40:24+0100)

mosquitto is an MQTT v3.1 broker.

Usage: mosquitto [-c config_file] [-d] [-h] [-p port]

 -c : specify the broker config file.
 -d : put the broker into the background after starting.
 -h : display this help.
 -p : start the broker listening on the specified port.
      Not recommended in conjunction with the -c option.
 -v : verbose mode - enable all logging types. This overrides
      any logging options given in the config file.

See http://mosquitto.org/ for more information.
```

To start in verbose mode so that you can see console messages use the **-v** option:

```
C:\mos>mosquitto -v
1512659278: mosquitto version 1.4.9 (build date 2016-06-08 11:40:24+0100) starting
1512659278: Using default config.
1512659278: Opening ipv6 listen socket on port 1883.
1512659278: Opening ipv4 listen socket on port 1883.
```

Running Mosquitto as a Service -Update 22-12-2018 -Notes version 1.5.4 and below

On production environments you will need mosquitto to auto start on a reboot.

To start mosquitto as a service the usual use of the sc command didn't work as seen from the screen shots below.

However a reader pointed out the power shell option which does work

Here is a screen shot of my attempts using sc command

```
Microsoft Windows [Version 10.0.17134.471]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Windows\system32>sc create mosquitto binPath= "C:\mosquitto\mosquitto.exe -c C:\mosquitto\mosquitto.conf" DisplayName=
"mosquitto broker" start= auto
[SC] CreateService SUCCESS

C:\Windows\system32>sc start mosquitto
[SC] StartService FAILED 1053:

The service did not respond to the start or control request in a timely fashion.

C:\Windows\system32>sc start mosquitto
[SC] StartService FAILED 1053:

The service did not respond to the start or control request in a timely fashion.

C:\Windows\system32>setx MOSQUITTO_DIR c:\mosquitto /m

SUCCESS: Specified value was saved.

C:\Windows\system32>sc start mosquitto
[SC] StartService FAILED 1053:

The service did not respond to the start or control request in a timely fashion.

C:\Windows\system32>sc delete mosquitto
[SC] DeleteService SUCCESS

C:\Windows\system32>sc create mosquitto binPath= "C:\mosquitto\mosquitto.exe  " DisplayName= "mosquitto broker" start= aut
o
[SC] CreateService SUCCESS

C:\Windows\system32>
```

Note you need to open the command prompt as administrator.
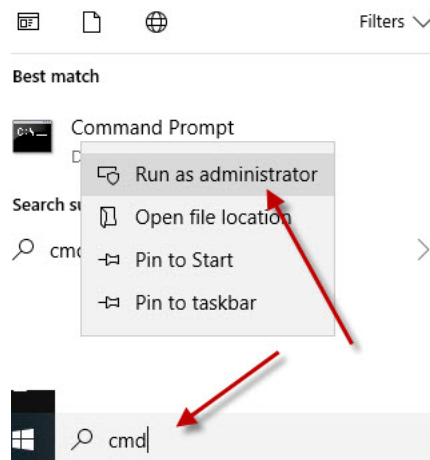
Installing Mosquitto as a Service using Power Shell

Open a power shell command prompt as administrator.
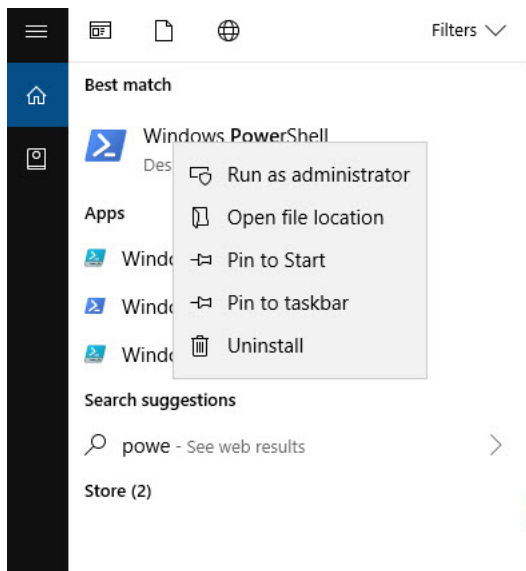
Change to the directory where you have installed mosquitto (mos154 below) and type:

