Understanding Files and Directories

What is a File?

File is collection of data items stored on disk. Or, it's device which can store the information, data, music (mp3 files), picture, movie, sound, book etc. In fact what ever you store in computer it must be inform of file. Files are always associated with devices like hard disk, floppy disk etc.

What is a directory?

Directory is group of files. Directory is divided into two types:

- Root directory Strictly speaking, there is only one root directory in your system, which is denoted by / (forward slash). It is root of your entire file system and can not be renamed or deleted.
- Sub directory Directory under root (/) directory is subdirectory which can be created, renamed by the user.

Directories are used to organize your data files, programs more efficiently.

Linux directory structure:

/bin : All the executable binary programs (file) required during booting, repairing, files required to run into singleuser-mode, and other important, basic commands viz., cat, du, df, tar, rpm, wc, history, etc.

/boot : Holds important files during boot-up process, including Linux Kernel.

/dev : Contains device files for all the hardware devices on the machine e.g., cdrom, cpu, etc

/etc : Contains Application's configuration files, startup, shutdown, start, stop script for every individual program.



/home : Home directory of the users. Every time a new user is created, a directory in the name of user is created within home directory which contains other directories like Desktop, Downloads, Documents, etc.

/lib: The Lib directory contains kernel modules and shared library images required to boot the system and run commands in root file system.

/lost+found : This Directory is installed during installation of Linux, useful for recovering files which may be broken due to unexpected shut-down.

/media : Temporary mount directory is created for removable devices viz., media/cdrom.

/mnt : Temporary mount directory for mounting file system.

/opt : Optional is abbreviated as opt. Contains third party application software. Viz., Java, etc.

/proc : A virtual and pseudo file-system which contains information about running process with a particular Process-id aka pid.

/root : This is the home directory of root user and should never be confused with '/'

/run: This directory is the only clean solution for early-runtime-dir problem.

/sbin : Contains binary executable programs, required by System Administrator, for Maintenance. Viz., iptables, fdisk, ifconfig, swapon, reboot, etc.

/srv : Service is abbreviated as 'srv'. This directory contains server specific and service related files.

/sys : Modern Linux distributions include a /sys directory as a virtual filesystem, which stores and allows modification of the devices connected to the system.

/tmp: System's Temporary Directory, Accessible by users and root. Stores temporary files for user and system, till next boot.

/usr: Contains executable binaries, documentation, source code, libraries for second level program.

/var: Stands for variable. The contents of this file are expected to grow. This directory contains log, lock, spool, and mail and temp files.