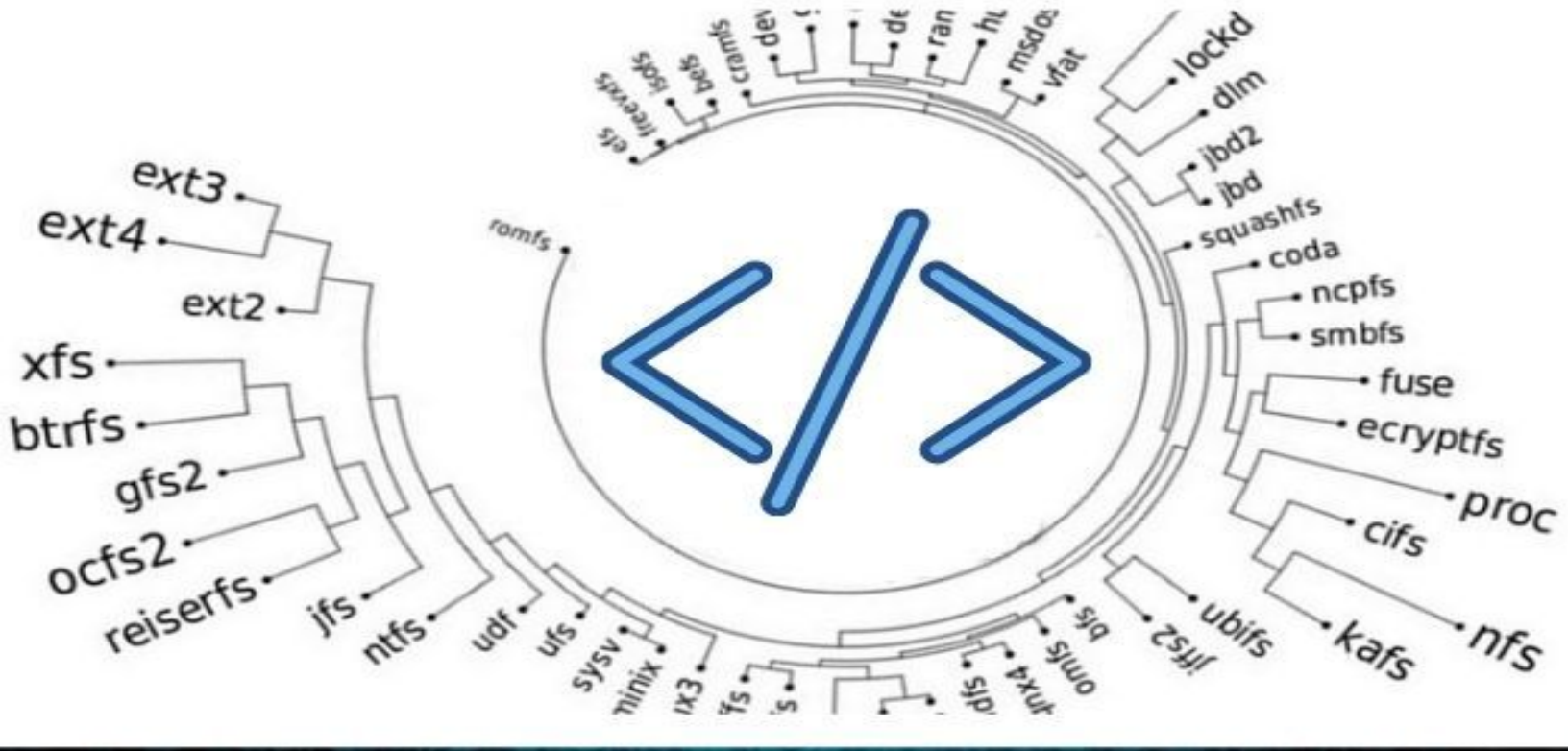
Secret Revealed

+500 LINUX Commands

2022



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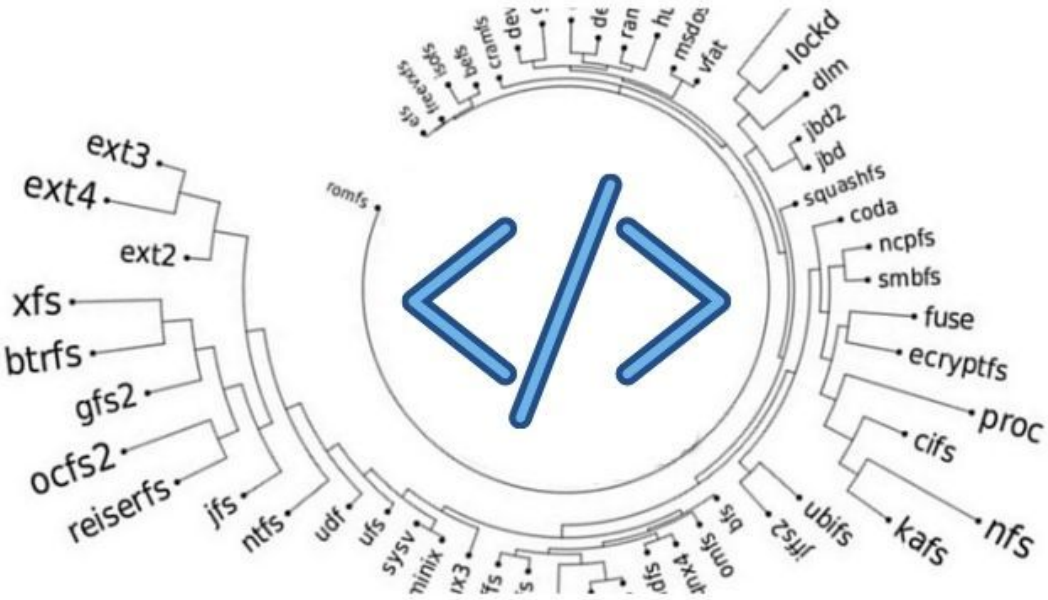


Introduction

In this document, you will find more than 500 commands via the Linux terminal. All well explained how they work and what they do. Entirely in Portuguese, with a simple and objective language that can be understood by all users (from the simplest to advanced level).

