Linux Cheat Sheet for Beginners

Introduction to Linux:

- Linux is an open-source operating system kernel used by various distributions (distros) like Ubuntu, Debian, CentOS, etc. It's widely used in servers, embedded systems, and personal computers.
- The terminal is a text-based interface where users can interact with the system by typing commands.

Useful Commands to interact with Linux system

Here's the updated **Ubuntu Linux Cheat Sheet for Beginners**, now with examples for each command:

File Management

Command	Description	Example
`ls`	List files and directories in the current directory.	`ls -l` (detailed view)
`cd <directory>`	Change the current directory.	`cd /home/user/Documents`
`pwd`	Print the current working directory.	`pwd`
`cp <source> <destination>`	Copy files or directories.	`cp file.txt /tmp/`
`mv <source> <destination>`	Move or rename files and directories.	`mv file.txt newfile.txt`
`rm <file>`	Remove a file.	`rm file.txt`
`rm -r <directory>`	Remove a directory and its contents.	`rm -r old_folder`

`cat <file>`	Display file contents.	`cat notes.txt`
`less <file>`	View file contents one page at a time.	`less bigfile.log`
`head <file>`	View the first 10 lines of a file.	`head data.csv`
`tail <file>`	View the last 10 lines of a file.	`tail data.csv`
`touch <file>`	Create an empty file or update timestamp.	`touch newfile.txt`
`find <path> -name <filename>`	Search for files by name.	`find /home -name "*.txt"`

Folder Management

Command	Description	Example
`mkdir <directory>`	Create a new directory.	`mkdir new_folder`
`rmdir <directory>`	Remove an empty directory.	`rmdir empty_folder`
`tree`	View directories in a tree structure.	`tree /var/log`

Disk Management

Command	Description	Example
`df -h`	Show disk space usage in human-readable format.	`df -h`

`du -sh <path>`	Show size of a directory or file.	`du -sh /home/user`
`mount <device> <mountpoint>`	Mount a disk or partition.	`sudo mount /dev/sdb1 /mnt`
`umount <mountpoint>`	Unmount a disk or partition.	`sudo umount /mnt`
`lsblk`	List information about block devices.	`lsblk`
`fdisk -l`	Show partition table of disks.	`sudo fdisk -l`

Package Management

Command	Description	Example
`sudo apt update`	Update package list.	`sudo apt update`
`sudo apt upgrade`	Upgrade installed packages.	`sudo apt upgrade`
`sudo apt install <package>`	Install a package.	`sudo apt install vim`
`sudo apt remove <package>`	Remove a package.	`sudo apt remove vim`
`dpkg -l`	List installed packages.	`dpkg -l
`dpkg -i <package.deb>`	Install a `.deb` package.	`sudo dpkg -i mypackage.deb`

User Management

Command	Description	Example

`whoami`	Display the current user.	`whoami`
`sudo adduser <username>`	Add a new user.	`sudo adduser john`
`sudo passwd <username>`	Change a user's password.	`sudo passwd john`
`sudo deluser <username>`	Delete a user.	`sudo deluser john`
`groups <username>`	Display groups a user belongs to.	`groups john`

Process Management

Command	Description	Example
`ps aux`	Show all running processes.	`ps aux
`top`	Monitor system processes in real time.	`top`
`htop`	Enhanced process viewer.	`htop`
`kill <PID>`	Kill a process by PID.	`kill 1234`
`killall <name>`	Kill processes by name.	`killall firefox`
`bg` and `fg`	Resume jobs in the background or foreground.	`bg` (background), `fg` (foreground)

Networking

Command	Description	Example
`ip a`	Display network interfaces.	`ip a`
`ping <host>`	Test network connectivity to a host.	`ping google.com`
`curl <url>`	Fetch content from a URL.	`curl http://example.com`
`wget <url>`	Download files from a URL.	`wget http://example.com/file.zip`
`netstat -tuln`	Show open ports and connections.	`netstat -tuln`
`ss -tuln`	Display open ports and connections.	`ss -tuln`

General Troubleshooting

Command	Description	Example
`dmesg`	Display kernel messages.	`dmesg
`journalctl -xe`	View detailed system logs.	`journalctl -xe`
`systemctl status <service>`	Check the status of a service.	`systemctl status ssh`

`sudo reboot`	Reboot the system.	`sudo reboot`
`sudo shutdown now`	Shut down the system immediately.	`sudo shutdown now`
`uptime`	Display system uptime.	`uptime`
`free -h`	Show memory usage.	`free -h`

Kubernetes Basics (Linux Context)

Command	Description	Example
`kubectl get nodes`	List all nodes in the cluster.	`kubectl get nodes`
`kubectl get pods`	List all pods in the cluster.	`kubectl get pods -n kube-system`
`kubectl describe pod <pod-name>`	Show detailed information about a pod.	`kubectl describe pod nginx`
`kubectl logs <pod-name>`	Fetch logs for a pod.	`kubectl logs nginx`
`kubectl exec -it <pod-name> -- bash`	Execute a command inside a pod.	`kubectl exec -it nginx -- bash`
`kubectl apply -f <file.yaml>`	Apply a Kubernetes manifest file.	`kubectl apply -f deployment.yaml`

This comprehensive cheat sheet provides clear examples to help beginners quickly understand and use the commands.