**Linux Basic Commands**

**1. ls — List directory contents**

* **ls**: List files and directories.
* **ls -l**: Long listing format (includes file permissions, ownership, and size).
* **ls -a**: List all files, including hidden ones (files starting with a dot).
* **ls -h**: Display file sizes in human-readable format (e.g., KB, MB).
* **ls -R**: Recursively list subdirectories.

**2. cd — Change directory**

* **cd /path/to/directory**: Move to a specific directory.
* **cd ..**: Move up one directory level.
* **cd ~**: Move to your home directory.
* **cd -**: Move to the previous directory you were in.

**3. pwd — Print working directory**

* **pwd**: Show the full path of the current working directory.

**4. cp — Copy files or directories**

* **cp source destination**: Copy a file to a new location.
* **cp -r source\_directory destination\_directory**: Copy a directory recursively.
* **cp -i**: Ask before overwriting files.

**5. mv — Move or rename files or directories**

* **mv source destination**: Move or rename a file or directory.
* **mv -i**: Ask before overwriting files.
* **mv -u**: Move files only if the source file is newer than the destination.

**6. rm — Remove files or directories**

* **rm file**: Remove a file.
* **rm -r directory**: Remove a directory and its contents recursively.
* **rm -f**: Force remove without prompting for confirmation.
* **rm -i**: Prompt before each removal.

**7. touch — Create an empty file or update the timestamp of an existing file**

* **touch filename**: Create an empty file if it doesn't exist or update its timestamp.

**8. cat — Concatenate and display file contents**

* **cat file**: Display the content of a file.
* **cat file1 file2**: Concatenate the contents of two files.

**9. echo — Display a message or output**

* **echo "text"**: Print text to the terminal.
* **echo $VARIABLE**: Display the value of an environment variable.

**10. chmod — Change file permissions**

* **chmod permissions file**: Change the permissions of a file.
* **chmod 755 file**: Set read, write, and execute permissions for the owner, and read and execute for others.
* **chmod -R 755 directory**: Recursively change permissions for all files and subdirectories.

**11. chown — Change file owner and group**

* **chown user:group file**: Change the owner and group of a file.
* **chown -R user:group directory**: Recursively change the owner and group of a directory.

**12. find — Search for files and directories**

* **find /path -name filename**: Search for a file by name.
* **find /path -type d**: Find directories.
* **find /path -type f**: Find files.

**13. grep — Search for text within files**

* **grep 'text' file**: Search for "text" in a file.
* **grep -r 'text' directory**: Recursively search within a directory.
* **grep -i 'text' file**: Case-insensitive search.
* **grep -v 'text' file**: Show lines that do **not** contain the text.

**14. ps — Show processes**

* **ps**: List current running processes.
* **ps aux**: List all running processes with detailed information.
* **ps -ef**: Display all processes in full format.

**15. top — Display real-time system statistics**

* **top**: Show the currently running processes and their resource usage.
* **top -u username**: Show processes for a specific user.

**16. kill — Terminate a process**

* **kill PID**: Terminate a process by its PID.
* **kill -9 PID**: Force kill a process (use with caution).
* **killall process\_name**: Kill all processes with a specific name.

**17. df — Display disk space usage**

* **df**: Show disk space usage for all mounted filesystems.
* **df -h**: Show disk space usage in a human-readable format.

**18. du — Estimate file and directory space usage**

* **du**: Show the space used by the current directory.
* **du -h**: Display human-readable format (KB, MB).
* **du -sh directory**: Show the total space used by a directory.

**19. tar — Archive files**

* **tar -cvf archive.tar directory**: Create a tar archive of a directory.
* **tar -xvf archive.tar**: Extract a tar archive.
* **tar -tf archive.tar**: List the contents of a tar archive.

**20. wget — Download files from the internet**

* **wget url**: Download a file from the specified URL.
* **wget -c url**: Resume a partial download.

**21. curl — Transfer data from or to a server**

* **curl url**: Fetch data from a URL.
* **curl -O url**: Download a file and save it with its original name.
* **curl -I url**: Get HTTP headers from a URL.

**22. nano — Command-line text editor**

* **nano file**: Open a file for editing.
* **Ctrl + O**: Save the file in nano.
* **Ctrl + X**: Exit nano.
* **Ctrl + W**: Search within the file.

**23. sudo — Execute commands as superuser**

* **sudo command**: Run a command as the superuser (root).
* **sudo apt-get install package**: Install a package using the package manager.

**24. apt — Package management (Debian/Ubuntu)**

* **apt update**: Update the package list.
* **apt upgrade**: Upgrade all installed packages.
* **apt install package**: Install a package.
* **apt remove package**: Remove a package.
* **apt search package**: Search for a package.

**25. history — View command history**

* **history**: Show the command history.
* **history -c**: Clear the command history.

**26. man — View manual pages for a command**

* **man command**: Display the manual for a command (e.g., man ls).
* **man -k keyword**: Search the manual pages for a keyword.