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## QUICK REFERENCE GUIDE LINUX COMMANDS

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## 1-SYSTEM

# uname -a	# Display linux system information
# uname -r	# Display kernel release information
# cat /etc/redhat_release	# Show which version of redhat installed
# uptime	# Show how long the system has been running + load
# hostname	# Show system host name
# hostname - I	# Display the IP address of the host
# last reboot	# Show system reboot history
# date	# Show the current date and time
# cal	# Show this month calendar
# w	# Display who is online
# whoami	# Who you are logged in as
# finger user	# Display information about user

## 2-HARDWARE

# dmesg	# Detected hardware and boot messages
# cat /proc/cpuinfo	# CPU model
# cat /proc/meminfo	# Hardware memory
# free -m	# Used and free memory (-m for MB)
# lspci -tv	# Show PCI devices
# lsusb -tv	# Show USB devices
# lshal	# Show a list of all devices with their properties
# dmidecode	# Show DMI/SMBIOS: hw info from the BIOS
# hdparm -I /dev/sda	# Show info about disk sda
# hdparm -Tt /dev/sda	# Do a read speed test on disk sda
# badblocks -s /dev/sda	# Test for unreadable blocks on disk sda

## 3-STATISTICS

# top	# Display and update the top cpu processes
# mpstat 1	# Display processors related statistics
# vmstat 2	# Display virtual memory statistics
# iostat 2	# Display I/O statistics (2sec Intervals)
# tail -n 500 /var/log/messages	# Last 10 kernel/syslog messages

```
# tcpdump -i eth1                                # Capture all packets flows on interface eth1
# tcpdump -i eth0 'port 80'                      # Monitor all traffic on port 80 ( HTTP )
# lsof                                         # List all open files belonging to all active processes.
# lsof -u testuser                               # List files opened by specific user
# free -m                                       # Show amount of RAM
# watch df -h                                    # Watch changeable data continuously
```

## 4-USERS

# id	# id
# last	# last
# who	# who
# groupadd admin	# groupadd admin
# useradd -c "Sam Tomshi" -g admin -m sam	# useradd -c "Sam Tomshi" -g admin -m sam
# userdel sam	# userdel sam
# adduser sam	# adduser sam
# usermod	# usermod

## 5-FILE COMMANDS

# ls -al	# Display all information about files/ directories
# pwd	# Show the path of current directory
# mkdir directory-name	# Create a directory
# rm file-name	# Delete file
# rm -r directory-name	# Delete directory recursively
# rm -f file-name	# Forcefully remove file
# rm -rf directory-name	# Forcefully remove directory recursively
# cp file1 file2	# Copy file1 to file2
# cp -r dir1 dir2	# Copy dir1 to dir2, create dir2 if it doesn't exist
# 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-name link-name	# Create symbolic link to file-name
# touch file	# Create or update file
# cat > file	# Place standard input into file
# more file	# Output the contents of file
# head file	# Output the first 10 lines of file

```
# tail file                                # Output the last 10 lines of file
# tail -f file                            # Output the contents of file as it grows starting
                                           with the last 10 lines
# gpg -c file                             # Encrypt file
# gpg file.gpg                           # Decrypt file
```

## 6-PROCESS RELATED

```
# ps                                         # Display your currently active processes
# ps aux | grep 'telnet'                     # Find all process id related to telnet process
# pmap                                       # Memory map of process
# top                                        # Display all running processes
# kill pid                                    # Kill process with mentioned pid id
# killall proc                               # Kill all processes named proc
# bg                                         # Lists stopped or background jobs
# fg                                         # Brings the most recent job to foreground
# fg n                                       # Brings job n to the foreground
```

## 7-FILE PERMISSION RELATED

# chmod octal file-name # Change the permissions of file to octal ,  
which can be found separately for user, group and world

Octal value

4 - read

2 – write

1 – execute

Example

# chmod 777 /data/test.c	# Shows rwx permission for owner,rwx permission for group, rwx permission for world
# chmod 755 /data/test.c	# Shows rwx permission for owner,rw for group and world
# chown owner-user file	# Change owner of the file
# chown owner-user:owner-group file-name	# Change owner and group owner of the file
# chown owner-user:owner-group directory	# Change owner and group owner of the directory

Example:

```
# chown bobbin:expertslogin test.txt
# ls -l test.txt
-rw-r--r-- 1 bobbin expertslogin 0 Mar 04 08:56 test.txt
```

## 8-NETWORK

```
# ifconfig -a                                # Display all network ports and ip address
# ifconfig eth0                               # Display specific ethernet port ip address and details
# ethtool eth0                               # Linux tool to show ethernet status
# mii-tool eth0                               # Linux tool to show ethernet status
# ping host                                  # Send echo request to test connection
# whois domain                             # Get who is information for domain
# dig domain                                # Get DNS information for domain
# dig -x host                                 # Reverse lookup host
# host google.com                            # Lookup DNS ip address for the name
# hostname -i                                 # Lookup local ip address
# wget file                                  # Download file
# netstat -tupl                               # List active connections to / from system
```

## 9-COMPRESSION / ARCHIVES

```
# tar cf home.tar home                      # Create tar named home.tar containing home/
# tar xf file.tar                           # Extract the files from file.tar
# tar czf file.tar.gz files                 # Create a tar with gzip compression
# tar xzf file.tar.gz                      # Extract a tar using gzip
# tar cjf file.tar.bz2 -                   # Create a tar with bzip2 compression
# gzip file                                 # Compress file and renames it to file.gz
```

## 10-INSTALL PACKAGE

```
# rpm -I pkgname.rpm                         # Install rpm based package
# rpm -e pkgname                            # Remove package
Install from source
./configure
make
make install
```

## 11-SEARCH

```
# grep pattern files                        # Search for pattern in files
#grep -r pattern dir                         # Search recursively for pattern in dir
# locate file                                # Find all instances of file
# find /home/tom -name 'index*'              # Find files names that start with "index"
# find /home -size +10000k                    # Find files larger than 10000k in /home
```

## 12-LOGIN (SSH AND TELNET)

```
# ssh user@host                                # Connect to host as user
# ssh -p port user@host                         # Connect to host using specific port
# telnet host                                    # Connect to the system using telnet port
```

## 13-FILE TRANSFER

```
scp

# scp file.txt server2:/tmp                      # Secure copy file.txt to remote host /tmp folder

# scp nixsavy@server2:/www/*.html /www/tmp       # Copy *.html files from remote host to current
                                                # system /www/tmp folder

# scp -r nixsavy@server2:/www /www/tmp           # Copy all files and folders recursively from remote
rsync                                            # server to the current system /www/tmp folder

# rsync -a /home/apps /backup/                   # Synchronize source to destination

# rsync -avz /home/apps expertslogin@
192.168.10.1:/backup                           # Synchronize files/directories
                                                # between the local and remote system with
                                                # compression enabled
```

## 14-DISK USAGE

```
# df -h                                         # Show free space on mounted filesystems
# df -i                                         # Show free inodes on mounted filesystems
# fdisk -l                                       # Show disks partitions sizes and types (run as root)
# du -ah                                        # Display disk usage in human readable form
# du -sh                                        # Display total disk usage on the current directory
```

## 15-DIRECTORY TRAVERSE

```
# cd ..                                         # To go up one level of the directory tree
# cd                                           # Go to $HOME directory
# cd /test                                      # Change to /test directory
```