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Basic Linux commands that a beginner should know.

Contents

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Basic Linux commands

- `ls`: List directory contents
- `cd`: Change directory
- `pwd`: Print working directory
- `mkdir`: Make a directory
- `rmdir`: Remove directory
- `touch`: Create a new file
- `rm`: Remove files or directories
- `cp`: Copy files or directories
- `mv`: Move or rename files or directories
- `man`: Display the user manual
- `echo`: Display a message or data
- `chmod`: Change file permissions
- `chown`: Change file owner and group
- `ps`: Display a list of currently running processes
- `kill`: Kill a process
- `top`: Display system summary and processes
- `df`: Display disk space usage
- `du`: Estimate file and directory space usage
- `cat`: Concatenate and display file content
- `nano`, `vi`: Text editors
- `clear`: Clear the terminal screen
- `exit`: Exit the terminal

Networking Commands:

1. `ping`: Test the network connection between the host and a destination computer.
    - Example: `ping google.com`
2. `ifconfig` (or `ip a`): Display or configure a network interface.
3. `netstat`: Display network connections, routing tables, interface statistics, etc.
    - Example: `netstat -tuln` (Displays listening ports)
4. `traceroute`: Display the route and transit delays of packets across a network.
    - Example: `traceroute google.com`
5. `nslookup`: Query the DNS to obtain domain name or IP address mapping.
    - Example: `nslookup example.com`
6. `dig`: DNS lookup utility.
    - Example: `dig example.com`
7. `route`: Show or manipulate the IP routing table.
    - Example: `route -n`
8. `ss`: Utility to investigate sockets.
    - Example: `ss -tuln`
9. `iwconfig`: Configure a wireless network interface.

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Service Commands:

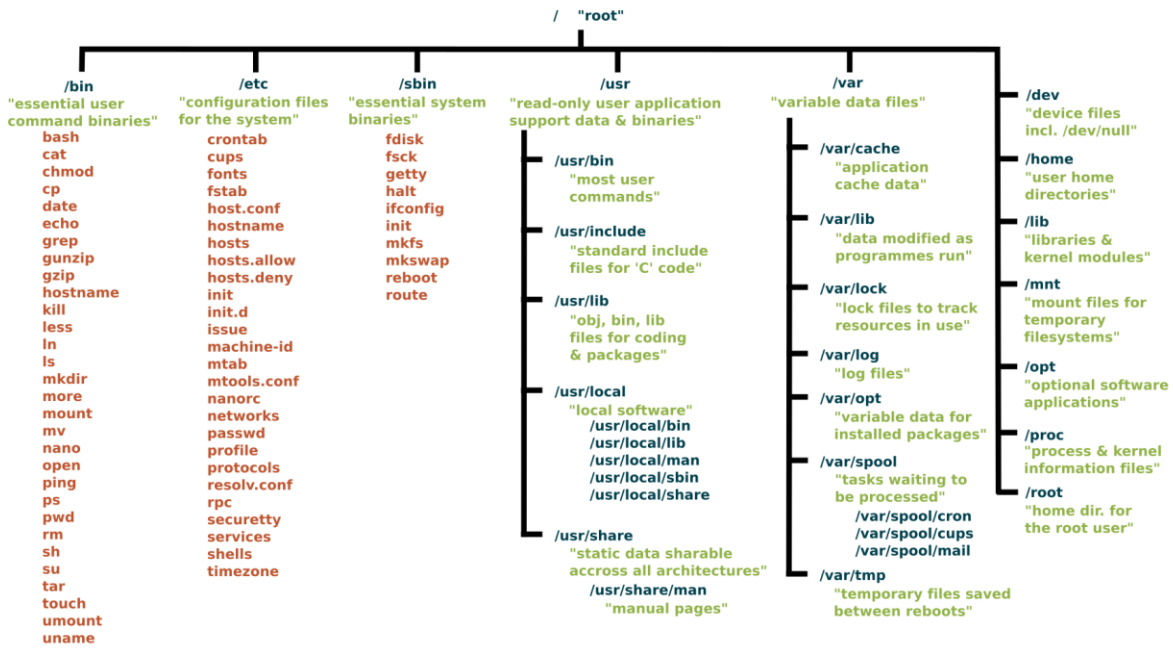
1. `systemctl`: Control the systemd system and service manager.
    - Example: `systemctl start service_name` (Starts a service)
    - Example: `systemctl stop service_name` (Stops a service)
    - Example: `systemctl status service_name` (Checks the status of a service)
2. `service`: Utility for initializing and managing services.
    - Example: `service service_name start`
3. `journalctl`: Query and display messages from the journal.
    - Example: `journalctl -u service_name` (Displays logs for a specific service)
4. `chkconfig`: Tool for managing SysV init scripts.
    - Example: `chkconfig --list` (Lists all services and their status)
5. `ufw`: Uncomplicated Firewall, a user-friendly way to manage iptables.
    - Example: `ufw enable` (Enables the firewall)
    - Example: `ufw allow 22/tcp` (Allows SSH traffic)

