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*A blog looking at developing software for real-time and embedded systems*

A pair of glasses on a desk

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[Skip to content](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#content)

* [Home](https://blog.feabhas.com/)
* [About this blog](https://blog.feabhas.com/about/)

[← Practice makes perfect, part 2 – foundation kata](https://blog.feabhas.com/2020/02/practice-makes-perfect-part-2-foundation-kata/)

[Practice makes perfect, part 3 – Idiomatic kata →](https://blog.feabhas.com/2020/02/practice-makes-perfect-part-3-idiomatic-kata/)

# Running the eclipse-mosquitto MQTT Broker in a docker container

Posted on [February 20, 2020](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/) by [Niall Cooling](https://blog.feabhas.com/author/feabhas/)

I first wrote about [MQTT](https://mqtt.org/) and IoT back in [2012](https://blog.feabhas.com/2012/04/iot-mqtt-publish-and-subscriber-c-code/), when I developed a simple C based library to publish and subscribe Quality of Service (QoS) level 0 MQTT messages.

Subsequently, MQTT has grown to be one of the most widely used IoT connectivity protocols with direct support from service such as [AWS](https://docs.aws.amazon.com/iot/latest/developerguide/mqtt.html). Back in 2010, the first open-source MQTT Broker was [Mosquitto](https://mosquitto.org/). Mosquitto is now part of the [Eclipse Foundation](https://eclipse.org/), and an [iot.eclipse.org](https://iot.eclipse.org/) project, sponsored by [cedalo.com](https://cedalo.com/).

Another area that has grown during the interim period is the use of container technology, such as [Docker](https://www.docker.com/), for both testing and deployment. We have, also, extensively covered Docker in previous [blog posts](https://blog.feabhas.com/2017/09/introduction-docker-embedded-developers-part-1-getting-started/).

For another internal [dogfood](https://en.wikipedia.org/wiki/Eating_your_own_dog_food) project, I wanted to run a local MQTT Broker rather than a web-based broker, such as <http://mqtt.eclipse.org/>. Mosquitto can be installed natively on Windows, Mac and Linux. Still, one of the significant benefits of Docker is not **polluting** your working machine with lots of different tools.

Running Mosquitto in a Docker container is, therefore, a perfect test environment. Rather than, as in the previous Docker blog articles, build our own Docker image containing Mosquitto, we can use the official Dockerhub image.

Contents

* + [eclipse-mosquitto Docker image](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#eclipse-mosquitto_Docker_image)
    - [Pull the latest image](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Pull_the_latest_image)
  + [Run the docker image](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Run_the_docker_image)
  + [Testing the eclipse-mosquitto Docker container](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Testing_the_eclipse-mosquitto_Docker_container)
    - [Subscribe](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Subscribe)
    - [Publish](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Publish)
    - [Subscribe output](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Subscribe_output)
    - [Mosquitto window output](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Mosquitto_window_output)
  + [Setting up persistent files](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Setting_up_persistent_files)
    - [Create a config file](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Create_a_config_file)
    - [Edit the config file](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Edit_the_config_file)
  + [Run the docker image with a mounted volume](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Run_the_docker_image_with_a_mounted_volume)
* [Closing](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Closing)

## eclipse-mosquitto Docker image

### Pull the latest image

I’m assuming you have Docker installed and configured for your local working environment.

First, pull the latest image from [Dockerhub](https://hub.docker.com/_/eclipse-mosquitto/):

**% docker pull eclipse-mosquitto**

Note of caution: the instructions on the Dockerhub site are incorrect!

## Run the docker image

Run the basic Docker image with default settings:

**% docker run -it --name mosquitto -p 1883:1883 eclipse-mosquitto**

**1582194844: mosquitto version 1.6.8 starting**

**1582194844: Config loaded from /mosquitto/config/mosquitto.conf.**

**1582194844: Opening ipv4 listen socket on port 1883.**

**1582194844: Opening ipv6 listen socket on port 1883.**

The -p 1883:1883 argument maps the docker container’s default MQTT socket 1883 the localhost (127.0.0.1) port 1883. Alternatively, we could map that onto another localhost port if it clashed with a locally running MQTT broker, e.g. -p 11883:1883.

