

Making a docker image to run the Waterfox browser

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1 Introduction

This project is about learning how to compose a Dockerfile which runs an X11 application. The Waterfox browser was chosen as an example X11 application, because Waterfox is not available as a package in most Linux distributions, so the result might actually be a useful means of obtaining Waterfox without having to download a tarfile and do a local install.

Getting a running Docker container to talk to the X11 server in the host system is relatively easy. Waterfox is a large and complex X application, and most of the challenge of this project is in setting up in the Docker image a working environment for Waterfox.

2 What is involved in a normal Waterfox install?

There is a document [15] on that. Briefly the steps are

1. Download a tarfile from the Waterfox website [14] or from the Github site [16].
2. Unpack the tarfile in `/usr/local/src`

```
bzip2 -dc waterfox-G4.1.1.1.en-US.linux-x86_64.tar.bz2 | tar xvf -
```

3. Make a link in `/usr/local/bin` to point to the Waterfox binary

```
ln /usr/local/src/waterfox/waterfox /usr/local/bin/waterfox
```

4. Define the desktop icon by adding a file `waterfox.desktop` to the directory `/usr/share/applications`. The file `waterfox.desktop` does not come with the tarfile, but is available here [15]

We need to implement steps 1 to 3 in a Dockerfile. Step 4 can be omitted, as there will be no icon if running Waterfox in a container. The container will have to be started from the command line.

3 First attempt at a Dockerfile, using Debian parent image

I chose Debian parent image for a first attempt, because Debian is familiar and is most likely to be compatible with Waterfox.

References

- [1] Docker tutorial. URL <https://www.guru99.com/docker-tutorial.html>
- [2] Docker get started URL <https://docs.docker.com/get-started/>
- [3] Docker Desktop URL <https://docs.docker.com/desktop/install/linux-install/>
- [4] Docker Hub URL <https://hub.docker.com/>
- [5] Official Dockerfile document URL https://docs.docker.com/develop/develop-images/dockerfile_best-practices/
- [6] Dockerfile Guide URL <https://medium.com/@BeNitinAgarwal/best-practices-for-working-with-dockerfiles-fb2d22b78186>
- [7] Docker Basics: How to use Dockerfiles URL <https://thenewstack.io/docker-basics-how-to-use-dockerfiles/>
- [8] A Beginners Guide to Understanding and Building Docker Images URL <https://jfrog.com/knowledge-base/a-beginners-guide-to-understanding-and-building-docker-images/>
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- [11] Docker Containerization Cookbook” - Hot Recipes for Docker Automation URL https://distrowatch.tradepub.com/free/w_java39/prgm.cgi?a=1
- [12] Void Linux Docker Images URL <https://github.com/void-linux/void-docker>
- [13] LibreWolf source code website. URL <https://gitlab.com/librewolf-community/browser/source>
- [14] Waterfox website. URL <https://www.waterfox.net>
- [15] Install the Waterfox browser on a Linux system. URL <https://github.com/nevillejackson/Unix/blob/main/waterfox/waterfox.pdf>
- [16] WaterfoxCo Github site URL <https://github.com/WaterfoxCo/Waterfox/releases>