

# Linux Command-line interface

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# Package management

*Debian*

## **apt**

```
apt install packagename
apt remove packagename
apt purge packagename
apt update
apt upgrade
```

## **dpkg**

```
dpkg -i package.deb
```

*Red Hat (RHEL, CentOS, Fedora)*

## **dnf**

```
dnf install packagename
dnf remove packagename
dnf update
```

## **rpm**

```
rpm -i package.rpm
```

*Arch*

## **pacman**

```
pacman -S packagename
pacman -Syu
```

# Shell

## **echo**

```
echo -e "line1\nline2" #enable interpretation of backslash escapes
echo -n #do not output trailing newline
```

## **man**

## **history**

# Filesystem navigation

## **pwd**

## **ls**

```
ls -R #recursive list
ls -r #reverse order while sorting
ls -S #sort by size
ls -shal #print size, human-readable, all, long listing format
```

## **tree**

```
tree -a -L 1 #tree 1 level all files, says "x directories, y files"
```

## **cd**

## **mkdir**

## **rmdir**

## **touch**

```
touch newfile.txt #creates newfile.txt
touch newfile.txt #if newfile.txt exists: updates time, no overwrite
```

## **nano**

## **rm**

```
rm -r directory/ #recursive dir removal
```

## **cp**

```
cp -R mydir/ destination/ #recursive dir copy
cp -v file.txt destination/ #verbose
```

## **mv**

# File reading and manipulation

## less

## more

## tail

```
tail -n 3 file.txt #last 3 lines
```

## head

```
head -n 20 file.txt #first 20 lines
head -c 5k file.txt #first 5k bytes in size
```

## cat

```
cat -n file.txt #show line numbers
```

## grep

```
grep -r #recursive
grep -v #select non-matching lines
grep -R #follow all symlinks
grep -l #print only names of FILES with selected lines
grep -A 2 #print NUM lines of trailing context
grep -B 3 #print NUM lines of leading context
```

## cut

```
cut -b 5 file.txt #get first 5 bytes in each line
cut -c 2,5,7 file.txt #get chars at 2nd, 5th, 7th place in each line
```

## sort

```
sort -n nums.txt #ascending sort
sort -nr nums.txt #descending sort
sort -hr nums.txt #descending sort
sort -nu #numeric unique sort
```

## uniq

```
uniq -c nums.txt #unique lines count, requires sorted list
```

## watch

## find

```
find / -name myfile.txt
```

**file**

**stat**

**wc**

```
wc -c file.txt #byte count  
wc -m file.txt #character count  
wc -w file.txt #word count  
wc -l file.txt #line count
```

# Archives and encryption

## **tar**

```
tar -czvf output.tar.gz input-dir/ #create gzip file verbose  
tar -xvf file.tar.gz #extract file verbose
```

## **zip**

## **unzip**

## **mcrypt**

```
mcrypt backup.txt  
rm backup.txt  
mcrypt -d backup.txt.nc
```

# Users and groups

**adduser**

**useradd**

**groupadd**

**userdel**

**groupdel**

**usermod**

`usermod -a -G grpname username`

**sudo**

**su**

**id**

**whoami**

**who**

**w**

**last**

**passwd**

# Permissions, ownership, and groups

**chmod**

`chmod +x file.sh #give execution permission`

`chmod 777 file.sh #give all permissions`

**chown**

`chown userowner:usergrp file.sh`

**chgrp**

`chgrp staff /u #Change the group of /u to "staff"`

`chgrp -hR staff /u #Change the group of /u and subfiles to "staff"`

# Processes and system

## ps

```
ps -a
ps -u #display process user/owner
ps -x #processes not attached to terminal
```

## free

```
bash
free -h #free and used memory (RAM) in system human-readable
```

## top

## kill

```
kill pid
kill -9 pid #force kill
```

## systemctl

```
systemctl status sshd #status of ssh daemon service
systemctl stop sshd
systemctl start sshd
systemctl enable sshd
systemctl reboot
```

## service

```
service sshd status #status of ssh daemon service
service sshd stop
service sshd start
service sshd restart
```

## reboot

## shutdown

```
shutdown -h now #halt
```

## date

## uptime

## uname

```
uname -a
```



**hostname**

**locale**

**dmesg**

**df**

`df -h #file system space usage human-readable`

**fdisk**

`fdisk -l`  
`fdisk /dev/sdb`

**mkfs**

`mkfs.ext4 /dev/sdb1`

**lsblk**

**mount**

`mount /dev/sdb1/ /media/usb`

# Networking

## ping

## host

## wget

```
wget -O /dev/null http://speedtest.wdc01.softlayer.com/downloads/test100.zip #wget speed test  
wget file.sh | run #download sh and run it
```

## curl

```
curl -o file.tar.gz http://server/file2.tar.gz #Write to file instead of stdout  
curl -u username:password ftp://server/
```

## traceroute

## ifconfig

```
ifconfig eth0  
ifconfig eth0 up  
ifconfig eth0 down
```

## ip

```
ip a
```

## dhclient

## iftop

## netstat

```
netstat -at #all tcp  
netstat -au #all udp  
netstat -p #show process
```

## ssh

```
ssh user@host
```

## scp

```
scp user@host:/home/user/file.txt destination/
```

# Reconnaissance tools

**nmap**

**whois**

**theHarvester**

```
theHarvester -d google.com -l 300 -b all #domain, limit, source
```

**recon-ng**

```
recon-ng
> help
> marketplace info all
> marketplace search all
> marketplace install recon/domains-hosts/hackertarget
> modules load recon/domains-hosts/hackertarget
> info
> options set SOURCE yahoo.com
> run
> show hosts
```