Explain Linux directory hierarchy and uses.

Linux directory hierarchy

1. / (Root)
2. /bin
3. /boot
4. /dev
5. /etc
6. /home
7. /lib
8. /lib64
9. /lost+found
10. /mnt
11. /media
12. /opt
13. /proc
14. /root
15. /sbin
16. /srv
17. /tmp
18. /usr
19. /var

The Linux directory hierarchy, also known as the Filesystem Hierarchy Standard (FHS), defines the standard layout for directories and files on Linux systems.

This structure ensures consistency across different distributions and makes file management easier for users and administrators.

Lunix directories

Here's a breakdown of the main directories and their uses:

1. / (Root)

- This is the top-level directory and the starting point for the entire file system.
- It contains all other directories and files.

2. /bin

- This directory holds essential binary executable files used for basic system functions, such as cat, ls, cp, and mv.
- These are essential tools available in all Linux distributions.

3. /boot

- This directory contains files required for booting the system, including the kernel image and related configuration files.

4. /dev

- This directory holds device files representing hardware devices like disks, network interfaces, and character devices.
- Accessing these files allows interaction with the hardware.

5. /etc

- This directory houses various system configuration files, including settings for services, network interfaces, users, and applications.
- Modifying these files requires administrative privileges.

6. /home

- This directory contains the home directories of individual users.
- Each user has their own home directory where they can store personal files and configurations.

7. /lib

- This directory holds shared libraries used by various applications and the system itself.
- Accessing these libraries directly is not common, but applications rely on them to function correctly.

8. /lib64

- This directory contains 64-bit versions of shared libraries used by applications and the system.
- It exists alongside /lib for compatibility with both 32-bit and 64-bit applications.

9. /lost+found

- This directory serves as a lost and found storage for files recovered from unexpected system crashes or filesystem errors.

10. /mnt

- This directory is intended for temporarily mounting external storage devices like USB drives or network shares.

11. /media

- This directory holds mount points for removable media like CDs, DVDs, and flash drives.

12. /opt

- This directory is meant for optional additional software packages.
- Applications installed outside the package manager system typically reside here.

13. /proc

- This directory is a virtual filesystem that provides information about processes running

on the system.

- Accessing files in this directory allows monitoring and managing processes.

14. /root

- This directory is the home directory of the root user, which has the highest level of administrative privileges.

15. /sbin

- This directory contains essential system administration binaries used for system maintenance and repair.
- Only users with root privileges can access and execute these files.

16. /srv

- This directory is intended for data served by network services, such as web servers or FTP servers.

17. /tmp

- This directory is used for temporary files created by applications and the system.
- These files are typically automatically deleted after a certain period of inactivity.

18. /usr

- This directory holds user-specific files and applications.
- This includes libraries, binaries, documentation, and other resources used by various applications.

19. /var

- This directory stores variable data that changes over time, such as log files, database files, and temporary data used by applications.