Using the --name directive also allows the container to be stopped and restarted, using:

**% docker stop mosquitto**

and

**% docker start mosquitto**

## Testing the eclipse-mosquitto Docker container

To test the setup of the running Mosquitto container, I used my original software, still available on [github](https://github.com/nscooling/MQTT-c-pub-sub). To build this, you’ll need a C compiler (ideally gcc or clang) and CMake.

Alternatively, any MQTT client should work for test purposes.

### Subscribe

Next, we must subscribe to a topic. In a command window invoke the subscribe client to a topic, the default for our project being hello\world on port 127.0.0.1:1883, e.g.

**% ./mqttsub**

**MQTT SUB Test Code**

**port:1883**

**Connected to MQTT Server at 127.0.0.1:1883**

**Subscribed to MQTT Service hello/world with QoS 0**

### Publish

To test publishing, open another command window and invoke the publisher-client. The publisher-client, by default, publishes 10 messages to the topic hello\world and then closes the connection, e.g.

**% ./mqttpub**

**MQTT PUB Test Code**

**port:1883**

**Connected to MQTT Server at 127.0.0.1:1883**

**Published to MQTT Service hello/world with QoS0**

**Sent 1 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 2 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 3 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 4 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 5 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 6 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 7 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 8 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 9 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 10 messages**

### Subscribe output

On returning to the subscriber window, we will see the received message displayed.

**Message number 1**

**Message number 2**

**Message number 3**

**Message number 4**

**Message number 5**

**Message number 6**

**Message number 7**

**Message number 8**

**Message number 9**

**Message number 10**

### Mosquitto window output

Returning the window where the docker image was invoked, various log messages are shown:

**1582194844: mosquitto version 1.6.8 starting**

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**1582194844: Opening ipv6 listen socket on port 1883.**

**1582205221: New connection from 172.17.0.1 on port 1883.**

**1582205221: New client connected from 172.17.0.1 as default\_sub (p1, c1, k30).**

**1582205225: New connection from 172.17.0.1 on port 1883.**

**1582205225: New client connected from 172.17.0.1 as default\_pub (p1, c1, k30).**

**1582205235: Client default\_pub disconnected.**

## Setting up persistent files

Mosquitto can be configured, for example, to change logging, password, listener-ports, etc. This is achieved using mosquitto.conf file.

To set up mosquitto.conf, first create a local working directory with a three sub-directories of config, data and log, e.g.

**% cd**

**% mkdir docker-mosquitto**

**% cd docker-mosquitto**

**% mkdir mosquitto**

**% mkdir mosquitto/config/**

**% mkdir mosquitto/data/**

**% mkdir mosquitto/log/**

### Create a config file

Next, create a test file called mosquitto.conf in the newly created subdirectory mosquitto/conf/:

**% touch mosquitto/config/mosquitto.conf**

### Edit the config file

Using your favourite editor (okay vi isn’t my favourite, but it’s convenient):

**% vi mosquitto/config/mosquitto.conf**

And add the as a minimum set of conf directives.

***# following two lines required for > v2.0***

**allow\_anonymous true**

**listener 1883**

**persistence true**

**persistence\_location /mosquitto/data/**

**log\_dest file /mosquitto/log/mosquitto.log**

The full list of configuration items can be found [here](<https://mosquitto.org/man/mosquitto-conf-5.html>].

## Run the docker image with a mounted volume

Now, when invoking the docker image we use the -v flag mapping the local filesystem into the docker container. The running container will now pick up the locally defined mosquitto.conf. Invoke e.g:

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For another internal [dogfood](https://en.wikipedia.org/wiki/Eating_your_own_dog_food) project, I wanted to run a local MQTT Broker rather than a web-based broker, such as <http://mqtt.eclipse.org/>. Mosquitto can be installed natively on Windows, Mac and Linux. Still, one of the significant benefits of Docker is not **polluting** your working machine with lots of different tools.

