

Bash Cheat Sheet

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1 Navigation

- *pwd*: print working directory
- *cd*: change directory according to path given

2 Listing Files

- *ls*: listing a directory content, common option:
 - *-l* list format
 - *-a* all files even hidden ones

3 Reading files

- *cat*: allow to read a file's content, common options:
 - *-n* line numbering in the output
- *more*: display one screen at a time when the file is large
- *less*: a version more sophisticated of *more* with navigation forward and backward option *+F* monitor changes in the file (monitoring log files)
- *head*: allow to print top N number of lines from a file
- *tail*: allow to print last N number of lines from a file

4 Files management

- *touch*: create a file
- *rm*: delete files or directory (no going back!)
- *mkdir*: create directory
- *rmdir*: delete directory if empty
- *mv*: move file
- *cp*: copy file
- *ln*: create symlink with the *-s* option

5 Wildcards

- using the Wildcards for file management
- *** replace any chain of character
- *?* replace only one character
- *a-z* any character from a to z small caps
- *0-9* any digit

6 Finding files

- *which*: search in the PATH to find a file
- *locate*: find a path of a binary
- *find*: find allow to walk a hierarchy to search for files and directories. The main options are:
 - *-name*: search by name
 - *-iname*: search by name case insensitive
 - *-type f/d/l/s*: search by type (files, directories, links, sockets)
 - *-size*: search by file size
 - *-user*: search by user

7 Pipeline

Every program running on the command line in Linux has 3 data streams:

- *STDIN(0)*: standard input
- *STDOUT(1)*: standard output
- *STDERR(2)*: standard error

Pipping and redirection means that we may connect these streams between different programs (STDOUT of one program to the STDIN of another)

8 grep, sed, cut and awk

- *grep*: searches text files for a given regex. Common option *-r* for recursive
- *sed*: stream editor, text editing on stream text
- *cut*: extract a section of text from a line. Common options:
 - *-f*: field number
 - *-d*: field delimiter
- *awk*: programming language for text processing. Common options:
 - *-F*: field separator
 - *print*: subcommand which outputs the result

9 Comparing files

- *comm*: compares two text files. Output three columns:
 - *column 1*: lines that are unique to the first file
 - *column 2*: lines that are unique to the second file
 - *column 3*: lines that are shared by both file

option -n where n is either 1, 2 or 3 to suppress the columns not needed
- *diff*: detect differences between files. Popular format options:
 - *-c*: context format
 - *-u*: unified format
 - *-B*: skip blank line
 - *-d*: smallest set of differences

10 Editing files from command line

- *nano*: simple text editor not installed by default on linux
 - *ctrl + O*: save a file
 - *ctrl + X*: exit the editor
 - *ctrl + W*: search for a string
- *vi* or *vim*: powerful text editor installed by default on most linux system
 - *:q*: quit the file without saving (normal mode)
 - *:w*: write the file (normal mode)
 - *i*: entering in insert mode
 - *ESC*: come back in normal mode