This is an opportunity to not only use the graphical interface to execute the commands, but to master the terminal. Further increasing your knowledge in the Linux universe. After all, at certain times, we need more knowledge to perform certain tasks.

Linux is already present in large companies, and mastering it means an additional differential in relation to other employees of the company.

Even with daily practice, it is unlikely that you will save all the commands from the terminal, but the idea of this list is to bring the primordial commands to the Linux terminal, as its list is vast.

This booklet is freely distributed and can be shared and downloaded by anyone, after all, the main objective is its dissemination and distribution, without any profit purpose.

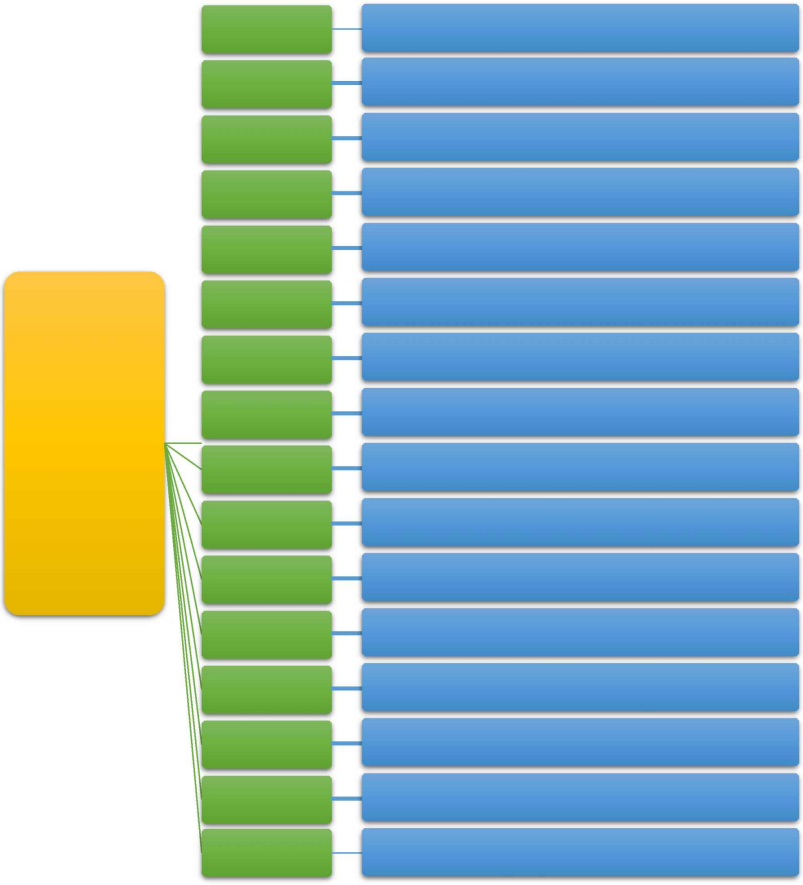
Useful for beginners; curious; intermediate level looking to delve deeper and for those who are already advanced and want to remember some of the commands.

However, before executing the commands in the terminal, remember the famous root mode phrase: "With great power comes great responsibility" - Stan Lee

summary

1. Reference Guide – List of Commands for Linux

1.1. Knowing the system hierarchy



1.2. global shortcuts

Ctrl+C

- Cancels the current running command.

Ctrl+Z

-

Ctrl+D

Pause current command, return with "fg" in Linux foreground or "bg" in background.

- Logs out the current session (similar to the "exit" command).

Ctrl+W

- Ctrl+U Deletes a word on the current line.
- Erase the entire line.

Ctrl+R

- ! Press to View a recent command.
- Repeat the last command.

exit

- Logs out of the current session.

2. Helpful tips for learning

1. **Type any command followedof “–help” (Two dashes and the word help)** for a detailed description of the command.
   (EX: “wget –help”):

2. Another way to get official documentation for Linux commands is the man command (manual), Type man followed by the name of the command you need information about.
   (EX: man wget)

3. If for some reason you prefer to save the man information (Manual) of some command on a flash drive or smartphone in PDF for further studies, use this command (EX: man -t wget | ps2pdf – wget.pdf)

3. command list

ls
Directory list.

ls -al
Directory list with hidden files display.

cd dir
*Changes from the current directory to the specified one (replace the variable*dir by the folder name).

