

# 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

# Files and filesystem navigation

## **pwd**

## **ls**

```
ls -R #recursive list
ls -r #reverse order while sorting
ls -S #sort by size
ls -shl #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
```

## **rm**

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

## **cp**

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

## **mv**

## **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
```

## **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
```

## **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
```

## **sort**

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

## **uniq**

```
uniq -c nums.txt #unique lines
```

## **file**

## **watch**

# Text editing

nano

# Users and groups

**adduser**

**useradd**

**userdel**

**usermod**

`usermod -a -G grpname username`

**sudo**

**su**

**id**

**whoami**

**passwd**

# Change 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
```

## 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
```

# Networking

**ping**

**wget**

**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**

**ip**

**netstat**

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

**nmap**

**ssh**

```
ssh user@host
```

**scp**

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