Linux Commands Cheatsheet

Basic File Operations

Command	Description
ls -lh file	Display file permissions, size, owner etc
touch file	Creates an empty file
cp file1 file2	Copy file1 to file2. File2 can be a directory
mv file dir	Move a file to a directory
mv file1 file2	Rename file1 to file2
rm file	Delete a file
ls -lah	List all the contents in a directory
mkdir data	Creates a directory data
cp -r dir1 dir2	Copy dir1 and its contents to dir2
rm -rf dir	Delete a directory and its contents
pwd	Print current working directory
stat file	Display attributes of files and directories
wc file	Count bytes, words, lines in a file or STDIN
file file	Identify (guess) the type of a file.
type cd	Find out whether cd binary is built-in, alias or external binary file

File Viewing

Command	Description
cat file.txt	Print the contents of a text file
tac file.txt	Prints text in reverse
more file.txt	View large text files one page at a time
less data.txt	Same as more but with more features
head -n 5	View the first 5 line of a text file
tail -n 5	View the last 5 line of a text file
nl file	View text files with their lines numbered
strings file	Display text that's embedded in a binary file

Print Text

Command	Description
echo "Hello World"	Print Hello World on the standard output
printf "%5d\n" 42	Print formatted text on standard output
yes "Hello World"	Print repeated text on the standard output
seq 1 5	Print a sequence of numbers from 1 to 5
clear	Clear the terminal screen or window

File Search

Command	Description
locate file	Searches for files and directories
which cd	Searches the location of the cd binary
whereis ls	Find ls' binary docs, and source files
find /data -name hello.txt	Searches for "hello.txt" in the /data directory

Directory Traversal

Command	Description
cd or cd ~	Navigate to the user's home directory
cd ..	Navigate to the parent directory
cd -	Switch to the previous working directory
cd /	Navigate to the root directory
cd /tmp	Changes the current directory to /tmp

Disk Management

Command	Description
df -h	Report file system disk space usage
du -h /home	Estimate file space usage in the home dir
fdisk -l	List available partitions on a disk
cfdisk	Create partitions
lsblk	List block devices
mount /dev/sda /mnt	Mount /dev/sda partion to /mnt directory
umount /mnt	Unmount the mounted partition in /mnt dir
findmnt	Displays if about all mounted filesystems
fsck /dev/sda	Check a disk partition for errors

Secure Shell (SSH)

Command	Description
ssh traw@10.1.3.1	Remote login to 10.1.3.1
ssh-agent -t rsa	Generate SSH rsa key pair
ssh-copy-id	Copy ssh public key to a remote host
sshpass	Non-interactive ssh password auth tool

File Permissions

Command	Description
chmod +x	Set execute permissions to a file
chmod u+s script.sh	Set SUID permissions to a file
chmod g+s dir	Set SGID permissions to a directory
chmod +t dir	Set Sticky Bit permissions to a directory
chgrp devops file.txt	Changes file.txt group onwer to devops
chmod 644 script.sh	Set the file perms to be read/write for the owner, and read-only for group and others
chown traw:sys file	Changes file owner to traw and group owner to sys
umask 022	Sets the default perms for newly created files to 644 and for directories to 755

History

Command	Description
sudo !!	Execute the previous command with sudo
^cat^tac	Replace previous cat command with tac
history	Display command line history
!$	Last argument of the previous command
!50	Execute the 50th command in history

Process Management

Command	Description
ps	Display a snapshot of running processes
ps aux	Display all processes of all users
top	Display real-time view of running processes
pgrep firefox	Find the process ID of firefox
pidof firefox	Find the process IDof firefox
kill 6732	Terminate a process with PID of 6732
killall proc	Kills all processes named 'proc'
pkill firefox	Terminates the firefox process
bg	Resumes suspended jobs in the background
fg	Brings a suspended job to foreground
jobs	List active jobs in the current shell
renice 12 PID	Changes priority of process with given PID
pstree	Displays a tree of running processes

Networking

Command	Description
ping sysxplore.com	Sends ICMP packets to sysxplore.com
ip addr	Displays all network interfaces information
ifconfig	Shows network interfaces configuration
whois sysxplore.com	Displays domain's registration information
route	Display the routing table
ss	Display information about network sockets
netstat	Displays network information and statistics
dig sysxplore.com	Queries DNS, provides domain's DNS info
wget <url>	Download file from the specified url
curl sysxplore.com	Retrieves sysxplore.com home page