CD
Change to /home directory (personal files).

pwd
Displays the current directory path.

mkdir dir*
*Creates a specified directory (replace the variable*dir by the folder name).

rm arch
*Deletes the specified file (replace the variable*arq with the name of the file you want to delete).

rm -r dir
*Deletes the specified directory (replace the variable*dir by the folder name).

rm -f file
*Erase the specified file forcibly (-f for force) (replace the variable*file by file name
that you want to delete).

rm -rf dir
*Erase the specified directory forcibly (replace the variable*dir by the folder name).*Use this command with extreme attention!*

cp -r file1 file2

*Copy “file1” to “file2” (replace variable*file by the file name).

cp -r dir1 dir2

*Copy “directory1” to “directory2”; creates “directory2” if it does not exist (replace the variable*say by the
directory name).

mv file1 file2

Dual function: Can be used to rename or move “file1” to “file2”. If file2 is
*an existing directory, move “file1” into the directory “file2” (replace the variable*earch
by file name).

ln -s file link

*Create a symbolic link, link (shortcut) to the file (replace the variable*arq by filename and link
by the name that the shortcut will have).

touch file

*Create or update the file (replace the variable*file by the file name).

cat > file

*Directs standard input to a file (replace variable*file by the file name).

more arch

*Display the contents of a file (replace the variable*file by the file name).

head arch

*Display the first 10 lines of a file (replace the variable*file by the file name).

tail arch

*Display the last 10 lines of a file (replace the variable*file by the file name).

tail -f arch

Displays the contents of a file as it updates (increases in size), starting with the
*last 10 lines (replace the variable*file by the file name).

ps

Displays active user processes in real time.

top

Displays all processes running in real time.

kill pid

*Kill a specific process by ID number (replace*pid with the process number).

killall proc

*Kills all processes with the specified name*proc, of processes (replace proc with the process name).

bg

Lists stopped or background jobs, or you can resume them as well.

fg

Brings the latest work to the forefront.

fg work

*Brings "work" work to the foreground (replace*trab by the process name).

chmod octal arch

Change the permissions of the file “arch” to octal, which can be specified separately for “user”, “group” and “others”. The octal values are represented below:

- 4 – reading (r, from read).
- 2 – write (w, from write).
- 1 – execution (x, from execute)

Explanation: To set permissions, add the above values. For example, to assign the owner of the
file ("user") full read (r), write (w) and execute (x) access, just add the octal value 4 + 2 + 1 = 7. Assuming you want to limit access to “group” members, allowing read-only and recording, just add 4 + 2 = 6. Combining the two examples mentioned, it would be: chmod 760 (“r” for user, “w” for group and “0” for others or “rw-“).

Another examples:

- chmod 777
  - *read (r), write (w) and execute (x) for all (“user”, “group” and “others”).*
- chmod 755
  - *“rwx” for the “owner” (user), “rw” for the “group” and “others”.*

For more information, type in the terminal: man chmod

ssh user rio@host

Connect to host as user (example: ssh gnulinuxbrasil@meserver).

ssh -p user port rio@host

Connects to the host on the specified port (replace “port” with the configured port number).

ssh-copy-id user river@host

Add your key for that host's host and user; serves to enable passwordless logins using keys.

grep sequence files

Search by string in files (replace string and files with values matching the search).

grep -r string dir

Recursively search for string LinuxLinuxLinux in directory dir

***command*| grep sequence**

*Search for string in command output (replace*command and sequence according to the values to be *sought).*

locate file

*Finds all instances of a file (replace variable*file by the file name).

gives you

Displays the current date and time.

lime

Displays a calendar for the current month.

uptime

Displays system uptime.

w

Displays who is online.

whoami

Displays who you are logged in as.

finger

User Displays user information.

uname -a

Displays kernel information.

cat /porc/cpuinfo

Displays CPU information.

cat /proc/meminfo

Displays memory information.

man command

*Opens the manual for the specified command (replace the variable*command by the name of the command you want
to meet).

df

Displays disk usage.

du

Displays space usage in a directory.

free

Displays memory and swap usage.

whereis application

*Displays possible app locations (replace*application by program name).

which application

*Shows that the application will run by default (override*application by program name).

tar cf package.tar files

*Creates a TAR package (named*package.tar) with the specified files (replace the variable arqs with the name of the
archive).

tar xf package.tar

*Extract the files from "package.tar" (replace the variable*package.tar by file name).

tar czf package.tar.gz files

*Creates a TAR package (named*package.tar.gz) with GZip compression.

tar xzf package.tar.gz

*Extracts a TAR package (named*package.tar.gz) with GZip compression.

tar cjf package.tar.bz2

*Creates a TAR package (named*package.tar.bz2) with BZip2 compression.

tar xjf package.tar.bz2

*Extracts a TAR package (named*package.tar.gz) with BZip2 compression.

gzip file

*Compress a file and rename it to file.gz (replace the variable*file by the file name).

gzip -d file.gz

*Uncompress file.gz to a file (replace the variable*file.gz by the file name).

ping host

*Send an ICMP packet (ping) to the host and display the result (replace the variable*host by the domain of a website or
the IP number).

whois domain

*Returns information about the domain (replace the variable*domain by a website address or IP number).

dig host

*Returns DNS information for the domain (replace the variable*host by a website's domain or IP number).

ListAllCommands | grep searchstr

Installation from source code; the commands must be typed in sequence in a terminal, one of each turn.

dig -x host

*Displays the reverse return for a host (replace the variable*host by a website's domain or IP number).

wget file

*Download the file "arq" (replace the variable*arq by the file's online address).

wget -c file

*Continues the interrupted download of an "archive" file (replace the variable*arq by the file's online address).

installer commands

- ./configure
- make
- make install

dpkg -i package.deb

*Install a DEB package (Debian distros) (replace the variable*package.deb by the name of the program package).

rpm -Uvh package.rpm

*Installs an RPM package (Distros that use RPM) (replace the variable*package.rpm with the package name of
program).

