

LINUX COMMAND LINE CHEAT SHEET

A QUICK REFERENCE GUIDE from:

[LinuxTrainingAcademy.com](https://www.LinuxTrainingAcademy.com)

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1 - SYSTEM INFORMATION

<code>uname -a</code>	# Display Linux system information
<code>uname -r</code>	# Display kernel release information
<code>cat /etc/redhat-release</code>	# Show which version of Red Hat installed
<code>lsb_release -a</code>	# Show which version of Ubuntu installed
<code>uptime</code>	# Show how long the system has been running + load
<code>hostname</code>	# Show system host name
<code>hostname -I</code>	# Display all local IP addresses of the host
<code>last reboot</code>	# Show system reboot history
<code>date</code>	# Show the current date and time
<code>cal</code>	# Show this month's calendar
<code>w</code>	# Display who is online
<code>whoami</code>	# Who you are logged in as

2 - HARDWARE INFORMATION

<code>dmesg</code>	# Display messages in kernel ring buffer
<code>cat /proc/cpuinfo</code>	# Display CPU information
<code>cat /proc/meminfo</code>	# Display memory information
<code>free -h</code>	# Display free and used memory (-h for human readable, -m for MB, -g for GB.)
<code>lspci -tv</code>	# Display PCI devices
<code>lsusb -tv</code>	# Display USB devices
<code>dmidecode</code>	# Display DMI/SMBIOS (hardware info) from the BIOS
<code>hdparm -i /dev/sda</code>	# Show info about disk sda
<code>hdparm -tT /dev/sda</code>	# Perform a read speed test on disk sda
<code>badblocks -s /dev/sda</code>	# Test for unreadable blocks on disk sda
<code>lshw</code>	# Display information about CPU, memory, storage, and network interfaces

lsblk

Display information about all storage devices

3 - PERFORMANCE MONITORING AND STATISTICS

top	# Display and manage the top processes
htop	# Interactive process viewer (top alternative)
mpstat 1	# Display processor related statistics
vmstat 1	# Display virtual memory statistics
iostat 1	# Display I/O statistics
tail -100 /var/log/messages	# Display the last 100 syslog messages (Use /var/log/syslog for Debian based systems.)
tcpdump -i eth0	# Capture and display all packets on interface eth0
tcpdump -i eth0 'port 80'	# Monitor all traffic on port 80 (HTTP)
lsof	# List all open files on the system
lsof -u user	# List files opened by user
free -h	# Display free and used memory (-h for human readable, -m for MB, -g for GB.)
watch df -h	# Execute "df -h", showing periodic updates
mpstat	# Display statistics about CPU usage
pidstat	# Display statistics about processes running

4 - USER INFORMATION AND MANAGEMENT

id	# Display the user and group ids of your current user.
last	# Display the last users who have logged onto the system.
who	# Show who is logged into the system.
w	# Show who is logged in and what they are doing.
groupadd test	# Create a group named "test".
useradd -c "John Smith" -m john	# Create an account named john, with a

```
comment of "John Smith" and create the user's
home directory.

userdel john # Delete the john account.

usermod -aG sales john # Add the john account to the sales group
```

