

Linux File System

A file system is a logical collection of files on a partition or disk. A partition is a container for information and can span an entire hard drive if desired.

Your hard drive can have various partitions which usually contains only one file system, such as one file system housing the / file system or another containing the /home file system.

One file system per partition allows for the logical maintenance and management of differing file systems.

Everything in Linux is considered to be a file, including physical devices such as DVD-ROMs, USB devices, floppy drives, and so forth.

Directory Structure:

Linux uses a hierarchical file system structure, much like an upside-down tree, with root (/) at the base of the file system and all other directories spreading from there.

A LINUX filesystem is a collection of files and directories that has the following properties:

It has a root directory (/) that contains other files and directories.

Each file or directory is uniquely identified by its name, the directory in which it resides, and a unique identifier, typically called an inode.

By convention, the root directory has an inode number of 2 and the lost+found directory has an inode number of 3. Inode numbers 0 and 1 are not used. File inode numbers can be seen by specifying the -i option to ls command.

It is self contained. There are no dependencies between one filesystem and any other.