Running Mosquitto in a Docker container is, therefore, a perfect test environment. Rather than, as in the previous Docker blog articles, build our own Docker image containing Mosquitto, we can use the official Dockerhub image.

Contents

* + [eclipse-mosquitto Docker image](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#eclipse-mosquitto_Docker_image)
    - [Pull the latest image](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Pull_the_latest_image)
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  + [Testing the eclipse-mosquitto Docker container](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Testing_the_eclipse-mosquitto_Docker_container)
    - [Subscribe](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Subscribe)
    - [Publish](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Publish)
    - [Subscribe output](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Subscribe_output)
    - [Mosquitto window output](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Mosquitto_window_output)
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    - [Create a config file](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Create_a_config_file)
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  + [Run the docker image with a mounted volume](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#Run_the_docker_image_with_a_mounted_volume)
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First, pull the latest image from [Dockerhub](https://hub.docker.com/_/eclipse-mosquitto/):

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Using the --name directive also allows the container to be stopped and restarted, using:

**% docker stop mosquitto**

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## Testing the eclipse-mosquitto Docker container

To test the setup of the running Mosquitto container, I used my original software, still available on [github](https://github.com/nscooling/MQTT-c-pub-sub). To build this, you’ll need a C compiler (ideally gcc or clang) and CMake.

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### Subscribe

Next, we must subscribe to a topic. In a command window invoke the subscribe client to a topic, the default for our project being hello\world on port 127.0.0.1:1883, e.g.

**% ./mqttsub**

**MQTT SUB Test Code**

**port:1883**

**Connected to MQTT Server at 127.0.0.1:1883**

**Subscribed to MQTT Service hello/world with QoS 0**

### Publish

To test publishing, open another command window and invoke the publisher-client. The publisher-client, by default, publishes 10 messages to the topic hello\world and then closes the connection, e.g.

**% ./mqttpub**

**MQTT PUB Test Code**

**port:1883**

**Connected to MQTT Server at 127.0.0.1:1883**

**Published to MQTT Service hello/world with QoS0**

**Sent 1 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 2 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 3 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 4 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 5 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 6 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 7 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 8 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 9 messages**

**Published to MQTT Service hello/world with QoS0**

**Sent 10 messages**

### Subscribe output

On returning to the subscriber window, we will see the received message displayed.

**Message number 1**

**Message number 2**

**Message number 3**

**Message number 4**

**Message number 5**

**Message number 6**

**Message number 7**

**Message number 8**

**Message number 9**

**Message number 10**

### Mosquitto window output

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**1582205221: New connection from 172.17.0.1 on port 1883.**

**1582205221: New client connected from 172.17.0.1 as default\_sub (p1, c1, k30).**

**1582205225: New connection from 172.17.0.1 on port 1883.**

**1582205225: New client connected from 172.17.0.1 as default\_pub (p1, c1, k30).**

**1582205235: Client default\_pub disconnected.**

## Setting up persistent files

Mosquitto can be configured, for example, to change logging, password, listener-ports, etc. This is achieved using mosquitto.conf file.

To set up mosquitto.conf, first create a local working directory with a three sub-directories of config, data and log, e.g.

**% cd**

**% mkdir docker-mosquitto**

**% cd docker-mosquitto**

**% mkdir mosquitto**

**% mkdir mosquitto/config/**

**% mkdir mosquitto/data/**

**% mkdir mosquitto/log/**

### Create a config file

Next, create a test file called mosquitto.conf in the newly created subdirectory mosquitto/conf/:

**% touch mosquitto/config/mosquitto.conf**

### Edit the config file

Using your favourite editor (okay vi isn’t my favourite, but it’s convenient):

**% vi mosquitto/config/mosquitto.conf**

And add the as a minimum set of conf directives.

***# following two lines required for > v2.0***

**allow\_anonymous true**

**listener 1883**

**persistence true**

**persistence\_location /mosquitto/data/**

**log\_dest file /mosquitto/log/mosquitto.log**

The full list of configuration items can be found [here](<https://mosquitto.org/man/mosquitto-conf-5.html>].

