

Useful commands for the Linux command line

This short guide shows some important commands for your daily work on the Linux command line.

arch

Outputs the processor architecture.

```
$ arch
```

```
i686
```

cat

Outputs the contents of a file.

```
$ cat lorem.txt
```

```
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
```

cd

Change the working directory.

```
$ cd /bin
```

chgrp

Change group ownership of files.

```
$ chgrp games moo.txt
```

chmod

Change access permissions of files.

```
$ chmod +x helloworld
```

chown

Change file owner and group.

```
# chown root lorem.txt
```

cksum

Print CRC checksum and byte counts of each file.

```
$ cksum lorem.txt moo.txt
```

```
3570240675 453 lorem.txt
4294967295 0 moo.txt
```

cp

Copies a file.

```
$ cp lorem.txt copy_of_lorem.txt
```

date

Outputs the current date and time.

```
$ date
```

```
Sat Mar 3 12:07:09 GMT 2007
```

df

Reports the amount of disk space used and available on filesystems.

```
$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
/dev/simfs	39845888	218048	39627840	1%	/

dir

List directory contents.

```
$ dir
```

```
copy_of_lorem.txt  lorem.txt  moo.txt  www
```

du

Estimate file space usage.

```
$ du -h /bin
```

```
7.8M  /bin
```

echo

Display a line of text.

```
$ echo foobar
```

```
foobar
```

exit

Cause the shell to exit.

```
$ exit
```

fgrep

Print lines matching a pattern in a file.

```
$ fgrep "irure dolor" lorem.txt
```

```
commodo consequat. Duis aute irure dolor in reprehenderit in voluptate
```

find

Search for files in a directory hierarchy.

```
$ find hello*
```

```
hello_world  
hello_world.c
```

free

Display amount of free and used memory in the system.

```
$ free
```

	total	used	free	shared	buffers	cached
Mem:	8299892	8287708	12184	0	2641772	1731236
Low:	3581300	3572764	8536			
High:	4718592	4714944	3648			
-/+ buffers/cache:	3914700	4385192				
Swap:	8193140	2335664	5857476			

grep

Print lines matching a pattern.

```
$ grep -i apple fruitlist.txt
```

```
apple
```

groups

Outputs the user groups of which your account belongs to.

```
$ groups
```

```
games users
```

head

Output the first part of files.

```
$ head -2 lorem.txt
```

```
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod  
tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim
```

hostname

Outputs the machines hostname on the network.

```
$ hostname
```

```
anapnea.net
```

id

Outputs user id, group id, and groups of your account.

```
$ id
```

```
uid=1478(smallfoot) gid=100(users) groups=35(games),100(users)
```

kill

End a process.

```
$ kill -9 18298
```

```
-bash: kill: (18298) - Operation not permitted
```

killall

Kill processes by name.

```
$ killall irssi
```

```
irssi(18298): Operation not permitted  
irssi(13372): Operation not permitted  
irssi(22048): Operation not permitted  
irssi: no process killed
```

last

Show listing of last logged in users.

```
$ last -n 3
```

```
alice pts/6 192.0.34.166 Fri May 18 16:17 still logged in  
bob pts/2 64.233.183.103 Fri May 18 16:17 still logged in  
clare pts/6 72.5.124.61 Fri May 18 15:54 - 15:55 (00:01)
```

ldd

Print shared library dependencies.

```
$ ldd /bin/bash
```

```
libncurses.so.5 => /lib/libncurses.so.5 (0x40023000)  
libdl.so.2 => /lib/libdl.so.2 (0x40065000)  
libc.so.6 => /lib/libc.so.6 (0x40069000)  
/lib/ld-linux.so.2 (0x40000000)
```

In

Make links between files.

```
$ ln -s data.txt symlink.txt
```

logname

Print user's login name.

```
$ logname
```

```
smallfoot
```

ls

List directory contents.

```
$ ls
```

```
copy_of_lorem.txt  lorem.txt  moo.txt  www
```

man

Opens the manual page for a software or function.