```
./mosquitto install
```


Mosquitto is added but you don't get any confirmation and it isn't started but will start on reboot. However you can now start it manually.

Now open a normal command prompt again as administrator and type the commands:

```
sc query mosquitto
sc start mosquitto
sc query mosquitto
```

```
C:\Windows\system32>sc query mosquitto

SERVICE_NAME: mosquitto
        TYPE               : 10  WIN32_OWN_PROCESS
        STATE              : 1   STOPPED
        WIN32_EXIT_CODE    : 0   (0x0)
        SERVICE_EXIT_CODE  : 0   (0x0)
        CHECKPOINT         : 0x0
        WAIT_HINT          : 0x0

C:\Windows\system32>sc start mosquitto

SERVICE_NAME: mosquitto
        TYPE               : 10  WIN32_OWN_PROCESS
        STATE              : 2   START_PENDING
                                 (NOT_STOPPABLE, NOT_PAUSABLE, IGNORES_SHUTDOWN)
        WIN32_EXIT_CODE    : 0   (0x0)
        SERVICE_EXIT_CODE  : 0   (0x0)
        CHECKPOINT         : 0x0
        WAIT_HINT          : 0x7d0
        PID                : 1760
        FLAGS              :

C:\Windows\system32>sc query mosquitto

SERVICE_NAME: mosquitto
        TYPE               : 10  WIN32_OWN_PROCESS
        STATE              : 4   RUNNING
                                 (STOPPABLE, NOT_PAUSABLE, ACCEPTS_SHUTDOWN)
        WIN32_EXIT_CODE    : 0   (0x0)
        SERVICE_EXIT_CODE  : 0   (0x0)
        CHECKPOINT         : 0x0
        WAIT_HINT          : 0x0
```

Testing The Install

To test it is running use command:

- **netstat -a**

```
C:\Users\steve>netstat -a

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    0.0.0.0:80             ws6:0                  LISTENING
  TCP    0.0.0.0:135            ws6:0                  LISTENING
  TCP    0.0.0.0:445            ws6:0                  LISTENING
  TCP    0.0.0.0:554            ws6:0                  LISTENING
  TCP    0.0.0.0:1801           ws6:0                  LISTENING
  TCP    0.0.0.0:1883    ⬅      ws6:0                  LISTENING
  TCP    0.0.0.0:2103           ws6:0                  LISTENING
  TCP    0.0.0.0:2105           ws6:0                  LISTENING
  TCP    0.0.0.0:2107           ws6:0                  LISTENING
  TCP    0.0.0.0:2869           ws6:0                  LISTENING
```

You should see the Mosquitto broker running on port **1883** as shown in the screen shot above.

Another quick test is to try to start it twice in two different command prompts.

You should get an error message complaining about the port being in use.

