

Linux commandline tips

Bash tips

```
^r      Reverse search the command history
^a      Return to the start of the command you're typing
^e      Go to the end of the command you're typing
^u      Cut everything before the cursor to a special clipboard
^k      Cut everything after the cursor to a special clipboard
^y      Paste from the special clipboard that Ctrl + u and Ctrl + k save their data to
^t      Swap the two characters before the cursor (you can actually use this to transport a
character from the left to the right, try it!)
^w      Delete the word / argument left of the cursor
^l      Clear the screen

history  lists command history
!61      executes command on line 61

ls -l /etc/passwd
stat !$          no need to repeat argument on second line

man -k <keyword>  searches in all man pages for <keyword>

ls *.mp3 | xargs rm
ls *.mp3 | xargs -i cp {} /home/bla
ls *.mp3 -d -> stays in current dir and doesn't enter mp3/
```

- start a restricted shell (no cd, etc) to test programs

```
# bash -r
```

- start shell with options

```
# bash -O [modification]
```

```
autocd -> use the argument as cd command
```

```
cd-spell -> corrects dir names
```

```
dirspell -> corrects dir names in file completion
```

```
no-caseglob -> case insensitive
```

to run commands:

```
# command1 && command2
```

logical AND :: run command1, if ok then run command2

```
# command1 || command2
```

logical OR :: run command2 only if command1 fails

cp

```
cp -rv
```

gives feedback

```
cp -p
```

preserves original date/time

dd

use blocks of 64k and report every 10Mb:

```
dd if=/dev/hda | buffer -s 64k -S 10m > image
```

or, from other console:

```
kill -SIGUSR1 $(pidof dd)
```

df

```
df -type=ext3,ReiserFS
```

```
df -H human readable
```

find

find all files in your homedir modified or created today

```
find ~ -type f -mtime 0
```

case insensitive search

```
find . -iname "*.mp3"
```

find files and directories in your homedir not created by you

```
find ~ ! -user ${USER}
```

and fix this

```
find ~ ! -user ${USER} -exec sudo chown ${USER}: "${}" \;
```

find duplicates PvdM

```
find . -type f -exec md5sum '{}' ';' | sort | uniq --all-repeated=separate -w 15
```

free

```
free -m -> megabytes
```

```
free -t -> totals
```

```
free -s[seconds] -> update interval
```

watch the line with +/- buffers: **free** indicates memory that can be freed instantaneously **used** is all memory being used

grep

```
grep -A2 bla greps 2 lines after
```

```
grep -B3 bla greps 3 lines before
```

history

```
# history -d [position] -> remove specific command
```

```
# history -c -> clear entire history
```

iostat

monitors io proces

```
iotop -o makes output more readable by showing only processes causing io right now
```

```
iotop -d10 refresh interval
```

```
iotop -o -b -d10 -n30 > io.txt batch mode: write io status 30 times to file at 10s interval
```

iperf

```
iperf -s -w128k run server for performance benchmark
```

```
iperf -c -w128k -t30 -r run client
```

```
iperf -c -w128k -t30 -d run client in two directions, full duplex
```

kill

kill -l shows instructions

```
1  SIGHUP    restart immediately after terminating, or triggers reconfiguration of background service
```

```
2  SIGINT    Ctrl+c from the keyboard, terminate!
```

```
3  SIGQUIT   Ctrl+\ from the keyboard, terminate with coredump
```

```
9  SIGKILL   force terminate, extreme signal that can't ignored
```

```
11 SIGSEGV   program attempted an invalid memory reference, terminate with coredump
```

```
15 SIGTERM   request to terminate and cleanup
```

```
19 SIGSTOP   interrupts the process until you enter SIGCONT to continue
```

```
kill -19 9102 10234 stops several processes
```

```
killall -19 ssh sends all ssh connections to sleep
```

```
killall -19 -i ssh interactive mode (recommended)
```

lsof

```
lsof list open files
```

```
lsof -i :22 list all ssh connections (same :ssh)
```

```
lsof -i@10.0.0.1 list all connections from 10.0.0.1
```

```
lsof -i@amsterdam.nl list all connections from domain
```

```
lsof -u username list all open files from username
```

```
lsof -c bash list open files related to bash
```

```
lsof -c /log/ list all open files from all processes containing log
```

