

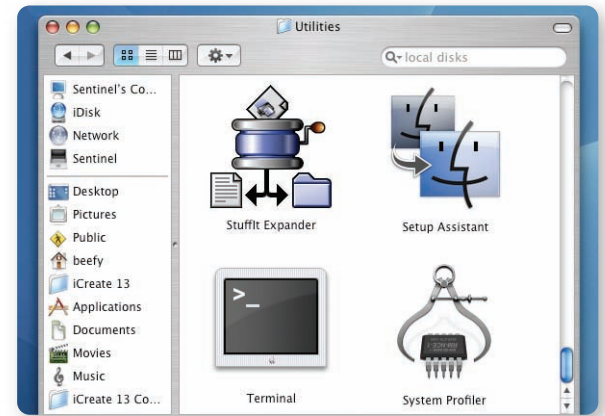
Tutorial: Handle files and folders in Terminal

With a little practice, you can do things more quickly and easily in Terminal than with your mouse. Learn how to manage your files and folders with just a keyboard



Task: Have total control over your files and folders with Terminal
Difficulty: Expert
Time needed: 30 minutes

XIn the first of a regular series on Terminal and the Unix layer underneath OS X, we're going to show you how to get to grips with your files and folders using just your keyboard. As a window onto Unix, Terminal may seem threatening at first, but with a little practice and experience, you'll soon be doing things in half the time it took you using just your mouse. You'll need to learn a few rules first: everything is case sensitive, so get your lower and upper case right; spaces in the wrong place can have a bad effect so type things exactly as they appear; and / means a directory. Also, we've written commands in single quotes to help make them stand out – you only need to type what's inside the quotes.



Step-by-step OS X Handling files and folders in Unix

```
Terminal — bash — 80x24
Last login: Mon Nov 1 12:25:34 on ttys1
Welcome to Darwin!
iCreate:~: icreate$ cd Pictures
iCreate:~/Pictures icreate$ ls
Finder001.jpg
Finder001.tiff
Finder002.jpg
Finder002.tiff
Finder003.tiff
Finder004.tiff
QuickTime Player001.jpg
QuickTime Player001.tiff
iTunes002.tiff
Safari001.jpg
Safari001.pdf
Safari001.psd
iCreate:~/Pictures icreate$
```

```
Terminal — bash — 80x30
iCreate:~/Pictures icreate$ mkdir Safari
iCreate:~/Pictures icreate$ ls -al
total 34768
drwxr-xr-x 26 icreate icreate 884 1 Nov 12:36 .
drwxr-xr-x 17 icreate icreate 578 1 Nov 12:30 ..
-rw-r--r-- 1 icreate icreate 21508 1 Nov 12:30 .DS_Store
-rw-r--r-- 1 icreate icreate 0 2 Jun 10:20 localized
-rw-r--r-- 1 icreate icreate 101679 1 Nov 12:16 Finder001.jpg
-rw-r--r-- 1 icreate icreate 1415859 1 Nov 12:11 Finder001.tiff
-rw-r--r-- 1 icreate icreate 103669 1 Nov 12:16 Finder002.jpg
-rw-r--r-- 1 icreate icreate 1418449 1 Nov 12:11 Finder002.tiff
-rw-r--r-- 1 icreate icreate 1421021 1 Nov 12:11 Finder003.tiff
-rw-r--r-- 1 icreate icreate 1423641 1 Nov 12:11 Finder004.tiff
-rw-r--r-- 1 icreate icreate 128945 1 Nov 12:15 QuickTime Player001.jpg
-rw-r--r-- 1 icreate icreate 1313230 1 Nov 12:14 QuickTime Player001.tiff
drwxr-xr-x 2 icreate icreate 68 1 Nov 12:36 Safari
-rw-r--r-- 1 icreate icreate 52093 1 Nov 12:16 Safari001.jpg
-rw-r--r-- 1 icreate icreate 228778 1 Nov 12:16 Safari001.pdf
-rw-r--r-- 1 icreate icreate 1179456 1 Nov 12:17 Safari001.psd
-rw-r--r-- 1 icreate icreate 510116 1 Nov 12:16 Safari002.pdf
-rw-r--r-- 1 icreate icreate 588737 1 Nov 12:17 Safari003.pdf
-rw-r--r-- 1 icreate icreate 126813 1 Nov 12:15 System Preferences001.jpg
-rw-r--r-- 1 icreate icreate 1377745 1 Nov 12:14 System Preferences001.tiff
-rw-r--r-- 1 icreate icreate 50018 1 Nov 12:15 System Preferences002.jpg
-rw-r--r-- 1 icreate icreate 126389 1 Nov 12:15 System Preferences003.jpg
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes002.tiff
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes004.tiff
```

```
Terminal — bash — 80x29
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes002.tiff
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes003.tiff
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes004.tiff
iCreate:~/Pictures icreate$ mv Safari Safari/
mv: rename Safari to Safari/Safari: Invalid argument
iCreate:~/Pictures icreate$ ls -al
total 29432
drwxr-xr-x 21 icreate icreate 714 1 Nov 12:39 .
drwxr-xr-x 17 icreate icreate 578 1 Nov 12:30 ..
-rw-r--r-- 1 icreate icreate 21508 1 Nov 12:30 .DS_Store
-rw-r--r-- 1 icreate icreate 0 2 Jun 10:20 localized
-rw-r--r-- 1 icreate icreate 101679 1 Nov 12:16 Finder001.jpg
-rw-r--r-- 1 icreate icreate 1415859 1 Nov 12:11 Finder001.tiff
-rw-r--r-- 1 icreate icreate 103669 1 Nov 12:16 Finder002.jpg
-rw-r--r-- 1 icreate icreate 1418449 1 Nov 12:11 Finder002.tiff
-rw-r--r-- 1 icreate icreate 1421021 1 Nov 12:11 Finder003.tiff
-rw-r--r-- 1 icreate icreate 1423641 1 Nov 12:11 Finder004.tiff
-rw-r--r-- 1 icreate icreate 128945 1 Nov 12:15 QuickTime Player001.jpg
-rw-r--r-- 1 icreate icreate 1313230 1 Nov 12:14 QuickTime Player001.tiff
drwxr-xr-x 7 icreate icreate 238 1 Nov 12:38 Safari
-rw-r--r-- 1 icreate icreate 126813 1 Nov 12:15 System Preferences001.jpg
-rw-r--r-- 1 icreate icreate 1377745 1 Nov 12:14 System Preferences001.tiff
-rw-r--r-- 1 icreate icreate 50018 1 Nov 12:15 System Preferences002.jpg
-rw-r--r-- 1 icreate icreate 126389 1 Nov 12:15 System Preferences003.jpg
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes002.tiff
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes003.tiff
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes004.tiff
```