## Run the docker image with a mounted volume

Now, when invoking the docker image we use the -v flag mapping the local filesystem into the docker container. The running container will now pick up the locally defined mosquitto.conf. Invoke e.g:

**% docker run -it --name mosquitto -p 1883:1883 -v $(pwd)/mosquitto:/mosquitto/ eclipse-mosquitto**

# Closing

I hope this post gave you a useful overview of getting an MQTT Mosquitto Broker up and running using Docker.

Hopefully, in future posts, I will be able to share further details of the dogfood project.

* [About](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#abh_about)

* [Latest Posts](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#abh_posts)

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[**Niall Cooling**](https://www.feabhas.com/)

Director at [Feabhas Limited](https://www.feabhas.com/" \t "_blank)

Co-Founder and Director of Feabhas since 1995.  
Niall has been designing and programming embedded systems for over 30 years. He has worked in different sectors, including aerospace, telecomms, government and banking.  
His current interest lie in IoT Security and Agile for Embedded Systems.

**Like (17)**

**Dislike (3)**

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##### [**Niall Cooling**](https://blog.feabhas.com/author/feabhas/)

[Website](https://www.feabhas.com/) | [+ posts](javascript:ToggleAuthorshipData(6238063609,%20'user-2'))

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This entry was posted in [General](https://blog.feabhas.com/category/misc/) and tagged [docker](https://blog.feabhas.com/tag/docker/), [mosquitto](https://blog.feabhas.com/tag/mosquitto/), [MQTT](https://blog.feabhas.com/tag/mqtt/). Bookmark the [permalink](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/).

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### 24 Responses to Running the eclipse-mosquitto MQTT Broker in a docker container

1. **Viking** *says:*

[June 11, 2020 at 8:47 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90452)

Nice write up. Thanks. But when a new version of Mosquitto is released, what is the easiest way to update the current version already running stable in Docker?

**Like (0)**

**Dislike (0)**

1. **shraddha maurya** *says:*

[July 10, 2020 at 12:20 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90458)

Hello,

Can you please guide me with how to test the mosquitto docker container?  
As you mentioned I built the github project using cmake. I got some visual studio files and other files in the build folder.  
But when I execute the ./mqttsub command, I get the following error:  
bash: ./mqttsub: No such file or directory

Further, I tried executing this command: ./mqttsub.sln  
I get the following error:

./mqttsub.sln: line 1: ﻿Microsoft: command not found  
./mqttsub.sln: line 3: syntax error near unexpected token `"{8BC9CEB8-8B4A-11D0-8D11-00A0C91BC942}"'  
./mqttsub.sln: line 3: `Project("{8BC9CEB8-8B4A-11D0-8D11-00A0C91BC942}") = "ALL\_BUILD", "ALL\_BUILD.vcxproj", "{D9D88EFE-37DE-3307-8C65-930977C84DCD}"'

When I execute the ./mqttsub.sln command through docker in powershell, visual studio gets open.

Can you please guide me how the ./mqttsub command works?

Thank you

**Like (0)**

**Dislike (0)**

1. Pingback: [*How can I write a Dockerfile to merge two or more docker images into one? – Windows Questions*](https://windowsquestions.com/2020/07/17/how-can-i-write-a-dockerfile-to-merge-two-or-more-docker-images-into-one/)
2. [**Steven Bense**](https://plus.google.com/101862054175458869717) *says:*

[July 30, 2020 at 7:48 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90463)

Thank you for this very useful article and well described steps. Do you perhaps have any experience deploying the same in Azure as a container instance? While easy to create and deploy in Azure, I have not been able to connect to the mosquitto instance from an MQTT client.

**Like (1)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[October 14, 2020 at 3:31 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90484)

Simply doing a docker pull again will get you the latest version.

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[October 14, 2020 at 3:33 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90485)

Sorry no, I haven't. I generally avoid Microsoft so have no real-world experience of using Azure

**Like (0)**

**Dislike (0)**

1. **Greg Bennett** *says:*

[January 9, 2021 at 4:16 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90517)

Thank you. I have read and tried several "how-to's" and this is the most straight-forward and complete. I finally have a working broker!