5 - FILE AND DIRECTORY COMMANDS

```
ls -al # List all files in a long listing (detailed) format

pwd # Display the present working directory

mkdir directory # Create a directory

rm file # Remove (delete) file

rm -r directory # Remove the directory and its contents
recursively

rm -f file # Force removal of file without prompting for
confirmation

rm -rf directory # Forcefully remove directory recursively

cp file1 file2 # Copy file1 to file2

cp -r source_directory destination # Copy source_directory recursively to
destination. If destination exists, copy
source_directory into destination,
otherwise create destination with the
contents of source_directory.

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

ln -s /path/to/file linkname # Create symbolic link to linkname

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

cat file # View the contents of file

less file # Browse through a text file

head file # Display the first 10 lines of file

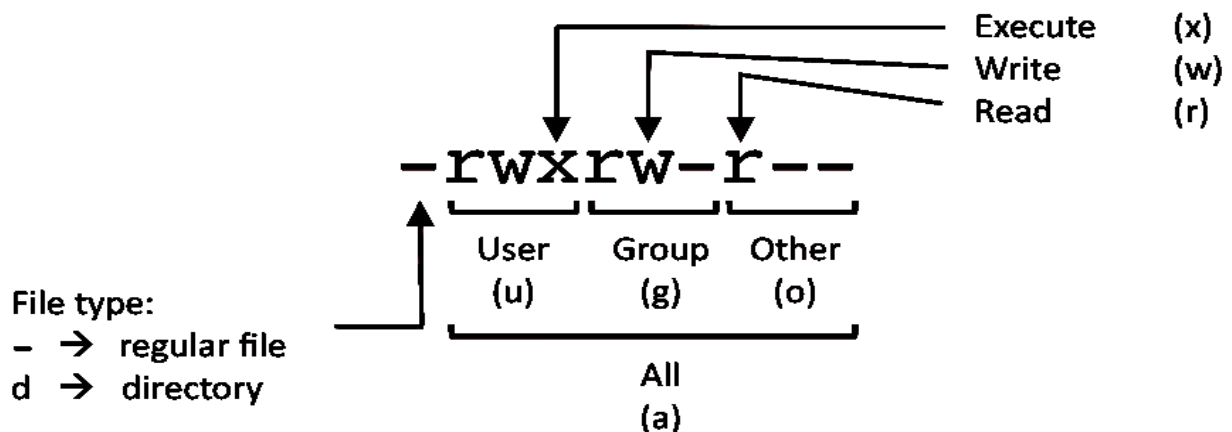
tail file # Display the last 10 lines of file

tail -f file # Display the last 10 lines of file and "follow"
the file as it grows.
```

6 - PROCESS MANAGEMENT

<code>ps</code>	# Display your currently running processes
<code>ps -ef</code>	# Display all the currently running processes on the system.
<code>ps -ef grep processname</code>	# Display process information for processname
<code>top</code>	# Display and manage the top processes
<code>htop</code>	# Interactive process viewer (top alternative)
<code>kill pid</code>	# Kill process with process ID of pid
<code>killall processname</code>	# Kill all processes named processname
<code>program &</code>	# Start program in the background
<code>bg</code>	# Display stopped or background jobs
<code>fg</code>	# Brings the most recent background job to foreground
<code>fg n</code>	# Brings job n to the foreground
<code>nohup processname</code>	# Runs a process even after user logs out

7 - FILE PERMISSIONS



PERMISSION	EXAMPLE
U G W	
rw- rw- rw-	<code>chmod 777 filename # Use sparingly!</code>
rw- rw- r-x	<code>chmod 775 filename</code>
rw- r-x r-x	<code>chmod 755 filename</code>
rw- rw- r--	<code>chmod 664 filename</code>

```
rw- r-- r--      chmod 644 filename
```

LEGEND

U = User

G = Group

W = World

r = Read

w = write

x = execute

- = no access

```
chown john /path/to/file      # Change ownership of /path/to/file to john
```

```
chgrp sales /path/to/file    # Change group ownership of /path/to/file to group sales
```

8 - NETWORKING

```
ip a                          # Display all network interfaces and IP address
ip addr show dev eth0        # Display eth0 address and details
ethtool eth0                  # Query or control network driver and hardware settings
ping host                      # Send ICMP echo request to host
whois domain                   # Display whois information for domain
dig domain                     # Display DNS information for domain
dig -x IP_ADDRESS             # Reverse lookup of IP_ADDRESS
host domain                    # Display DNS IP address for domain
hostname -i                    # Display the network address of the host name.
hostname -I                    # Display all local IP addresses of the host.
wget http://domain.com/file   # Download http://domain.com/file
netstat -nutlp                 # Display listening tcp and udp ports and corresponding programs
```

<code>ifconfig</code>	<code># Display information about network interfaces</code>
<code>traceroute host</code>	<code># Display the path that packets take to host</code>
<code>tcpdump</code>	<code># Capture and analyze network traffic</code>

9 - ARCHIVES (TAR FILES)

