

Installing FontForge 20120731 under Lion

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I Overview

I work on an old Mac Pro on which Lion is the end of the line (lion?) for OS upgrades—the old hardware does not support its successors. For some time, I’ve been limping along with a marginally functional version of FontForge from early 2011. It is extremely temperamental, and dies when you hit any key or menu item while there are glyph control points selected. This is perhaps due to having over six years of accumulated libraries, including installations of Fink and the MacPorts. Despite following a number of recipes that claimed to result in successful compilation of the latest version of FontForge, they just would not run without error for me, despite following all instructions given by brew doctor—part of the HomeBrew package.

So, it appears that a fresh system is called for. There are several options:

- Purchase a cheap second hand Mac Mini and install just Lion, whose memory requirements are considerably less than Mountain Lion, reserving this machine for just FontForge and ordinary desktop applications.
- Install Lion on an external hard drive, making it bootable.
- Install a virtualization program such as Parallels or VMWare Fusion, or the free Virtualbox, and then install Lion as a guest OS.

As I already owned Parallels, I chose that path. The two sections below describe first how to install Lion as a Parallels guest OS, then how to compile FontForge in the new, clean Lion.

2 Installing Lion as a guest OS

Parallels 7, which I started with, appears to have a nice option that allows you to install Lion from the Lion Recovery Partition. I could not make this option work, and from a web search, other could not either. I should tell you also that I had problems getting networking to behave with Parallels 7, and upgraded to Parallels 8, which fixed the networking issues but not the problems with the Lion Recovery Partition.

So, you have to install Lion from a disk image, most likely. If you purchased Lion on a USB flash drive, that will work, otherwise you need to download Lion again from the Apple App Store, but quit the installer after the download is complete. It will have saved a program called `Install Mac OS X Lion.app` in your Applications folder. Control-click (ie, right click) on that app and select `Show Package Contents`, and

click Contents->SharedSupport where you will see a file named `InstallESD.dmg`, which you should copy and paste into the Applications folder. That is the disk image required to install Lion as a guest OS in Parallels.

Next, open Parallels and select New from the File menu, then double click `Install Windows...`, the default choice. This leads to a window where you specify what to install from. Select `InstallESD.dmg` if it is listed, otherwise select **Choose an image file** and navigate to your `InstallESD.dmg` file. The actual installation will take an hour or more, resulting in an up-to-date (10.7.5 currently) version of Lion. Before proceeding, you have to install Parallels Tools. You may get an error message (more than one) when you select the menu item `Install Parallels Tools`. The problem is that `InstallESD.dmg` is occupying your virtual DVD, and you have to eject it before calling `Install Parallels Tools`. There may be a simpler way, but I shut down the Lion guest OS, disconnected the CD/DVD and restarted the Lion guest OS. After completing `Install Parallels Tools`, I set the network to Default Adapter (Bridged), matching the setting in the other Virtual Machines.

3 Installing FontForge

In preparation for the installation, I downloaded XCode (free for Lion) from the Apple App Store—this is a large download, taking over an hour. All that is needed for installing FontForge is the command line tools which are installed separately. The easiest way is to open XCode, go to its Preferences, select the Downloads tab and click on the `Install` button beside `Command Line Tools`.

The next task in preparation is to install HomeBrew, a package manager that provides a working setup for installing FontForge, at least on a clean system. In a Terminal window, type

```
ruby -e "$(curl -fsSL raw.githubusercontent.com/mxcl/homebrew/go)"
```

You'll need to press ENTER after the program responds with what it plans to do. Your password will be required to make changes to the permissions in `/usr/local` so they no longer require `sudo` to write to. After it completes the installation of HomeBrew, enter the line

```
brew install fontforge --with-pango --with-libspiro --with-cairo\
--with-x --with-gif
```

to take advantage of the maximal number of FontForge options. The downloads and the processing will take over a half-hour. Once finished, you make a desktop application available using the command

```
ln -s /usr/local/Cellar/fontforge/20120731/FontForge.app /Applications
```