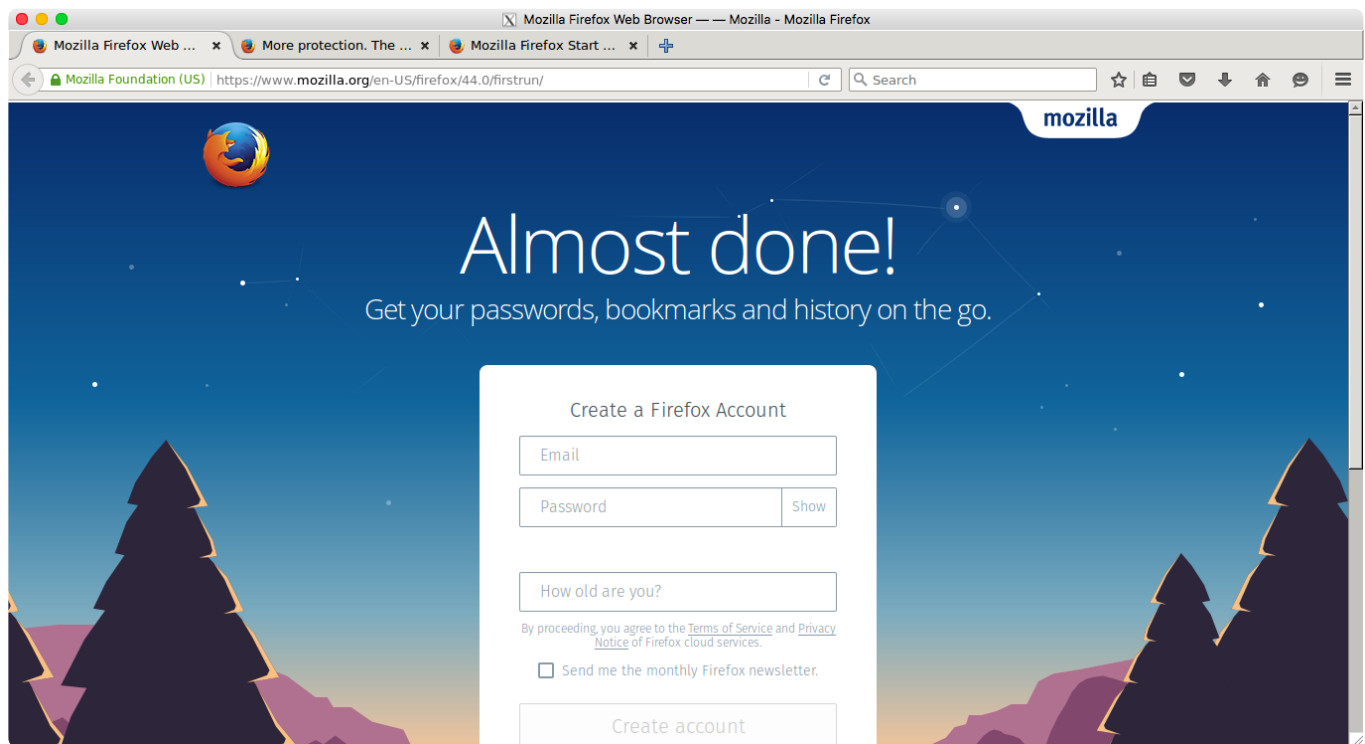# Docker for Mac and GUI applications

31 Jul 2016 #Docker

A quick guide on how to run containers requiring a GUI with Docker for Mac and XQuartz.

This guide is assuming the following:

- OS X 10.11.5 (El Capitan)
- Docker for Mac 1.12 stable
- XQuartz 2.7.10 beta 2
- Jessie Frazelle's Firefox Dockerfile

Prerequisites

XQuartz

You'll need XQuartz, and normally you would probably install it via brew (but not this time):

```
brew cask install xquartz
```

XQuartz 2.7.9, which is the current one provided by brew, has a bug which will prevent you from following this guide. So, head on over and download XQuartz 2.7.10 beta 2 from here.