System Administration Commands:

1. `sudo`: Execute a command as the superuser or another user.
    - Example: `sudo apt-get update` (Updates the package list on Debian-based systems)
2. `apt-get` or `yum` or `dnf`: Package management commands for Debian-based (apt-get) or Red Hat-based (yum/dnf) systems.
    - Example: `apt-get install package_name` (Installs a package on Debian-based systems)
    - Example: `yum install package_name` (Installs a package on older Red Hat-based systems)
    - Example: `dnf install package_name` (Installs a package on newer Red Hat-based systems)
3. `passwd`: Change a user's password.
    - Example: `passwd username`
4. `useradd` and `userdel`: Add or delete a user account.
    - Example: `useradd new_username`
    - Example: `userdel username`
5. `groupadd` and `groupdel`: Add or delete a group.
    - Example: `groupadd new_groupname`
    - Example: `groupdel groupname`
6. `df`: Display disk space usage for file systems.
    - Example: `df -h` (Displays in human-readable format)
7. `du`: Estimate file and directory space usage.
    - Example: `du -sh directory_name` (Displays total space used by a directory)
8. `free`: Display the amount of free and used memory in the system.
    - Example: `free -m` (Displays memory info in MB)
9. `top` or `htop`: Display dynamic real-time view of running processes.
    - Example: `top`
    - Example: `htop` (Note: `htop` might need to be installed separately)

10. `uname`: Display system information.
    - Example: `uname -a` (Displays all system information)
11. `lshw`: List hardware configuration.
    - Example: `lshw -short` (Provides a concise overview of the system's hardware)
12. `shutdown` or `reboot`: Shutdown or reboot the system.
    - Example: `shutdown -h now` (Shuts down the system immediately)
    - Example: `reboot` (Reboots the system)
13. `crontab`: Schedule tasks to run automatically at specified intervals.
    - Example: `crontab -e` (Edit the current user's cron jobs)
    - Example: `crontab -l` (List the current user's cron jobs)
14. `tar`: Archive files.
    - Example: `tar -czvf archive_name.tar.gz directory_name` (Creates a gzipped tarball)
15. `gzip` and `gunzip`: Compress or decompress files.
    - Example: `gzip file_name` (Compresses a file)
    - Example: `gunzip file_name.gz` (Decompresses a gzipped file)

Linux file system/ Directory



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Explanation of Each Directory:

1. **`/` (Root)**: The starting point for the file system hierarchy. All other directories are subdirectories of the root directory.
2. **`/bin`**: Contains essential command binaries required for booting and repairing the system.
3. **`/etc`**: Holds system-wide configuration files and shell scripts used to initialize system settings for applications.
4. **`/home`**: Home directories for all users. Each user has a subdirectory named after their username.
5. **`/var`**: Contains variable data files such as logs, databases, and temporary files.
6. **`/usr`**: Contains user binaries, libraries, documentation, etc. It's a secondary hierarchy for read-only user data.
7. **`/lib`**: Contains essential shared libraries and kernel modules.
8. **`/dev`**: Contains device files which represent hardware components.
9. **`/tmp`**: Temporary storage for files. It's cleared on system reboot.
10. **`/opt`**: Optional application software packages.
11. **`/sbin`**: Contains system binaries essential for booting, restoring, and recovering the system.
12. **`/srv`**: Contains data for services provided by the system.
13. **`/proc`**: A virtual filesystem that provides detailed information about kernel and processes.
14. **`/sys`**: A virtual filesystem that provides an interface to kernel data structures.
15. **`/run`**: Contains runtime data for processes started since the last boot.
16. **`/boot`**: Contains files needed to start the boot process.
17. **`/mnt`**: Temporary mount points for mounting filesystems.
18. **`/media`**: Mount points for removable media like USB drives and CDs.