



eLearning Programs and Support



Installing Macintosh OS X Applications

Summary Instructions

1. Download a compressed disk image file.
2. Mount the disk image.
3. Copy the contents of the disk image to your computer or run the installation program.
4. Unmount (i.e., eject) the disk image.
5. Delete the compressed disk image file.

Detailed Instructions

There are two primary ways of installing an application on a Mac: either using a drag-and-drop method or running an installation program. In both cases the behavior of the disk image is similar. Usually, though, there are clear instructions on what to do.

In most cases, when you want to install a new application from the internet, you click a link and your browser downloads a special file called a "disk image." (See Figs. 1-3).



Fig. 1: Common download link

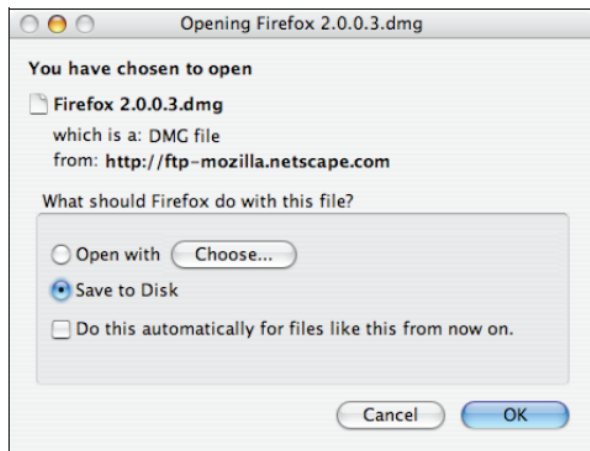


Fig. 2: Confirming the download

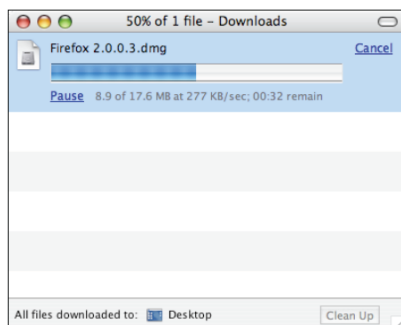


Fig. 3: Downloading and saving the disc image to your computer

A disk image file usually has the extension ".dmg" (Fig. 4). A disk image is similar to the ".zip" file commonly seen on the Windows platform. Both .dmg and .zip are file compression formats, but disk images behave differently.

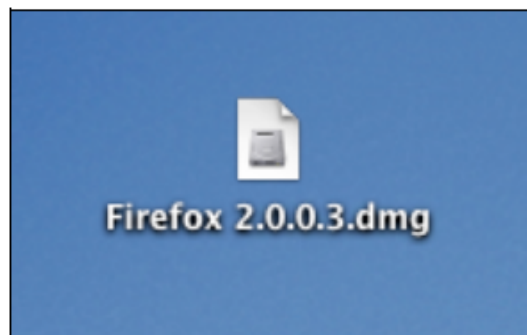


Fig. 4: The saved downloaded disc image

After the disk image has been successfully downloaded to your computer, it may or may not automatically open (this is up to whoever created the disk image file); if the file does not automatically open, simply double-click it to open it. Opening a disk image will uncompress and mount the image (Fig. 5).

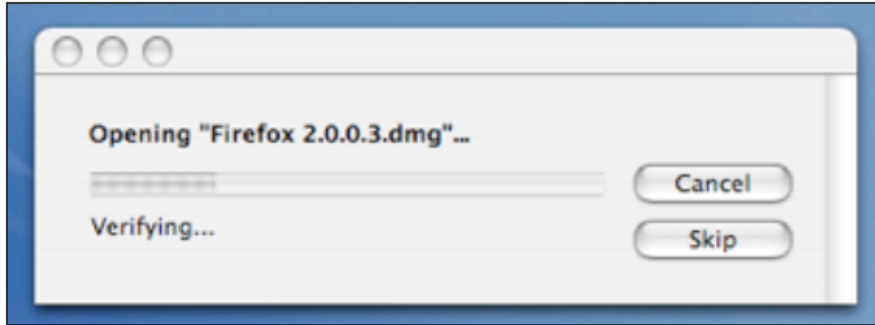


Fig. 5: Opening or “mounting” the disc image

An uncompressed, mounted disk image, as its name suggests, appears to your computer like other discs, such as a hard drive, CD, or USB thumb drive. So just like an icon of a disk is present for those disks, so too, once the disk image is uncompressed and "mounted," you will see an icon representing the contents of the disc image. And just like other removable media, you eject the disk image when you are done with it. (Fig. 6)

