

Expansion

<code>ls \$(which cp)</code>	Command expansion
<code>ls `which cp`</code>	Command expansion
<code>mkdir {2017...2-020}-{01-12}</code>	Brace expansion
<code>echo text ~/.*.txt</code>	Variable expansion
<code>{a,b} \$USER</code>	Expansion
<code>echo "text ~/.*.txt"</code>	" expansion
<code>{a,b} \$USER"</code>	" expansion
<code>echo 'text ~/.*.txt'</code>	' expansion
<code>{a,b} \$USER'</code>	(NONE)

Redirection & Commands

<code>ls > file.txt</code>	Standard Out
<code>ls 2> file.txt</code>	Standard Error
<code>ls > file.txt 2>&1</code>	Standard Out & Error
<code>ls &> file.txt</code>	Standard Out & Error
<code>ls tee file wc -l</code>	Read stdin & writes stdout
<code>cmd1 ; cmd2</code>	Run cmd1 then cmd2
<code>cmd1 && cmd2</code>	Run cmd2 if cmd1 is OK
<code>cmd1 cmd2</code>	Run cmd2 if cmd1 is KO

su / sudo

```
su [-l] [user]
| Become another user, ROOT by default. If
| - or -l, load user envs and working dir.

su [user] -c 'command'
| Execute command as user. Default
| root

sudo [-u user] command
| Execute command as user. Default
| root

sudo -ll
| Which commands I'm allowed to execute
```

```
visudo
| Edit /etc/sudoers file. Example
|
| teralco ALL=(root) NOPASSWD:
| /etc/init.d/jboss
|
| teralco ALL=(jboss) NOPASSWD:
| /bin/kill
```

UFW

```
ufw status [verbose|numbered]
```

```
| Show status and rules
```

```
ufw default deny incoming
```

```
ufw default allow outgoing
```

```
| Deny all incoming traffic by default
| Allow all outgoing traffic by default
```

```
ufw [allow|deny] from IP to
[any|interface_name] [proto
tcp|udp] port PORT
```

```
| Full allow/deny rule
```

```
ufw [allow|deny] service_name
```

```
| Allow/deny a service (ssh www ftp
...)
```

```
ufw [enable|disable]
```

```
ufw delete [rule|number]
```

Alt commands

```
/var/log/messages & /var/log/-
syslog
```

```
| System log files
```

```
script file
```

```
| Record session commands in file
```

```
nohup command &
```

```
| Keep command running even after close
| session
```

```
tar -Jxvf file.tar.xz [-C
dest_folder]
```

```
| Extract xz (higher compress ratio)
```

```
zip -FF x.zip --out Y.zip &&
unzip Y.zip
```

```
| Merge zip files (x.zip, x.z01, x.z02)
```

```
ps aux --sort -rss
```

```
| Higher memory consumption processes
```

```
fdisk -l
```

```
| List partition tables
```

```
dd bs=4M if=input.iso of=/de-
v/sd? conv=fdatasync
```

```
| Burn iso in device
```

Searches

```
find path -name *.log -type f -
mtime +5 -exec rm -rvf {} \;
```

```
| Find and delete files older than 5 days
```

```
find path -type f -printf "%s-
\t%p\n" | sort -rn | head -10
```

```
| Find the 10 biggest files
```

```
grep -rli 'pattern' path
```

```
| Find files with pattern content
```

```
du -cks path/* | sort -rn | head
-10
```

```
| Find biggest dirs
```



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Page 1 of 2.

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Searches (cont)

```
du -sh path
```

Dir size

Permissions

```
chmod [u|g|o] [+|-|=] [rwx]
dir_file
```

Change permissions

```
chmod u[+|-]s file
```

Set uid. File is always exec as owner user

```
chmod g[+|-]s dir
```

Set gid. New files in folder are always owned by folder owner

```
chmod [+|-]t dir
```

Sticky Bit. Files in dir can only be renamed or removed by owner or root

```
umask xxxx
```

Set default permissions to dirs

Environment

/etc/profile	Global env config files
/etc/bash.bashrc	files

~/.bashrc	User env config file
-----------	----------------------

~/.profile	
------------	--

printenv	Print defined env vars
----------	------------------------

alias	Show defined aliases
-------	----------------------

export VAR	Make a VAR available to child process
------------	---------------------------------------

source script	Load a file into current script or shell session
. script	

Network

```
ip addr
```

Show ips

```
ifup | ifdown interface_name
```

Up or down an interface

```
/etc/network/interfaces
```

File interfaces are defined

```
hostnamectl [set-hostname hostn-
ame]
```

Manage hostname (/etc/hostname) without restarting

```
netstat -tuln
```

All tcp and udp listening ports

```
ss -tuln
```

All tcp and udp listening ports

```
nc -vz host port
```

Scan port in host

SSH

```
ssh-keygen [-f /etc/ssh/ssh_ho-
st_rsa_key] -t rsa -b 4096
```

Generate ssh rsa key. By default
~/.ssh/id_rsa

```
ssh-copy-id [-i ~/.ssh/mykey]
user@host
```

Copy ssh key in remote host (~/.ssh/authorized_keys). By default
~/.ssh/id_rsa.

```
ssh user@host command
```

Exec command in host

```
ssh -J hostA hostB
```

Connect to hostB through hostA (Jumping). Identification in localhost.
Can use ProxyJump in ~/.ssh/c-
onfig

SSH (cont)

```
ssh -D port -fCqN user@host
```

Proxy socket (HTTP and HTTPS traffic) through port.

```
ssh -nNT -L 9000:remote_ser-
ver:80 user@host
```

Tunneling (Local port forwarding). Map remote_server:80 into localhost:9000 through host

```
ssh -nNT -R 9000:localhost:3000
user@host
```

Tunneling (Remote port forwarding). Map localhost:3000 into host:-9000



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Page 2 of 2.

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