4. Complete Reference Guide – Advanced Linux Terminal Commands

1.1. Linux system information

arch

Displays the machine architecture (1).

uname -m

Displays the machine architecture (2).

uname -r

Displays used kernel version.

dmidecode -q

Displays system components (hardware).

hdparm -i /dev/hda

Displays the characteristics of a hard drive.

hdparm -tT /dev/das

Performs read test on a hard drive.

cat /proc/cpuinfo

Displays CPU information.

cat /proc/interrupts
Displays interrupts.

cat /proc/meminfo
Checks memory usage.

cat /proc/swaps:df -h
Displays the size of files and directories sorted by size.

ls -lSr |more
Estimates the space used by the 'dir1' directory.

du -sh dir1
Displays the size of files and directories sorted by size.

du -sk * | sort -rn
Displays the space used by installed .rpm packages organized by size (Fedora, Red Hat and
others).

rpm -q -a –qf '%10{SIZE}t%{NAME}n' | sort -k1,1n
Displays the space used by installed packages, organized by size (Debian, Ubuntu and others).

dpkg-query -W -f='${Installed-Size;10}t${Package}n' | sort -k1,1n
Display swap files.

cat /proc/version
Displays the kernel version.

cat /proc/net/dev
Displays network adapters and statistics.

cat /proc/mounts
Displays the mounted file system.

lspci -tv
Displays PCI devices.

lsusb -tv
Displays USB devices.

gives you

Displays the system date.

lime 2016

View the 2016 calendar.

lime 06 2016

Displays the calendar for the month of June 2016.

date 041217002016.00

Set (status, adjust) date and time.

clock -w
Save changes to date in BIOS.

1.2. Shutdown (System Reboot or Logout)

shutdown -h now
Turn off the system (1).

shutdown -h minutes
Shut down the system according to the selected minute (EX.: shutdown -h 30 , shut down in 30 minutes).

init 0
Turn off the system (2).

telinit 0
Turn off the system (3).

halt
Turn off the system (4).

shutdown -r message:
To send a message to users affected by the shutdown, use the command like this: sudo
shutdown -r 30 "The system will restart in 30 minutes"

shutdown -c
Cancels a planned system shutdown.

shutdown -r now
Reset (1).

reboot
Reset (2).

logout
Close the session.

1.3. files and directories

cd /home

Enter the “home” directory.

CD ..

Go back one level.

CD ../..

Go back 2 levels.

CD

Go to the root directory.

cd ~user1

Go to user1's directory.

CD -

Return() to the previous directory.

pwd

Displays the working directory path.

ls

Queries files in a directory.

ls -F

Queries files in a directory.

ls -l

Displays details of files and folders in a directory.

ls -a

Show hidden files.

ls *[0-9]*

Displays files and folders that contain numbers.

tree

Displays files and folders in a tree from the root. (1)

lstree

Displays files and folders in a tree from the root. (two)

mkdir dir1

Creates a folder or directory named 'dir1'.

mkdir dir1 dir2

Creates two folders or directories simultaneously (creating two directories at the same time).

mkdir -p /tmp/dir1/dir2

Create a directory tree.

rm -f file1

Deletes the file named 'file1'.

rmdir dir1

Deletes the folder named 'dir1'.

rm -rf dir1

Deletes a folder named 'dir1' with its contents forcibly. (If I deleted all its content).

rm -rf dir1 dir2

Deletes two folders (directories) with their contents forcibly.

mv dir1 new_dir
Renames or moves a file or folder (directory).

cp file1
Copy a file.

cp file1 file2
Copies both files at the same time.

cp dir /*.
Copies all files from a directory into the current working directory.

cp -a /tmp/dir1.
Copies a directory into the current working directory.

cp -a dir1
Copy a directory.

cp -a dir1 dir2
Copy directory two in unison.

ln -s file1 lnk1
Creates a symbolic link to the file or directory.

ln file1 lnk1
Creates a hard link to the file or directory.

touch -t 0712250000 file1
Modifies the real time (creation time) of a file or directory.

file file1
Mime-type output (dump to screen) from a text file.

iconv -l
Lists of known figures.

iconv -f fromEncoding -t toEncoding inputFile > outputFile
Creates a new input file shape assuming it is encoded in fromEncoding and converts
for ToEncoding.

find . -maxdepth 1 -name *.jpg -print -exec convert ”{}” -resize 80×60 “thumbs/{}” \;

Group scaled files in current directory and send them to thumbnail view directories
(requires ImagemagicK converter).

1.4. find files

find / -name file1
Search for a file or directory from the system root.

find / -user user1
Finds files and directories owned by user 'user1'.

find /home/user1 -name *.bin
Searches for files with extension '. bin' in the '/home/user1' directory.

find /usr/bin -type f -atime +100
Searches for binary files not used in the last 100 days.

find /usr/bin -type f -mtime -10
Searches for files created or changed in the last 10 days.

find / -name *.rpm -exec chmod 755 '{}' \;
Searches for files with extension '. rpm' and modify permissions.

find / -xdev -name *.rpm
Searches for files with extension '. rpm' ignoring removable media such as CD-ROM, USB stick, etc…

locate *.ps
Find files with the extension '. ps first run with the command "updatedb'.

where is halt
Displays the location of a binary file, help or source. In this case he asks where is the
'stop' command.

which halt
Displays the full path (the full path) to a binary/executable.

