Linux Cheat Sheet

Basic Commands

- **ls**: Lists directory contents.

  - ls -l: Long listing format.

  - ls -a: Includes hidden files.

  - ls -lh: Human-readable file sizes.

- **cd**: Changes the current directory.

  - cd /path/to/directory: Go to the specified directory.

  - cd ~: Go to the home directory.

  - cd ..: Go up one directory.

- **pwd**: Prints the working directory.

- **cp**: Copies files or directories.

  - cp source destination: Copy file from source to destination.

  - cp -r source_dir destination_dir: Copy directories recursively.

- **mv**: Moves or renames files or directories.

  - mv old_name new_name: Rename file or directory.

  - mv /path/to/file /new/path/to/file: Move file to a new location.

- **rm**: Removes files or directories.

  - rm file: Remove a file.

  - rm -r directory: Remove a directory and its contents recursively.

  - rm -f file: Force remove a file (no prompt).

File Permissions

- **chmod**: Changes file permissions.

  - chmod 755 file: Sets the file permission to rwxr-xr-x.

  - chmod +x file: Adds execute permission.

- **chown**: Changes file owner and group.

  - chown user:group file: Change owner and group.

  - chown user file: Change only the owner.

- **chgrp**: Changes the group ownership of a file.

  - chgrp group file: Change the group.

System Monitoring

- **top**: Displays real-time system information and processes.

  - htop: An improved version of top (requires installation).

- **ps**: Displays information about running processes.

  - ps aux: Detailed process listing.

  - ps -ef: Full-format listing.

- **df**: Reports file system disk space usage.

  - df -h: Human-readable format.

- **du**: Estimates file space usage.

  - du -sh directory: Summarize in human-readable format.

- **free**: Displays memory usage.

  - free -h: Human-readable format.

Networking

- **ifconfig**: Configures network interfaces (deprecated, use ip).

  - ifconfig -a: Show all interfaces.

- **ip**: Shows/manages IP addresses and routing.

  - ip addr show: Show IP addresses.

  - ip link show: Show link layer information.

  - ip route show: Show routing table.

- **ping**: Checks network connectivity.

  - ping google.com: Ping a remote host.

- **netstat**: Network statistics (deprecated, use ss).

  - netstat -tuln: List all listening ports.

- **ss**: Network statistics.

  - ss -tuln: List all listening ports.

- **scp**: Secure copy files between hosts.

  - scp file user@remote:/path: Copy file to remote host.

Package Management

Debian/Ubuntu (APT)

- **apt-get update**: Updates package index.

- **apt-get upgrade**: Upgrades all packages.

- **apt-get install package**: Installs a package.

- **apt-get remove package**: Removes a package.

- **apt-get autoremove**: Removes unnecessary packages.

RHEL/CentOS (YUM)

- **yum update**: Updates all packages.

- **yum install package**: Installs a package.

- **yum remove package**: Removes a package.

- **yum clean all**: Cleans the cache.

User Management

- **adduser username**: Adds a new user.

- **userdel username**: Deletes a user.

- **passwd username**: Changes a user's password.

- **usermod**: Modifies user information.

  - usermod -aG group username: Adds a user to a group.

System Management

- **shutdown**: Shuts down or reboots the system.

  - shutdown -h now: Immediate shutdown.

  - shutdown -r now: Immediate reboot.

  - shutdown -h +10: Shutdown in 10 minutes.

- **reboot**: Reboots the system.

- **systemctl**: Manages systemd services.

  - systemctl start service: Starts a service.

  - systemctl stop service: Stops a service.

  - systemctl restart service: Restarts a service.

  - systemctl status service: Checks the status of a service.

  - systemctl enable service: Enables a service to start on boot.

  - systemctl disable service: Disables a service from starting on boot.

- **journalctl**: Views systemd logs.

  - journalctl -xe: Shows logs with details and errors.

File Management

- **tar**: Archives files.

  - tar -czvf archive.tar.gz /path/to/directory: Create a compressed archive.

  - tar -xzvf archive.tar.gz: Extract a compressed archive.

- **zip**: Compresses files.

  - zip -r archive.zip /path/to/directory: Create a zip archive.

- **unzip**: Extracts zip files.

  - unzip archive.zip: Extract a zip archive.

Text Processing

- **grep**: Searches for patterns in files.

  - grep 'pattern' file: Search for a pattern in a file.

  - grep -r 'pattern' directory: Recursively search in a directory.

- **sed**: Stream editor for filtering and transforming text.

  - sed 's/old/new/g' file: Replace 'old' with 'new' globally in a file.

- **awk**: Pattern scanning and processing language.

  - awk '{print $1}' file: Print the first column of a file.

Disk Management

- **fdisk**: Partition table manipulator.

  - fdisk -l: List all partitions.

- **mkfs**: Creates a file system on a partition.

  - mkfs.ext4 /dev/sdX1: Create an ext4 file system.

- **mount**: Mounts a file system.

  - mount /dev/sdX1 /mnt: Mount a device to a directory.

- **umount**: Unmounts a file system.

  - umount /mnt: Unmount a file system.

Miscellaneous

- **crontab**: Schedules periodic tasks.

  - crontab -e: Edit crontab file.

  - crontab -l: List user's crontab.

- **echo**: Displays a line of text.

  - echo "Hello, World!": Print text to the terminal.

- **man**: Displays the manual for a command.

  - man ls: Show the manual for ls.

- **alias**: Creates a shortcut for a command.

  - alias ll='ls -l': Create an alias for ls -l.