Compression/Archives

Command	Description
tar -cf backup.tar /home	Creates a tar archive of /home dir
tar -xf backup.tar	Extract files from "backup.tar" archive
tar -zcvf data.tar.gz /home	Creates compressed archive of /home
gunzip data.gz	Uncompress data.gz file
zip -r data	Zip the data directory
unzip data.zip	Unzip the data.zip file
gzip data	Compresses "data" into "data.gz", original is removed

User Group Management

Command	Description
groups	Print the group membership of a user
groupadd devops	Create a new group called devops
groupdel devops	Deletes the devops group
groupmode -n sysops sys	Changes sysops group name to sys

User Management

Command	Description
id	Displays the user's UID, GID, and groups
whoami	Displays who is currently logged in
finger traw	Print information about user traw
useradd -u 1002 traw	Creates a new user traw with a specific UID
userdel traw	Deletes the user account named traw
chfn traw	Change a user's personal information
usermod -aG sudo traw	add user traw to the sudo group
gpasswd -a traw sudo	add user traw to the sudo group
gpasswd -d traw sudo	Remove user traw from the sudo group
passwd	Change user password
passwd traw	Change user traw's password
chsh -s /bin/zsh	Change user shell to zsh
su james	Switch to user james

Access Control Lists

Command	Description
getacl file	Display ACL permissions of a file or directory
setfact -m u:traw:r-x file	Set read/execute ACL perms for the user traw
setfact -m g:sysops:r-w file	Set read/write ACL perms for the group sysops
setfact -x u:traw file	Remove user traw ACL permissions
setfact -x u:devops file	Remove the group devops ACL perms
setfact -b file	Remove all ACL perms and keep default file permissions

File Transfer

Command	Description
scp file.txt user@rhost:/remote/dir	Copies file.txt to remote host's specified directory
rsync -a ~/ubuntu /backup/	Synchronizes content from source directory to destination directory ,preserving attributes
rsync -a /var/www/web/ user@rhost:/data/backup/	Synchronizes local directory to remote, preserving attributes

Text Manipulation

Command	Description
grep "linux" file.txt	Search for the word Linux in file.txt
tr "a-z" "A-Z" <file	Translate lowercase chars to uppercase
rev < file.txt	Print file.txt contents in reverse
sort file.txt	Sort lines of text by various criteria
uniq file.txt	Print only unique lines in file.txt
vimdff file1 file2	Line-by-line comparison of two files in vim
diff file1 file2	Comparison of two files on terminal
awk '{print $1}' file.txt	Print the first column of the file.txt
sed 's/cat/bat/g' file	Substitute all cat occurence with bat in file

Linux Commands From A-Z

A

- adduser Used to add user to the system
- addgroup Used to add group to the system
- addr 2line convert addresses into file names and line numbers
- alias Create an alias for Linux commands
- anacron Used to run commands periodically.
- apropos Search the manual pages.
- apt Search and install software packages (Debian/Ubuntu)
- apt get Search and install software packages (Debian/Ubuntu)
- arp Display and modify ARP table.
- ar A utility to create/modify/extract from archives.
- aspell Interactive spell checker.
- as A portable GNU assembler.
- at Schedule a command to run once at a particular time
- awk Find and Replace text, database sort/validate/index

B

- basename Strip directory and suffix from filenames
- base32 Base32 encode/decode data and print to standard output
- base64 Base64 encode/decode data and print to standard output
- bash GNU Bourne-Again SHell
- bc Access the GNU bc calculator utility.
- bg Send processes to the background.
- bind Used to attach a name to a socket.
- break Used to break from a loop.
- builtin Run a shell builtin
- bzip2 Compress or decompress named file(s)
- bzcmp Used to call the cmp program for bzip2 compressed files.
- bzdiff Used to call the diff program for bzip2 compressed files.
- bzgrep Used to call grep for bzip2 compressed files.
- bzip2 A block-sorting file compressor used to shrink given files.
- bzless Used to apply 'less' to bzip2 compressed files.
- bzmore Used to apply 'more' to bzip2 compressed files.

