**File System Layout Cheat Sheet**

**A Beginner's Guide to Navigating the Linux Directory Structure**

When using Fedora — or any Linux distribution — it's important to understand how the file system is organized. Unlike Windows, which uses drive letters like C:\, Linux uses a **single-rooted tree structure** starting from / (called "root"). Every file and directory stems from this root directory.

In this article, we’ll walk through the **most important folders** and what they’re used for.

🌳 The Root Directory: /

The **root** of the file system is denoted by a single forward slash /. Everything — files, folders, devices — stems from this root.

📁 Key Directories in Fedora

/bin – Essential User Binaries

Contains **essential commands** required for system operation, available to **all users**.

Examples:

* ls
* cp
* mv
* cat

Think of it as your core toolset for basic operations.

/sbin – System Binaries

Stores **system-level executables**, mostly used by **administrators** for system maintenance.

Examples:

* reboot
* shutdown
* ifconfig

/etc – Configuration Files

This is where **system-wide configuration files** live. When you install software or configure services, you’ll often edit files here.

Examples:

* /etc/passwd – user account info
* /etc/ssh/sshd\_config – SSH config
* /etc/fstab – disk mounting rules

/home – User Home Directories

Each regular user gets a personal directory here.

Examples:

* /home/john
* /home/alice

This is similar to C:\Users\ in Windows.

/root – Root User's Home Directory

The **root user’s personal home directory**. Unlike regular users, the administrator account doesn’t live in /home.

/var – Variable Data

Stores **data that changes frequently**, like:

* Log files (/var/log)
* Mail
* Print queues
* Databases (in some setups)

/tmp – Temporary Files

Used to hold **temporary files** created by the system and applications. These files are usually cleared on reboot.

/usr – User Programs and Data

Contains most of the **user-space applications** and data. It’s subdivided into:

* /usr/bin – user-level programs
* /usr/sbin – system administration programs
* /usr/lib – libraries
* /usr/share – documentation and data

/boot – Boot Loader Files

Contains files required for **booting the system**, like the Linux kernel and GRUB files.

Do not modify unless you know what you’re doing!

/dev – Device Files

Linux treats hardware devices as files. This directory holds **special device files** that represent physical and virtual devices.

Examples:

* /dev/sda – First hard disk
* /dev/null – Black hole for discarding output

/proc – Process Information

A **virtual filesystem** that provides a peek into **running processes and kernel information**.

Example:

* /proc/cpuinfo – CPU details
* /proc/meminfo – RAM details

/sys – System Information

Another virtual filesystem used by the **kernel** to expose information about hardware devices and drivers.

/mnt and /media – Mount Points

These are **temporary mount points** used for attaching external devices like USB drives, CD-ROMs, or additional drives.

/lib – Essential Shared Libraries

Holds the **shared libraries** (like DLLs in Windows) needed by binaries in /bin and /sbin.

/opt – Optional Software

Used to install **third-party or optional software** not managed by the default package manager.