

# Linux commands

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## Shortcuts

### Bash command line shortcuts

- ctrl+a e: move to the front / end of a line
- ctrl+u k: cut to the cursor / from the cursor in a line
- ctrl+b f: move back / forward a char
- alt+b f: move back / forward a word
- ctrl+w: delete a word in the left
- ctrl+d h: delete / backspace a char
- ctrl+y: paste
- ctrl+\_ : undo

### Terminal shortcuts

- ctrl+alt+t: open a terminal
- ctrl+z: stop / suspend
- ctrl+c: kill
- ctrl+d: close (at the beginning of the prompt)
- ctrl+l: clear
- ctrl+r: reverse history search
- ctrl+p n: command history search
- ctrl+s q: stop output to screen / resume
- shift+page-up page-down: scrolling

## Linux commands

### Basic

- history, !, !#, !<command>: history search/execute
- pwd: present working directory
- which <command>: shows absolute path of the command
- ls -asl: a hidden, s size, l long-format
- ls -F: \* executable / directory @ symbolic link
- ls -R: recursive ls to all subdirectories
- clear, cat [-n], touch (creates empty file), more <file> (page view), head/tail [-n] <file>
- wc [-lwc] <file>: l line, w word, c char count
- cp [-r] dir1 dir2: recursive copy including subdirectories
- mv [-i], rm [-ir]: i interactive, r recursive (to remove all subdirectories)
- chmod [-R] ugoa+-=rwx <file>
- file <file>: shows attributes of the file

## Shell commands

- Bash shell user env setting: `~/.bash_profile(login)`, `~/.bashrc(login, subshell)`
- Setting environment variable:
  - `$ var1=value1` # define a shell variable
  - `$ export var1` # declares local variable to global variables
  - `$ echo $var1` # shows the value of the shell variable
- Useful `~/.bashrc` inclusion
  - `export PATH=$PATH:.`
  - `# History search code`
  - `bind ‘“\e[A”: history-search-backward’`
  - `bind ‘“\e[B”: history-search-forward’`
- `. ~/.bashrc`: executes `~/.bashrc` (source command)
- Command substitution: ‘commands here substituted with results’ (quotations are backtick)
- `>`, `>>`, `|`, `*?[.:]`: redirection, pipe, and wildcards
- `command&`: background processing
- `jobs [%job_number]`
- `fg %job_number`
- `kill %job_number` or `kill process_number`
- `wait process_number`
- `nohup <command> &`: enables to run the command after logout
- `ps -ef`: shows all info regarding processes
- `ps -ef | grep -w <word>`: whole word matching – the same as `pgrep`
- `find <director> -name <filename> -print` or `-ls`
- Other file handling commands: `grep`, `sort`, `cmp`, `diff`, `cat` (to merge)
- Disk related commands: `df`, `du [-s:sum]`
- Archive (without compress): `tar`
- Compress: `gzip`

## Other topics

- Bash shell script (start with `#!/bin/bash` ; make executable)
- C-programming
- Process handling
- System admin