

Docker Issues & Solutions - NOVA 2019

This file details various docker issues and their solutions occurred during NOVA 2019, Zhu Hai.

Installation

OS	Download Address
Mac OS X	Docker Desktop
Linux	<code>sudo apt-get install docker</code>
Windows 10 Professional	Docker Desktop
Other Windows Edition	Docker Toolbox

Post Installation

Windows

- Install [MobaXTerm](#)
- Go to `Settings/X11(Tab)`, set X11 remote control to `full`
- Start X11 server, hover mouse cursor on `X11 server` button, you can see the address of your display (something like `172.168.1.1:0.0`). When starting docker, replace `DISPLAY` with the address string. Normally `DISPLAY` would work just fine, but if it doesn't, replace it with the address.

Mac OS X

- Install [XQuartz](#)
- Go to `Preference/Security`, select `Allow connections from network clients`

Linux

- run `xhost +`

Running

Windows

Virtualisation Problem

Error Message:

```
Error creating machine: Error in driver during machine creation: This computer doesn't have VT_X/AMD-v enabled. Enabling it in the BIOS is mandatory
```

This means virtualisation is disabled. To enable it, go to `BIOS: Configuration/Virtualization Technology/Enabled`. Then reboot computer.

Method of different models of computer might vary.

Docker Toolbox: Docker Quickstart Terminal Frozen on `waiting for an IP`

- Start `PowerShell`, input `docker-machine ls` to check current docker virtual machine status.
- If there's no virtual machine, create one with `docker-machine create --driver=virtualbox default`. After this, use `docker-machine ls` to confirm that our docker vm is running.
- Get docker vm environment variable: `docker-machine env default`
- Input `docker-machine env default | Invoke-Expression`

Now you can use PowerShell to run Docker.

Docker Toolbox: Docker Quickstart Terminal Cannot Finish Configuration

- Find Docker Toolbox installation Folder
- Run `start.sh` to finish configuration

VirtualBox Issues

If the default VirtualBox comes with Docker Toolbox does not start or returns error message:

```
The virtual machine has terminated unexpectedly during startup with exit code
-10737418129 ... more details may be available in C:\...
```

Then you need to **re-install VirtualBox**. One tested edition is [here](#).

[Official Site Reference](#)

Hyper-V Issue

Windows's Hyper-V seems to conflict with virtual machine. If you have error messages looking like this, then it is `Hyper-V` issue:

```
Running pre-create checks...
Error with pre-create check: "Hyper-V is installed. VirtualBox won't boot a
64bits VM when Hyper-V is activated. If it's installed but deactivated, you can
use --virtualbox-no-vtx-check to try anyways"
Looks like something went wrong in step `Checking if machine default exists`
```

Follow this [instruction](#) to disable `Hyper-V`

Linux & Mac OS X

Permission denied: require `sudo` privilege

By default, running docker needs root privilege. If one would like to use docker without `sudo`:

```
$ sudo groupadd docker
$ sudo usermod -aG docker $USER
```

[source](#)

Compile failure: could not write to objective directory, permission denied

Similar problems rise when docker does not have root privilege over mounted volume. One can add `-u root` flag to solve this issue:

```
$ sudo docker exec -ti -u root 848669a8722b bash
```

GUI Issues

Linux

Error message:

```
TclError: no display name and no $DISPLAY environment variable
```

This is because the container couldn't access the X11 socket of the host. First we need to make sure that X11 allows all users to print to screen:

```
$ sudo apt-get install x11-xserver-utils
$ xhost +
```

And one need to include these two flags to have GUI:

```
-v /tmp/.X11-unix:/tmp/.X11-unix
-e DISPLAY=${DISPLAY}
```

So the whole instruction looks like this:

```
$ docker run -ti -e DISPLAY=${DISPLAY} -v /tmp/.X11-unix/:/tmp/.X11-unix -v ...
```

[source](#)

Mac OS X

Configure host name with following commands

```
xhost + ${hostname}
HOSTNAME=`hostname`
DISPLAY=${HOSTNAME}:0
```