1.5. Working with file system

mount /dev/hda2 /mnt/hda2
Mount a disk called hda2. First, check for the existence of the '/mnt/hda2' directory; If you do not
own, you must create it.

umount /dev/hda2
Remove a disk named hda2. First, from the point of '/mnt/hda2.

fuser -km /mnt/hda2

Forces removal when device is busy.

umount -n /mnt/hda2

Performs the removal without reading the /etc/MTAB file. Useful when file is read-only or disk
hard is full.

mount /dev/fd0 /mnt/floppy

Mounts a floppy disk (floppy).

mount /dev/cdrom /mnt/cdrom

Mount a cdrom/dvdrom.

mount /dev/hdc /mnt/cdrecorder
Mount a recordable cd or dvdrom.

mount /dev/hdb /mnt/cdrecorder
Mounts a writable cd/dvdrom (a dvd).

mount -o loop file.iso /mnt/cdrom
Mount a file or an iso image.

mount -t vfat /dev/hda5 /mnt/hda5
Mounts a command system on FAT32 files.

mount /dev/sda1 /mnt/usbdisk
Mounts a memory or a USB flash drive (without specifying the file system type).

4.6. Disk Space

df -h
Displays the size of files and directories sorted by size.

ls -lSr |more
Estimates the space used by the 'dir1' directory.

du -sh dir1
Displays the size of files and directories sorted by size.

du -sk * | sort -rn
Displays the space used by installed .rpm packages, sorted by size (Fedora, Red Hat, and others).

rpm -q -a –qf '%10{SIZE}t%{NAME}n' | sort -k1,1n
Displays the space used by installed packages and organized by size (Debian, Ubuntu and others).

dpkg-query -W -f='${Installed-Size;10}t${Package}n' | sort -k1,1n > g
Displays (in Debian or derivatives) a list of 25 installed packages that consume the most space (in descending order)

1.7. users and groups

groupadd group_name
Create a new group.

groupdel group_name
Delete a group.

groupmod -n new_group_name viejo_new_group_name
Renames a group.

useradd -c “Name Surname ” -g admin -d /home/user1 -s /bin/bash user1
Creates a new user “admin” from the group.

useradd user1
Create a new user.

userdel -r user1
Deletes a user ('-r' deletes the Home directory).

usermod -c “User FTP” -g system -d /ftp/user1 -s /bin/nologin user1
Change user attributes.

passwd
Change password.

password user1
Change user password (root only).

chage -E 2016-06-22 user1
Sets a time limit for the user's password. In this case it says the key expires on June 22
of 2016.

Linux system information

- pwck
  - o Checks the*correct syntax '/etc/passwd' file format and the existence of users.*
- grpck
  - o Check for correct syntax*and file format '/etc/group' and the existence of groups.*
- newgrp group_name:
  - o Register a*new group to change the default group of newly created files.*

4.8. File permissions (+=Add and -=Remove permissions)

ls -lh
Displays permissions.

ls /tmp | pr -T5 -W$COLUMNS
Divides the terminal into 5 columns.

chmod ugo+rwx directory1

Set read®, write (w) and execute (x) permissions for owner (u), group (g) and others (or) on the
directory 'file1'.

chmod go-rwx directory1

Remove read, write (w) and implementation group (x) (g) and others (or) permission on directory
'file1'.

chown user1 file1

Change the owner of a file.

chown -R user1 directory1

Changes the owner of a directory and all files and directories contained within.

chgrp group1 file1
Change the filegroup.

chown user1
group1 file1

find / -perm -u+s
View all files with SUID system configured.

chmod u+s /bin/file1
Sets the SUID bit in a binary file. The user running this file acquires the same
privileges as owner.

chmod us /bin/file1
Disables the SUID bit in a binary file.

chmod g+s /home/public
Sets the SGID bit on a directory - similar to SUID, but for the directory.

chmod gs /home/public
Turns off the SGID bit on a directory.

chmod o+t /home/public
Set STIKY bit in a directory. Allows deletion of files only for legitimate ones
owners.

chmod ot /home/public
Turns off STIKY bit on a directory.

1.9. Special file attributes: (+ = Add and - = Remove permissions)

chattr +a file1
Allows recording just by opening a file append mode.

chattr +c file1
Allows a file to be zipped/unzipped automatically.

chattr +d file1

It ensures that the program ignores deleting files during backup.

chattr +i file1

Makes the file unaltered so it cannot be deleted, changed, renamed, or linked.

chattr +s file1

Allows a file to be safely deleted.

chattr +S file1

It ensures that a file is modified, the changes are written in synchronous mode, as with the
sync.

chattr +u file1
It allows you to recover the contents of a file even if it is cancelled.

lsattr
Displays special attributes.

4.10. Compressed files and files

bunzip2 file1.bz2
Unzip a file called 'file1.bz2'.

bzip2 file1
Compress a file called 'file1'.

gunzip file1.gz
Unzip a file called 'file1.gz'.

gzip file1
Compress a file called 'file1'.

gzip -9 file1
Compress with maximum compression.

rar to file1.rar test_file
*Create a file with*rar called 'file1.rar'.

rar to file1.rar file1 file2 dir1
Compress 'file1', 'file2' and 'dir1' simultaneously.

rar x file1.rar
Unzip the rar file.

unrar x file1.rar
Unzip the rar file.

tar -cvf archive.tar file1
Creates an unzipped tarball.

tar -cvf archive.tar file1 file2 dir1
Creates a file containing 'file1', 'file2' and 'dir1'.

tar -tf archive.tar

Display the contents of a file.

tar -xvf archive.tar

Extract a tar file.

tar -xvf archive.tar -C /tmp

Extract a tarball into /tmp.

tar -cvfj archive.tar.bz2 dir1

Creates a tar file compressed in bzip2.

tar -xvfj archive.tar.bz2

Unzip a compressed bzip2 tar file

tar -cvfz archive.tar.gz dir1

Creates a gzip-compressed tar file.

tar -xvfz archive.tar.gz

Unzip a compressed gzip tar file.

zip file1.zip file1

Creates a zip compressed file.

zip -r file1.zip file1 file2 dir1

.zip compression of multiple files and directories simultaneously.

unzip file1.zip

Unzip a zip file.

