

# Linux Command Cheatsheet

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**man** shows the command manual page  
**apropos** searches a word from manual pages headlines

## 1 Files and Directories

**ls** list directory contents  
**cd** change the working directory  
**pwd** print name of working directory  
**mkdir** make directories  
**rmdir** remove empty directories  
**cp** copy files and directories  
**rm** remove files or directories  
**mv** move (rename) files  
  
**df** report file system disk space usage  
**touch** change file timestamps (or create an empty file)  
**file** determine file type  
**ln** make links between files

**dos2unix** convert dos-style linebreaks to unix-style

**unix2dos** convert unix-style linebreaks to dos-style

## 2 Process Control

**ps** print list of current processes  
**pstree** display a tree of processes  
**kill** sends a signal to a process (usually to terminate)  
**top** interactive process list

**uptime** tells how long the system has been running

**free** display amount of free and used memory

**logout/exit** cause the terminal session to exit

**reboot** reboot the machine

**halt** power-off the computer

**shutdown** power-off or reboot the computer

## 3 Finding data

In this context *data* is either text or binary files.

**find** finds files  
**locate** finds files (using pre-collected database)  
**grep** finds strings from input, for example from files  
**xargs** changes input into parameters for another command

**sort** sorts input of strings

**head** print the first lines of files

**tail** print the last lines of files

**cat** print files into output

**less** views a given input

**zless** views a given compressed input

**dd** copy data from an input to an output

**echo** prints the given string

**tee** writes input into output and files

**date** prints system date and time

**wc** count amount of characters/words/lines in input

## 4 Redirecting input and output

Each command can take one input (stdin) and give out two outputs; printout (stdout) and errors (stderr). By default the input is from keyboard and outputs are written to the console.

**command >file**  
redirects printout of command to file

**command1 |command2**  
pipes printout of command1 to input command2

**command <file**  
redirects file to input of command

**command 2>file**  
redirects errors from command to file

**command <file0 >file1 2>file2**

**command >/dev/null**  
throws away the printout

**command 2>&1**  
combines errors to printout

**command 2>&1 >file**  
redirects errors to console and printout to file

**command >file 2>&1**  
redirects printout to file and errors there too

## 5 Users and Permissions

type  
|owner permissions  
|group permissions  
|others permissions  
-rwxrwxrwx  
r = read, w = write, x = execute

**chown** change file owner

**chgrp** change file group

**chmod** change file permissions

**adduser** add user to the system

**deluser** remove user from the system

**passwd** change user password

**who/w** print who is logged in

## 6 Text Editors

Quick introduction to vim:

- Opening a file: vim <path to file>
- Basic use has two modes: command mode and edit mode. When starting vim is in command mode. You can enter edit mode by pressing *i* key (i=insert)
- Return back to command mode by pressing *ESC* key
- Search text /
- Write changes to file using command *:w*
- Quit editor with command *:q*
- You may notice that commands start with colon

Quick introduction to nano:

- Opening a file: nano <path to file>
- Lower part of screen has help for common commands.
- Search text: *CTRL-w*
- Write changes to file using command *CTRL-o*
- Quit editor with command *CTRL-x*

## 7 Network Settings

Computers have network devices that have addresses. Addresses are routed using the routing table.

<b>ip link</b>	network devices
<b>ip addr</b>	network addresses
<b>ip neigh</b>	neighbor data
<b>ip route</b>	routing data
<b>iwconfig</b>	wireless device settings
<b>ipcalc</b>	calculates network masks and addresses
<b>wget</b>	fetches a file from given URL address
<b>ping</b>	tests whether a node responds (either a name or IP address)
<b>traceroute/mtr</b>	tests the route to the target node
<b>tcpdump</b>	captures traffic from network devices
<b>wireshark</b>	graphical tcpdump + protocol analyzer
<b>nslookup/dig</b>	makes a name service request

## 8 Package Management

<b>apt-get</b>	package handling utility
<b>apt-cache</b>	searches the package database
<b>aptitude</b>	text-based user interface
<b>synaptics</b>	graphical user interface

## 9 Compression Tools

<b>tar</b>	collects/unpacks multiple files into one.
<b>gzip</b>	compresses a file into gz format
<b>gunzip</b>	decompresses a gz format file
<b>zip</b>	collects and compresses files to zip archive
<b>unzip</b>	unpacks a zip archive

## 10 Screen quick reference

<b>ctrl-a c</b>	create a new window
<b>ctrl-a n</b>	switch to next window
<b>ctrl-a p</b>	switch to previous window
<b>ctrl-a NUM</b>	switch to window index NUM
<b>ctrl-a d</b>	detach from session
<b>exit</b>	closes the active window/session
<b>screen -r</b>	reattach to an existing session
<b>screen -rD</b>	reattach to existing session, cut other screens off
<b>screen -rx</b>	reattach to existing session, alongside others

ref [http://aperiodic.net/screen/quick\\_reference](http://aperiodic.net/screen/quick_reference)

## 11 SSH quick reference

<b>ssh host</b>	connects to computer <i>host</i>
<b>ssh user@host</b>	connects using username <i>user</i>
<b>ssh host command</b>	run <i>command</i> on computer <i>host</i>
<b>ssh -i idfile host</b>	connect using given public key
<b>ssh-keygen</b>	create a public authentication key
<b>ssh-copy-id -i idfile host</b>	copies given public key to computer <i>host</i>
<b>sftp host</b>	connects file transfer session to <i>host</i>
<b>scp file host:</b>	transfers <i>file</i> to <i>host</i>
<b>scp host:file .</b>	transfers <i>file</i> from <i>host</i>
<b>-L [bindaddr:]port:host:hostport</b>	makes a tunnel from local host (optional address <i>bindaddr</i> ) port <i>port</i> to target <i>host:hostport</i>
<b>-R [bindaddr:]port:host:hostport</b>	makes a tunnel from remote host (optional address <i>bindaddr</i> ) port <i>port</i> to local target <i>host:hostport</i>

## 12 Git quick reference

<b>git init</b>	creates a git repository
<b>git clone url</b>	copies a git repository from address <i>url</i>
<b>git status</b>	reports repository status
<b>git diff</b>	shows differences in the repository
<b>git add .</b>	adds a file to upcoming commit
<b>git commit -m "short description"</b>	commits a change to the repository
<b>git pull</b>	fetch and merge changes from source repository
<b>git pull --rebase</b>	fetch changes and rebase local changes on top of it
<b>git push</b>	send local commits to source repository
<b>git branch</b>	show branches in local repository
<b>git branch name</b>	create a local branch named <i>name</i>
<b>git checkout name</b>	switch to branch <i>name</i> and update directory contents
<b>git merge name</b>	combine branch <i>name</i> to current branch
<b>git branch -d name</b>	remove branch named <i>name</i>
<b>git reset stamp</b>	removes all changes made after commit <i>stamp</i> but keeps the modified files
<b>git reset --hard stamp</b>	removes all changes made after commit <i>stamp</i> and returns the directory contents to that version
<b>git blame file</b>	prints out <i>file</i> showing the authors who last modified each line