**Like (1)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[January 9, 2021 at 1:29 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90518)

Hi Greg,

Great to hear, it’s also worth looking at the new developments in VSCode using Devcontainers.

Regards

Niall

**Like (0)**

**Dislike (0)**

1. **Wen** *says:*

[February 26, 2021 at 4:59 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90570)

I installed the docker image, and run the container, then this error happened:  
Did anyone see the same error?

pi@RPi3-MQTT:~ $ docker run -it --name mosquitto -p 1883:1883 eclipse-mosquitto  
1614315343: mosquitto version 2.0.7 starting  
1614315343: Config loaded from /mosquitto/config/mosquitto.conf.  
1614315343: Starting in local only mode. Connections will only be possible from clients running on this machine.  
1614315343: Create a configuration file which defines a listener to allow remote access.  
1614315343: Opening ipv4 listen socket on port 1883.  
1614315343: Opening ipv6 listen socket on port 1883.  
1614315343: Error: Address not available  
1614315343: mosquitto version 2.0.7 running

**Like (4)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[February 26, 2021 at 7:54 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90571)

That indicates another process is already using port 1883 - possible another MQTT broker? Try mapping the internal 1883 to a different external port, e.g. 18883

**Like (0)**

**Dislike (0)**

1. **Mosquitto** *says:*

[March 25, 2021 at 2:42 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90605)

No, it is Version 2.0 needing a different configuration.  
listener 1883

**Like (2)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[March 25, 2021 at 5:10 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90606)

Thanks, updated to reflect changes required in conf file

**Like (0)**

**Dislike (0)**

1. **Snorre** *says:*

[April 9, 2021 at 4:45 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90624)

Excellent writeup. I used only the docker pull-command, then jumped to "Setting up persistent files" and followed the instructions from there. And it works! I tried other tutorials without success first. Thank you!

**Like (0)**

**Dislike (0)**

1. **Abdullah** *says:*

[April 11, 2021 at 4:50 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90625)

Excellent write up. I have the container running, Published Ports 1883, Connected networks: bridge, IP 172.17.0.4/16. Host is 10.10.1.128  
I tried to use windows based MQTT explorer to connect with no success. what is missing?

**Like (0)**

**Dislike (0)**

1. [**C.T.**](https://treinzolder.nl/) *says:*

[June 27, 2021 at 1:27 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90653)

Pretty much same experience here. I have tried to get the eclipse mosquitto docker running on a Synology NAS before, but no success. This article helped me with the persistent folder and with the fact that a basic conf file needs to be created before it works. In hindsight I guess the error in the log was pointing to that, I just did not make the link until this article.  
Thanks!

**Like (0)**

**Dislike (0)**

1. **Jace** *says:*

[September 4, 2021 at 3:40 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90676)

Great article. Im hitting a bit of a wall. Upon running the last command to mount to volume, I get an error that its unable to open the config file? Any thoughts? Thanks!

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[September 21, 2021 at 11:19 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90680)

Sorry no idea without seeing the actual error message

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[September 21, 2021 at 11:20 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90681)

Sorry no idea without seeing the actual error message

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[September 21, 2021 at 11:20 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90682)

That's not the executable - if you used cmake it will be under the build directory

**Like (0)**

**Dislike (0)**

1. **Rob** *says:*

[November 9, 2021 at 9:03 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90695)

One minor detail that caused me trouble was an error stating that the container run from the config could not start. I had to stop and prune the initial docker container opened at the beginning of your excellent tutorial.

**Like (0)**

**Dislike (0)**

1. **Roberto Gambardella** *says:*

[November 23, 2021 at 8:59 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90734)

Hi Niall, I'm at the beginning of my experience with docker and mosquitto, so my question is, how can I compile and build "submain" and "pubmain" in a way that I can have a different docker container for each of them?

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[November 23, 2021 at 4:07 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90735)

Hi,  
It's pretty straightforward to create separate containers for the two mains (they can use the same base image for building). Then use [Docker compose](https://docs.docker.com/compose/) to bring up all three containers and bind their virtual networks together.

