**Linux File Systems**

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.

**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. The directories have specific purposes and generally hold the same types of information for easily locating files.

**Some of the directories are :-**

**/** : This is the root directory which should contain only the directories needed at the top level of the file structure.

**/bin**: This is where the executable files are located. These files are available to all users.

**/dev:** These are device drivers

**/etc**: Supervisor directory commands, configuration files, disk configuration files, valid user lists, groups, ethernet, hosts, where to send critical messages

**/lib** : Contains shared library files and sometimes other kernel-related files

**/boot** : Contains files for booting the system

**/home**: Contains the home directory for users and other accounts

**/mnt**: Used to mount other temporary file systems, such as **cdrom** and **floppy** for the **CD-ROM** drive and **floppy diskette drive**.

**/proc** : Contains all processes marked as a file by **process number** or other information that is dynamic to the system

**/tmp** : Holds temporary files used between system boots

**/usr:** Used for miscellaneous purposes, and can be used by many users. Includes administrative commands, shared files, library files, and others

**/var:** Typically contains variable-length files such as log and print files and any other type of file that may contain a variable amount of data

**/sbin :** Contains binary (executable) files, usually for system administration. For example, *fdisk* and *ifconfig* utlities

**/kernel:** Contains kernel files

**Navigating the File System**

**cat filename:** Displays a filename

**cd dirname** : Moves you to the identified directory

**cp file1 file2** : Copies one file/directory to the specified location

**file filename** : Identifies the file type (binary, text, etc)

**find filename dir** : Finds a file/directory

**head filename :** Shows the beginning of a file

**less filename** : Browses through a file from the end or the beginning

**ls dirname**: Shows the contents of the directory specified

**mkdir dirname** : Creates the specified directory

**more filename :** Browses through a file from the beginning to the end

**mv file1 file2 :** Moves the location of, or renames a file/directory

**rm filename** : Removes a file

**pwd** : Shows the current directory the user is in

**rmdir dirname :** Removes a directory

**tail filename** : Shows the end of a file

**touch filename:** Creates a blank file or modifies an existing file or its attributes

**whereis filename** : Shows the location of a file

**which filename** : Shows the location of a file if it is in your PATH