

Linux Commands Cheatsheet

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

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

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

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

Directory Traversal	
<code>cd or cd ~</code>	Navigate to the user's home directory
<code>cd ..</code>	Navigate to the parent directory
<code>cd -</code>	Switch to the previous working directory
<code>cd /</code>	Navigate to the root directory
<code>cd /tmp</code>	Changes the current directory to /tmp

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

Secure Shell (SSH)	
<code>ssh traw@10.1.3.1</code>	Remote login to 10.1.3.1
<code>ssh-agent -t rsa</code>	Generate SSH rsa key pair
<code>ssh-copy-id</code>	Copy ssh public key to a remote host
<code>sshpass</code>	Non-interactive ssh password auth tool

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

History	
<code>sudo !!</code>	Execute the previous command with sudo
<code>^cat^tac</code>	Replace previous cat command with tac
<code>history</code>	Display command line history
<code>!\$</code>	Last argument of the previous command
<code>!50</code>	Execute the 50th command in history

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

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

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

User Group Management	
<code>groups</code>	Print the group membership of a user
<code>groupadd devops</code>	Create a new group called devops
<code>groupdel devops</code>	Deletes the devops group
<code>groupmod -n sysops sys</code>	Changes sysops group name to sys

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

Access Control Lists	
<code>getfacl file</code>	Display ACL permissions of a file or directory
<code>setfact -m u:traw:r-x file</code>	Set read/execute ACL perms for the user traw
<code>setfact -m g:sysops:r-w file</code>	Set read/write ACL perms for the group sysops
<code>setfact -x u:traw file</code>	Remove user traw ACL permissions
<code>setfact -x u:devops file</code>	Remove the group devops ACL perms
<code>setfact -b file</code>	Remove all ACL perms and keep default file permissions

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

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

EVERY LINUX COMMAND I KNOW 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.
- bzipped** 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)
- csum** 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

D

- date** Display or change the date & time
- dc** Desk Calculator

- 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 most recently 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 •
- egrepSearch** 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 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

- P**
- passwd** Modify a user password
- paste** Merge lines of files

- 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** Multiplex terminal, run remote shells via ssh
- 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
- shopShell 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

- I**
- iconv** Convert the character set of a file
- id** Print user and group id's
- if** Conditionally perform a command
- ifconfig** Configure a network interface
- iftdown** Stop a network interface

- ifup** Start a network interface up
- import** Capture an X server screen and save the image to file
- installCopy** 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
- In** 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
- lslbk** 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)
- mknod** Make FIFOs (named pipes)
- mkdirp** Make a file
- mksfs** Create a hybrid ISO9660/JOLIET/HFS filesystem
- mknod** Make block or character special files
- mkttemp** Make a temporary file
- most** 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
- ntr** 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
- op** Operator access
- !!** Run the last command again
- #** Comment s

- 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
- ty** 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** Unify 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
- unshare** 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** Lists users currently logged in
- uuencode** Encode a binary file
- udecode** 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 SpPath, man pages and source files for a program
- which** Search the user's SpPath 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

- X**
- 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
- zip** Package and compress (archive) files
- &** Start a new process in the background
- .** Run a command script in the current shell

