.bash\_profile vs .bashrc

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When working with Linux, Unix, and Mac OS X, I always forget which bash config file to edit when I want to set my PATH and other environmental variables for my shell. Should you edit .bash\_profile or .bashrc in your home directory?

You can put configurations in either file, and you can create either if it doesn’t exist. But why two different files? What is the difference?

According to the [bash man page](http://linux.die.net/man/1/bash), .bash\_profile is executed for login shells, while .bashrc is executed for interactive non-login shells.

**What is a login or non-login shell?**

When you *login* (type username and password) via console, either sitting at the machine, or remotely via ssh: .bash\_profile is executed to configure your shell before the initial command prompt.

But, if you’ve already logged into your machine and open a new terminal window (xterm) inside Gnome or KDE, then .bashrc is executed before the window command prompt. .bashrc is also run when you start a new bash instance by typing /bin/bash in a terminal.

**Why two different files?**

Say, you’d like to print some lengthy diagnostic information about your machine each time you login (load average, memory usage, current users, etc). You *only* want to see it on login, so you *only* want to place this in your .bash\_profile. If you put it in your .bashrc, you’d see it every time you open a new terminal window.

**Mac OS X — an exception**

An exception to the terminal window guidelines is Mac OS X’s Terminal.app, which runs a login shell by default for each new terminal window, calling .bash\_profile instead of .bashrc. Other GUI terminal emulators may do the same, but most tend not to.

**Recommendation**

Most of the time you don’t want to maintain two separate config files for login and non-login shells — when you set a PATH, you want it to apply to both. You can fix this by sourcing .bashrc from your .bash\_profile file, then putting PATH and common settings in .bashrc.

To do this, add the following lines to .bash\_profile:

if [ -f ~/.bashrc ]; then

source ~/.bashrc

fi

Now when you login to your machine from a console .bashrc will be called.