1.11. RPM packages (Red Hat, Fedora and derivatives)

rpm -ivh package.rpm

Install an rpm package.

rpm -ivh –nodeeps package.rpm

Installs an rpm package and ignores dependency requests.

rpm -U package.rpm

Updates an rpm package without changing the configuration files.

rpm -F package.rpm

Update an rpm package only if it “Commands” is installed.

rpm -e package_name.rpm

Remove an rpm package.

rpm -qa

Displays all rpm packages installed on the system.

rpm -qa | grep httpd

Displays all rpm of packages with the name “httpd”.

rpm -qi package_name

Information about a specific package installed.

rpm -qg “System Environment/Daemons”

Displays a group of software packages rpm.

rpm -ql package_name
Displays list of files provided by an installed rpm package.

rpm -qc package_name
Displays the list of files, given by an installed rpm package configuration.

rpm -q package_name –whatrequires
Displays list of dependencies that are required for an rpm package.

rpm -q package_name –whatprovides
Displays the capacity provided by an rpm package.

rpm -q package_name –scripts
Displays scripts started during uninstallation.

rpm -q package_name –changelog
Displays the revision history of an rpm package.

rpm -qf /etc/httpd/conf/httpd.conf
Checks which rpm package belongs to a given file.

rpm -qp package.rpm -l
Displays the list of files provided by a package rpm that has not yet been installed.

rpm –import /media/cdrom/RPM-GPG-KEY
Import the public key digital signature.

rpm –checksig package.rpm
Checks the integrity of an rpm package.

rpm -qa gpg-pubkey
Checks the integrity of all installed rpm packages.

rpm -V package_name
Checks file size, licenses, types, owner, group, health check, summary of MD5 and last modification.

rpm -V
Checks all rpm packages installed on the system. Use carefully.

rpm -Vp package.rpm
Checks if an installed package is not rpm yet.

rpm2cpio package.rpm | cpio –extract –make-directories *bin*
Extracts the executable file from an rpm package.

rpm -ivh /usr/src/redhat/RPMS/`arch`/package.rpm
Installs a package built from an rpm source.

rpmbuild –rebuild package_name.src.rpm
Builds an rpm package from a source rpm.

4.12. YUM Updater packages (Red Hat, Fedora and derivatives)

yum install package_name
Download and install an rpm package.

yum localinstall package_name.rpm
It will install an RPM and will try to resolve all dependencies for you, using your repositories.

yum update package_name.rpm
Updates all rpm packages installed on the system.

yum update package_name
Upgrade/update a rpm package.

yum remove package_name
Remove an rpm package.

yum list
Lists all packages installed on the system.

yum search package_name
Find a package in the rpm repository.

yum clean packages
Clears an rpm cache, deleting downloaded packages.

yum clean headers
Deletes all header files that the system uses to resolve the dependency.

yum clean all
Removes cache files and package header.

4.13. DEB packages (Debian, Ubuntu and derivatives)

dpkg -i package.deb'
Installs/updates a deb package.

dpkg -r package_name

Remove a deb for the system package.

dpkg -l

Displays all deb packages installed on the system.

dpkg -l | grep httpd

Displays all deb packages with the name “httpd”

dpkg -s package_name

Information about a specific package installed on your system.

dpkg -L package_name
Displays list of files provided by a package installed on the system.

dpkg –contents package.deb
Displays a list of files provided by a package not yet installed.

dpkg -S /bin/ping
Checks which package a given file belongs to.

4.14. APT Package Updater (Debian, Ubuntu and Derivatives)

apt-get install package_name
Installs/updates a deb package.

apt-cdrom install package_name
Installs/updates a deb package from cdrom.

apt-get update
Updates the package list.

apt-get upgrade
Updates all installed packages.

apt-get remove package_name
Uninstall a deb package from the system.

apt-get purge program_name
Uninstall a system program.

apt-get check
Checks if dependency resolutions are correct.

apt-get clean
Clear cache of downloaded packages.

apt-cache search searched-package
Returns the list of packages that correspond to the 'packages' series.

1.15. View the contents of a file

cat file1

Displays the contents of a file starting from the first line.

tac file1

Displays the contents of a file starting from the last line.

more file1

Displays content across a file.

less file1
Similar to the 'more' command but allows you to save the file as well as move backwards.

head -2 file1
Displays the first two lines of a file.

tail -2 file1
Displays the last two lines of a file.

tail -f /var/log/messages
Displays in real time what has been added to the file.

4.16. text manipulation

cat file1 file2 .. | command <> file1_in.txt_or_file1_out.txt
General syntax for manipulating text using pipe, STDIN and STDOUT.

cat file1 | command(sed, grep, awk, grep, etc…) > result.txt
General syntax for manipulating text from a file and writing the results to a new file.

cat file1 | command(sed, grep, awk, grep, etc…) » result.txt
General syntax for manipulating text from a file and adding the result to an existing file.

grep Nov /var/log/messages
Looks for the words "Nov" in the '/var/log/messages' file.

grep ^Nov /var/log/messages
Search for words starting with "November" in the '/var/log/messages' file

grep [0-9] /var/log/messages
Selects all lines in the '/var/log/messages' file that contain numbers.

grep Nov -R /var/log/*
Finds the string "Nov" in the '/var/log' directory and below.

sed 's/stringa1/stringa2/g' example.txt
Relocates "string1" with "string2" in Example.txt

sed '/^$/d' example.txt

Remove all blank lines from example.txt

sed '/ *#/d; /^$/d' example.txt

Delete comments and blank lines from Example.txt

sed -e '1d' result.txt

Delete the first line of the result.txt file

sed -n '/string1/p'

Display only lines that contain the word “string1”.