```
C:\mos154>mosquitto -v
1546364709: mosquitto version 1.5.4 starting
1546364709: Using default config.
1546364709: Opening ipv6 listen socket on port 1883.
1546364709: Error: Only one usage of each socket address (protocol/network address/port) is normally permitted.
```

The Mosquitto.conf File

The configuration file (mosquitto.conf) that comes with the install is completely commented out, and the MQTT broker doesn't need it to start.

However when Mosquitto runs as a service it uses this configuration file. .

> Don't use the commented out version and edit it as it is very long and difficult to navigate.

Instead create a blank file and add you entries to it using the commented out file as documentation.

See Quick Guide to The Mosquitto.conf File With Examples

Mosquitto Logging

If you enable logging in the **mosquitto.conf** file then when mosquitto runs it creates this file with restricted permissions, and locks the file while the broker is running.

If you stop the broker you can change the permissions on the file to access it.

See Understanding and Configuring Logging on Mosquitto

Running Multiple Mosquitto Brokers

You can configure a broker to listen on several ports, but to create multiple brokers with their own configurations then you will need to start **multiple instances** of mosquitto. See Quick Guide to the Mosquitto.conf file and this video on running multiple brokers.

Examples:

Start mosquitto and listen on port 1883

mosquitto -p 1883

Start mosquitto and listen on port 1884

mosquitto -p 1884

Start mosquitto and use the mosquitti-2.conf file.

mosquitto -c c:\mosquitto\mosquitto-2.conf

Note: starting as a daemon (-d) is not supported on windows.

Mosquitto Client Scripts

The windows install includes the client scripts.

There is a simple subscriber client

mosquitto_sub

and a publisher client

mosquitto_pub

Use

mosquitto_sub –help

They are useful for some quick tests. See Using The Mosquitto_pub and Mosquitto_sub Client Tools- Examples

Common Questions and Answers

Q- What is the difference between a quick install and a standard manual install?

A- Using my install package you don't need to install any other software as the package includes the necessary files. A standard manual install installs mosquitto as a service but a quick install doesn't.

Q- I have Mosquitto broker installed on one Windows machine can I copy it to another machine?

A- If you have already installed Mosquitto on another windows machine e.g. XP and want to install it on another machine e.g. Windows 10 then you can just copy the directory containing the mosquitto files to the new machine.

I copied my windows XP install (32 bit) onto a windows 10 (64bit) machine and a Windows 7 machine and it worked OK.
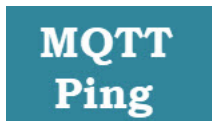
You need to be aware of the versions as windows XP doesn't support Mosquitto v 1.5 and above.

_____

Other Tools

MQTTlens is also very useful for troubleshooting and quick testing. It is an add-on for the chrome browser.

It lets you publish and subscribe to topics using a web interface, and is much easier to use than the command line clients.

MQTT-Ping -Python Tool written by me that works like the traditional IP ping command tool.

MQTT v5 Support

Note: Starting will mosquitto version 1.6 mosquitto now supports MQTT v5.

Mosquitto Configuration Tutorials

- Configuring and Testing MQTT Topic Restrictions
- Configuring Username and Password Authentication
- MQTT TLS Security – Mosquitto Broker Configuration
- Understanding and Configuring Bridging on Mosquitto
- Configure Mosquitto Bridge With SSL Encryption- Examples

Other Related Articles and Resources:

- MQTT for Beginners
- MQTT and Mosquitto WebSockets Working Notes
- MQTT Hosting,Brokers and Server

Please rate? And use Comments to let me know more

[Total: 24   Average: 4/5]

34 comments

Filippo Pardini says:
February 13, 2019 at 8:16 pm

Hi Steve,
I installed mosquitto in Windows 10 as service and it works well with the default mosquitto.conf with anonymous authentication. I want to individualize access, so I changed mosquitto.conf as you say in "Mosquitto Username and Password Authentication" and than I restarted the mosquitto service. The service do not restart and I receive the message "O servico Mosquitto Broker em Computador local foi iniciado e interrompido. Alguns servicos sao interrompidos automaticamente se nao estiverem sendo usados por outros servicos ou programas". In English is more or less: "The Mosquitto Broker service in Local Computer was started and interrupted. Some services are automatically interrupted if they are not used by other services or programs". There is no way to restart the service, neither rebooting. If I return the mosquitto.conf to the default (without authentication) the service restarts and mosquitto works well. I do not understand what is the problem, can you help me? Thank you – Filippo Pardini