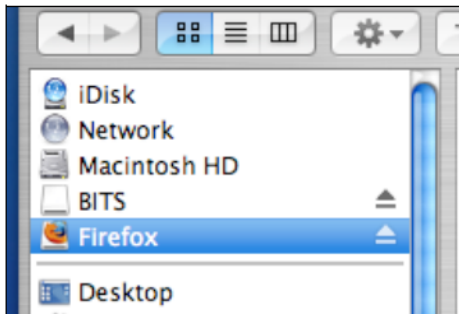


Fig. 6: The mounted disc image is like a hard drive or USB thumb drive

As mentioned earlier, there are two primary ways of installing an application on a Mac: drag-and-drop or running an installation program.

Method 1

In many cases, installing the application is as simple as dragging the contents from the mounted disk image to your Applications folder (Fig. 7). You will see a "Copying ..." dialog box, and when the copying is finished, you can eject the disk image.



Fig. 7: Using drag-and-drop installation.

This window is exactly what appeared when the Firefox disk image opened. The cryptic illustration advises the user to copy the “Firefox.app” file to their Applications folder. (Note, depending on your settings, you may or may not see the “.app” extension. It’s a user-based choice in the Finder preferences.)

As in this case, dragging and copying the one file to your computer is all that is needed. This is quickly becoming the most common way of installing applications for the Mac because it is so easy. Unlike the “old days” or as it still is with other platforms, there is no need for an application to install files in many different places on your hard drive. In this example, all the assets needed to run Firefox are included in this single “Firefox.app” file. In addition, with applications that install like this, uninstalling the application is equally simple: just delete the “Firefox.app” and the program is uninstalled.

It is because of this simplicity that the Mac operating system does not currently have an “Uninstall Program” control panel.

Method 2

Another common type of installation requires double-clicking an installation program and following instructions (Fig. 8). In the example below, the user double-clicks the “FM100212ENA.mpkg” file to install the Google SketchUp drawing application.

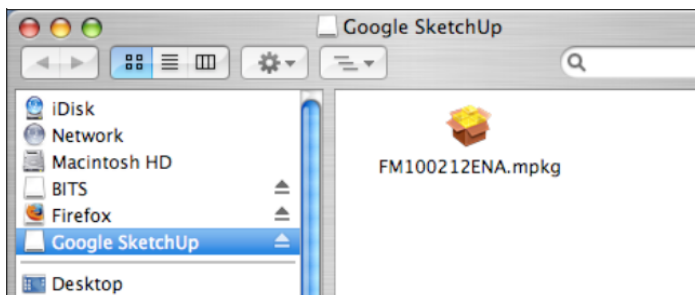


Fig. 8: Using an installation program.

Installation applications usually have a “.pkg” or “.mpkg” extension. When installation is complete, you can eject the disc image by clicking on the small arrow to the right of the mounted disc image, or by dragging the mounted disc image to the Trash.

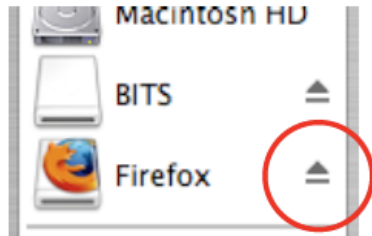


Fig. 9: Ejecting a disc image.

Click the arrow to eject the disk image.

After and you have ejected (or "unmounted") the disk image, you may still have the now-unnecessary original downloaded ".dmg" file on your computer. But since you've already opened and installed its contents, you no longer need this download file and you can throw the ".dmg" away.

