

## Linux Command Line Cheat Sheet

### System Info

Command	Description
uname -a	Show complete Linux system info
uname -r	Kernel version
lsb_release -a	Distro release details
uptime	System uptime & load
hostname	System hostname
hostname -I	IP addresses
last reboot	Reboot history
date	Current date & time
cal	Calendar
w	Users online
whoami	Current logged-in user

### Hardware Info

Command	Description
cat /proc/cpuinfo	CPU details
cat /proc/meminfo	Memory info
free -h	Free & used memory (human-readable)
lspci -tv	List PCI devices
lsusb -tv	List USB devices
dmidecode	BIOS hardware info
hdparm -i /dev/sda	Disk details
hdparm -tT /dev/sda	Disk read speed test



## Performance Monitoring

Command	Description
top	Manage running processes
mpstat 1	CPU stats per second
vmstat 1	Virtual memory stats
iostat 1	I/O statistics
tcpdump -i eth0	Capture packets on eth0
tcpdump -i eth0 'port 80'	Monitor HTTP traffic
lsuf	List all open files
lsuf -u user	List files opened by the user
free -h	Check memory usage
watch df -h	Auto-refresh disk usage



## User Management

Command	Description
id	User & group IDs
last	Login history
who	Who's logged in
w	What users are doing
groupadd test	Create group 'test'
userdel john	Delete user John
usermod -aG sales john	Add John to the sales group

## File & Directory Commands

Command	Description
ls -al	Detailed file listing
pwd	Show current directory
mkdir directory	Create a new directory
rm file	Remove file
rm -r directory	Remove directory recursively
rm -f file	Force remove file
rm -rf directory	Force remove directory recursively
rmdir	Delete empty directory
cp file1 file2	Copy file1 to file2
cp -r source destination	Copy directory recursively
mv file1 file2	Move or rename the file
ln -s /path/to/file linkname	Create a symbolic link
touch file	Create an empty file/update timestamp
cat file	Show file contents
less file	Scroll through the file
head file	First 10 lines of the file
tail file	Last 10 lines of the file
tail -f file	Follow file growth
lpr	Print file
chgrp	Change file group
more, page	View file data
file	Detect file type
vi	Vim text editor
gedit	Standard text editor

## Data Manipulation

Command	Description
awk	Pattern scanning & processing
perl	Data manipulation language
cmp	Compare files
paste	Merge file data
sed	Stream text editor
cut	Cut selected fields
sort	Sort file contents
diff	Compare differences between files
split	Split the file into smaller parts
expand, unexpand	Convert tabs <-> spaces
tr	Translate characters
uniq	Filter repeated lines
join	Join files by common field
look	Find lines in sorted data
wc	Count words, lines & chars
gzip	Compress file
zmore	View compressed file
uncompress	Uncompress file
zcat	Show compressed file
gunzip	Uncompress the gzipped file
zcmp, zdiff	Compare compressed files

## Process Management

Command	Description
ps	Show running processes
ps -ef	List all processes
ps -ef   grep process	Find a specific process
top	Monitor processes
htop	Interactive process viewer
kill pid	Kill process by ID
killall name	Kill all by name
program &	Run in background
bg	List background jobs
fg	Bring the job to the foreground
fg n	Bring the job to the foreground

## File Permissions

Command	Description
chmod 777 file	rwxrwxrwx (full access)
chmod 775 file	rwxrwxr-x
chmod 755 file	rwxr-xr-x
chmod 664 file	rw-rw-r--
chmod 644 file	rw-r--r--

## Networking

Command	Description
ifconfig -a	Show network interfaces
ifconfig eth0	Show eth0 details
ethtool eth0	Network driver settings
ping host	Ping host
whois domain	Domain whois info
dig domain	DNS info
dig -x IP	Reverse lookup
host domain	Domain IP address
hostname -i	Host network address
hostname -l	All local IPs
wget http://file	Download file
netstat -nutlp	Listening ports & programs
ftp	File transfer
tftp	Trivial file transfer
sftp	Secure file transfer
rcp	Remote copy
scp	Secure remote copy
wget	Download via URL
telnet	Remote terminal
ssh	Secure shell
rlogin	Remote login
rsh	Remote shell
curl	Transfer data from URL

## Archives

Command	Description
tar cf archive.tar dir	Create a tar archive
tar xf archive.tar	Extract the tar archive
tar czf archive.tar.gz dir	Create a gzipped tar
tar xzf archive.tar.gz	Extract gzipped tar
tar cjf archive.tar.bz2 dir	Create bz2 tar
tar xjf archive.tar.bz2	Extract bz2 tar

## Packages

Command	Description
yum search keyword	Search package
yum install package	Install package
yum info package	Package details
rpm -i package.rpm	Install rpm
yum remove package	Uninstall package
tar zxvf sourcecode.tar.gz	Extract source code
cd sourcecode && ./configure && make && make install	Compile & install from source

## Search

Command	Description
grep pattern file	Search in file
grep -r pattern dir	Recursive search
locate name	Find files by name
find /home/john -name 'prefix*'	Find matching files
find /home -size +100M	Find files >100MB

## SSH Logins

Command	Description
ssh host	Log in as the current user
ssh user@host	Log in as a specific user
ssh -p port user@host	Log in with a custom port

## File Transfers

Command	Description
scp file.txt server:/tmp	Copy file to server
scp server:/var/www/*.html /tmp	Copy remote files locally
scp -r server:/var/www /tmp	Copy directories recursively
rsync -a /home /backups/	Sync local dir to backup
rsync -avz /home server:/backups/	Sync local <-> remote with compression

## Disk Usage

Command	Description
df -h	Show free/used space
df -i	Show inode usage
fdisk -l	Disk partitions info
du -ah	Disk usage per file/dir
du -sh	Total size of current dir



## Directory Navigation

Command	Description
cd ..	Go up one level
cd	Go to the home dir
cd /etc	Go to /etc