```
$ man bash
```

md5sum

Outputs the MD5 hash sum of a file.

```
$ md5sum lorem.txt
```

```
56da9e37259af34345895883e6fd1a27  lorem.txt
```

mkdir

Makes a directory.

```
$ mkdir foobar
```

mv

Moves a file.

```
$ mv lorem.txt ipsum.txt
```

nl

Number lines of files.

```
$ nl lorem.txt
```

```
1 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod
2 tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim
```

```
3 veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea
4 commodo consequat. Duis aute irure dolor in reprehenderit in voluptate
5 velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint
6 occaecat cupidatat non proident, sunt in culpa qui officia deserunt
7 mollit anim id est laborum.
```

nm

List symbols from object files.

```
$ nm hello_world
```

```
080494a0 D __DYNAMIC
0804956c D __GLOBAL_OFFSET_TABLE__
08048474 R __IO_stdin_used
        w __Jv_RegisterClasses
08049490 d __CTOR_END__
0804948c d __CTOR_LIST__
08049498 d __DTOR_END__
...
```

od

Dump files in octal and other formats.

```
$ od -t x /bin/sh
```

```
2376640 00098020 000054d4 00000000 00000000
2376660 00000020 00000000 000000c7 00000008
2376700 00000003 080e6500 0009d4f4 00004ae8
...
```

pidof

Find the process ID of a running program.

```
$ pidof fetchmail
```

```
22392
```

ping

Pings a host.

```
$ ping -c 2 127.0.0.1
```

```
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data:
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0.048 ms
64 bytes from 127.0.0.1: icmp_seq=2 ttl=64 time=0.052 ms

--- 127.0.0.1 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 999ms
rtt min/avg/max/mdev = 0.048/0.050/0.052/0.002 ms
```

ps

Outputs running processes.

```
$ ps
```

```
  PID TTY          TIME CMD
 21542 pts/12    00:00:00 bash
 27706 pts/12    00:00:00 ps
```

pstree

Display a tree of processes.

```
$ pstree
```

```
init-+-2*[BitchX]
  |-3*[bash---sleep]
  |-fetchmail
  |-screen-+-bash---irssi
  |   `--bash---ctorrent
  |-screen-+-bash---lisp.run
  |   |-bash---vi
  |   |-2*[bash]
  |   `--bash---lynx
  |-2*[screen--bash---irssi]
  |   |-screen---irssi
  |   |-screen---bash
  |   |-screen-+-bash
  |       `--irssi
  |-skjerm---irssi
  |-sshd-+-5*[sshd---sshd--bash---irssi]
  |   |-8*[sshd---sshd--bash]
  |   |-sshd---sshd--bash---screen
  |   |-sshd---sshd
  |   `--sshd---sshd--bash---pstree
  `--syslog-ng
```

pwd

Outputs the name of current working directory.

```
$ pwd
```

```
/home/smallfoot
```

rm

Removes a file or directory.

```
$ rm lorem.txt
```

rmdir

Removes a directory.

```
$ rmdir foobar
```

sed

Stream editor for filtering and transforming text.

```
$ echo "My cat's name is Bob" | sed -e 's/Bob/Mittens/g'
```

```
My cat's name is Mittens
```

sha1sum

Outputs the SHA1 hash sum of a file.

```
$ sha1sum lorem.txt
```

```
c942ddeb142ec8bacac9213d48096e74bab4957  lorem.txt
```

shutdown

Bring the system down in a secure way. All logged-in users are notified that the system is going down.

```
$ shutdown now
```

size

List section sizes and total size.

```
$ size /bin/bash
```

text	data	bss	dec	hex	filename
621233	22712	19176	663121	a1e51	/bin/bash

stat

Outputs file status.

