Cheatography

de.NBI Workshops - Linux Bash at a Glance Cheat Sheet

by sjuenemann via cheatography.com/23283/cs/5100/

General Advice

Use the tab-completion: `Tab` and `double Tab`

Use the history: ↑ and ↓ and `crtl+r`

CMD = any command

TXT = any text; escape special chars with \ or " " or ' '

FILE = any file name including the path (full/relative) to this file

PATH = a *FILE* or a directory accordingly

[] = an argument to a *CMD* which is optional

Get Help

whatis *CMD*	display one-line descriptions of *CMD*
CMD -h (or -?, -help, --help, --usage)	displays the help message of *CMD*
man *CMD*	displays the manual pages of *CMD*
info *CMD*	displays the info documents of *CMD*
help *CMD*	display information about the builtin *CMD*
apropos *TEXT*	search the man pages for *TEXT*
groups *USER*	shows all groups of *USER* (default is own)

Show File Content

head *FILE*	print the first 10 lines of each FILE
head -n X *FILE*	print the first X lines
tail *FILE*	print the last 10 lines of each FILE
tail -n X *FILE*	print the last X
less *FILE*	display FILE on a page-by-page basis
| **less**	display STDIN on a page-by-page basis
cat *FILE*	prints whole *FILE*
cat *FILE1 FILE2* > *FILE3*	cats FILE1 and FILE2 and prints them to FILE3

Rediretcs & Pipes & Subshell

CMD > *FILE*	prints standard output of *CMD* to *FILE*, replacing it
CMD >> *FILE*	prints standard output of *CMD* to *FILE*, appending it
CMD1 | *CMD2*	'pipes' standard out of *CMD1* as standard input to *CMD2*
CMD > out.log 2> err.log &	runs *CMD* in background, prints standard out to out.log and standard error to err.log

Searching

grep *TXT FILES*	search for pattern *TXT* in *FILES* (line--wise)
grep -r *TXT PATH*	searches all files in *PATH* recursively
grep -v *TXT PATH*	show lines not containing *TXT*
grep -c *TXT PATH*	count matching lines instead of showing them
find [*PATH*] -name "*TXT*"	finds all files named *TXT* in *PATH* (default .)
find [*PATH*] -iname "**TXT***"	finds all files matching *TXT* case insensitive

Operate On Filesystem

pwd	prints current directory
ls *[PATH]*	list directory contents
ls -lart *[PATH]*	long + hidden + reverse order + sort last modified
cd	changes to HOME directory
cd *PATH*	changes to *PATH* directory
mkdir *PATH*	creates a directory
mkdir -p *PATH*	creates also parents as needed
cp *FILE PATH*	copies *FILE* to *PATH*
cp -r *PATH1 PATH2*	cp recursively whole directory *PATH1* to *PATH2*
mv *PATH1 PATH2*	moves file or dir *PATH1* to *PATH2*
rm *FILE*	removes *FILE*
rm -r *PATH*	removes files and dirs under *PATH* recursively
ln -s *PATH1*	creates link of *PATH* with same name
ln -s *PATH1 TXT*	creates link of *PATH* with new name *TXT*

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Helpers

alias *TXT='CMD'*	abbreviate *CMD* with *TXT*
★	alias ..='cd ..'
★	alias l='ls -lah'
CMD | wc -l	prints number of lines *CMD* generates as output
CMD | sort	sorts output of *CMD* alphabetical
CMD | sort -n -k 3	sorts output of *CMD* numerical based on 3rd column
CMD | uniq	only prints unique lines of *CMD* output

Archives & Compression

gunzip *FILE*.gz	uncompresses the *FILE*.gz in-place
unzip *FILE*.zip	uncompress and extracts the ZIP archive *FILE*.zip
tar -xvzf *FILE*.tgz	extracts + uncompress (gzip) the tarball *FILE*.tgz
tar -xvf *FILE*.tar	extracts the tarball *FILE*.tar
tar -cvzf *FILE*.tgz *PATH*	archives and compresses *PATH* into *FILE*.tgz

Permissions

chmod OCTAL *FILE*	change the permissions of FILE (or directory) to OCTAL seperately for user, group and world by summing: ➕4 - read (r) ➕2 - write (w) ➕1 - execute (x) **Example:** chmod 750 == rwx for owner, rx for group, none for world

Process Control

top	displays realtime information about the top cpu processes
ps	report snapshot of processes (in current shell)
ps -lfu *USER*	show all processes of *USER* in details
kill *PID*	terminate the process with the process ID *PID*

Shortcuts

`Ctrl + c`	Interrupt/Kill whatever you are running (SIGINT)
`Ctrl + z`	Suspends current task (SIGTSTP).
	`fg + Enter` : resume process
	`bg + Enter` : continue process in background
`Shift + PageUp`	Scroll terminal window up
`Shift + PageDown`	Scroll terminal window down

Shortcuts (cursor movement)

`Ctrl + a` / `Home`	Go to beginning of the line
`Ctrl + e` / `End`	Go to the End of the line
`Ctrl + f` / →	Forward one character
`Ctrl + b` / ←	Backward one character
`Ctrl + a`	Delete current character
←`Backspace`	Delete previous character
`Shift + Insert`	Paste text

ℹ Wildcards

*	replaces arbitrary number of characters
?	replaces exactly one character
[abc]	replaces exactly for a, b or c
[a-z]	replaces for any char from a to z

Navigation (less, man, ...)

h	display help message
q	quit
space-bar | `PageDown`	one page down
b| `PageUp`	one page up
q	quit
/ TXT	search forward for *TXT*
? *TXT*	search backward for *TXT*
n	repeat previous search
N	repeat previous search in reverse direction
G	Go to last line
g	Go to first line

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