

Did you know that there are literally hundreds of Linux commands? Even on a bare-bones Linux server install there are easily over 1,000 different commands. The interesting thing is that most people only need to use a very small subset of those commands. Below you'll find a Linux "cheat sheet" that breaks down some of the most commonly used commands by category. To get your own PDF and printable copy, scroll to the bottom of the page. Enjoy!

## 1 – SYSTEM INFORMATION

- Display Linux system information

`uname -a`

- Display kernel release information

`uname -r`

- Show operating system information such as distribution name and version

`cat /etc/os-release`

- Show how long the system has been running + load

`uptime`

- Show system host name

`hostname`

- Display all local IP addresses of the host.

`hostname -I`

- Show system reboot history

`last reboot`

- Show the current date and time

`date`

- Show this month's calendar

`cal`

- Display who is online

`w`

- Who you are logged in as

`whoami`

## 2 – HARDWARE INFORMATION

- Display messages in kernel ring buffer

`dmesg`

- Display CPU information

`cat /proc/cpuinfo`

- Display memory information

```
cat /proc/meminfo
```

- Display free and used memory ( -h for human readable, -m for MB, -g for GB.)

```
free -h
```

- Display PCI devices

```
lspci -tv
```

- Display USB devices

```
lsusb -tv
```

- Display DMI/SMBIOS (hardware info) from the BIOS

```
dmidecode
```

- Show info about disk sda

```
hdparm -i /dev/sda
```

- Perform a read speed test on disk sda

```
hdparm -tT /dev/sda
```

- Test for unreadable blocks on disk sda

```
badblocks -s /dev/sda
```

### 3 – PERFORMANCE MONITORING AND STATISTICS

- Display and manage the top processes

```
top
```

- Interactive process viewer (top alternative)

```
htop
```

- Display processor related statistics

```
mpstat 1
```

- Display virtual memory statistics

```
vmstat 1
```

- Display I/O statistics

```
iostat 1
```

- Display the last 100 syslog messages (Use /var/log/syslog for Debian based systems.)

```
tail -100 /var/log/messages
```

- Capture and display all packets on interface eth0

```
tcpdump -i eth0
```

- Monitor all traffic on port 80 ( HTTP )

```
tcpdump -i eth0 'port 80'
```

- List all open files on the system

lsuf

- List files opened by user

lsuf -u user

- Display free and used memory ( -h for human readable, -m for MB, -g for GB.)

free -h

- Execute “df -h”, showing periodic updates

watch df -h

## 4 – USER INFORMATION AND MANAGEMENT

- Display the user and group ids of your current user.

id

- Display the last users who have logged onto the system.

last

- Show who is logged into the system.

who

- Show who is logged in and what they are doing.

w

- Create a group named “test”.

groupadd test

- Create an account named john, with a comment of “John Smith” and create the user’s home directory.

useradd -c “John Smith” -m john

- Delete the john account.

userdel john

- Add the john account to the sales group

usermod -aG sales john

## 5 – FILE AND DIRECTORY COMMANDS

- List all files in a long listing (detailed) format

ls -al

- Display the present working directory

pwd

- Create a directory

mkdir directory

- Remove (delete) file

`rm file`

- Remove the directory and its contents recursively

`rm -r directory`

- Force removal of file without prompting for confirmation

`rm -f file`

- Forcefully remove directory recursively

`rm -rf directory`

- Copy file1 to file2

`cp file1 file2`

- Copy source\_directory recursively to destination. If destination exists, copy source\_directory into destination, otherwise create destination with the contents of source\_directory.

`cp -r source_directory destination`

- Rename or move file1 to file2. If file2 is an existing directory, move file1 into directory file2

`mv file1 file2`

- Create symbolic link to linkname

`ln -s /path/to/file linkname`

- Create an empty file or update the access and modification times of file.

`touch file`

- View the contents of file

`cat file`

- Browse through a text file

`less file`

- Display the first 10 lines of file

`head file`

- Display the last 10 lines of file

`tail file`

- Display the last 10 lines of file and “follow” the file as it grows.

`tail -f file`

## **6 – PROCESS MANAGEMENT**

- Display your currently running processes

`ps`

- Display all the currently running processes on the system.

`ps -ef`

- Display process information for processname  
ps -ef | grep processname
- Display and manage the top processes  
top
- Interactive process viewer (top alternative)  
htop
- Kill process with process ID of pid  
kill pid
- Kill all processes named processname  
killall processname
- Start program in the background  
program &
- Display stopped or background jobs  
bg
- Brings the most recent background job to foreground  
fg
- Brings job n to the foreground  
fg n

## 7 – FILE PERMISSIONS

### PERMISSION EXAMPLE

U	G	W	
rwX	rwX	rwX	chmod 777 filename
rwX	rwX	r-x	chmod 775 filename
rwX	r-x	r-x	chmod 755 filename
rw-	rw-	r--	chmod 664 filename
rw-	r--	r--	chmod 644 filename

NOTE: Use 777 sparingly!