4.17. Set the file conversion format

dos2unix filedos.txt fileunix.txt
Converts a text file format from MSDOS to UNIX.

unix2dos fileunix.txt filedos.txt
Converts a UNIX text file format to MSDOS.

recode ..HTML < page.txt > page.html
Convert a text file to html.

recode -l | more
Displays all available format conversions.

4.18. File system analysis

badblocks -v /dev/hda1
Checks for bad blocks on disk hda1.

fsck /dev/hda1
Repairs/verifies the integrity of the Linux system file on the hda1 disk.

fsck.ext2 /dev/hda1
Repairs/verifies the integrity of the ext2 file system on the hda1 disk.

e2fsck /dev/hda1
Repairs/verifies the integrity of the ext2 file system on the hda1 disk.

e2fsck -j /dev/hda1
Repairs/verifies the integrity of the ext3 file system on the hda1 disk.

fsck.ext3 /dev/hda1
Repairs/verifies the integrity of the ext3 file system on the hda1 disk.

fsck.vfat /dev/hda1
Repairs/verifies integrity of file system fat disk hda1.

fsck.msdos /dev/hda1

Repairs/verifies the integrity of a file from dos on the hda1 disk system.

dosfsck /dev/hda1

Repairs/verifies the integrity of a file from dos on the hda1 disk system.

1.19. Format file systems

mkfs /dev/hda1

Checks for bad blocks on disk hda1.

mke2fs /dev/hda1

Repairs / verifies the integrity of the Linux system file on the hda1 disk.

mke2fs -j /dev/hda1

Repairs/verifies the integrity of the ext2 file system on the hda1 disk.

mkfs -t vfat 32 -F /dev/hda1

Repairs/verifies the integrity of the ext2 file system on the hda1 disk.

fdformat -n /dev/fd0

Repairs/verifies the integrity of the ext3 file system on the hda1 disk.

mkswap /dev/hda3

Repairs/verifies the integrity of the ext3 file system on the hda1 disk.

4.20. backups

dump -0aj -f /tmp/home0.bak /home

Makes a full backup and saves the '/Home' directory.

dump -1aj -f /tmp/home0.bak /home

Makes an incremental backup of the ' /home' directory.

restore -if /tmp/home0.bak

Restores a save interactively.

rsync -rogpav –delete /home /tmp

Synchronization between directories.

rsync -rogpav -e ssh –delete /home ip_address

Rsync through the SSH tunnel.

rsync -az -e ssh –delete ip_addr

Synchronize a local directory with a remote directory via ssh and compression.

rsync -az -e ssh –delete /home/local ip_addr

Sync a remote directory to a local directory through ssh and compression.

dd bs=1M if=/dev/hda | gzip | ssh user@ip _addr 'dd of=hda.gz'

Backs up to a remote host's hard drive via ssh.

dd if=/dev/sda of=/tmp/file1

Saves the contents of a hard drive to a file. (In this case the hard disk is "sda" and the file "file1").

tar -Puf backup.tar /home/user

Saves the /etc and root directories (excluding the contents of the /root/dir1/ subdirectory) to a file compressed, whose name includes the current date and time.

(cd /tmp/local/ && tar c .) | ssh -C user@ip _addr 'cd /home/share/ && tar x -p'

Copy the contents of a directory to a remote directory over ssh.

(tar c /home) | ssh -C user@ip _addr 'cd /home/backup-home && tar x -p'

Copy a local directory to a remote directory over ssh.

tar cf - . | (cd /tmp/backup ; tar xf –)

Copy the location preserving the licenses and links from one directory to another.

find /home/user1 -name '*.txt' | xargs cp -av –target-directory=/home/backup/ –parents

Find and copy all files with '.txt' extension from one directory to another

find /var/log -name '*.log' | tar cv –files-from=- | bzip2 > log.tar.bz2

Finds all files with '. log' and make a bzip file.

dd if=/dev/hda of=/dev/fd0 bs=512 count=1

Makes a copy of the MRB (Master Boot Record) to a floppy disk.

dd if=/dev/fd0 of=/dev/hda bs=512 count=1

Restores the copy of the (MBR Master Boot Record) recorded on the floppy disk.

1.21. CD-ROM

cdrecord -v gracetime=2 dev=/dev/cdrom -eject blank=fast -force

Wipe or erase a rewritable CD (CD-RW)

mkisofs /dev/cdrom > cd.iso

Creates an .iso image of the CD-ROM on disk.

mkisofs /dev/cdrom | gzip > cd_iso.gz

Creates a compressed iso image of the CD-ROM on disk.

mkisofs -J -allow-leading-dots -R -V “Label CD” -iso-level 4 -o

./cd.iso data_cd

Creates an .iso image of a directory.

cdrecord -v dev=/dev/cdrom cd.iso

Writes an iso image.

gzip -dc cd_iso.gz | cdrecord dev=/dev/cdrom –

Writes a compressed iso image.

mount -o loop cd.iso /mnt/iso

Mount an iso image.

cd-paranoia -B

Take music from a cd to wav files.

cd-paranoia – ”-3”

Take the first 3 songs from a cd to wav files.

cdrecord –scanbus

Scans the buffer to identify the scsi channel.

dd if=/dev/hdc | md5sum

Runs an md5sum on a device, such as a CD.

