* Common Administrative Task in Linux:-

(i) **Installing and Configure Linux System:-** A Linux Administrator's main responsibility is to install and set-up Linux system and serves:- for configuring Linux system first step is to download a Linux OS and create a bootable CD/DVD or USB. Then Boot that files in system and install it.

(ii) **Perform System maintainance:-** It is the responsibility of Administrator to perform System maintainance time to time by Doing Disk Defragmentation, reviewing error logs etc.

(iii) **Creating System Backup:-** Administrator also should take System backup by weekly or Daily to recover the System after any Crash.

(iv) **Monitor System performance:-** Administrator should monitor System performance to prevent Shutdown and Crashes.

(v) **provide technical Support and Guidance:-**

* ② Administrative files in Linux :- There are four main users Administrative files.

(i) /etc/passwd :- It keeps the user account and password information. also holds majority of information about accounts.

(ii) /etc/shadow :- This file holds the encrypted password of corresponding account.

(iii) /etc/group :- This file contain the group information for each account.

(iv) /etc/gshadow :- This file contain secure group account information.

* Role of a System Administrator :- Roles of a system Administrator are :-

→ Adding or removing users in a Linux.
→ Creating a Group.
→ modify a Group.
→ Delete a Group.
→ Creating, modifying and Deleting an Account.

A superuser assumed As system Administrator.

The first way to become Superuser is to login as root directly.
The second way is to execute command su while you logged in to another user Account.

Managing User Account :-

(i) **Adding a user :-** As a Linux Administrator it is essential to know how to add ~~user~~ or ~~root~~ ~~ad~~ delete users.

most of the command requires root access for that we have to install **sudo** before the command or we have to login as root user in system.

→ Command to add user :-

$ sudo useradd -m <name of the user>

eg. $ sudo useradd -m irshad

↘ -m is used to create home directory.

After adding the user we have to set password for that user to Log in :-

→ Command to set password :-

$ sudo passwd <username>

e.g $ sudo passwd irshad → This command for New password.

password save in /etc/shadow file

→ Command to view ID of the user :-

$ sudo id -u <username>

e.g. $ sudo id -u irshad

output : 1001 → user ID of user irshad.

(ii) **Modify an Account**:- The the **usermod** command allows you to make change to an existing Account like changing username, changing home directory, changing user Id e.t.c.

→ Command to change username:-

$ usermod <username> <New user name>

e.g. $ usermod irshad irshad1

→ Command to change Home directory of user:-

$ sudo usermod -d <old home directory> <New Home directory>

e.g. $ sudo usermod -d /home/manav irshad

(iii) **Deleting An Account**:-

Command:-

$ Userdel -r <username/Accountname>

e.g. $ sudo userdel -r irshad

This command will delete the Account name of irshad.

(iv) **Creating a Group**:- In Linux, A Group is a Collection of users.

Each group in Linux identified by GID (Group identification Number).

→ Information of groups stored in /etc/group file.

→ Hashed password of groups stored in /etc/gshadow file.

Command to create a group :-

$ groupadd [-g GID [-o]] [-r] [-f] groupname.

for creating group with default value use command :-

$ groupadd <Groupname>

e.g $ groupadd Irshad → This command will create groups named Irshad.

(v) **modify a Group :-** To modify any group we use groupmod command.

→ Command to change the name of Group :-

$ sudo groupmod -n <Newname> <oldname>

e.g. $ sudo groupmod -n Irshad Irshad1

→ To chang Group GID we use option -g

$ groupmod -g 545 Irshad1

(vi) **Deleting a Group :-** To delete a group we have to u groupdel Command.

$ groupdel Irshad1

(6)

* File permission and ownership :- Linux is a clone of UNIX, the multi-user operating system which can be accessed by many users simultaneously.

For security Linux divid authorization into 2 level.

(i) Ownership
(ii) Permission

→ Ownership in Linux files: Every file and directory on Linux Assign 3 types of owner:-

(i) User :- A user is the owner of file who creates the file.

(ii) Group :- A Group contain multiple users. All user belonging to the group have same Access permission to the file.

(iii) Other :- Any other user who has access to a file. This person neither creates the file nor belongs to any Group.

→ permission in Linux files :- permision set the user behaviour what they can do with file. There are 3 permission in Linux.

(i) Read :- This permission gives you authority to open and read files.

(ii) write :- write permission gives you authority to modify the Content of file.

(iii) Execute :- In Linux you can't run a program Unless the Execute permision is Set.

Changing permission and ownership of file:- To change the directory or file permission we use chmod command. (7)

chmod ⟶ stands for change directory.

There are two modes to change the permision :- (i) Absolute Mode (ii) Symbolic mode.

777 (Anyone can read, write, execute)

→ To Check the current file permision we use

$ ls -l Sample

output :- -rw-rw-r-- 1

permissions
- + → Add a permision to file.
- − → Removes the permision.
- = → sets the permision and overrides the permision set earlier.

ownership
- u → user/owner
- g → group
- o → other
- a → all

→ Changing the permision of file:-

→ $chmod o=rwx Sample → sets permision for other users to read, write and execute.

→ $ chmod g+x Sample → Add execute permision to user group.

→ $ chmod u-r sample → Removing read permision for user Sample.

→ Changing ownership of file:- To change the ownership of file we use Chown.

→ To check current ownership of file we use:

$ ls -l

→ To change ownership of a file we use:-

$ sudo chown h100 Sample.txt

↓

ID of user.

Imp. Qs

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