CHEAT SHEET: BASH

THE BOURNE-AGAIN SHELL

Navigating

pwd Print working directory
cd Change directory
  ~ Home directory
  - Previous working directory
  ~*username* Home directory of *username*
ctrl-A Move cursor to beginning of line
ctrl-E Move cursor to end of line
ctrl-L Clear the screen (same as **clear**)
ctrl-U Clear current terminal input

Manipulating

cp Copy files and directories
  -a All attributes, ownerships, permissions
  -i Prompt for confirmation (interactive)
  -r Recursive
  -u Only copy new/newer files (update)
  -v Show informative messages (verbose)
mv Move/rename files and directories
  see **cp**: **-i**, **-u**, **-v**
mkdir Create directories
touch Create file (or modify accessed time)
rm Remove files and directories
  -f Ignore nonexisting files, don't prompt
  see **cp**: **-i**, **-r**, **-v**
ln Create hard and symbolic links
  -s Symbolic link

Exploring

ls List directory contents

  -a Include hidden content
  -h Human readable format
  -i Show inode number
  -l Long format
  -r Reverse order
  -S Sort by file size
  -t Sort by modification time
file Determine a file's type
less Show file
tree Recursive directory listing
  -L Level of depth
  -d Directories only
find Find files and directories
  -iname Case insensitive name
  -maxdepth Depth to search
  -type Files (**f**), directories (**d**), …

Wildcards

* Any characters
? Any single character
[*chars*] Any character from *chars*
[!*chars*] Any character not from *chars*
[:*class*:] Any character from *class*

Misc

echo Display a line of text
which Show program to be executed
man Show command manual page
apropos List appropriate commands
info Show information about command
whatis Brief description of command
alias Create alias for command

history Show last 500 (default) commands
  !*index* Reuse *index* command from **history**
  ctrl-R Reverse incremental search

Redirecting

cat Concatenate files
sort Sort lines of text
  -h Human numeric sort
uniq Report or omit repeated lines
  -d Show duplicates
  -c Count occurrences
wc Newline, word and byte counts for each file
  -l Only count lines
grep Print lines matching a pattern
  -i Ignore case sensitivity
  -n Number the lines
  -c Count occurences
  -r Recursively search
  -v Show non-matching lines
head Output first part of a file
tail Output last part of a file
less View file contents
tee Write stdin to file *and* to stdout
xargs Pipe args to command (e.g. from file)

Operators

&& Execute commands sequentially
& Execute commands in parallel
| Pipe stdout to stdin
> Redirect (and overwrite) stdout
>> Redirect (and append) stdout

2> Redirect stderr (standard error)

Expanding

$(*command*) *Command* output as expansion
$((*expression*)) Arithmetic expression
{a,b,c} Create multiple strings 'a' 'b' 'c'
{a..z} Create multiple strings 'a' to 'z'

Permissions

id Display user identity
chmod Change a file's mode

u+r Add read to user
g-w Remove write from group
o=x Set execute for other (world)
umask Set the default file permissions
  002 Remove write from world (010)
  022 Remove write from group and world (010)
chown Change a file's owner (and group owner)
  user Change owner to *user*
  :group Change group owner to *group*

Processes

ps Report a snapshot of current processes
top Show "top" processes (dynamically)
jobs List job launched from current terminal
***program* &** Launch *program* in background
bg *%jobspec* Move process to background
fg *%jobspec* Return process to foreground
ctrl-Z Stop current process (w/o terminate)
kill *PID* Signals *PID* to terminate
  -1 Signals for hangup
  -2 Signals for interruption (ctrl-C)
  -9 Kills without cleanup
killall *name* Signal all *name*-processes

WORK IN PROGRESS...