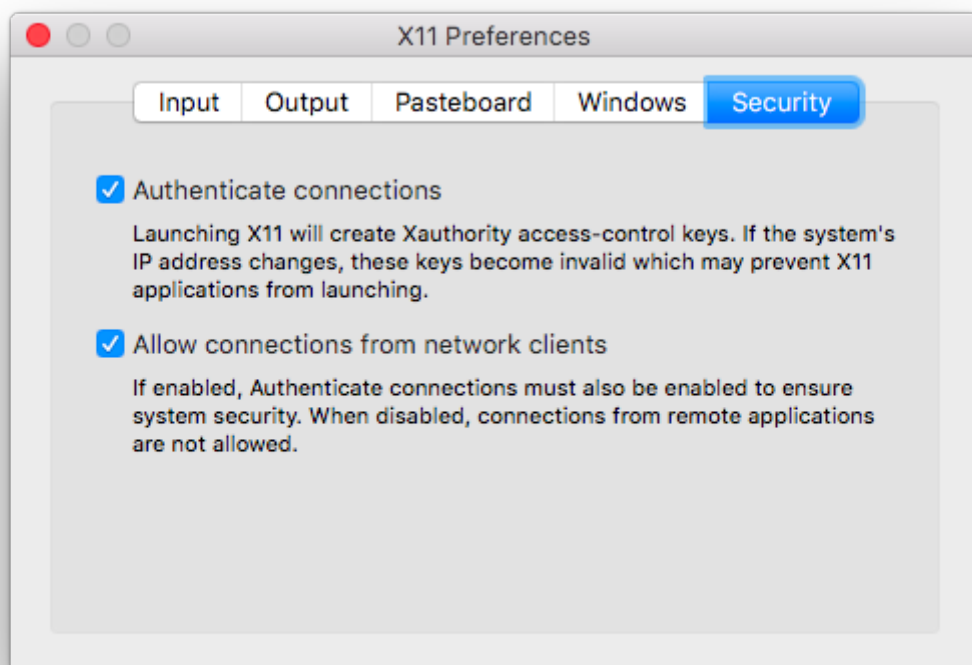After installing XQuartz, log out and back in to OS X.

Docker for Mac

Download Docker for Mac 1.12 stable from here, install and run.

Go!

Run XQuartz in e.g. bash:

```
open -a XQuartz
```

In the XQuartz preferences, go to the "Security" tab and make sure you've got "Allow connections from network clients" ticked:

Again, in e.g. bash, run `xhost` and allow connections from your local machine:

```
ip=$(ifconfig en0 | grep inet | awk '$1=="inet" {print $2}')
xhost + $ip
```

You can now to run e.g. Jessie Frazelle's Firefox container:

```
docker run -d --name firefox -e DISPLAY=$ip:0 -v /tmp/.X11-unix:/tmp/.X11-unix jess/
```

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Name

joao_parana • 2 years ago
Tanks. Vera Nice post
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Etienne Zwiebel • 8 months ago
Update : works perfectly fine with xquartz v2.7.11 now available on brew :)
Tested on MacOS Sierra 10.12.3

Thanks for the solution, that's really great !
2 ⌃   ⌄   • Reply • Share ›

DisqusUser03 • a year ago
I'm not able to get the jess/firefox image running, I get:

(firefox:1): Gtk-WARNING **: Locale not supported by C library.
Using the fallback 'C' locale.
ExceptionHandler::GenerateDump cloned child 12
ExceptionHandler::SendContinueSignalToChild sent continue signal to child
ExceptionHandler::WaitForContinueSignal waiting for continue signal...

However, I am able to create my own Dockerfile and apt-get install firefox and run it, and it
works. I followed the instructions for creating my own firefox image here:
http://fabiorehm.com/blog/2...

So there is something specific about the jess/firefox image that is causing it to not work for
me.

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niuniu • a year ago

From my own experience, You might need add the "socat" command before run docker GUI

socat TCP-LISTEN:6000,reuseaddr,fork UNIX-CLIENT:\"$DISPLAY\"

if you don't have socat installed, you can install it from brew install socat

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bruno melli → niuniu • 7 months ago

I too had to use socat to get going.
I dug a bit more into it, and in my case, Xquartz was listening on :1, not :0.

