Friday, 13, September, 2019

Directory Structure in Unix/Linux

/ - root directory

The root directory. Where everything begins.

/bin

Contains binaries (programs) that must be present for the system to boot and run.

ex. ls, cp, login, bash

/boot

Contains the Linux kernel, initial RAM disk image (fordrivers needed

at boot time), and the boot loader.

Interesting files:

/boot/grub/grub.conf or menu.lst, which are used to configure the boot loader.

/boot/vmlinuz, the linux kernel

/dev

This is a special directory which contains device nodes.

“Everything is a file” also applies to devices. Here is where the kernel

maintains a list of all the devices it understands.

/etc

The /etc directory contains all of the system-wideconfiguration files.

It also contains a collection of shell scripts which start each of the

system services at boot time.

Everything in this directory should be readable text.

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Interesting files: While everything in /etc is interesting,
here are some of files that needs special attention:

/etc/crontab, a file that defines when
automated jobs will run.

etc/fstab, a table of storage devices and their
associated mount points.

/etc/passwd, a list of the user accounts and encrypted/shadow password

/home

In normal configurations, each user is given a directory in /home.

/lib

Contains shared library files used by the core system
programs

/lost+found

Each formatted partition or device using a Linux file system,such as ext3,
will have this directory. It is used in the case of a partial recovery from a
file system corruption event. Unless something really bad has
happened to your system, this directory will remain empty.

/media

On modern Linux systems the /media directory will contain the mount
points for removable media such USB drives, CD-ROMs, etc.
that are mounted automatically at insertion.

/mnt

On older Linux systems, the /mnt directory contains mount
points for removable devices that have been mounted manually.

/media

On modern Linux systems the /media directory will contain the mount points for removable media such USB drives, CD

/opt

The /opt directory is used to install “optional” software. This is mainly used to hold commercial/third party software products that may be installed on your system.

/proc

The /proc directory is special. It's not a real file system in the sense of files stored on your hard drive. Rather, it is a virtual file system maintained by the Linux kernel. The “files” it contains are peepholes into the kernel itself. The files are readable and will give you a picture of how the kernel sees your computer.

/root

This is the home directory for the root account.

/sbin

This directory contains “system” binaries. These are programs that perform vital system tasks that are generally reserved for the superuser.

/tmp

The /tmp directory is intended for storage of temporary,transient files created by various programs. Some configurations cause this directory to be emptied each time the system is rebooted.

/usr

The /usr directory tree is likely the largest one on a Linux system. It contains all the programs and support files used by regular users.

/usr/bin

/usr/bin contains the executable programs installed by the Linux distribution. It is not uncommon for this directory to hold thousands of programs.

/usr/lib

The shared libraries for the programs in /usr/bin.

/usr/local

The /usr/local tree is where programs that are not included with your distribution but are intended for system-wide use are installed. Programs compiled from source code are normally installed in /usr/local/bin. On a newly installed Linux system, this tree exists, but it will be empty until the system administrator puts something in it.

/usr/sbin

Contains more system administration programs.

/usr/share

/usr/share contains all the shared data used by programs in /usr/bin. This includes things like default configuration files, icons, screen backgrounds, sound files, etc.

/usr/share/doc

Most packages installed on the system will include some kind of documentation. In /usr/share/doc, we will find documentation files organized by package.

/var

With the exception of /tmp and /home, the directories we have looked at so far remain relatively static, that is, their contents don't change.
The /var directory tree is where data that is likely to change is stored.
Various databases, spool files, user mail, etc. are located here.

/var/log

/var/log contains log files, records of various system activity.
These are very important and should be monitored from time to time.
The most useful one is /var/log/messages.
Note that for security reasons on some systems, you must be the superuser to view log files .

Symlink -

It’s a feature that allows linking to a physical directory or file

Why There is an need of Symlink/Symbolic Link?

There are a lot of complex directories in the file system of Linux, right?

Remembering all of them can be a real hassle.

Moreover, when you want to work with a file/directory that’s deep

within directories and sub-directories, the file path length becomes longer.

Creating Symlink #ln utility

#soft link - the link destroyed after the reboot of the host machine
ln -s <source_file_directory> <link_file_directory>

#hard Link - Link is created permanent (remove -s argument)

ln <source_file_directory> <link_file_directory>

Note : ensure the absoulute/concrete path