lspci

```
lspci -v
```

```
lspci -vv
```

```
lspci -vvv
```

```
lspci -nn -> show names & numerical
```

```
lspci -k -> show kernel modules associated with the device
```

more or less

```
+ number of line from which to start displaying
```

```
z number of lines to jump forward
```

```
y number of lines to jump back
```

```
-I ignore case when searching
```

```
-V underline tabs, line endings
```

```
/ highlights all occurrences of search
```

pgrep

```
pgrep ssh lists all ssh processes
```

```
pgrep -l ssh shows names
```

```
pgrep -f shows full commandline
```

```
pgrep -u show user
```

ping

```
ping 0 -> pings localhost
```

```
ping c 5 nu.nl -> pings 5 times
```

```
ping -f host -> floods the host
```

```
ping -a IP -
```

> gives audible beep Note: It can give beep only from terminal number 1 through 7 and gnome-terminal (It will not work in console).

```
ping -q ip -> show only summary
```

```
ping -s 100 -> change packet size
```

Pressing CTRL+| (Control key followed by pipe symbol) for the shows the summary in between, and continues with it packet sending and receiving process.

```
ping hop1 hop2 hop3 .. hopN destination
```

```
ping -R 192.168.1.63 -> Record and print route of how ECHO_REQUEST sent and ECHO_REPLY received
```

pkill

understands the same options as pgrep

```
pkill -19 ssh
```

```
pkill -19 -u joop stop joop's processes
```

ps

show how long a process is running

```
ps -o pid,etime,cmd `pidof amarok`
```

show memory usage per process

```
ps -e -orss=,args= | sort -b -k1,1n | pr -TW$COLUMNS
```

pstree

```
pstree -a shows processes tree structure with program's parameters
```

```
pstree -h highlights own process
```

```
pstree -H highlights process id
```

```
pstree -u shows user
```

stat

shows status of file

```
stat /etc/passwd
```

```
stat -c "%x %n" /etc/passwd formatted to show time
```

swapon

```
swapon -s see size and usage
```

tail or head

```
--retry keep monitoring the file
```

```
-s seconds how often monitoring retry
```

```
-pid stops tail from running if PID stops running
```

tar

```
tar zxf -> extracts file
```

top

```
PID      programma id
USER     gebruiker
PR       prioriteit van de taak
NI       nice value
VIRT     virtuele geheugen gebruik
RES      fysieke geheugen gebruik
SHR      deel v/h geheugen dat mogelijk met andere taken wordt gedeeld
%CPU     percentage processorgebruik
%MEM     percentage geheugengebruik
TIME+   de tijd dat de taak op de cpu heeft gedraaid
COMMAND de naam van de taak
```

keys: z: enable color mode. x: show sorted column in different color < >: change sorted column u [user]: show only users processes d: delay in sec

show only user user

```
#top -u user
```

zombies

```
ps aux | grep defunct
```

AutoYast

create autoyast file through icon in Yast2->autoyast

```
www.suse.de/~ug (Uwe Gansert)
```

Midnight Commander (MC)

The standard colorpalette is incredibly hard to read in certain terminals, like yakuake.

For readable colors (mostly black and green), enter in your `~/.mc/ini` file the following line:

```
[Colors]
base_color=lightgray,green:normal=green,default:selected=white,gray:marked=yellow,default:markselect=yellow,gray:directory=blue,default:executable=brightgreen,default:link=cyan,default:device=brightmagenta,default:special=lightgray,default:errors=red,default:reverse=green,default:gauge=green,default:input=white,gray:dnormal=green,gray:dfocus=brightgreen,gray:dhotnormal=cyan,gray:dhotfocus=brightcyan,gray:menu=green,default:menuhot=cyan,default:menusel=green,gray:menuhotsel=cyan,default:helpnormal=cyan,default:editnormal=green,default:editbold=blue,default:editmarked=gray,blue:stalelink=red,default
```

tune kernelparameters

stored in `/proc/sys/` gone after reboot

sysctl is a service that reads `sysctl.conf` during boot and read parameters from there -> makes it permanent

```
# ulimit -a
```

gives info about system resources limitations

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