#### LEGEND

U = User  
G = Group  
W = World

r = Read  
w = write  
x = execute  
- = no access

## 8 – NETWORKING

- Display all network interfaces and IP address  
ip a
- Display eth0 address and details

```
ip addr show dev eth0
```

- Query or control network driver and hardware settings

```
ethtool eth0
```

- Send ICMP echo request to host

```
ping host
```

- Display whois information for domain

```
whois domain
```

- Display DNS information for domain

```
dig domain
```

- Reverse lookup of IP\_ADDRESS

```
dig -x IP_ADDRESS
```

- Display DNS IP address for domain

```
host domain
```

- Display the network address of the host name.

```
hostname -i
```

- Display all local IP addresses of the host.

```
hostname -I
```

- Download http://example.com/file

```
wget http://example.com/file
```

- Display listening tcp and udp ports and corresponding programs

```
netstat -nutlp
```

## 9 – ARCHIVES (TAR FILES)

- Create tar named archive.tar containing directory.

```
tar cf archive.tar directory
```

- Extract the contents from archive.tar.

```
tar xf archive.tar
```

- Create a gzip compressed tar file name archive.tar.gz.

```
tar czf archive.tar.gz directory
```

- Extract a gzip compressed tar file.

```
tar xzf archive.tar.gz
```

- Create a tar file with bzip2 compression

```
tar cjf archive.tar.bz2 directory
```

- Extract a bzip2 compressed tar file.

```
tar xjf archive.tar.bz2
```

## 10 – INSTALLING PACKAGES

- Search for a package by keyword.  
`yum search keyword`
- Install package.  
`yum install package`
- Display description and summary information about package.  
`yum info package`
- Install package from local file named package.rpm  
`rpm -i package.rpm`
- Remove/uninstall package.  
`yum remove package`
- Install software from source code.  
`tar zxvf sourcecode.tar.gz cd sourcecode ./configure make make install`

## 11 – SEARCH

- Search for pattern in file  
`grep pattern file`
- Search recursively for pattern in directory  
`grep -r pattern directory`
- Find files and directories by name  
`locate name`
- Find files in /home/john that start with “prefix”.  
`find /home/john -name 'prefix*'`
- Find files larger than 100MB in /home  
`find /home -size +100M`

## 12 – SSH LOGINS

- Connect to host as your local username.  
`ssh host`
- Connect to host as user  
`ssh user@host`
- Connect to host using port  
`ssh -p port user@host`

## 13 – FILE TRANSFERS

- Secure copy file.txt to the /tmp folder on server

```
scp file.txt server:/tmp
```

- Copy \*.html files from server to the local /tmp folder.

```
scp server:/var/www/*.html /tmp
```

- Copy all files and directories recursively from server to the current system's /tmp folder.

```
scp -r server:/var/www /tmp
```

- Synchronize /home to /backups/home

```
rsync -a /home /backups/
```

- Synchronize files/directories between the local and remote system with compression enabled

```
rsync -avz /home server:/backups/
```

## 14 – DISK USAGE

- Show free and used space on mounted filesystems

```
df -h
```

- Show free and used inodes on mounted filesystems

```
df -i
```

- Display disks partitions sizes and types

```
fdisk -l
```

- Display disk usage for all files and directories in human readable format

```
du -ah
```

- Display total disk usage off the current directory

```
du -sh
```

## 15 – DIRECTORY NAVIGATION

- To go up one level of the directory tree. (Change into the parent directory.)

```
cd ..
```

- Go to the \$HOME directory

```
cd
```

- Change to the /etc directory

```
cd /etc
```

## 16 – SECURITY

- Change the current user's password.

```
passwd
```



- Switch to the root account with root's environment. (Login shell.)  
`sudo -i`
- Execute your current shell as root. (Non-login shell.)  
`sudo -s`
- List sudo privileges for the current user.  
`sudo -l`
- Edit the sudoers configuration file.  
`visudo`
- Display the current SELinux mode.  
`getenforce`
- Display SELinux details such as the current SELinux mode, the configured mode, and the loaded policy.  
`sestatus`
- Change the current SELinux mode to Permissive. (Does not survive a reboot.)  
`setenforce 0`
- Change the current SELinux mode to Enforcing. (Does not survive a reboot.)  
`setenforce 1`
- Set the SELinux mode to enforcing on boot by using this setting in the `/etc/selinux/config` file.  
`SELINUX=enforcing`
- Set the SELinux mode to permissive on boot by using this setting in the `/etc/selinux/config` file.  
`SELINUX=permissive`
- Set the SELinux mode to disabled on boot by using this setting in the `/etc/selinux/config` file.  
`SELINUX=disabled`

## 17 – LOGGING AND AUDITING

- Display messages in kernel ring buffer.  
`dmesg`
- Display logs stored in the systemd journal.  
`journalctl`
- Display logs for a specific unit (service).  
`journalctl -u servicename`