1: The ls of the land

Since we start off in our home directory (~), we only have to type 'cd Pictures' to 'c'change our 'd'irectory. Once there, we type 'ls' to list the directory's contents.

2: Safari: so goody

We want to keep our Safari pictures separate. Type 'mkdir Safari' to make a directory called 'Safari'. Type 'ls -al' to list all the files with as much info as possible.

3: A moving tale

Move everything that starts with 'Safari' into the Safari directory using 'mv Safari Safari/'. Expect an error, since we can't move Safari into itself, but the rest will go.

```
Terminal — bash — 80x25
iCreate:~/Pictures icreate$ chmod g+w iTunes*
iCreate:~/Pictures icreate$ ls -al
total 29432
drwxr-xr-x 21 icreate icreate 714 1 Nov 16:17 .
drwxr-xr-x 17 icreate icreate 578 1 Nov 12:30 ..
-rw-r--r-- 1 icreate icreate 21508 1 Nov 16:17 .DS_Store
-rw-r--r-- 1 icreate icreate 0 2 Jun 10:20 localized
-rw-r--r-- 1 icreate icreate 101679 1 Nov 12:16 Finder001.jpg
-rw-r--r-- 1 icreate icreate 1415859 1 Nov 12:11 Finder001.tiff
-rw-r--r-- 1 icreate icreate 103669 1 Nov 12:16 Finder002.jpg
-rw-r--r-- 1 icreate icreate 1418449 1 Nov 12:11 Finder002.tiff
-rw-r--r-- 1 icreate icreate 1421021 1 Nov 12:11 Finder003.tiff
-rw-r--r-- 1 icreate icreate 1423641 1 Nov 12:11 Finder004.tiff
-rw-r--r-- 1 icreate icreate 128945 1 Nov 12:15 QuickTime Player001.jpg
-rw-r--r-- 1 icreate icreate 1313230 1 Nov 12:14 QuickTime Player001.tiff
drwxr-xr-x 7 icreate icreate 238 1 Nov 12:38 Safari
-rw-r--r-- 1 icreate icreate 126813 1 Nov 12:15 System Preferences001.jpg
-rw-r--r-- 1 icreate icreate 1377745 1 Nov 12:14 System Preferences001.tiff
-rw-r--r-- 1 icreate icreate 50018 1 Nov 12:15 System Preferences002.jpg
-rw-r--r-- 1 icreate icreate 126389 1 Nov 12:15 System Preferences003.jpg
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes002.tiff
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes003.tiff
-rw-r--r-- 1 icreate icreate 1306192 1 Nov 12:12 iTunes004.tiff
iCreate:~/Pictures icreate$
```

```
Terminal — bash — 79x26
iCreate:~/Pictures icreate$ chgrp admin iTunes*
iCreate:~/Pictures icreate$ ls -al
total 29432
drwxr-xr-x 21 icreate icreate 714 1 Nov 16:26 .
drwxr-xr-x 19 icreate icreate 646 1 Nov 16:26 ..
-rw-r--r-- 1 icreate icreate 21508 1 Nov 16:17 .DS_Store
-rw-r--r-- 1 icreate icreate 0 2 Jun 10:20 localized
-rw-r--r-- 1 icreate icreate 101679 1 Nov 12:16 Finder001.jpg
-rw-r--r-- 1 icreate icreate 1415859 1 Nov 12:11 Finder001.tiff
-rw-r--r-- 1 icreate icreate 103669 1 Nov 12:16 Finder002.jpg
-rw-r--r-- 1 icreate icreate 1418449 1 Nov 12:11 Finder002.tiff
-rw-r--r-- 1 icreate icreate 1421021 1 Nov 12:11 Finder003.tiff
-rw-r--r-- 1 icreate icreate 1423641 1 Nov 12:11 Finder004.tiff
