Linux Commands

🛠️ Kali Linux Command Reference Guide

📦 Package Management (APT & DPKG)

Command	Explanation
`dpkg -l`	Lists all installed packages on the system.
`dpkg -l kali-linux-firmware`	Checks if the `kali-linux-firmware` package is installed and displays version info.
`apt search kali-linux`	Searches for all packages related to Kali Linux.
`sudo apt install kali-linux-core -y`	Installs the essential core tools of Kali Linux (headless/basic tools). The `-y` auto-confirms.
`apt search kali-linux-core`	Finds information about the `kali-linux-core` package.
`sudo apt install kali-linux-default -y`	Installs the full default set of Kali Linux tools.
`cat /etc/apt/sources.list`	Displays your APT repository list (software sources).

🖥️ System Info & Kernel

Command	Explanation
`uname`	Prints the system name (e.g., Linux).
`uname -a`	Displays all kernel/system info (kernel, hostname, architecture, etc).
`uname -r`	Shows just the kernel release version.
`hostnamectl`	Displays hostname and system OS/kernel info in a neat format.

📁 File Navigation & Viewing

Command	Explanation
`pwd`	Shows the current working directory.
`ls`	Lists files and folders in the current directory.
`cd Desktop`	Moves into the Desktop directory.
`cd -`	Goes back to the previous directory.
`cat filename.txt`	Displays contents of a text file.
`batcat filename.txt`	Pretty version of `cat`, with syntax highlighting.

⌚ Date & Time

Command	Explanation
`date`	Prints the current date and time.
`date +%a`	Shows the abbreviated day of the week (e.g., Mon).
`timedatectl status`	Shows system date, time, and NTP sync info.
`cal 1995`	Displays calendar for the year 1995.
`ncal`	An alternate, vertical calendar view.
`sudo hwclock`	Shows the hardware clock time (BIOS time).

🧠 System Resource Info

Command	Explanation
`free -h`	Shows memory usage in human-readable format (e.g., MB/GB).
`lscpu`	Displays CPU architecture and specs.
`lsmem`	Shows memory block details.
`cat /proc/cpuinfo`	Outputs detailed info about your CPU(s).

`df -h`	Shows disk space usage with human-readable sizes.
`df -T`	Adds filesystem type to `df` output.
`lsblk`	Lists all block devices (disks, partitions, etc).

💽 Disk & Partition Tools

Command	Explanation
`sudo fdisk -l`	Lists all partitions and disk details.
`df --help`	Shows the help menu for `df`.

📊 System Monitoring Tools

Command	Explanation
`top`	Real-time list of system processes, memory, CPU use.
`htop`	Colorful, enhanced version of `top`. Navigate with arrows.

📝 Counting Words, Lines, Characters (`wc`)

Command	Explanation	Example
`wc filename.txt`	Displays line, word, and byte counts.	`wc myfile.txt`
`wc -l filename.txt`	Line count only.	`wc -l notes.txt`
`wc -w filename.txt`	Word count only.	`wc -w article.md`
`wc -m filename.txt`	Character count.	`wc -m script.sh`
`wc --help`	Shows all available `wc` options.	

🧾 Shell History & Info

Command	Explanation

`echo $HISTSIZE`	Displays number of saved shell commands.
`cat ./.zsh_history`	Shows shell command history for Zsh.
`du -sh ./.zsh_history`	Shows disk usage of your history file.

🌐 Networking & Host

Command	Explanation
`ping localhost`	Tests local network stack. Useful for basic checks.

👤 User & Shell Info

Command	Explanation
`id`	Shows your UID and group memberships.
`whoami`	Displays current logged-in username.
`passwd [username]`	Changes the password (yours or another user).
`sudo su`	Switches to the root user (if permitted).
`echo $SHELL`	Prints the default shell (e.g., `/bin/bash`).
`cat /etc/shells`	Lists available login shells.

📚 Manual Pages & Help

Command	Explanation
`man -k users`	Searches manual pages related to “users”.
`man ls`	Opens manual page for `ls` command.
`info ls`	Info-based manual for `ls`.
`pinfo ls`	`pinfo` version (uses curses interface).
`sudo mandb`	Updates the manual page database.
`cat /usr/share/doc/nano/nano.html`	Views Nano’s HTML documentation in terminal.