Bash Quick Reference

2017

Path parts in a Unix-like system

`.`	The current directory
`..`	The parent directory
`/` [1]	The directory "separator"
`~`	Your "home" directory
`*`	A wildcard, matching part of a path

[1] On Windows: `\`

Navigating directories

`pwd` [2] — Print the current directory

[2] On Windows: `chdir`

`ls` [3] — List information about files and directories

[3] On Windows: `dir` or `tree`

```
$ ls              # list the current directory's contents
$ ls -l           # list with extra information
$ ls -a           # list hidden files too
$ ls *.txt        # list files ending with .txt
$ ls ~/../*.txt   # list files ending with .txt in the parent of your home folder
```

`cd` [4] — Change the current directory

[4] Same on Windows

```
$ cd foo          # change to the foo/ directory in the current directory
$ cd /foo         # change to the root /foo directory
$ cd ~            # change to your home directory
$ cd              # (also) change to your home directory
$ cd ..           # go up one directory level
```

Getting help

Most command-line programs will print out help information when invoked without arguments. To get help explicitly, or to get more extensive output, try the following:

`<command> -h` — Display a help message about a command

`<command> --help`

`<command> help`

`man <command>` [5] — Help manual

[5] On Windows: `help`

Printing and deleting

echo [6] — Print a message

```
$ echo "Hello, world!"
$ echo "Hello, world!" > hello.txt
$ echo "Hello, again!" >> hello.txt
```

clear [7] — Clear the terminal screen

[6] Same on Windows

[7] On Windows: `cls`

Making, moving, copying

mkdir [8] — Create a directory

```
$ mkdir foo
$ mkdir foo/bar
$ mkdir -p one/two/three
```

mv [9] — Rename a file or directory

```
$ mv old-name.txt new-name.txt
$ mv source.txt target/
```

cp [10] — Copy a file or directory

```
$ cp source.txt target.txt
$ cp -R source/ target
```

touch — Create an empty file
Or update the timestamp of an existing file

[8] Same on Windows

[9] The Unix `mv` command both renames files and changes their location. On Windows, `move` will move a file to a different directory, but `ren` will change it's name and or directory.

[10] On Windows: `copy` or `xcopy`

Editing and opening

nano [11] — A minimal text editor

vim — A "programmer's" text editor

open [12] — Open a file in its default application

[11] Not available on Windows, but try `edit`

[12] On Windows: `start`. Some Linux systems use `xdg-open` instead.

Deleting

rmdir [13] — Remove folder(s)

rm [14] [15] — Remove file(s)

```
$ rm delete-me.txt
$ rm -R delete-me/  # be careful!
```

[13] Same on Windows

[14] On Windows: `del`

[15] Be careful! This command removes files and directories permanently. And combining the `-R` and `-f` flags can delete many files at once.

Reading files

`cat` [16] — Print file contents

`head` — Print the beginning of file(s)

`tail` — Print the end of file(s)

`less` [17] — Display output one screen at a time

[16] On Windows: `type`

[17] On Windows: `more`

Searching and sorting

`which` — Search the user's `$PATH` for a program file

```
$ which lilypond
```

`sort` [18] — Sort lines

[18] Same on Windows

```
$ echo -e "one\ntwo\nthree" > lines.txt
$ cat lines.txt
$ cat lines.txt | sort
```

`grep` [19] — Search files for lines that match a pattern

[19] On Windows: `find`

```
$ echo -e "one\ntwo\nthree" > lines.txt
$ cat lines.txt | grep t
```

`ack` — Like `grep`, but nicer

`find` [20] — Search for files that meet a desired criteria

[20] The single quotes around `*.txt` prevent Bash from prematurely expanding the *pattern* into multiple file names.

```
$ find . -name '*.txt'
```

Permissions

`sudo` — Execute a command as another user

`chown` — Change file owner and group

`chmod` — Change access permissions

Glue

`CMD1 | CMD2` — Send output from one command to another

`CMD > file` — Write the output of a command to a file

`CMD >> file` — *Append* the output of a command to a file

`$VARIABLE` — Bash variables start with `$`

`'...'` *vs* `"..."` — Bash treats single and double quotes different!