C

- cal Show calendar
- caller Return the context of any active subroutine call
- case Conditionally execute a command by matching a pattern.
- cat Concatenate and print (display) the content of files
- cc GNU C and C++ compiler.
- cd Change Directory
- cfdisk Partition table manipulator for Linux
- chattr Change file attributes on a Linux file system
- chgrp Change group ownership
- chmod Change access permissions
- chown Change file owner and group
- chpasswd Update passwords in batch mode
- chfn Used to change real user name and information.
- chroot Run a command with a different root directory
- chsh Switch login shell.
- chkconfig System services (runlevel)
- cksum Print CRC checksum and byte counts
- clear Clear terminal screen
- cmp Compare two files
- comm Compare two sorted files line by line
- command Run a command - ignoring shell functions
- compress Used to compress one or more file(s).
- continue Resume the next iteration of a loop
- cp Copy one or more files to another location
- cpio Copy files to and from archives
- cron Daemon to execute scheduled commands
- crontab Schedule a command to run at a later time
- csplit Split a file into context-determined pieces
- curl Transfer data from or to a server
- cut Divide a file into several parts
- date Display or change the date & time

D

- dd Data Duplicator - convert and copy a file, write disk headers, boot records
- ddrescue Data recovery tool
- declare Declare variables and give them attributes
- df Display free disk space
- diff Display the differences between two files
- diff3 Show differences among three files
- dig DNS lookup
- dir Briefly list directory contents
- dircolors Colour setup for 'ls'
- dirname Convert a full pathname to just a path
- dirs Display list of remembered directories
- dos2unix Windows/MAC to UNIX text file format converter
- dmesg Print kernel & driver messages
- dpkg Package manager (Debian/Ubuntu).
- du Estimate file space usage

E

- echo Display message on screen •
- egrep Search file(s) for lines that match an extended expression
- eject Eject removable media
- enable Enable and disable builtin shell commands •
- env Environment variables
- ethtool Ethernet card settings
- eval Evaluate several commands/arguments
- exec Execute a command
- exit Exit the shell
- expand Convert tabs to spaces
- export Set an environment variable
- expr Evaluate expressions

F

- false Do nothing, unsuccessfully
- fdformat Low-level format a floppy disk
- fdisk Partition table manipulator for Linux
- fg Send job to foreground
- fgrep Search file(s) for lines that match a fixed string
- file Determine file type
- find Search for files that meet a desired criteria
- fmt Reformat paragraph text
- fold Wrap text to fit a specified width
- for Expand words, and execute commands
- format Format disks or tapes
- free Display memory usage
- fsck File system consistency check and repair
- ftp File Transfer Protocol
- function Define Function Macros
- fuser Identify/kill the process that is accessing a file

G

- gawk Find and Replace text within file(s)
- getopts Parse positional parameters
- grep Search file(s) for lines that match a given pattern
- groupadd Add a user security group
- groupdel Delete a group
- groupmod Modify a group
- groups Print group names a user is in
- gzip Compress or decompress named file(s)

H

- hash Remember the full pathname of a name argument
- head Output the first part of file(s)
- help Display help for a built-in command •
- history Command History
- hostname Print or set system name
- htop Interactive process viewer

I

- iconv Convert the character set of a file
- id Print user and group id's

I (cont.)

- ifup Start a network interface up
- import Capture an X server screen and save the image to file
- install Copy files and set attributes
- iostat Report CPU and i/o statistics
- ip Routing, devices and tunnels

J

- jobs List active jobs
- join Join lines on a common field

K

- kill Kill a process by specifying its PID
- killall Kill processes by name

L

- less Display output one screen at a time
- let Perform arithmetic on shell variables
- link Create a link to a file
- ln Create a symbolic link to a file
- local Create a function variable
- locate Find files
- logname Print current login name
- logout Exit a login shell •
- look Display lines beginning with a given string
- lpc Line printer control program
- lpr Print files
- lprint Print a file
- lprintd Delete a print job
- lprintq List the print queue
- lprm Remove jobs from the print queue
- lsattr List file attributes on a Linux second extended file system
- lsblk List block devices
- ls List information about file(s)
- lsof List open files
- lspci List all PCI devices

M

- make Recompile a group of programs
- man Help manual
- mapfile Read lines from standard input into an indexed array variable
- mkdir Create new folder(s)
- mkfifo Make FIFOs (named pipes)
- mkfile Make a file
- mkisofs Create a hybrid ISO9660/JOLIET/HFS filesystem
- mknod Make block or character special files
- mktemp Make a temporary file
- more Display output one screen at a time
- most Browse or page through a text file
- mount Mount a file system
- mtools Manipulate MS-DOS files
- mtr Network diagnostics (traceroute/ping)
- mv Move or rename files or directories
- mmv Mass Move and rename (files)

