Unix/Linux Command Reference

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File Commands

ls – directory listing
ls -al – formatted listing with hidden files
cd *dir* - change directory to *dir*
cd – change to home
pwd – show current directory
mkdir *dir* – create a directory *dir*
rm *file* – delete *file*
rm -r *dir* – delete directory *dir*
rm -f *file* – force remove *file*
rm -rf *dir* – force remove directory *dir* *
cp *file1 file2* – copy *file1* to *file2*
cp -r *dir1 dir2* – copy *dir1* to *dir2*; create *dir2* if it doesn't exist
mv *file1 file2* – rename or move *file1* to *file2*
if *file2* is an existing directory, moves *file1* into directory *file2*
ln -s *file link* – create symbolic link *link* to *file*
touch *file* – create or update *file*
cat > *file* – places standard input into *file*
more *file* – output the contents of *file*
head *file* – output the first 10 lines of *file*
tail *file* – output the last 10 lines of *file*
tail -f *file* – output the contents of *file* as it grows, starting with the last 10 lines

Process Management

ps – display your currently active processes
top – display all running processes
kill *pid* – kill process id *pid*
killall *proc* – kill all processes named *proc* *
bg – lists stopped or background jobs; resume a stopped job in the background
fg – brings the most recent job to foreground
fg *n* – brings job *n* to the foreground

File Permissions

chmod *octal file* – change the permissions of *file* to *octal*, which can be found separately for user, group, and world by adding:

- 4 – read (r)
- 2 – write (w)
- 1 – execute (x)

Examples:
chmod 777 – read, write, execute for all
chmod 755 – rwx for owner, rx for group and world
For more options, see **man chmod**.

SSH

ssh *user@host* – connect to *host* as *user*
ssh -p *port user@host* – connect to *host* on port *port* as *user*
ssh-copy-id *user@host* – add your key to *host* for *user* to enable a keyed or passwordless login

Searching

grep *pattern files* – search for *pattern* in *files*
grep -r *pattern dir* – search recursively for *pattern* in *dir*
command* | grep *pattern – search for *pattern* in the output of *command*
locate *file* – find all instances of *file*

System Info

date – show the current date and time
cal – show this month's calendar
uptime – show current uptime
w – display who is online
whoami – who you are logged in as
finger *user* – display information about *user*
uname -a – show kernel information
cat /proc/cpuinfo – cpu information
cat /proc/meminfo – memory information
man *command* – show the manual for *command*
df – show disk usage
du – show directory space usage
free – show memory and swap usage
whereis *app* – show possible locations of *app*
which *app* – show which *app* will be run by default

Compression

tar cf *file.tar files* – create a tar named *file.tar* containing *files*
tar xf *file.tar* – extract the files from *file.tar*
tar czf *file.tar.gz files* – create a tar with Gzip compression
tar xzf *file.tar.gz* – extract a tar using Gzip
tar cjf *file.tar.bz2* – create a tar with Bzip2 compression
tar xjf *file.tar.bz2* – extract a tar using Bzip2
gzip *file* – compresses *file* and renames it to *file.gz*
gzip -d *file.gz* – decompresses *file.gz* back to *file*

Network

ping *host* – ping *host* and output results
whois *domain* – get whois information for *domain*
dig *domain* – get DNS information for *domain*
dig -x *host* – reverse lookup *host*
wget *file* – download *file*
wget -c *file* – continue a stopped download

Installation

Install from source:
./configure
make
make install
dpkg -i *pkg.deb* – install a package (Debian)
rpm -Uvh *pkg.rpm* – install a package (RPM)

Shortcuts

Ctrl+C – halts the current command
Ctrl+Z – stops the current command, resume with **fg** in the foreground or **bg** in the background
Ctrl+D – log out of current session, similar to **exit**
Ctrl+W – erases one word in the current line
Ctrl+U – erases the whole line
Ctrl+R – type to bring up a recent command
!! - repeats the last command
exit – log out of current session

* use with extreme caution.

The Nano text editor

`$` **nano** *file_name* (where *file_name* is either an existing file in the current directory, or a new one that you would like to create.

The command mode of operation combines the control key (indicated on the screen by the symbol **^**) together with another character on the keyboard. The arrow keys move the cursor as expected, and one inserts text at the cursor by simply typing characters.

- Moving the cursor:
  - All the arrow keys move the cursor as expected
  - **ctrl**-**a** - go to the beginning of the current line
  - **ctrl**-**e** - go to the end of the current line
  - **ctrl**-**v** - scroll down (forward) to the next page of text
  - **ctrl**-**y** - scroll up (backward) to the previous page of text
  - **ctrl**-**w** *string* **return** - search forward to the first occurrence of *string* (ignoring case)
  - **ctrl**-**w return** - search forward to the next occurrence of the same *string*

- Cut (delete and store in the buffer), and paste (undelete) operations:
  - **ctrl**-**d** - delete the character under the cursor
  - **delete** (delete key) - delete the character before the cursor
  - **ctrl**-**k** - delete (kill) the entire line (or the selected block of text) at the cursor and save it in the buffer
  - **ctrl**-**u** - undelete (paste) the entire line (or the selected block of text) at the cursor
  - **ctrl**-**^** - turn on selection for highlighting a block of text using the cursor. Note that repeating **ctrl**-**^** prior to any editing action will undo the selection

Note: **ctrl-k** will save the recent set of deletions in a buffer, and these lines may be re-inserted at the current cursor location using **ctrl-u**.
Hence simulating cut and paste:

  - Repeatedly use **ctrl-k** until all the text you want to move has been deleted.
  - Move to the line where you want to insert the text and use **ctrl-u**.

- Save buffer and exit pico:
  - **ctrl**-**o** *file_name* **return** - save the buffer to *file_name* without exiting *(do this often to keep your editing changes saved to the file)*
  - **ctrl**-**x** - exit **pico/nano** (prompts you to save if buffer has not been saved)

- Information:
  - **ctrl**-**c** - report the current cursor position
  - **ctrl**-**g** - display the pico help