```
$ stat lorem.txt
```

```
File: `lorem.txt'
Size: 453          Blocks: 8          IO Block: 4096   regular file
Device: 77h/119d  Inode: 27312217   Links: 1
Access: (0644/-rw-r--r--)  Uid: ( 1478/smallfoot)  Gid: ( 100/  users)
Access: 2007-03-03 12:24:39.000000000 +0000
Modify: 2007-03-03 12:24:39.000000000 +0000
Change: 2007-03-03 12:24:39.000000000 +0000
```

strings

Print the strings of printable characters in files.

```
$ strings hello_world
```

```
/lib/ld-linux.so.2
_Jv_RegisterClasses
__gmon_start__
libc.so.6
puts
```



```
_IO_stdin_used
__libc_start_main
GLIBC_2.0
PTRh%
[^_]
Hello World!
```

tail

Output the last part of files.

```
$ tail -2 lorem.txt
```

```
occaecat cupidatat non proident, sunt in culpa qui officia deserunt
mollit anim id est laborum.
```

talk

Talk to another user.

```
$ talk bob Lookout for the dopefish!
```

touch

Change a file's access and modification timestamps. If file does not exist, create it.

```
$ touch lorem.txt
```

tty

Outputs the name of the current terminal.

```
$ tty
```

```
/dev/pts/16
```

uname

Outputs operating system, hostname, kernel version, date and time, and processor.

```
$ uname -a
```

```
Linux anapnea.net 2.6.9 #1 SMP Wed Jul 19 16:24:18 MSD 2006 i686 Intel(R) Xeon(TM) CPU 2.80GHz GenuineIntel
GNU/Linux
```

uptime

Outputs the system uptime.

```
$ uptime
```

```
14:50:26 up 7 days, 17:52, 18 users, load average: 0.08, 0.02, 0.01
```

users

Print the user names of users currently logged in to the current host.

```
$ users
```

```
alice bob charlie eve
```

vdir

List directory contents.

```
$ vdir
```

```
total 8
-rw-r--r-- 1 smallfoot users 453 Mar  3 12:32 copy_of_lorem.txt
-rw-r--r-- 1 smallfoot users 453 Mar  3 12:24 lorem.txt
-rw-r--r-- 1 smallfoot users  0 Mar  3 12:32 moo.txt
lrwxr-xr-x 1 root      root   18 Feb 27 19:33 www -> /var/www/smallfoot
```

w

Show who is logged on and what they are doing.

```
$ w
```

```
12:14:30 up 5 days, 15:16, 19 users, load average: 0.00, 0.00, 0.00
USER      TTY      LOGIN@  IDLE   JCPU   PCPU WHAT
charlie   pts/0    Fri21   3:26m  2.52s  2.52s irssi
alice     pts/2    Wed17   30:21m 0.00s  0.00s -bash
emma      pts/4    11:37   36:57  0.00s  0.00s -bash
frank     pts/5    11:48   11:03  0.00s  0.00s -bash
smallfoo  pts/12   12:01   0.00s  0.04s  0.01s w
```

wall

Send a message to everybody's terminal.

```
$ wall next week we change the server for a new one
```

wc

Counts lines in a file.

```
$ wc -l lorem.txt
```

```
7 lorem.txt
```

whatis

Search the whatis database for complete words.

```
$ whatis bash
```

```
bash                (1) - GNU Bourne-Again SHell
bash [builtins]    (1) - bash built-in commands, see bash(1)
```

who

Outputs who is currently logged into the system.

```
$ who
```

```
charlie pts/0      Mar  2 21:37 (xtreme-11-65.acme.com)
alice   pts/2      Feb 28 17:48 (147.21.16.3)
emma   pts/4      Mar  3 11:37 (32.84-48-181.uac.com)
frank  pts/5      Mar  3 11:48 (port-212-202-233-2.foobar.org)
smallfoot pts/12    Mar  3 12:01 (c-12776f4.cust.example.net)
```

whereis

Locate the binary, source, and manual page files for a command.

```
$ whereis bash
```

```
bash: /bin/bash /etc/bash /usr/share/man/man1/bash.1.gz
```

whoami

Outputs your username / the name of your account.

```
$ whoami
```

```
smallfoot
```