**LINUX BASIC COMMANDS**

**Basic Commands**

* pwd – Print current working directory
* ls – List files in a directory
* cd <dir> – Change directory
* mkdir <dir> – Create a new directory
* rmdir <dir> – Remove an empty directory
* rm <file> – Remove a file
* rm -r <dir> – Remove a directory and its contents
* cp <source> <dest> – Copy a file or directory
* mv <source> <dest> – Move or rename a file
* touch <file> – Create an empty file
* cat <file> – Display file content
* echo "text" > <file> – Write text to a file
* head <file> – Display the first 10 lines of a file
* tail <file> – Display the last 10 lines of a file
* clear – Clear the terminal screen

### **File Permissions & Ownership**

* ls -l – Show file permissions and ownership
* chmod 777 <file> – Change file permissions (rwx for all)
* chmod 755 <file> – Give owner full permissions, others read & execute
* chmod -R 755 <dir> – Change directory permissions recursively
* chown user:group <file> – Change file owner and group
* chown -R user:group <dir> – Change ownership of directory recursively
* chgrp group <file> – Change group ownership of a file
* umask 022 – Set default permissions for newly created files

### **Process Management**

* ps – Show active processes
* top – Show real-time system processes
* kill <PID> – Kill a process by its ID
* killall <process\_name> – Kill all processes by name
* htop – Interactive process viewer (requires installation)

### **Disk & System Info**

* df -h – Show disk space usage
* du -sh <dir> – Show size of a directory
* free -h – Show RAM usage
* uptime – Show system uptime
* uname -a – Show system information
* hostname – Show or set hostname
* whoami – Show current logged-in user

### **Networking**

* ip a – Show IP address information
* ping <domain/IP> – Check network connectivity
* curl <URL> – Fetch content from a URL
* wget <URL> – Download a file from the internet
* netstat -tulnp – Show active network connections
* ss -tulnp – Alternative to netstat
* nslookup <domain> – Get DNS information of a domain

### **User Management & Privileges**

#### **Creating and Managing Users**

* adduser <username> – Create a new user
* userdel <username> – Delete a user
* passwd <username> – Change or set a user’s password
* usermod -aG <group> <username> – Add user to a group
* usermod -L <username> – Lock a user account
* usermod -U <username> – Unlock a user account
* who – Show logged-in users
* id <username> – Show user ID and group ID

#### **Managing Groups**

* groupadd <groupname> – Create a new group
* groupdel <groupname> – Delete a group
* groups <username> – Show groups a user belongs to
* gpasswd -a <username> <group> – Add user to a group
* gpasswd -d <username> <group> – Remove user from a group

#### **Granting Privileges**

* sudo <command> – Execute command as root
* visudo – Edit sudoers file (use with caution)
* usermod -aG sudo <username> – Add user to sudo group (Debian/Ubuntu)
* usermod -aG wheel <username> – Add user to sudo group (RHEL/CentOS)
* sudo su – Switch to root user
* su - <username> – Switch to another user account

### **Package Management**

Ubuntu/Debian:

* apt update – Update package lists
* apt upgrade – Upgrade installed packages
* apt install <package> – Install a package
* apt remove <package> – Remove a package

RHEL/CentOS:

* yum update – Update all packages
* yum install <package> – Install a package
* yum remove <package> – Remove a package

### **Archiving & Compression**

* tar -cvf archive.tar <files> – Create a tar archive
* tar -xvf archive.tar – Extract a tar archive
* tar -czvf archive.tar.gz <files> – Create a compressed tar archive
* tar -xzvf archive.tar.gz – Extract a compressed tar archive
* zip -r archive.zip <files> – Create a ZIP archive
* unzip archive.zip – Extract a ZIP archive

### **Advanced Commands**

* grep "text" <file> – Search for text in a file
* find /path -name "\*.txt" – Find files by name
* locate <filename> – Find a file quickly
* sed 's/old/new/g' <file> – Replace text in a file
* awk '{print $1}' <file> – Print the first column of a file
* history – Show command history
* crontab -e – Edit scheduled tasks
* systemctl restart <service> – Restart a system service
* journalctl -xe – View system logs
* rsync -av <source> <dest> – Sync files between directories

# **Docker Commands Cheat Sheet**

#### **Container Commands**

* docker run -d --name container-name image-name → Run container in detached mode
* docker run -p 3000:3000 image-name → Run container with port mapping
* docker ps → List running containers
* docker ps -a → List all containers (including stopped ones)
* docker stop container-name → Stop a running container
* docker start container-name → Start a stopped container
* docker restart container-name → Restart a container
* docker rm container-name → Remove a container
* docker logs container-name → View logs of a container
* docker exec -it container-name bash → Access a running container's shell
* docker attach container-name → Attach to a running container
* docker inspect container-name → Display detailed information about a container
* docker top container-name → Show running processes inside a container
* docker kill container-name → Kill a running container
* docker pause container-name → Pause a running container
* docker unpause container-name → Unpause a paused container
* docker rename old-name new-name → Rename a container

#### **Image Commands**

* docker images → List all images
* docker pull image-name → Download an image from Docker Hub
* docker build -t image-name . → Build an image from a Dockerfile
* docker rmi image-name → Remove an image
* docker tag image-name new-image-name → Tag an image
* docker push image-name → Push an image to a registry
* docker save -o image.tar image-name → Save an image as a tar file
* docker load -i image.tar → Load an image from a tar file

#### **Network Commands**

* docker network ls → List all networks
* docker network create network-name → Create a new network
* docker network inspect network-name → Inspect a network
* docker network connect network-name container-name → Connect a container to a network
* docker network disconnect network-name container-name → Disconnect a container from a network
* docker network rm network-name → Remove a network
* docker network prune → Remove unused networks

#### **Volume Commands**

* docker volume ls → List all volumes
* docker volume create volume-name → Create a volume
* docker volume inspect volume-name → Inspect a volume
* docker volume rm volume-name → Remove a volume
* docker volume prune → Remove unused volumes

#### **Docker Compose Commands**

* docker-compose up -d → Start services in detached mode
* docker-compose down → Stop and remove all services
* docker-compose ps → List running services
* docker-compose logs → View logs of all services
* docker-compose restart → Restart all services
* docker-compose build → Build or rebuild services
* docker-compose stop → Stop running services
* docker-compose rm → Remove stopped services
* docker-compose exec service-name command → Execute a command in a running service

#### **Docker System Commands**

* docker info → Display system-wide information
* docker version → Show Docker version details
* docker stats → Show real-time resource usage of containers
* docker system prune -a → Remove unused images, containers, and networks
* docker history image-name → Show history of an image
* docker events → Show real-time Docker events
* docker df → Show disk usage by Docker

#### **Other Useful Commands**

* docker cp container-name:/path/to/file /local/path → Copy file from container to host
* docker export container-name -o file.tar → Export a container as a tar file
* docker import file.tar image-name → Import a tar file as an image
* docker wait container-name → Block until a container stops, then print its exit code
* docker update --memory 512m container-name → Update a container's resource limits
* docker login → Log in to a Docker registry
* docker logout → Log out from a Docker registry