<code>tar cf archive.tar directory</code>	<code># Create tar named archive.tar containing directory.</code>
<code>tar xf archive.tar</code>	<code># Extract the contents from archive.tar.</code>
<code>tar czf archive.tar.gz directory</code>	<code># Create a gzip compressed tar file name archive.tar.gz.</code>
<code>tar xzf archive.tar.gz</code>	<code># Extract a gzip compressed tar file.</code>
<code>tar cjf archive.tar.bz2 directory</code>	<code># Create a tar file with bzip2 compression</code>
<code>tar xjf archive.tar.bz2</code>	<code># Extract a bzip2 compressed tar file.</code>

10 - INSTALLING PACKAGES

<code>yum search keyword</code>	<code># Search for a package by keyword.</code>
<code>yum install package</code>	<code># Install package.</code>
<code>yum info package</code>	<code># Display description and summary information about package for RHEL based systems.</code>
<code>rpm -i package.rpm</code>	<code># Install package from local file named package.rpm</code>
<code>yum remove package</code>	<code># Remove/uninstall package for RHEL based systems.</code>
<code>yum update package</code>	<code># Update package with name package for RHEL based systems.</code>
<code>tar zxvf sourcecode.tar.gz</code>	<code># Install software from source code.</code>
<code>cd sourcecode</code>	
<code>./configure</code>	
<code>make</code>	
<code>make install</code>	

<code>apt-get update</code>	# Update package list for Debian based systems.
<code>apt-get upgrade</code>	# Upgrade all installed packages to their newest version for Debian based systems.
<code>apt-get install package</code>	# Install package with name package for Debian based systems.
<code>apt-remove package</code>	# Remove package with name package for Debian based systems.

11 - SEARCH

<code>grep pattern file</code>	# Search for pattern in file
<code>grep -r pattern directory</code>	# Search recursively for pattern in directory
<code>locate name</code>	# Find files and directories by name
<code>find /home/john -name 'prefix*'</code>	# Find files in /home/john that start with "prefix".
<code>find /home -size +100M</code>	# Find files larger than 100MB in /home
<code>whereis program</code>	# Display the location of the binary, source and manual page files of program.
<code>which program</code>	# Display the path of executable that would run if program is executed.

12 - SSH LOGINS

<code>ssh host</code>	# Connect to host as your local username.
<code>ssh user@host</code>	# Connect to host as user
<code>ssh -p port user@host</code>	# Connect to host using port
<code>ssh-keygen</code>	# Create a new SSH key pair.
<code>ssh-copy-id user@host</code>	# Copy SSH key to the remote host to enable passwordless logins for user.

13 - FILE TRANSFERS

<code>scp file.txt server:/tmp</code>	<code># Secure copy file.txt to the /tmp folder on server</code>
<code>scp server:/var/www/*.html /tmp</code>	<code># Copy *.html files from server to the local /tmp folder.</code>
<code>scp -r server:/var/www /tmp</code>	<code># Copy all files and directories recursively from server to the current system's /tmp folder.</code>
<code>rsync -a /home /backups/</code>	<code># Synchronize /home to /backups/home</code>
<code>rsync -avz /home server:/backups/</code>	<code># Synchronize files/directories between the local and remote system with compression enabled</code>
<code>ftp host</code>	<code># Connect to FTP server on the remote host.</code>

14 - DISK USAGE

<code>df -h</code>	<code># Show free and used space on mounted filesystems</code>
<code>df -i</code>	<code># Show free and used inodes on mounted filesystems</code>
<code>fdisk -l</code>	<code># Display disks partitions sizes and types</code>
<code>du -ah</code>	<code># Display disk usage for all files and directories in human readable format</code>
<code>du -sh</code>	<code># Display total disk usage off the current directory</code>
<code>du -a directory</code>	<code># Display size of all files in directory.</code>
<code>findmnt</code>	<code># List all mounted file systems with details.</code>

15 - DIRECTORY NAVIGATION

<code>cd ..</code>	<code># To go up one level of the directory tree. (Change into the parent directory.)</code>
<code>cd</code>	<code># Go to the \$HOME directory</code>
<code>cd /etc</code>	<code># Change to the /etc directory</code>
<code>alias goto='cd /etc/'</code>	<code># Create goto alias for command cd /etc/.</code>

16 - SECURITY

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

17 - LOGGING AND AUDITING

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