

Linux commands

Basic Commands

- **pwd (Print Working Directory):**
 - Displays the current directory path.
 - Usage: pwd
- **ls (List Directory Contents):**
 - Lists files and directories in the current or specified directory.
 - Usage: ls [options] [directory]
 - Common options: -l (long listing), -a (all files, including hidden), -h (human-readable sizes).
- **cd (Change Directory):**
 - Changes the current working directory.
 - Usage: cd [directory]
 - cd .. (moves up one directory), cd ~ (goes to the home directory).
- **mkdir (Make Directory):**
 - Creates a new directory.
 - Usage: mkdir [directory_name]
- **rm (Remove Files or Directories):**
 - Deletes files or directories.
 - Usage: rm [options] [file/directory]
 - Common options: -r (recursive, for directories), -f (force). Be very careful with rm -rf.
- **cp (Copy Files or Directories):**
 - Copies files or directories.
 - Usage: cp [options] source destination
 - common options: -r (recursive, to copy directories)
- **mv (Move or Rename Files or Directories):**
 - Moves or renames files or directories.
 - Usage: mv [source] [destination]
- **touch (Create an Empty File or Update File Timestamps):**
 - Creates an empty file or updates the access and modification times of an existing file.
 - Usage: touch [filename]

File Content and Text Processing:

- **cat (Concatenate):**
 - Displays the contents of a file.
 - Usage: cat [file]
- **less (View File Contents):**
 - Views file contents one page at a time, allowing navigation.
 - Usage: less [file]
- **grep (Global Regular Expression Print):**

- Searches for patterns in text.
 - Usage: `grep [pattern] [file]`
- **sed (Stream Editor):**
 - A powerful text manipulation tool.
 - Usage: `sed 's/oldtext/newtext/g' filename`
- **awk (Pattern Scanning and Processing Language):**
 - Another powerful text processing tool.
 - Usage examples are very varied.

System Information and Management:

- **uname (Unix Name):**
 - Displays system information.
 - Usage: `uname [options]`
- **top (Table of Processes):**
 - Displays real-time system resource usage and processes.
 - usage: `top`
- **htop (Interactive Process Viewer):**
 - an improved interactive process viewer.
 - usage: `htop`
- **df (Disk Free):**
 - Displays disk space usage.
 - Usage: `df -h` (human-readable)
- **du (Disk Usage):**
 - Displays file and directory disk usage.
 - Usage: `du -sh [directory]` (summary, human-readable)
- **free (Display Memory Usage):**
 - Displays the amount of free and used memory in the system.
 - Usage: `free -m` (megabytes)
- **ps (Process Status):**
 - Displays information about active processes.
 - usage: `ps aux`
- **ping (Packet Internet Groper):**
 - Tests network connectivity.
 - Usage: `ping [hostname/IP address]`
- **ip (Internet Protocol):**
 - Displays and manipulates network interfaces and routing.
 - usage: `ip addr, ip route.`
- **ssh (Secure Shell):**
 - Securely connects to remote systems.
 - usage: `ssh user@host`
- **netstat (Network Statistics):**
 - Displays network connections, routing tables, and network interface statistics.
 - usage: `netstat -ant`
- **traceroute:**

- Traces the route packets take to a network host.
- usage: traceroute host.com

User and Permission Management:

- sudo (SuperUser DO):
 - Executes a command with superuser privileges.
 - Usage: sudo [command]
- chmod (Change Mode):
 - Changes file permissions.
 - Usage: chmod [permissions] [file]
- chown (Change Owner):
 - Changes file ownership.
 - Usage: chown user:group file
- useradd (Add User):
 - Adds a new user.
 - usage: sudo useradd username
- passwd (Password):
 - Changes a users password.
 - usage: passwd username
- man (Manual):
 - Displays the manual page for a command.
 - Usage: man [command]
- --help: most commands will display a brief list of options when the --help option is used.
 - usage: ls --help
- gzip (GNU Zip):
 - Compresses files.
 - Usage: gzip [file]
- gunzip:
 - Decompresses files compressed with gzip.
 - Usage: gunzip file.gz
- zip:
 - Creates zip archives.
 - usage: zip archive.zip files
- unzip:
 - Extracts files from a zip archive.
 - usage: unzip archive.zip
- bzip2:
 - Another file compression utility.
 - usage: bzip2 file
- bunzip2:
 - decompresses bzip2 compressed files.
 - usage: bunzip2 file.bz2
- xz:
 - A compression utility employing the LZMA2 algorithm.

- usage: xz file
- **unxz:**
 - decompresses xz compressed files.
 - usage: unxz file.xz
- **find:**
 - Searches for files and directories based on various criteria.
 - Usage: find [directory] [options] [expression]
 - Example: find . -name "*.txt"
- **wc (Word Count):**
 - Counts lines, words, and characters in a file.
 - Usage: wc [options] [file]
- **sort:**
 - Sorts lines of text.
 - Usage: sort file.txt
- **uniq:**
 - Removes duplicate lines from a sorted file.
 - Usage: uniq file.txt
- **cut:**
 - Removes sections from each line of files.
 - usage: cut -d',' -f1 file.csv
- **paste:**
 - Merge lines of files.
 - usage: paste file1.txt file2.txt
- **diff:**
 - Compares files line by line.
 - usage: diff file1.txt file2.txt
- **head:**
 - Displays the beginning of a file.
 - usage: head file.txt
- **tail:**
 - Displays the end of a file.
 - usage: tail file.txt, tail -f file.log (follow the log file)
- **tee:**
 - Reads from standard input and writes to standard output and files.
 - usage: cat file.txt | tee output.txt
- **systemctl:**
 - Controls the systemd system and service manager.
 - Usage: systemctl start [service], systemctl stop [service], systemctl status [service]
- **journalctl:**
 - Displays systemd journal logs.
 - usage: journalctl -u servicename.service
- **shutdown:**
 - Shuts down the system.

- Usage: sudo shutdown -h now
- reboot:
 - Reboots the system.
 - Usage: sudo reboot
- date:
 - Displays or sets the system date and time.
 - usage: date
- cal:
 - Displays a calendar.
 - usage: cal
- history:
 - Displays the history of commands entered in the shell.
 - usage: history
- alias:
 - Creates aliases for commands.
 - usage: alias ll='ls -l'
- unalias:
 - removes an alias.
 - unalias ll
- wget (Web Get):
 - Downloads files from the web.
 - Usage: wget [URL]
- curl (Client URL):
 - Transfers data from or to a server.
 - usage: curl URL
- dig (Domain Information Groper):
 - DNS lookup utility.
 - usage: dig google.com
- nslookup:
 - Another DNS lookup utility.
 - usage: nslookup google.com
- route:
 - Displays and manipulates the IP routing table.
 - usage: route -
- git:
 - Version control system.
 - usage: git clone, git add, git commit, git push, git pull.
- python:
 - Runs python scripts.
 - usage: python script.py
- java:
 - Runs java programs.
 - usage: java program.java