**Like (1)**

**Dislike (0)**

1. **Forooz Saneii** *says:*

[April 4, 2022 at 4:04 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-92676)

Great article. Very helpful and easy to follow. I got eclipse-mosquitto up and running on docker. Added the listener to mosquitto.conf to resolve "Error: Address not available" issue. But when I tired to run the ./mqttsub I get the client subscription error. On container log I see the the following error: Client default-sub disconnected due to malformed packet . Any ideas why I'm getting this error? I did not change any code except the ip\_addr.

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[April 5, 2022 at 11:36 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-92678)

HI,

Sorry, no idea.

The code is now 10 years old and I haven't been ensuring the original code is still valid with the latest eclipse/MQTT standard. But you should be able to use any MQTT test client

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**Dislike (0)**

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# Closing

I hope this post gave you a useful overview of getting an MQTT Mosquitto Broker up and running using Docker.

Hopefully, in future posts, I will be able to share further details of the dogfood project.

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[**Niall Cooling**](https://www.feabhas.com/)

Director at [Feabhas Limited](https://www.feabhas.com/" \t "_blank)

Co-Founder and Director of Feabhas since 1995.  
Niall has been designing and programming embedded systems for over 30 years. He has worked in different sectors, including aerospace, telecomms, government and banking.  
His current interest lie in IoT Security and Agile for Embedded Systems.

**Like (17)**

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##### [**Niall Cooling**](https://blog.feabhas.com/author/feabhas/)

[Website](https://www.feabhas.com/) | [+ posts](javascript:ToggleAuthorshipData(6238063609,%20'user-2'))

Co-Founder and Director of Feabhas since 1995.  
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### 24 Responses to Running the eclipse-mosquitto MQTT Broker in a docker container

1. **Viking** *says:*

[June 11, 2020 at 8:47 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90452)

Nice write up. Thanks. But when a new version of Mosquitto is released, what is the easiest way to update the current version already running stable in Docker?

**Like (0)**

**Dislike (0)**

1. **shraddha maurya** *says:*

[July 10, 2020 at 12:20 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90458)

Hello,

Can you please guide me with how to test the mosquitto docker container?  
As you mentioned I built the github project using cmake. I got some visual studio files and other files in the build folder.  
But when I execute the ./mqttsub command, I get the following error:  
bash: ./mqttsub: No such file or directory

Further, I tried executing this command: ./mqttsub.sln  
I get the following error:

./mqttsub.sln: line 1: ﻿Microsoft: command not found  
./mqttsub.sln: line 3: syntax error near unexpected token `"{8BC9CEB8-8B4A-11D0-8D11-00A0C91BC942}"'  
./mqttsub.sln: line 3: `Project("{8BC9CEB8-8B4A-11D0-8D11-00A0C91BC942}") = "ALL\_BUILD", "ALL\_BUILD.vcxproj", "{D9D88EFE-37DE-3307-8C65-930977C84DCD}"'

When I execute the ./mqttsub.sln command through docker in powershell, visual studio gets open.

Can you please guide me how the ./mqttsub command works?

Thank you

**Like (0)**

**Dislike (0)**

1. Pingback: [*How can I write a Dockerfile to merge two or more docker images into one? – Windows Questions*](https://windowsquestions.com/2020/07/17/how-can-i-write-a-dockerfile-to-merge-two-or-more-docker-images-into-one/)
2. [**Steven Bense**](https://plus.google.com/101862054175458869717) *says:*

[July 30, 2020 at 7:48 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90463)

Thank you for this very useful article and well described steps. Do you perhaps have any experience deploying the same in Azure as a container instance? While easy to create and deploy in Azure, I have not been able to connect to the mosquitto instance from an MQTT client.

**Like (1)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[October 14, 2020 at 3:31 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90484)

Simply doing a docker pull again will get you the latest version.