4.22. Networks (LAN and WiFi)

ifconfig eth0

Displays the configuration of an Ethernet network card.

ifup eth0

Activates an 'eth0' interface.

ifdown eth0

Disables an 'eth0' interface.

ifconfig eth0 192.168.0.1 netmask 255.255.255.0

Configure an IP address.

ifconfig eth0 promisc

Set 'eth0' common mode to get packets (sniffing).

dhclient eth0

Activates the 'eth0' interface in dhcp mode.

route -n

Displays route table.

route add -net 0/0 gw IP_Gateway

Configures the standard input.

route add -net 192.168.0.0 netmask 255.255.0.0 gw 192.168.1.1

Configure a static route to find the network, '192.168.0.0/16'.

route del 0/0 gw IP_gateway

Removes the static route.

echo “1” > /proc/sys/net/ipv4/ip_forward

Enable route IP.

hostname

Displays the system hostname.

hostwww.example.com

Finds the hostname to resolve the name of an IP (1).

nslookupwww.example.com

Finds the hostname to resolve the name of an IP and vice versa (2).

ip link show
Displays the status of all interfaces.

mii-tool eth0
Displays the status of 'eth0' link.

ethtool eth0
Displays statistics for the 'eth0' network card.

netstat -tup
Displays all active network connections and their PID.

netstat -tupl
Displays all service network listeners on the system and their PID.

tcpdump tcp port 80
Displays all HTTP traffic.

iwlist scan
Displays wireless networks.

iwconfig eth1
Displays the configuration of a wireless network card.

whoiswww.example.com
Search Whois database.

1.23. Microsoft Windows Networks (SAMBA)

nbtscan ip_addr
BIOS network name resolution.

nmblookup -A ip_addr
BIOS network name resolution.

smbclient -L ip_addr/hostname
View remote shares from a windows host.

4.24. Firewall (iptables)

iptables -t filter -L

Displays all streams in the filter table.

iptables -t nat -L

Displays all currents from the nat table.

iptables -t filter -F

Clears all rules from the filter table.

iptables -t nat -F
Clears all rules from the nat table.

iptables -t filter -X
Deletes any user-created strings.

iptables -t filter -A INPUT -p tcp –dport telnet -j ACCEPT
Allows incoming telnet connections.

iptables -t filter -A OUTPUT -p tcp –dport http -j DROP
Blocks outbound HTTP connections.

iptables -t filter -A FORWARD -p tcp –dport pop3 -j ACCEPT
Allows POP connections for a forward chain.

iptables -t filter -A INPUT -j LOG –log-prefix “DROP INPUT”
Registers an input string.

iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE
Configures a PAT (port address translation) on eth0, hiding outgoing packets from
coercion.

1.25. Monitoring and Debugging

top
Displays the most CPU intensive Linux tasks.

ps -eafw
Displays Linux tasks.

ps -e -o pid,args –forest
Displays Linux tasks hierarchically.

pstree
Displays a tree of system processes.

kill -9 Process_ID
Forces a process to end.

kill -1 Process_ID

Forces a process to reload the configuration.

lsof -p $$

Displays a list of files opened by processes.

lsof /home/user1

Displays a list of open files in a given system path.

strace -c ls >/dev/null

Displays the system of calls made and received by a process.

strace -f -e open ls >/dev/null
View calls to the library.

watch -n1 'cat /proc/interrupts'
Displays real-time interruptions.

last reboot
Last system reboot.

lsmod
Displays the loaded kernel.

free -m
Displays RAM status in megabytes.

smartctl -A /dev/hda
Monitors the reliability of a hard drive through SMART.

smartctl -i /dev/hda
Checks if SMART is enabled on a hard drive.

tail /var/log/dmesg
Displays events inherent in the kernel loading process.

tail /var/log/messages
Displays system events.

4.26. Helpful hints and commands

apropos …keyword
Displays a list of commands that pertain to a program's keywords; are useful when you
knows what your program does, but doesn't know the command name.

man ping
Displays online manual pages; for example a ping command, use the '-k' option to find
any related command.

whatis …keyword

Displays the description of what the program does.

mkbootdisk –device /dev/fd0 `uname -r`

Create a bootable floppy disk.

gpg -c file1

Encodes a file with the GNU security guard.

gpg file1.gpg

Decodes a file with GNU security guard, Linux U system information.

wget -rwww.example.com
Download an entire site.

wget -cwww.example.com/file.iso
Download a file with the possibility to stop the download and resume later.

echo 'wget -cwww.example.com/files.iso' | at 09
Download a file at 09 am

ldd /usr/bin/ssh
Displays shared libraries that are required by the ssh program.

alias hh='history'
Put an alias for a command – hh = history.

chsh
Change the command shell.

chsh –list-shells
It is a suitable command to find out if you have remote control in another terminal.

clear
Clear the terminal screen.

acommand > outputfile.txt 2>&1
Executes a command and redirects the output to a file, combining both STDOUT and
STDERR.

acommand | archivodesaida.txt 2> archivodeerros.txt
Run a command, you redirect the output (STDOUT) to a file and the errors (STDERR) to
other.

acommand | tee file output.txt
Executes a command, displays the output on the screen, and simultaneously writes to a file.