2. Linux Commands

Navigation

- **pwd** -> Displays the current directory.
- **ls** -> Lists directories.
- **ls -l** -> Lists directories and displays additional details.
- **ls -la** -> Lists directories and displays additional details, including hidden files.
- **ls -lh** -> Lists files with their details, but displays file sizes in human-readable format instead of the default.
- **cd ~** -> Changes to the "Home" directory.
- **cd + directory name** -> Changes to the specified directory.
- **cd ..** -> Moves one level down from the parent directory.
- **find /path -name "file.txt"** -> Searches for files or directories.
- **tree** -> Displays the directory tree.
- **realpath** -> Displays the absolute path of a file or directory.

Directory Management

- **mkdir + name** -> Create a new directory.
- **mkdir -p + name** -> Create directories recursively.
- **rmdir + name** -> Remove empty directories.
- **rmdir -p + name** -> Remove empty directories and their parents.
- **rm -r + directory name** -> Remove the directory.

File Management

- **cat + filename** -> Allows you to read files from the terminal.
- **cat + (source) > (destination)** -> Redirects output from one file to another.
- **cat + (source) >> (destination)** -> Redirects output from one file to another, and if the destination doesn't exist, creates it.
- **touch + filename** -> Creates a new file.
- **rm + filename** -> Deletes the file.
- **rm -f + filename** -> Forces deletion.
- **rm -rf + directory name** -> Forces deletion of the directory.
- **cp + (source) (destination)** -> Copies the source file to the destination.

- **cp -v + (source) (destination)** -> Copies the source file to the destination and displays the output if successful.
- **mv + file1 file2** -> Renames the file.
- **mv + (source) (destination)** -> Moves content from source to destination.
- **sort + directory name** -> Sorts lines in a file.
- **uniq + directory name** -> Removes duplicate lines.
- **locate + name** -> Displays all files with the assigned name.
- **head** -> Displays the first 10 lines.
- **tail** -> Displays the last 10 lines.

User Management

- **sudo adduser + name** -> Adds a user.
- **sudo deluser + name** -> Deletes a user.
- **sudo deluser –remove-home + name** -> Deletes a user and their home directory.
- **sudo usermod -l + newname + user** -> Changes the user's login name.
- **sudo usermod -d + path + user** -> Changes the user's home directory.
- **sudo usermod -aG + group + user** -> Adds a user to a group.
- **sudo passwd + user** -> Changes the user's password.
- **sudo passwd -l + user** -> Locks the user's account.
- **sudo passwd -u + user** -> Unlocks the user's account.
- **id** -> Displays information about the currently used user.
- **id + user** -> Displays information about the requested user.
- **id -u + user** -> Displays the user's UID.
- **id -g + user** -> Displays the user's GID.
- **who -u** -> Displays a list of connected servers along with the connection time.
- **w** -> Displays a more detailed list of users currently logged in.
- **su -l + user** -> Allows you to log in as another user.
- **su -c + command + user** -> Allows you to run a command with the permissions of the specified user.
- **sudo su** -> Changes the terminal to root mode.
- **sudo -i** -> Changes the terminal to root mode.
- **whoami** -> Prints the name of the currently logged-in user.
- **finger + username** -> Provides information about a specific user.

Group Management

- **sudo addgroup + group** -> Create a new group.

- **sudo delgroup + group** -> Delete a group.
- **sudo groupmod -n + newname + currentname** -> Change the current group name.
- **sudo gpasswd + group** -> Change the group password.
- **sudo gpasswd -a + user + group** -> Add a user to a group.
- **sudo gpasswd -d + user + group** -> Remove a user from a group.
- **groups** -> Display the groups the user belongs to.

Web Package Management

- **curl** -> Make HTTP requests and download data from URLs.
- **wget** -> Download files from a URL.