-rw-r--r-- 1 icreate icreate 128945 1 Nov 12:15 QuickTime Player001.jpg
-rw-r--r-- 1 icreate icreate 1313230 1 Nov 12:14 QuickTime Player001.tiff
drwxr-xr-x 7 icreate icreate 238 1 Nov 12:38 Safari
-rw-r--r-- 1 icreate icreate 126813 1 Nov 12:15 System Preferences001.jpg
-rw-r--r-- 1 icreate icreate 1377745 1 Nov 12:14 System Preferences001.tiff
-rw-r--r-- 1 icreate icreate 50018 1 Nov 12:15 System Preferences002.jpg
-rw-r--r-- 1 icreate icreate 126389 1 Nov 12:15 System Preferences003.jpg
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes001.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes002.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes003.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes004.tiff
iCreate:~/Pictures icreate$
```

```
Terminal — bash — 79x26
-rw-r--r-- 1 icreate icreate 1421021 1 Nov 12:11 Finder003.tiff
-rw-r--r-- 1 icreate icreate 1423641 1 Nov 12:11 Finder004.tiff
-rw-r--r-- 1 icreate icreate 128945 1 Nov 12:15 QuickTime Player001.jpg
-rw-r--r-- 1 icreate icreate 1313230 1 Nov 12:14 QuickTime Player001.tiff
drwxr-xr-x 7 icreate icreate 238 1 Nov 12:38 Safari
-rw-r--r-- 1 icreate icreate 126813 1 Nov 12:15 System Preferences001.jpg
-rw-r--r-- 1 icreate icreate 1377745 1 Nov 12:14 System Preferences001.tiff
-rw-r--r-- 1 icreate icreate 50018 1 Nov 12:15 System Preferences002.jpg
-rw-r--r-- 1 icreate icreate 126389 1 Nov 12:15 System Preferences003.jpg
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes001.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes002.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes003.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes004.tiff
iCreate:~/Pictures icreate$ ditto iTunes* ../Public/
iCreate:~/Pictures icreate$ ls -al ../Public/
total 10208
drwxr-xr-x 8 icreate icreate 272 1 Nov 16:30 .
drwxr-xr-x 28 icreate icreate 680 1 Nov 16:29 ..
-rw-r--r-- 1 icreate icreate 0 2 Jun 10:20 localized
drwxr-xr-x 3 icreate icreate 102 2 Jun 10:20 Drop Box
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes001.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes002.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes003.tiff
-rw-r--r-- 1 icreate admin 1306192 1 Nov 12:12 iTunes004.tiff
```

4: Change the rules

We want everyone to alter our iTunes pictures. 'chmod' lets us change permissions, '+w' adds write permissions, 'g' means group and 'o' means others.

5: Who's in the club?

We'll change the group our pictures are associated with using the 'chgrp' command, which is useful when we want to narrow down who can do what.

6: Carbon copy

We can make duplicates of our iTunes pictures in our Public folder using 'ditto'. Since Public is inside the same directory as Pictures, we use '../Public' to get there.