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[October 14, 2020 at 3:33 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90485)

Sorry no, I haven't. I generally avoid Microsoft so have no real-world experience of using Azure

**Like (0)**

**Dislike (0)**

1. **Greg Bennett** *says:*

[January 9, 2021 at 4:16 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90517)

Thank you. I have read and tried several "how-to's" and this is the most straight-forward and complete. I finally have a working broker!

**Like (1)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[January 9, 2021 at 1:29 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90518)

Hi Greg,

Great to hear, it’s also worth looking at the new developments in VSCode using Devcontainers.

Regards

Niall

**Like (0)**

**Dislike (0)**

1. **Wen** *says:*

[February 26, 2021 at 4:59 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90570)

I installed the docker image, and run the container, then this error happened:  
Did anyone see the same error?

pi@RPi3-MQTT:~ $ docker run -it --name mosquitto -p 1883:1883 eclipse-mosquitto  
1614315343: mosquitto version 2.0.7 starting  
1614315343: Config loaded from /mosquitto/config/mosquitto.conf.  
1614315343: Starting in local only mode. Connections will only be possible from clients running on this machine.  
1614315343: Create a configuration file which defines a listener to allow remote access.  
1614315343: Opening ipv4 listen socket on port 1883.  
1614315343: Opening ipv6 listen socket on port 1883.  
1614315343: Error: Address not available  
1614315343: mosquitto version 2.0.7 running

**Like (4)**

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1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[February 26, 2021 at 7:54 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90571)

That indicates another process is already using port 1883 - possible another MQTT broker? Try mapping the internal 1883 to a different external port, e.g. 18883

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1. **Mosquitto** *says:*

[March 25, 2021 at 2:42 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90605)

No, it is Version 2.0 needing a different configuration.  
listener 1883

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1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[March 25, 2021 at 5:10 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90606)

Thanks, updated to reflect changes required in conf file

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1. **Snorre** *says:*

[April 9, 2021 at 4:45 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90624)

Excellent writeup. I used only the docker pull-command, then jumped to "Setting up persistent files" and followed the instructions from there. And it works! I tried other tutorials without success first. Thank you!

**Like (0)**

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1. **Abdullah** *says:*

[April 11, 2021 at 4:50 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90625)

Excellent write up. I have the container running, Published Ports 1883, Connected networks: bridge, IP 172.17.0.4/16. Host is 10.10.1.128  
I tried to use windows based MQTT explorer to connect with no success. what is missing?

**Like (0)**

**Dislike (0)**

1. [**C.T.**](https://treinzolder.nl/) *says:*

[June 27, 2021 at 1:27 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90653)

Pretty much same experience here. I have tried to get the eclipse mosquitto docker running on a Synology NAS before, but no success. This article helped me with the persistent folder and with the fact that a basic conf file needs to be created before it works. In hindsight I guess the error in the log was pointing to that, I just did not make the link until this article.  
Thanks!

**Like (0)**

**Dislike (0)**

1. **Jace** *says:*

[September 4, 2021 at 3:40 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90676)

Great article. Im hitting a bit of a wall. Upon running the last command to mount to volume, I get an error that its unable to open the config file? Any thoughts? Thanks!

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**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[September 21, 2021 at 11:19 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90680)

Sorry no idea without seeing the actual error message

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1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[September 21, 2021 at 11:20 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90681)

Sorry no idea without seeing the actual error message

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1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[September 21, 2021 at 11:20 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90682)

That's not the executable - if you used cmake it will be under the build directory

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1. **Rob** *says:*

[November 9, 2021 at 9:03 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90695)

One minor detail that caused me trouble was an error stating that the container run from the config could not start. I had to stop and prune the initial docker container opened at the beginning of your excellent tutorial.

**Like (0)**

**Dislike (0)**

1. **Roberto Gambardella** *says:*

[November 23, 2021 at 8:59 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90734)

Hi Niall, I'm at the beginning of my experience with docker and mosquitto, so my question is, how can I compile and build "submain" and "pubmain" in a way that I can have a different docker container for each of them?

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[November 23, 2021 at 4:07 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-90735)

Hi,  
It's pretty straightforward to create separate containers for the two mains (they can use the same base image for building). Then use [Docker compose](https://docs.docker.com/compose/) to bring up all three containers and bind their virtual networks together.

