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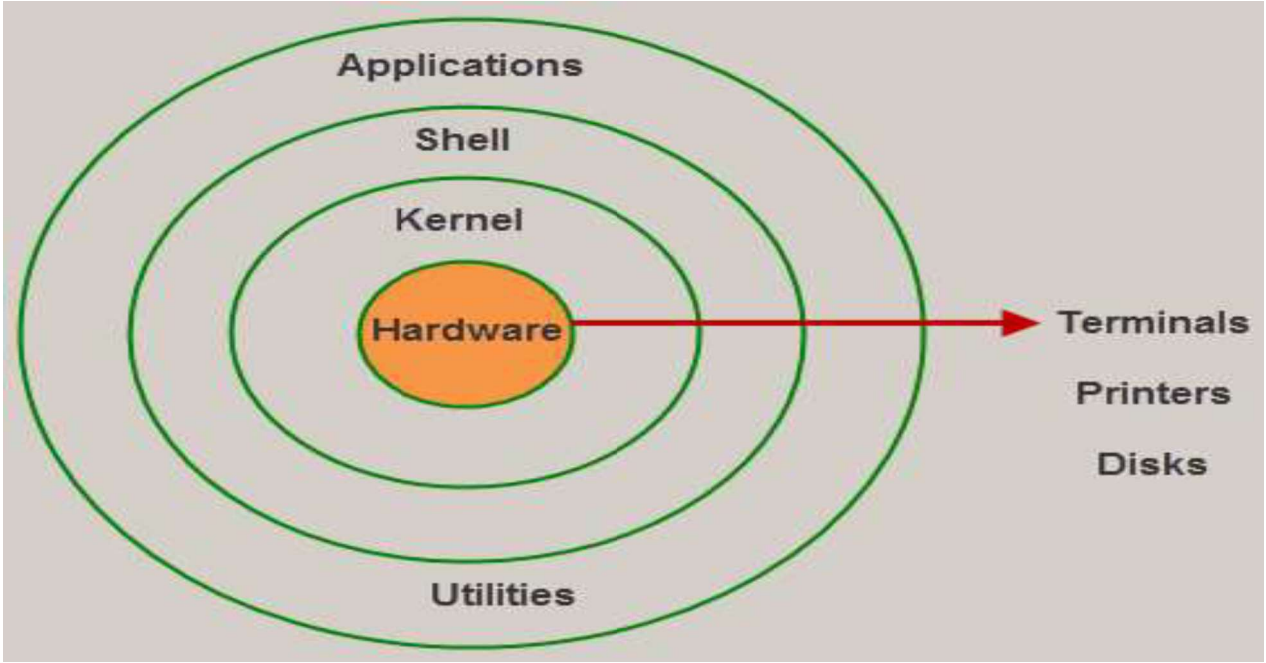
Architecture of Linux



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- **Shell:-** It is an interface among the kernel and user. It can afford the services of kernel. It can take commands through the user and runs the functions of the kernel. The shell is available in distinct types of OSes. These operating systems are categorized into two different types, which are the **graphical shells** and **command-line shells**.

- **Kernel:-** The kernel is one of the core section of an operating system. It is responsible for each of the major actions of the Linux OS. This operating system contains distinct types of modules and cooperates with underlying hardware directly. The kernel facilitates required abstraction for hiding details of low-level hardware or application programs to the system.

- **Hardware layer:-** Linux operating system contains a hardware layer that consists of several peripheral devices like CPU, HDD, and RAM.

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- **Hierarchical file system:** Linux OS affords a typical file structure where user files or system files are arranged.
- **Security:** Linux OS facilitates user security systems with the help of various features of authentication such as controlled access to specific files, password protection, or data encryption.
- **Shell:** Linux operating system facilitates a unique interpreter program. This type of program can be applied for executing commands of the operating system. It can be applied to perform various types of tasks such as call application programs and others.

\n : this option creates new line from where it is used.

Example : echo -e “This \nis a \nGood Day"

\b : it removes the spaces in between the text

Example : echo -e “Rain \bAnd \bRainbow“

\t : this option is used to create horizontal tab spaces.

Example :echo -e “Moon \tSun \Earth“

\v : this option is used to create vertical tab spaces.

Example :echo -e “Moon \vSun \vEarth”

3. PATH

PATH is an environment variable that instructs a Linux system in which directories to search for executables. The PATH variable enables the user to run a command without specifying a path.

Command : echo $PATH

4.man

man command in Linux is used to display the user manual of any command that we can run on the terminal. It provides a detailed view of the command which includes NAME, SYNOPSIS, DESCRIPTION, OPTIONS, EXIT STATUS, RETURN VALUES, ERRORS, FILES, VERSIONS, EXAMPLES, AUTHORS and SEE ALSO.

Syntax :

man [COMMAND NAME]

Example:

man printf

A flag which enables the command to create parent directories as necessary. If the directories exist, no error is specified.

Syntax:

mkdir -p [directories]

Suppose you execute the following command –

mkdir -p first/second/third

If the first and second directories do not exist, due to the -p option, mkdir will create these directories for us.

7. ls

ls is a Linux shell command that lists directory contents of files and directories. It provides valuable information about files, directories, and their attributes.

Syntax of `ls` command in Linux

ls [option] [file/directory]

'ls' will display the contents of the current directory. By default, 'ls' lists files and directories in alphabetical order.