So while the socat trick worked, the real "fix" was to use the correct display number:
(I'm sure the two grep and awk could be simplified :-)

display_number=`ps -ef | grep "Xquartz :\d" | grep -v xinit | awk '{ print $9; }'`
docker ...... -e DISPLAY=ipdisplay_number ...

∧ ∨ • Reply • Share ›

adida948 • a year ago

Hello,
I run everything and i get the following:
run -d --name firefox -e DISPLAY=$ip:0 -v /tmp/.X11-unix:/tmp/.X11-unix jess/firefox
9b8f7496499ab57d49c1e997dd76cd74e1975dd2a691330624726b7861ede774

However, nothing happens, can you guide me in the right direction? Thanks

1 ∧ ∨ • Reply • Share ›

DisqusUser03 → adida948 • a year ago

Run it without the -d parameter so it doesn't daemonize and you'll probably see the
errors others are seeing too.

∧ ∨ • Reply • Share ›

Greg M. Silverman • 13 days ago

The only issue I had was that I needed a reboot after installing XQuartz. Thanks for saving
me a ton of work!

∧ ∨ • Reply • Share ›

Luke Rohde • 2 months ago

Thanks for this. It is incredible. To run gimp I made the following bash script and used
platypus to wrap it as an app.

```
#!/bin/bash
# brew cask install xquartz
defaults write org.macosforge.xquartz.X11 app_to_run '' # suppress xterm terminal
open -a XQuartz
ip=$(ifconfig en0 | grep inet | awk '$1=="inet" {print $2}')
display_number=`ps -ef | grep "Xquartz :\d" | grep -v xinit | awk '{ print $9; }'`
/opt/X11/bin/xhost + $ip
/usr/local/bin/docker rm gimp
/usr/local/bin/docker run -d --name gimp -e DISPLAY=$ip$display_number -v ~/Pictures:/root,
```

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Takahito Ogawa • 4 months ago

Thanks. This works well but screen resolution is too bad. Your sample display image above is better than mine.

How can I improve display resolution?

My environment is
- macOS highSierra
- XQuartz 2.7.11
- Docker 17.09.0-ce

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Joseph Fieger • 7 months ago

The tip that did the trick for me was to reboot my mac; prior to that I couldn't successfully get xhost + $ip to run without error.

∧   ∨   •   Reply   •   Share ›

Christian Bongiorno • 7 months ago

is there a way to tell it to use a unix socket to communicate? Then you wouldn't have to define the interface to connect on. I don't know about anyone else, but my mac has 6 different interfaces. 3 are hardware, 3 are virtual. The one to choose depends on if I am home or at work

∧   ∨   •   Reply   •   Share ›

Miles Fink • 8 months ago

On my mac, I needed to add --color=never to the ip grep command,

`ip=$(ifconfig en0 | grep inet --color=never | awk '$1=="inet" {print $2}')`

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Jared Chmielecki • 8 months ago

This is great! It got me running gimp on OSX / docker faster than downloading gimp itself.. the docker images download THAT much faster!

∧   ∨   •   Reply   •   Share ›

goomerko • a year ago

I have this problem trying to run the container, using XQuartz 2.7.11 :

192.168.1.42 being added to access control list

(firefox:1): Gtk-WARNING **: Locale not supported by C library.
Using the fallback 'C' locale.
libGL error: No matching fbConfigs or visuals found
libGL error: failed to load driver: swrast
ExceptionHandler::GenerateDump cloned child 16
ExceptionHandler::SendContinueSignalToChild sent continue signal to child
ExceptionHandler::WaitForContinueSignal waiting for continue signal...

Someone with the same error?

∧ ∨ • Reply • Share ›

andrewdotnich • a year ago

I'm close, but no cigar yet:

~ » docker run --privileged --rm -ti -e DISPLAY=$ip:0 \
-v /tmp/.X11-unix:/tmp/.X11-unix jess/firefox

(firefox:1): Gtk-WARNING **: Locale not supported by C library.
Using the fallback 'C' locale.
ExceptionHandler::GenerateDump cloned child 14
ExceptionHandler::SendContinueSignalToChild sent continue signal to child
ExceptionHandler::WaitForContinueSignal waiting for continue signal...

and then I'm dumped back to terminal prompt.

