

LINUX **C**OMMAND **L**INE **C**HEAT **S**HEET

A **Q**UICK **R**EFERENCE **G**UIDE from:

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Table of Contents

1 - SYSTEM INFORMATION	2
2 - HARDWARE INFORMATION	2
3 - PERFORMANCE MONITORING AND STATISTICS	3
4 - USER INFORMATION AND MANAGEMENT	3
5 - FILE AND DIRECTORY COMMANDS	4
6 - PROCESS MANAGEMENT	5
7 - FILE PERMISSIONS	5
8 - NETWORKING	6
9 - ARCHIVES (TAR FILES)	6
10 - INSTALLING PACKAGES	7
11 - SEARCH	7
12 - SSH LOGINS	7
13 - FILE TRANSFERS	8
14 - DISK USAGE	8
15 - DIRECTORY NAVIGATION	8

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>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

3 - PERFORMANCE MONITORING AND STATISTICS

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

4 - USER INFORMATION AND MANAGEMENT

<code>id</code>	# Display the user and group ids of your current user.
<code>last</code>	# Display the last users who have logged onto the system.
<code>who</code>	# Show who is logged into the system.
<code>w</code>	# Show who is logged in and what they are doing.
<code>groupadd test</code>	# Create a group named "test".
<code>useradd -c "John Smith" -m john</code>	# Create an account named john, with a comment of "John Smith" and create the user's home directory.
<code>userdel john</code>	# Delete the john account.
<code>usermod -aG sales john</code>	# Add the john account to the sales group

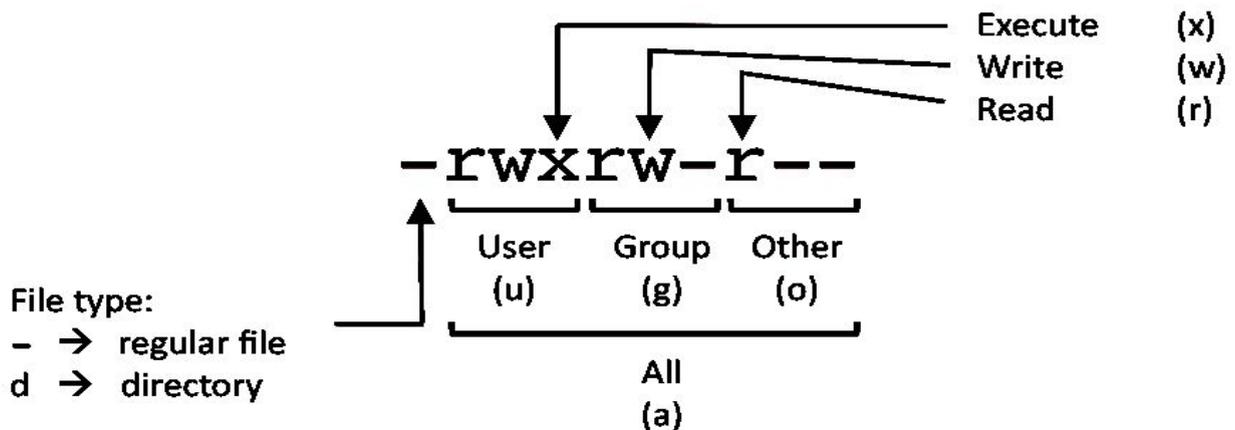
5 - FILE AND DIRECTORY COMMANDS

<code>ls -al</code>	# List all files in a long listing (detailed) format
<code>pwd</code>	# Display the present working directory
<code>mkdir directory</code>	# Create a directory
<code>rm file</code>	# Remove (delete) file
<code>rm -r directory</code>	# Remove the directory and its contents recursively
<code>rm -f file</code>	# Force removal of file without prompting for confirmation
<code>rm -rf directory</code>	# Forcefully remove directory recursively
<code>cp file1 file2</code>	# Copy file1 to file2
<code>cp -r source_directory destination</code>	# Copy source_directory recursively to destination. If destination exists, copy source_directory into destination, otherwise create destination with the contents of source_directory.
<code>mv file1 file2</code>	# Rename or move file1 to file2. If file2 is an existing directory, move file1 into directory file2
<code>ln -s /path/to/file linkname</code>	# Create symbolic link to linkname
<code>touch file</code>	# Create an empty file or update the access and modification times of file.
<code>cat file</code>	# View the contents of file
<code>less file</code>	# Browse through a text file
<code>head file</code>	# Display the first 10 lines of file
<code>tail file</code>	# Display the last 10 lines of file
<code>tail -f file</code>	# 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

7 - FILE PERMISSIONS



PERMISSION

EXAMPLE

U G W
rwx rwx rwx
rwx rwx r-x
rwx r-x r-x
rw- rw- r--
rw- r-- r--

`chmod 777 filename # Use sparingly!`
`chmod 775 filename`
`chmod 755 filename`
`chmod 664 filename`
`chmod 644 filename`

LEGEND

U = User
G = Group
W = World

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

8 - NETWORKING

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

11 - SEARCH

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

12 - SSH LOGINS

<code>ssh host</code>	<code># Connect to host as your local username.</code>
<code>ssh user@host</code>	<code># Connect to host as user</code>
<code>ssh -p port user@host</code>	<code># Connect to host using port</code>

13 - FILE TRANSFERS

```
scp file.txt server:/tmp          # Secure copy file.txt to the /tmp folder on
server

scp server:/var/www/*.html /tmp   # Copy *.html files from server to the local
/tmp folder.

scp -r server:/var/www /tmp       # Copy all files and directories recursively from
server to the current system's /tmp folder.

rsync -a /home /backups/          # Synchronize /home to /backups/home

rsync -avz /home server:/backups/ # Synchronize files/directories between the local
and remote system with compression enabled
```

14 - DISK USAGE

```
df -h          # Show free and used space on mounted filesystems

df -i          # Show free and used inodes on mounted filesystems

fdisk -l       # Display disks partitions sizes and types

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

du -sh        # Display total disk usage off the current directory
```

15 - DIRECTORY NAVIGATION

```
cd ..          # To go up one level of the directory tree. (Change into
the parent directory.)

cd             # Go to the $HOME directory

cd /etc        # Change to the /etc directory
```