Reply

steve says:

February 13, 2019 at 8:24 pm

Hi

You have very probably made an error when editing the conf file.

When doing testing a prefer to start mosquitto manually rather than as a service as it is quicker to test.

The error reporting whem starting mosquitto is not very clear.

Reply

Philip Knowles says:

January 2, 2019 at 11:47 am

The sc start mosquito command needs to be an Admin Command Prompt not a "normal" Command Prompt otherwise thank you.

Reply

Ian says:

January 1, 2019 at 10:02 am

FYI to install version 1.5.4 as a windows service was as simple as launching powershell as an administrator and running the following:

c:\program files\mosquitto\ ./mosquitto install

Reply

steve says:

January 1, 2019 at 6:23 pm

Ian

Thank you very much for that I will add it to the tutorial

rgds

steve

Reply

mysty says:

December 12, 2018 at 3:52 am

hi steve,
i successfully installed mosquitto on my machine and verified it by checking port 1883 and it was "listening". but still when i try to run basic commands to subscribe or publish it doesnt work.

Reply

steve says:
December 12, 2018 at 4:57 pm

Start mosquitto with the -v option then you can see if the clients are trying to connect.

Reply

David Huisman says:
December 4, 2018 at 1:51 am

Steve,
I have a small Single board computer running Windows 10 Enterprise (Latte Panda module).
I have been through your tutorial several times and cannot get the installer running.
If I copy your files into a folder called "Moz" and then in command line run Mosquitto -V then the server does start up ok.

When I go to the Mosquitto site and download latest version of Mosquitto (32 bit), and install in the same MOZ folder, it cannot find the files in that folder and does not run. Does the version of Mosquitto matter? the downloads are different than your descriptions. Thsnk

Reply

steve says:
December 4, 2018 at 9:33 am

If the newer version doesn't run after install then I would suspect a path issue.
Have you tried going to the folder were the installer installs the files and running from there?
The only thing the installer does beside copying over the files is to configure mosquitto to start as a service which you can also do manually.
I haven't checked what files are included with the latest version but It is on my todo list but the ones in my zip package should cover everything except web sockets.
Are you going to use web sockets?

Reply

Jack Wan says:

September 11, 2018 at 7:45 pm

Even easier , just install Windows Linux subsystem, here's nice write up of how to do it.
http://www.abrandao.com/2018/03/running-mosquitto-mqtt-on-windows-10-super-easy/

Reply

biswajeet nayak says:

June 24, 2018 at 8:16 pm

when i type C:\>mosquitto>mosquito in the command prompt …it says access is denied can
anyone pls help

Reply

steve says:

June 25, 2018 at 12:34 pm

might just be a typo

Reply

Frederik says:

February 18, 2018 at 1:10 pm

Hi,

Try to run mosquitto broker and cliënt on raspberry pi3.
Get always connection refuzen not authorised.
Someting with the User? The netstat -t give a time_wait?

Thks for your help,
Frederik

Reply

Just4Fun says:

January 5, 2018 at 12:08 pm

This guide was really usefull!

First time playng with MTTQ, I of course chose to follow the "hard way" to install mosquitto
on Windows 10 (- LOL -)…
After some hours… I realized that the last Win32OpenSSL_Light version (v 1.1.0) doesn't

contein the two requested files (libeay32.dll ssleay32.dll), and I sorted out using the version 1.0.2n...

Then I had the VCRUNTIME140.dll issue, and this was fixed installing 'Microsoft Visual C++ 2015 Redistributable (x86)' (32bit version), as discribed in others comments.

And at last... I can turn on and off a led on my ESP-01 sending MTTC command (oops... "publishing"...) from my PC using mosquitto_pub...
Great!!!

Reply

Nenad S says:
December 15, 2017 at 10:45 am

Hi Steve,

Thank for taking the time and creating this Zip file.
I was stuck with my mosquitto install (win 10 Pro / x64) and actually was at a point to consider running mosquitto in VM 🙂