Docker version: 17.03.0-ce
XQuartz version: 2.7.11
OSX version: 10.12.3

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Matthew Brainard • a year ago

I am getting the error: "Error: GDK_BACKEND does not match available display"

Any ideas?

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Matthew Brainard → Matthew Brainard • a year ago

Never mind... It was because $ip was not set.

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osx 10.12.1 • a year ago

Please notice, I was able to work it only after adding --privileged option on docker command.
(2.7.11)

∧ ∨ • Reply • Share ›

josh mccall • a year ago

Thanks!

I had tried getting Jess's docker containers working a wile back but ran into issues. This
helped work out the kinks.

Thanks!

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Ika • a year ago

I have downloaded XQuartz and marked the "Allow connection from networks clients" and
the ip was found (in case 10.0.0.5) and added to xhost. When running my container (which is
not based on Jessie but on Ubuntu) tried all the steps below but I still get
"java.lang.UnsupportedOperationException: Unable to open DISPLAY". Any ideas how to

solve this issue?

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vidrowan • a year ago

Thanks for posting this Fredrik; I just looked at the XQuartz brew cask and it's pulling version: 2.7.11 now.

ref: https://github.com/caskroom....

I'm going to try it with brew and we'll see what happens

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Daniel • a year ago

Great post! Thanks for writing it. One small edge case I came across, was my internet connection was on en1 (WiFi) rather than en0 (Ethernet), so the command to get the ip needed to be modified as appropriate:

ip=$(ifconfig en1 | grep inet | awk '$1=="inet" {print $2}')

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Jan Galinski • a year ago

I am getting "zsh: command not found: xhost" What did I miss?

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elldekaa ➜ Jan Galinski • a year ago

restart your shell or execute the cmd 'zsh'

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Arimatea Neto ➜ elldekaa • a year ago

I'm having the same issue. I tried what you said, but it is still not working.

⌃   ⌄   •   Reply   •   Share ›

spiddy ➜ Arimatea Neto • a year ago

Try looking at the /opt/X11/bin/ directory. I found xhost in there

13 ⌃   ⌄   •   Reply   •   Share ›

Pascal Véron • a year ago

Works well with 2.7-10.beta2 but i don't understand the use of the -v option. I don't use it and all works fine

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Nhutumdai • a year ago

I got this error.

(firefox:1): Gtk-WARNING **: Locale not supported by C library.

Using the fallback 'C' locale.

Error: cannot open display: 192.168.1.100:0

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Jamie ➜ Nhutumdai • a year ago

I get this error as well, but restarting doesn't resolve the issue. Has anyone else encountered this problem, and tried something else to resolve it?

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Nhutumdai ➜ Nhutumdai • a year ago

After restarting, it s fine.

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Torben Hoffmann ➜ Nhutumdai • 6 months ago

I had to restart for it to work, too.
xquartz 2.7.11 from brew cask
macos 10.12.6

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Pascal Véron • a year ago

It does not work with Xquartz2.7.10_rc1 and El capitan 10.11.6, Xquartz crashes ....

⌃ ⌄ • Reply • Share ›

Nhutumdai ➜ Pascal Véron • a year ago

Use this XQuartz-2.7.10.beta2 : https://www.xquartz.org/rel...

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wmarbut • 2 years ago

Thanks! Just wanted to call out that this works with Terminal.app, but I haven't made it work with iTerm2.

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Ian • 2 years ago

Thank you. Worked here with XQuartz 2.7.10_beta2.

⌃ ⌄ • Reply • Share ›

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1 comment • 4 months ago

Marko — import pymel.core as pmpm.mel.currentTimeUnitToFPS()

Fixing InsecurePlatformWarning

1 comment • 2 years ago

Martin Bless — If your shell is ZSH there is a pitfall. ZSH uses [...] for globbing. To make things work write: sudo pip install -U

Fredrik Averpil – Kill processes by name

2 comments • 3 years ago

Alan Fregtman — When you have multiple of the same process ("python", for example?) but want to kill by a substring of the

Compiling PySide2 from source

32 comments • 2 years ago

Fredrik — Hm, I may be wrong:"The Pyside 2 project aims to provide a complete port of PySide to Qt 5.x. The development started on