

What Is Terminal?

Terminal is a UNIX command line. When it opens up, a text based window will appear. It will be black on white by default. Typing text and hitting enter sends a command to the shell. Every command that there is in terminal is a file stored on your computer. The command 'ls' for instance is located at '/bin/ls'. Commands have the ability to print out text and take in keyboard input. When a command is done, terminal will ask you for another command.

Paths

A path is a way to get to a file or folder. Every absolute path starts with '/'. The path to get to a folder in slash (which is your hard drive) called Users is '/Users/'. If there is a folder inside of '/Users' called 'jeff', then the path to that would be '/Users/jeff/'. If there was a file inside of '/Users/jeff/' called 'file.rtf', the path to that would be '/Users/jeff/file.rtf'. Notice that in the paths to folders, there was a '/' (slash) after the path. That tells the computer that it is a path to a folder not a file.

Every relative path can either start with './' or the file or folder starting the path. This only works in places like terminal where you are always already somewhere. When you open up terminal, you are already in the path '/Users/username/' by default. The place where you are is called the 'cwd' (Current Working Directory). Every application running on your computer has a 'cwd'.

If your 'cwd' was '/Users/username/', and there is a folder inside of that path called 'myfolder', then the relative path to that folder is './myfolder/' or 'myfolder/'. Either way works for that one. The full path to that folder is '/Users/username/myfolder/'.

Command List

```
ls - Display Contents of the cwd (Current Working Directory)
    [path] - Optional
    [-l] - Display file permissions
    [-R] - Recursively show contents of entire directory and
subdirectories
    [-a] - Display hidden files
    {ls -laR /} or {ls -laR}

cd - Change your working directory to an absolute or relative path
    [path] - Path To Change Directory To
    {cd /} or {cd ./Desktop/}

pwd - Prints the cwd (Current Working Directory)
```

`{pwd}`

Command examples

So there was the command list. Let's make some sense out of it. Here is the command `ls`.

```
ls -laR /
ls -l /Users/jeff/
ls -a /Users/jeff/Desktop/
```

In those examples, I showed you a few commands for `ls`. A command has something called options which is text that comes after the command. The command in this case is '`ls`'. In the first example, I used the options '`-l`', '`a`', and '`R`' as well as '`/`' which is a required option of `ls`. There are two types of options on any given terminal command, text options as well as flags. flags are letters. A set of flags starts with '`-`'. The command `ls` with an '`l`' flag would look like this:

```
ls -l rest of options
```

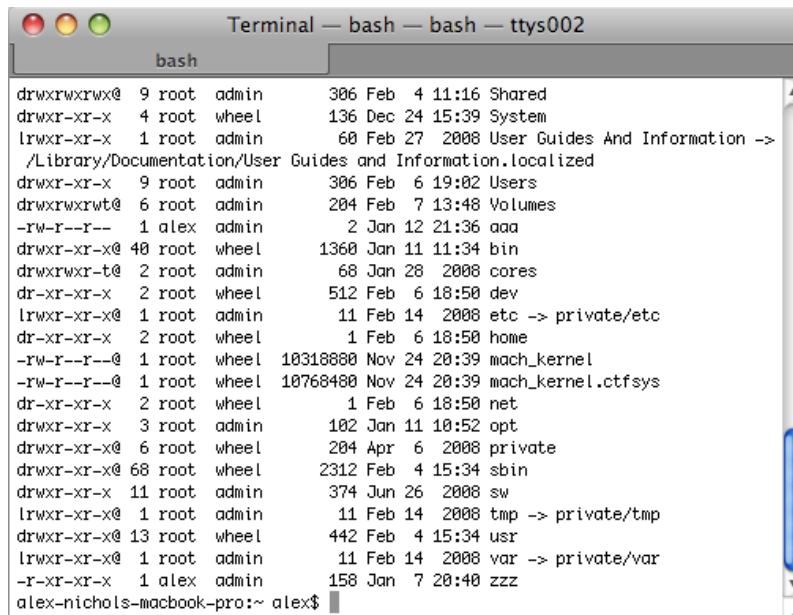
So in that command I used the '`l`' flag. If I wanted an '`a`' flag there as well, I can do it in two ways:

1. `ls -l -a other stuff`
2. `ls -la other stuff`

The second one is better in this case. Now let's add a path option after that to make the command work.

```
ls -la /
```

This will run an `ls` command with output that looks something like this:



```
Terminal — bash — bash — ttys002
bash
drwxrwxrwx@ 9 root  admin   306 Feb  4 11:16 Shared
drwxr-xr-x  4 root  wheel   136 Dec 24 15:39 System
lrwxr-xr-x  1 root  admin    60 Feb 27 2008 User Guides And Information ->
/Library/Documentation/User Guides and Information.localized
drwxr-xr-x  9 root  admin   306 Feb  6 19:02 Users
drwxrwxrwt@ 6 root  admin   204 Feb  7 13:48 Volumes
-rw-r--r--  1 alex  admin    2 Jan 12 21:36 aaa
drwxr-xr-x@ 40 root  wheel  1360 Jan 11 11:34 bin
drwxrwxr-t@  2 root  admin    68 Jan 28 2008 cores
dr-xr-xr-x  2 root  wheel   512 Feb  6 18:50 dev
lrwxr-xr-x@  1 root  admin   11 Feb 14 2008 etc -> private/etc
dr-xr-xr-x  2 root  wheel    1 Feb  6 18:50 home
-rw-r--r--@  1 root  wheel 10318800 Nov 24 20:39 mach_kernel
-rw-r--r--@  1 root  wheel 10768400 Nov 24 20:39 mach_kernel.ctfsys
dr-xr-xr-x  2 root  wheel    1 Feb  6 18:50 net
drwxr-xr-x  3 root  admin   102 Jan 11 10:52 opt
drwxr-xr-x@ 6 root  wheel   204 Apr  6 2008 private
drwxr-xr-x@ 68 root  wheel  2312 Feb  4 15:34/sbin
drwxr-xr-x 11 root  admin   374 Jun 26 2008 sw
lrwxr-xr-x@  1 root  admin   11 Feb 14 2008 tmp -> private/tmp
drwxr-xr-x@ 13 root  wheel   442 Feb  4 15:34 usr
lrwxr-xr-x@  1 root  admin   11 Feb 14 2008 var -> private/var
-r-xr-xr-x  1 alex  admin   158 Jan  7 20:40 zzz
alex-nichols-macbook-pro:~ alex$
```

So that was ls. I will not give any other usage of terminal commands in this tutorial. Although you can get nice information about any command in terminal by typing 'man command' in terminal. Here is an example of the terminal command that you would type to do this.

```
man pwd
```

Other commands will be reviewed in other terminal lesson tutorials. Video terminal commands that go into more detail can be found at:

http://www.youtube.com/view_play_list?p=B53732EFBF406E9F