N

- nc Netcat, read and write data across networks
- netstat Networking connections/stats
- nft nftables for packet filtering and classification
- nice Set the priority of a command or job
- nl Number lines and write files
- nohup Run a command immune to hangups
- notify-send Send desktop notifications
- nslookup Query Internet name servers interactively

O

- open Open a file in its default application

P

- pathchk Check file name portability
- Perf Performance analysis tools for Linux
- ping Test a network connection
- pgrep List processes by name
- pkill Kill processes by name
- popd Restore the previous value of the current directory
- pr Prepare files for printing
- printcap Printer capability database
- printenv Print environment variables
- printf Format and print data
- ps Process status
- pushd Save and then change the current directory
- pv Monitor the progress of data through a pipe
- pwd Print Working Directory

Q

- quota Display disk usage and limits
- quotacheck Scan a file system for disk usage

R

- ram ram disk device
- rar Archive files with compression
- rcp Copy files between two machines
- read Read a line from standard input
- readarray Read from stdin into an array variable
- readonly Mark variables/functions as readonly
- reboot Reboot the system
- rename Rename files
- renice Alter priority of running processes
- remsync Synchronize remote files via email
- return Exit a shell function
- rev Reverse lines of a file
- rm Remove files
- rmdir Remove folder(s)
- rsync Remote file copy (Synchronize file trees)

S

- screen Terminal Multiplexor
- scp Secure copy (remote file copy)
- sdiff Merge two files interactively
- sed Stream Editor
- select Accept user choices via keyboard input
- seq Print numeric sequences
- set Manipulate shell variables and functions
- sftp Secure File Transfer Program
- shift Shift positional parameters
- shopt Shell Options
- shuf Generate random permutations
- shutdown Shutdown or restart linux
- sleep Delay for a specified time
- slocate Find files
- sort Sort text files
- source Run commands from a file
- split Split a file into fixed-size pieces
- ss Socket Statistics
- ssh Secure Shell client (remote login program)
- stat Display file or file system status
- strace Trace system calls and signals
- su Substitute user identity
- sudo Execute a command as another user
- sum Print a checksum for a file
- suspend Suspend execution of this shell
- sync Synchronize data on disk with memory

T

- tail Output the last part of a file
- tar Store, list or extract files in an archive
- tee Redirect output to multiple files
- test Evaluate a conditional expression
- time Measure Program running time
- timeout Run a command with a time limit
- times User and system times
- tmux Terminal multiplexer
- touch Change file timestamps
- top List processes running on the system
- tput Set terminal-dependent capabilities, color, position
- traceroute Trace Route to Host
- trap Execute a command when the shell receives a signal
- tr Translate, squeeze, and/or delete characters
- true Do nothing, successfully
- tsort Topological sort
- tty Print filename of terminal on stdin
- type Describe a command

U

- ulimit Limit user resources
- umask Users file creation mask
- umount Unmount a device
- unalias Remove an alias
- uname Print system information
- unexpand Convert spaces to tabs
- uniq Uniquify files
- units Convert units from one scale to another
- unix2dos UNIX to Windows or MAC text file format converter
- unrar Extract files from a rar archive
- unset Remove variable or function names
- unshar Unpack shell archive scripts
- until Execute commands (until error)
- uptime Show uptime
- useradd Create new user account
- userdel Delete a user account
- usermod Modify user account
- users List users currently logged in
- uuencode Encode a binary file
- uudecode Decode a file created by uuencode

V

- v Verbosely list directory contents ('ls -l -b')
- vdir Verbosely list directory contents ('ls -l -b')
- vi Text Editor
- vmstat Report virtual memory statistics

W

- w Show who is logged on and what they are doing
- wait Wait for a process to complete •
- watch Execute/display a program periodically
- wc Print byte, word, and line counts
- whereis Search the user's $path, man pages and source files for a program
- which Search the user's $path for a program file
- while Execute commands
- who Print all usernames currently logged in
- whoami Print the current user id and name ('id -un')
- wget Retrieve web pages or files via HTTP, HTTPS or FTP
- write Send a message to another user

XYZ

- xargs Execute utility, passing constructed argument list(s)
- xdg-open Open a file or URL in the user's preferred application.
- xxd Make a hexdump or do the reverse
- xz Compress or decompress .xz and .lzma files
- yes Print a string until interrupted