Debian Package Management

- **sudo apt update** -> Updates the list of available packages and their versions.
- **sudo apt upgrade** -> Installs the latest versions of the packages installed on the system.
- **sudo apt full-upgrade** -> Completes the installation and handles changes with dependencies.
- **sudo apt install + package name** -> Installs packages.
- **sudo apt purge + package name** -> Completely removes a package from the system.
- **sudo apt remove + package name** -> Uninstalls packages.
- **sudo apt auto-remove + package name** -> Removes packages that were installed as dependencies.
- **sudo dpkg -i + package path** -> Installs .deb packages.
- **sudo dpkg -l** -> Displays a list of installed packages on the system.
- **sudo dpkg-reconfigure + package name** -> Reconfigures packages.
- **sudo apt-get dist-upgrade** -> Complete installation and manage changes with dependencies.
- **apt-cache depends + package name** -> Displays package dependencies.
- **apt-cache policy + package name** -> Displays a package's installed policy.
- **snap install + package name** -> Installs snap packages.
- **snap remove + package name** -> Uninstalls snap packages.
- **flatpak install + package name** -> Installs flatpak packages.
- **flatpak remove + package name** -> Uninstalls flatpak packages.

RPM Package Management

- **rpm -qa** -> Displays a list of all packages currently installed on the system.
- **rpm -ql** -> Lists the files that make up a specific package.

- **rpm -qi** -> Query a package and get information or its status.
- **yum search** -> Searches for packages from the configured repositories.
- **yum install** -> Installs packages, along with their dependencies.
- **yum update** -> Updates all packages.
- **yum remove** -> Removes a package, resolving dependency issues.

Network Management

- **ifconfig** -> Lists active network interfaces.
- **sudo ifconfig + netname + up** -> To turn on a network interface.
- **sudo ifconfig + netname + down** -> To turn off a network interface.
- **ip a** -> Lists active network interfaces.
- **ip route** -> Displays the kernel routing table.
- **sudo ip route add + ip dest + via + Gateway** -> Adds a new route.
- **netstat** -> Displays established network connections.
- **netstat -t** -> Displays TCP connections.
- **netstat -u** -> Displays UDP connections
- **netstat -l** -> Displays listening ports.
- **netstat -p** -> Displays the PID.
- **netstat -e** -> Displays extended information.
- **ping + ip/url** -> Checks convertibility.
- **traceroute + ip/url** -> Displays the path packets take to reach the destination.
- **arp -a** -> Lists the ARP table.
- **ncat -l + port** -> Displays if the port is in use.
- **ssh username@hostname** -> Allows you to connect to another machine over the network, log in, and then perform tasks with the remote computer.

Compressed File Management

- **tar -czvf + compressed filename.tar + path of the resource to be compressed** -> Compresses .tar resources.
- **tar -xzvf + compressed filename.tar** -> Decompress resources.
- **gzip + file path** -> Creates a .gz archive.
- **gzip -d or gunzip + file path** -> Decompresses a .gz archive.
- **gzip -l + Directory name** -> Displays compression information.
- **zip + file name to generate + file to be compressed** -> Creates a .zip archive.
- **unzip + compressed file path** -> Decompresses .zip files.

Process Management

- **ps** -> Displays active processes in the current terminal
- **ps -a** -> Displays active processes for all users.
- **ps -u** -> Displays detailed user information.
- **ps -x** -> Include processes that don't have an associated terminal.
- **top** -> Displays a real-time list of running processes and their resource usage.
- **kill + signal + PID** -> Kills a specific process.
- **killall + name** -> Terminates all processes.

System Monitoring

- **htop** -> Displays processes in the terminal.
- **iostat** -> Monitors CPU and I/O device usage.
- **vmstat** -> Displays system statistics, such as processes, memory, and disks.

System Information

- **cat/proc/cpuinfo** -> Displays CPU information.
- **cat/proc/meminfo** -> Displays memory information.
- **uname -r** -> Displays kernel version information.
- **uname -m** -> Displays the operating system architecture.
- **uname -p** -> Displays processor information.
- **uname -a** -> Displays complete information.
- **du** -> Displays disk space usage by directories and files.
- **du-sh** -> Displays the size in human-readable format.
- **uptime** -> Displays the uptime.
- **w** -> Displays who is online.

Additional Commands

- **chown + user + file/dir** -> Changes the owner of the file or directory.
- **jobs** -> Lists background or pending processes.
- **chmod + permissions + file/dir** -> Changes the permissions of the assigned directory or file.
- **history** -> Displays the history of executed commands.
- **which + command_name** -> Displays the full path to the command.
- **reboot** -> Reboots the system.
- **shutdown** -> Shuts down the system.