

Experiment: Demonstrating the File Hierarchy System (FHS) in Linux

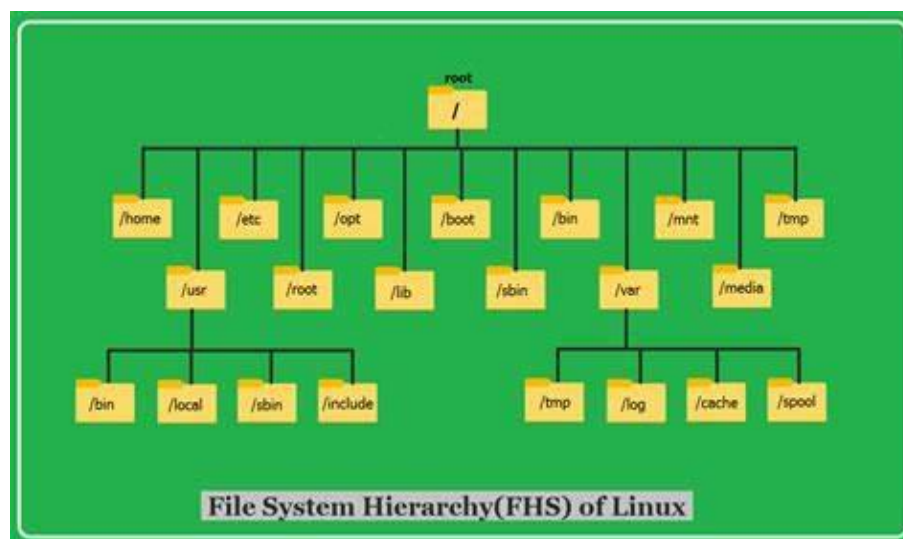
Aim

To understand and demonstrate the structure and purpose of the File Hierarchy System (FHS) in a Linux operating system.

Theory

The File Hierarchy System (FHS) defines the directory structure and directory contents in Unix and Unix-like operating systems, including Linux. It is a standard that provides consistency and predictability in the way files and directories are organized. The FHS is crucial for system administration, as it helps in locating files, understanding the purpose of directories, and managing the system efficiently. The Linux File Hierarchy Structure or the Filesystem Hierarchy Standard (FHS) defines the directory structure and directory contents in Unix-like operating systems. It is maintained by the Linux Foundation.

- In the FHS, all files and directories appear under the root directory /, even if they are stored on different physical or virtual devices.
- Some of these directories only exist on a particular system if certain subsystems, such as the X Window System, are installed.
- Most of these directories exist in all UNIX operating systems and are generally used in much the same way; however, the descriptions here are those used specifically for the FHS and are not considered authoritative for platforms other than Linux.



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Key Directories in FHS

1. **/ (Root Directory):** The top level of the directory hierarchy.
2. **/bin:** Essential command binaries needed for single-user mode and for all users.
3. **/boot:** Static files of the boot loader.

4. **/dev**: Device files.
5. **/etc**: System-wide configuration files and shell scripts.
6. **/home**: User home directories.
7. **/lib**: Essential shared libraries and kernel modules.
8. **/media**: Mount points for removable media.
9. **/mnt**: Temporary mount points for filesystems.
10. **/opt**: Add-on application software packages.
11. **/proc**: Virtual filesystem documenting kernel and process status.
12. **/root**: Home directory of the root user.
13. **/run**: Runtime variable data.
14. **/sbin**: Essential system binaries.
15. **/srv**: Data for services provided by the system.
16. **/tmp**: Temporary files.
17. **/usr**: Secondary hierarchy for read-only user data.
18. **/var**: Variable data files.

Conclusion

This experiment demonstrates the structure and purpose of the File Hierarchy System (FHS) in Linux. By exploring the various directories and understanding their roles, one gains insight into the organization of files and directories in a Linux system.