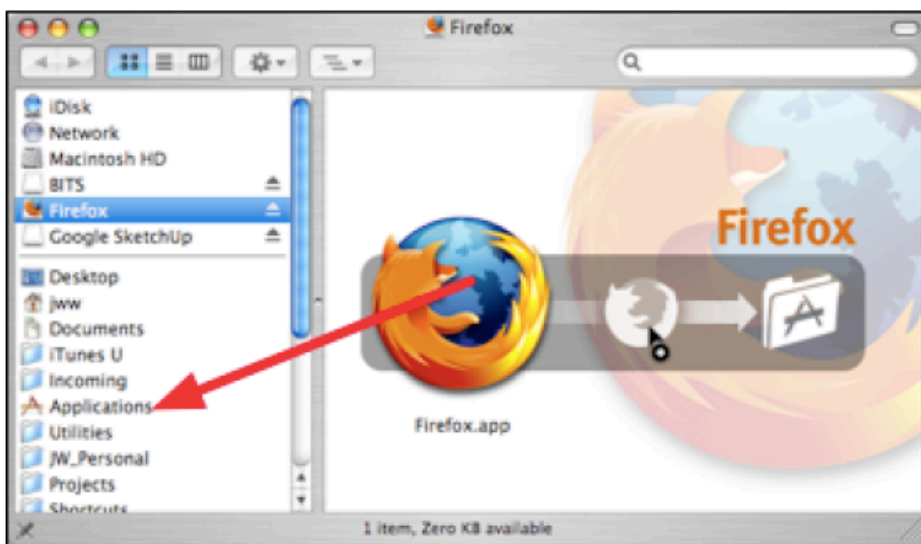
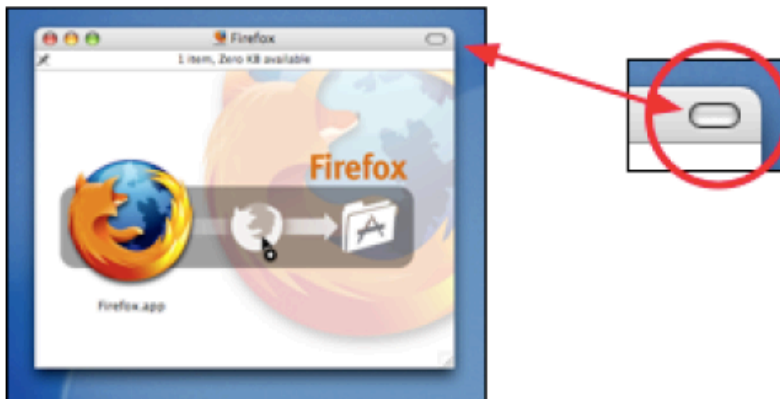
To summarize:

- 1) Download a compressed disk image file.
- 2) Mount the disk image.
- 3) Copy the contents of the disk image to your computer or run the installation program.
- 4) Unmount (i.e., eject) the disk image.
- 5) Delete the compressed disk image (".dmg") file.

Tips for Power Users

Tip 1

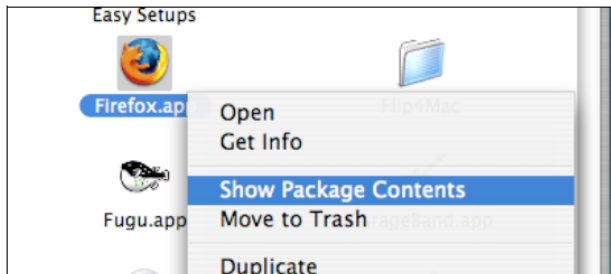
For disk images that mount like Firefox's, the Finder window may appear strange. Note the window below: there is no sidebar. Click the small pill-shaped widget in the upper-left corner of the window to reveal the sidebar. Expanding the window in this fashion makes it very easy to drag the contents of the disc image to the Applications folder and then eject the mounted disc image.



Tip 2

How is it possible that installing and removing an application is so simple? Because looks are deceiving. In its move to simplify and make things easy for the user, Apple suggests developers create applications in such a way that all the assets (i.e., fonts, buttons, images, sounds, code, et al) that make up a normal application are self-contained. What appears to the user to be a single application icon is oftentimes a special kind of folder called a "package."

By choosing an application and right-clicking (or control-clicking) its icon, you can browse the contents of the folder by choosing “Show Package Contents” from the pop-up menu.



Below, for example, are the assets hidden inside the Firefox.app package.

Warning: In most cases you do not want to touch these assets (and you can damage or make a application inoperable if you do so), but hiding this complexity is a good example of why the Mac has earned a reputation for being simple and user-friendly.