Reply

steve says:
December 16, 2017 at 8:55 am

Glad it helped
Steve

Reply

Henrique says:
July 15, 2017 at 10:41 pm

Congrats man !!!!!

Thank you so much !

Reply

cartercherry@gmail.com says:
June 9, 2017 at 8:15 pm

Hi Steve,
I had almost given up installing mosquitto on windows until I found your tutorial. Success!
The zip file was extremely helpful.
Thanks,
Carter

Reply

steve says:

June 10, 2017 at 8:03 am

I know how you felt it took me a while to get it working when I first installed it.
Glad it helped

Reply

Muhoza yves says:

May 24, 2017 at 1:27 pm

Hi Steve
in the installation process at the end I get an error called The program can't start because
VCRUNTIME140.dll is missing from your computer. Try reinstall the program to fix this
problem

Reply

steve says:

May 24, 2017 at 3:05 pm

Hi
Did you try downloading the zip package that I put together. Unzip it and copy it to a
directory and then run the broker from the command line from there. There is no need to
install it.
http://www.steves-internet-guide.com/downloads/

Reply

Duo says:

May 28, 2017 at 7:49 am

Hi All,
I had the VCRUNTIME140.dll issue when I install MQTT just now, and I search the issue at
web, have a solution it's Visual C++ Redistributable for Visual Studio 2015 installed, I just
download the file and installed, and re-install mosquitto, the problem has been solved,
hope the information can help you.

Reply

Jonez says:

December 29, 2017 at 9:40 am

Note that you need to install 32-bit version of it. I had 64-bit version (x64) but it is not
compatible with this and the symptom was that I could not start mosquitto and the

error message was 'The application was unable to start correctly (0xc000007b)'

After installing 'Microsoft Visual C++ 2015 Redistributable (x86)' it started.

Reply

Nestor says:

May 27, 2018 at 2:37 am

You can download from here:

https://www.microsoft.com/en-us/download/details.aspx?id=52685

Reply

SAM says:

May 18, 2017 at 4:38 pm

Hi Steve,

How to add a listener with a new port in Ubuntu mosquitto-broker?

Reply

steve says:

May 18, 2017 at 4:44 pm

add the line

listener 1884

to add a new listener on port 1884

Rgds
steve

Reply

mat says:

May 9, 2017 at 7:30 pm

Hi steves
I followed you and it works correctly.
Butwhen I stopped mosquitto as below, publish and subscribe work again!!!why?
code :
pc@ubuntu:~$ sudo /etc/init.d/mosquitto stop
[ok] Stopping mosquitto (via systemctl): mosquitto.service.

pc@ubuntu:~$ mosquitto_pub -d -t /topic1 -m myMessage
Client mosqpub/7237-ubuntu sending CONNECT
Client mosqpub/7237-ubuntu received CONNACK

Client mosqpub/7237-ubuntu sending PUBLISH (d0, q0, r0, m1, '/topic1', ... (2 bytes))

Client mosqpub/7237-ubuntu sending DISCONNECT

mosquitto_sub -d -t /topic1

Client mosqsub/7104-ubuntu sending CONNECT

Client mosqsub/7104-ubuntu received CONNACK

Client mosqsub/7104-ubuntu sending SUBSCRIBE (Mid: 1, Topic: /topic1, QoS: 0)

Client mosqsub/7104-ubuntu received SUBACK

Subscribed (mid: 1): 0

Client mosqsub/7104-ubuntu received PUBLISH (d0, q0, r0, m0, '/topic1', ... (2 bytes))

myMessage

why???

Reply

---

steve says:

May 10, 2017 at 7:53 am

It doesn't look like it is being stopped or it may be automatically restarting. Ubuntu installs don't use the init scripts.

Try using the **sudo service mosquitto stop** command.

You can check using **netstat -at** command

Reply

JHP says:

November 10, 2017 at 5:15 am

Thx!

I tried to install my web server(windows server 2016(64bit) and

lots of error makes me crazy.

I spent time almost 12h to catch errors.

But this articls's quick install method is only work on my server.

Reply

Ian Sexton says:

April 26, 2017 at 12:25 pm

Excellent. Your zip file was EXTREMELY helpful 🙂

Ian

Reply

---

steve says:

April 26, 2017 at 4:46 pm

Ian
Glad it helped
Steve

Reply

Ismet Isnaini says:
April 5, 2017 at 6:42 am

hi,

my subscriber is written in golang.
and i try to install it in windows..
now i need to install some of the mqtt package which is used in the golang program
MQTT "git.eclipse.org/gitroot/paho/org.eclipse.paho.mqtt.golang.git"
_ "github.com/lib/pq"

how do i do that ?? many thanks

Reply

---

steve says:
April 5, 2017 at 3:52 pm

Sorry I don't have any experience with golang

Reply

Tuan DAng says:
April 3, 2017 at 7:32 pm

Thank you very much! Your post is very useful!

Reply

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By Steve Cope