

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

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

## General Advice

 $\ensuremath{{\mathbb Q}}$  Use the tab-completion: Tab and double Tab

 $\mbox{$\mathbb{Q}$}$  Use the history:  $\mbox{$\uparrow$}$  and  $\mbox{$\downarrow$}$  and  $\mbox{crtl+r}$ 

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 1
info CMD	displays the info documents of CMD (1
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 F/LE	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 F/LE	display FILE on a page-by-page basis 🐧
less	display STDIN on a page-by-page basis 🚯
cat F/LE	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 <i>CMD</i> to <i>FILE</i> , appending it
CMD1   CMD2	'pipes' standard out of <i>CMD1</i> as standard input to <i>CMD2</i>
CMD > out.log 2> err.log &	runs <i>CMD</i> in background, prints standard out to out.log and standard error to err.log

Searching	
grep TXT FILES	search for pattern <i>TXT</i> in <i>FILES</i> (linewise)
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 <i>TXT</i> case insensitive

Operate On Filesystem	
pwd	prints current directory
Is [PATH]	list directory contents
Is -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 <i>PATH1</i> to <i>PATH2</i>
mv PATH1 PATH2	moves file or dir PATH1 to PATH2
rm FILE	removes FILE
rm -r <i>PATH</i>	removes files and dirs under <i>PATH</i> recursively
In -s PATH1	creates link of PATH with same name
In -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 I='Is -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 <i>CMD</i> numerical based on 3rd column
CMD   uniq	only prints unique lines of CMD output

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

Archives & Compression	
gunzip F/LE.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 F/LE.tar	extracts the tarball FILE.tar
tar -cvzf FILE.tgz PATH	archives and compresses <i>PATH</i> into <i>FILE</i> .tgz

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
<b>♦</b> Backspace	Delete previous character
Shift + Insert	Paste text

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

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

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

Navigation (less, man,)	
display help message	
quit	
one page down	
one page up	
quit	
search forward for TXT	
search backward for TXT	
repeat previous search	
repeat previous search in reverse direction	
Go to last line	
Go to first line	



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