Date: 23 Jan 2024

**Directory under “ / ”:**

1. **/bin (Binary Binaries) :**

Contains essential command binaries (executable files) needed for the system's basic functionality.

Common commands like ls, cp, mv, and rm are located here.

1. **/boot :**

Holds the kernel, bootloader configuration, and other files required during the system boot process.

Important files such as vmlinuz (the Linux kernel), conf, grub, and initramfs are found in this directory.

1. **/dev ( Device ) :**

Contains device files that represent and interface with hardware devices.

Files such as /dev/sda (representing the first hard disk) or /dev/tty1 (representing the first virtual console) are found here.

Command: - **tty**: to know your terminal path

1. **/etc ( Etcetra ) :**

Stores system-wide configuration files and scripts.

Configuration files for various applications and services, as well as system-wide settings, reside here.

/etc/passwd: It contains the username, password of the system, users in a shadow file.

/etc/fstab: Information of the Disk Drive and their mount point.

1. **/home :**

Home directories for user accounts are stored here.

Each user typically has a subdirectory under /home with their username as the directory name.

1. **/lib :**

Essential shared libraries and kernel modules are located here.

These libraries are crucial for the functioning of various programs and the operating system itself.

1. **/media :**

Mount points for removable media devices, such as USB drives or external hard disks.

When you plug in a USB drive, it is often automatically mounted under /media.

1. **/mnt :**

Provides temporary mount points for additional filesystems.

Users can manually mount filesystems here when needed.

1. **/opt ( Operation ) :**

Reserved for optional software packages installed by the system administrator.

Third-party applications or software not managed by the system's package manager may be installed here.

1. **/proc ( Processes ) :**

A virtual filesystem that provides information about processes and kernel parameters.

It contains directories and files that represent the current state of the running kernel.

1. **/root :**

Home directory for the root user, the superuser or system administrator.

Configuration files and data specific to the root user are stored here.

1. **/run :**

Contains system runtime data, such as information about currently running processes and system state.

Often used for communication between system components.

1. **/sbin ( System Binaries ) :**

Similar to /bin, but it contains essential binaries for system administration tasks.

Commands like fdisk or ifconfig, which are typically used by system administrators, are located here.

1. **/srv ( Service ) :**

Contains data for services provided by the system.

This directory is often used to store data that is served by the system, such as website content or FTP data.

1. **/sys ( System ) :**

Provides an interface to kernel-related information and configuration.

It allows interacting with and configuring various aspects of the kernel and devices.

1. **/tmp ( Temporary ) :**

Holds temporary files that are not needed across system reboots.

Users and applications can store temporary files here.

1. **/usr :**

The secondary hierarchy for user data and programs.

It contains user binaries, libraries, documentation, and source code.

1. **/var ( Variable ) :**

Stores variable data, such as logs, spool files, and temporary files that may change in size.

Subdirectories include /var/log for log files and /var/spool for print and mail spools.

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**Types of editor in Linux**

1) Graphical: v edit, k edit, MS office

2) Commands: nano, vim, pico,

vim editors :

**Modes of Vim editor**

1) cmd mode

2) Insert mode

3) Visual mode

4) Execution mode

vim demo-file

gg – top , G – bottom

dw - delete word

2,3,4 dw delete one or more word

dd : delete all line

2,3, dd - delete numbers of line

S – to replace word

s –

R – replace two or more words

%s/oldname/newname/g -> to replace all words of file in vim editor

cw - cut to word

cc - cut to line

esc to exit from insert mode then cmd '' p '' to pest cut line

yw - copy to word

yy - copy for line

**Task:** replace a particular word with my name ?

2> use ?

&>> use ?

**Date: 24/01/24**

**User Management**

User management in Linux is the process of creating, modifying, and deleting user accounts on a Linux system. It's a crucial aspect of system administration, as it ensures secure access control, resource allocation, and efficient system operation.

**Types of users in Linux**

1. Root User
2. System User
3. Local User
4. ***Root User:***

* The supreme administrator of the system.
* Has unrestricted access to all files, directories, and commands.
* Symbolized by a # prompt

1. ***Local User or Regular User :***

* Accounts are created for individual users to perform everyday tasks.
* Limited privileges based on assigned groups and permissions.
* Symbolized by a $ prompt.

1. ***System Users:***

* Pre-created accounts are used for running system services and applications.
* Typically have UIDs between 1 and 999.
* No home directories or login shells.
* **Examples: bin, daemon, nobody, lp, mail, etc.**