

# linux file system

In Linux (Unix) everything is a File

Note : Linux is case sensitive (File file fiLe are different files)

#cheat\_sheet

directory		
/bin	basic binaries which is another word for programs and application like ls cat, ...	essential executables
/sbin	bin files for super user	essential executables for root
/usr	user application space	non essential installed binaries
/boot	boot loader	
/lib	for the libraries	
/etc	system-wide configs (etc)	editable text configurations
/home	user personal files	user data
/dev	devices, Partitions and ...	
/media	other drives	
/mnt	manually mounted drives	
/opt	manually installed applications	optional applications
/proc	contains sudo files (about sys processes)	tracking sys processes
/root	root user home folder	
/run	tempfs (runtime)	
/sys	interacting with kernel (runtime)	
/temp	(runtime)	
/var	variable directory (they expected to grow in size)	logs and cash files

How to auto mount drives on startup

1. get the UUID of the partition you want to auto-mount
2. make a mount folder like /media/Volume-name

3. edit fstab file: `sudo nvim /etc/fstab`
4. add your drive detail in a new line with this Format:

```
UUID=pasteUUIDhere{tab}/media/Volumename{tab}ntfs{tab}defaults
```

where to install fonts

Copy The .ttf files to this path: `"/usr/share/fonts"`

Navigating the Linux File System: A Guide to Understanding the File System Hierarchy Standard

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## Understanding the Linux File System

The Linux file system is a complex and often cryptic labyrinth of directories, defined by the File System Hierarchy Standard. To navigate this system, it's essential to understand the purpose and contents of each directory.

### The Root Directory

The root directory, denoted by a forward slash, is the top-most directory in the Linux file system hierarchy. From here, you can access all other directories and files using the `cd` command.

### The `bin` Directory

The `bin` directory contains essential binaries or executables that are essential to the operating system. These binaries, such as `gzip`, `curl`, and `ls`, can be run from the command line at any time.

### The `sbin` Directory

The `sbin` directory contains system binaries that should only be executed by the root user. These binaries, such as `mount` and `delete user`, are critical to the system's operation and should be used with caution.

### The `lib` Directory

The `lib` directory stores common libraries that are used by the binaries in the `bin` and `sbin` directories.

### The `usr` Directory

The `usr` directory, short for "user", contains non-essential binaries and applications that are intended for the end-user. This directory has its own `bin` and `sbin` directories, which contain user-level binaries.

## The `local` Directory

The `local` directory, located under `usr`, contains binaries that are manually compiled by the user. This directory provides a safe place to install software without conflicting with system packages.

## The `PATH` Environment Variable

The `PATH` environment variable maps the various `bin` directories together, allowing you to execute binaries from any directory in the terminal. To find the location of a binary, use the `which` command followed by the binary name.

## Customizing System Behavior

The `etc` directory, short for "etcetera" or "editable text configuration", contains text-based configuration files that can be modified to customize the behavior of the system. These files typically end in `.conf` and can be edited with a text editor.

## User Directories

The `home` directory contains a folder for each user registered on the system, which stores user-specific files, configuration, and software. To modify these files, you must be logged in as the user or as the root user.

## Other Important Directories

- The `boot` directory contains files needed to boot the system, including the Linux kernel.
- The `dev` directory contains device files that allow you to interface with hardware or drivers as if they were regular files.
- The `opt` directory contains optional or add-on software and is rarely interacted with.
- The `var` directory contains variable files that change as the operating system is being used, such as logs and cache files.
- The `tmp` directory is for temporary files that won't be persisted between reboots.
- The `proc` directory is an illusionary file system created in memory by the Linux kernel to keep track of running processes.

By understanding the Linux file system hierarchy, you'll be better equipped to navigate and manage your system effectively.