LINUX FILE SYSTEM

A file system is a set of processes that controls how, where and when data is stored and retrieved from a storage device.

A good file system is essential for everyday system processes.

A Linux file system is a structured collection of files on a disk drive or partition.

Everything in Linux is a file.

File system on Linux basically

-controls how and where data is stored.

-Every partition contains a file system.

-Stores data systematically.

TYPES OF LINUX FILE SYSTEM

1.EXT, EXT2, EXT3

2.JFS

3.RAISERFS

4.XFS

5.BTRFS

6.SWAP FILE SYSTEM

1.EXT, EXT2, EXT3:

EXT stands for extended file system.
EXT2 was the first Linux file system that allows managing 2TB of data.
EXT4 is the fastest.

2.JFS:

Journaled file system, developed by IBM for AIX Unix
Alternative to the Exit file system and it is useful when CPU power is limited.

3.RAISER FS:

It is an alternative to EXT3 file system. Earlier RaiserFS was used as the default file system for Linux SUSE, dynamically supports the file extension but has performance drawbacks.

4.XFS:

High performance scalable file system
It was considered as high speed JFS which is developed for parallel I/O processing used by NASA.

5.BTRFS:

Stands for B- tree file system

It is used for fault tolerance, repair systems etc.

6.SWAP FILE SYSTEM:

It is used for memory paging in Linux OS during system Hibernation.
A system that never goes to hibernate is required to have swap Space equal to RAM.

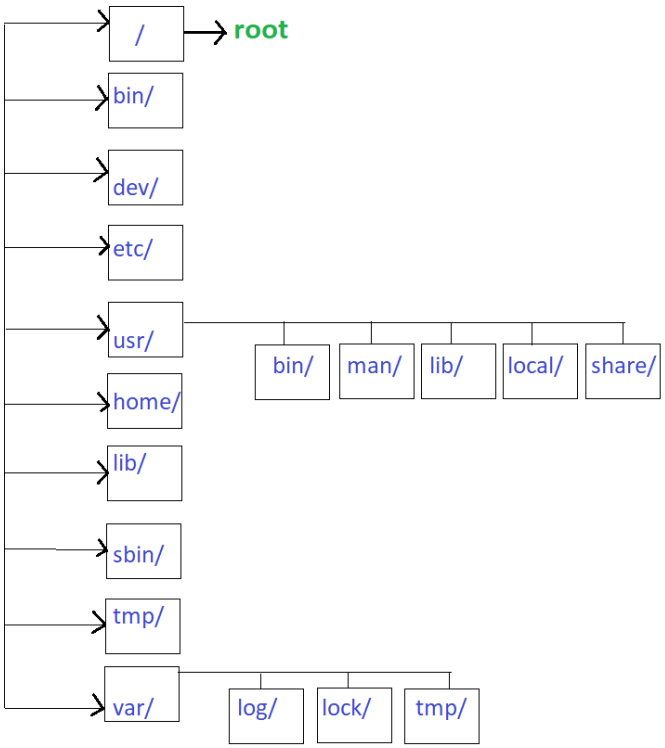
FILE SYSTEM DIRECTORIES

All the file system directories are stored in the root of the Linux OS.

root: top most directory of Linux, from this we can access any sub directories and files of Linux.
symbol for root directory---> /

Each and every user in Linux will be having a default directory called root.

In the directory, all the information of the user and the operations done by the user will get stored using the sub-directories of root.



root: It is topmost directory from this we can access any of the sub directories.

All of these directories have certain functions and they store some sort of information about the system.

bin: Contains binaries i.e some of the applications and programs you can run ls command and other basic tools for making and removing files are present.

dev: Contains devices files many of these are generated at boot time.

etc: etc stands for "Everything to configure" as it contains most if not all system wide configuration calls. Like the user and their passwords, the machines on your network.

home: Here you find your user's personal directories.
Ex: home/ec2-user contains my directories

lib: All libraries are found in this directory, libraries are files containing code that your application can use the lib under root contains all the important kernel modules.

media: This is the directory where external storage will automatically be mounted when you plug it in and try to access it.

sbin: These are system binary files, they are executables utilized for system administration.

tmp: it is a temporary directory used by the OS and several programs for storing temporary files. Also, users may temporarily store files here. Remember that files may be removed without prior notice at any time in this directory.

var/: variable data files are saved. It can contain things such as MySQL, log files, other database files, email inboxes, web server data files, and much more.