**Like (1)**

**Dislike (0)**

1. **Forooz Saneii** *says:*

[April 4, 2022 at 4:04 pm](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-92676)

Great article. Very helpful and easy to follow. I got eclipse-mosquitto up and running on docker. Added the listener to mosquitto.conf to resolve "Error: Address not available" issue. But when I tired to run the ./mqttsub I get the client subscription error. On container log I see the the following error: Client default-sub disconnected due to malformed packet . Any ideas why I'm getting this error? I did not change any code except the ip\_addr.

**Like (0)**

**Dislike (0)**

1. [**Niall Cooling**](https://www.feabhas.com/) *says:*

[April 5, 2022 at 11:36 am](https://blog.feabhas.com/2020/02/running-the-eclipse-mosquitto-mqtt-broker-in-a-docker-container/#comment-92678)

HI,

Sorry, no idea.

The code is now 10 years old and I haven't been ensuring the original code is still valid with the latest eclipse/MQTT standard. But you should be able to use any MQTT test client

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  + [October 2021](https://blog.feabhas.com/2021/10/)
  + [September 2021](https://blog.feabhas.com/2021/09/)
  + [August 2021](https://blog.feabhas.com/2021/08/)
  + [July 2021](https://blog.feabhas.com/2021/07/)
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  + [November 2020](https://blog.feabhas.com/2020/11/)
  + [October 2020](https://blog.feabhas.com/2020/10/)
  + [August 2020](https://blog.feabhas.com/2020/08/)
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  + [February 2020](https://blog.feabhas.com/2020/02/)
  + [January 2020](https://blog.feabhas.com/2020/01/)
  + [October 2019](https://blog.feabhas.com/2019/10/)
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  + [November 2017](https://blog.feabhas.com/2017/11/)
  + [October 2017](https://blog.feabhas.com/2017/10/)
  + [September 2017](https://blog.feabhas.com/2017/09/)
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  + [June 2017](https://blog.feabhas.com/2017/06/)
  + [May 2017](https://blog.feabhas.com/2017/05/)
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  + [October 2016](https://blog.feabhas.com/2016/10/)
  + [September 2016](https://blog.feabhas.com/2016/09/)
  + [August 2016](https://blog.feabhas.com/2016/08/)
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  + [October 2015](https://blog.feabhas.com/2015/10/)
  + [September 2015](https://blog.feabhas.com/2015/09/)
  + [August 2015](https://blog.feabhas.com/2015/08/)
  + [July 2015](https://blog.feabhas.com/2015/07/)
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  + [December 2014](https://blog.feabhas.com/2014/12/)
  + [November 2014](https://blog.feabhas.com/2014/11/)
  + [October 2014](https://blog.feabhas.com/2014/10/)
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  + [March 2014](https://blog.feabhas.com/2014/03/)
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  + [May 2013](https://blog.feabhas.com/2013/05/)
  + [April 2013](https://blog.feabhas.com/2013/04/)
  + [February 2013](https://blog.feabhas.com/2013/02/)
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  + [August 2012](https://blog.feabhas.com/2012/08/)
  + [July 2012](https://blog.feabhas.com/2012/07/)
  + [June 2012](https://blog.feabhas.com/2012/06/)
  + [May 2012](https://blog.feabhas.com/2012/05/)
  + [April 2012](https://blog.feabhas.com/2012/04/)
  + [March 2012](https://blog.feabhas.com/2012/03/)
  + [December 2011](https://blog.feabhas.com/2011/12/)
  + [November 2011](https://blog.feabhas.com/2011/11/)
  + [June 2011](https://blog.feabhas.com/2011/06/)
  + [May 2011](https://blog.feabhas.com/2011/05/)
  + [April 2011](https://blog.feabhas.com/2011/04/)
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  + [January 2011](https://blog.feabhas.com/2011/01/)
  + [December 2010](https://blog.feabhas.com/2010/12/)
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  + [February 2010](https://blog.feabhas.com/2010/02/)
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