32. Manage Users and Groups in Linux

You can manage users and groups in Linux using the following commands:

User Management:

- useradd [username]: Add a new user.

- userdel [username]: Delete a user.

- usermod [options] [username]: Modify user details.

- passwd [username]: Set or change the password of a user.

Group Management:

- groupadd [groupname]: Add a new group.

- groupdel [groupname]: Delete a group.

- groupmod [options] [groupname]: Modify a group.

33. Explain Different File System Types in Linux

Linux supports multiple file system types. Common ones include:

File System	Description
ext2	Second extended file system; does not support journaling.
ext3	ext2 + journaling support.
ext4	Most common today; supports large files and journaling.
XFS	High-performance journaling file system.
Btrfs	Advanced features like snapshots, pooling, and checksums.
FAT32/exFAT	Used for compatibility with Windows and USB drives.
NTFS	Windows file system; Linux can read/write with drivers.

34. Explain File Permission Groups in Linux

Linux file permissions are assigned to **three groups**:

1. **Owner (User)** – The creator or assigned owner of the file.

2. **Group** – A group of users assigned to the file.

3. **Others** – Everyone else.

Each group has three permission types:

- **r** (read)

- **w** (write)

- **x** (execute)

35. How to Switch Desktop Environments (e.g., KDE to GNOME)

To switch from **KDE to GNOME** or another desktop environment:

1. **Install the desired desktop environment** (if not installed):

2. sudo apt install gnome-session gnome-shell

3. **Log out** of the current session.

4. **At the login screen**, click on the **session menu** (gear icon or similar).

5. Choose **GNOME**, **KDE**, or any installed environment.

6. Log in.

36. What Are the Kinds of Permissions in Linux?

There are **three main types of permissions** for files and directories:

Symbol	Permission	Description
r	Read	View file contents / list directory.
w	Write	Modify file contents / create, delete files in directory.
x	Execute	Run a file as a program / enter a directory.

These permissions are defined for:

- **User (u)**

- **Group (g)**

- **Others (o)**

37. What Are the Different Modes in the vi Editor?

The vi editor has **three main modes**:

1. **Normal Mode (Command Mode):**

   o   Default mode when vi starts.

   o   Used to navigate and perform commands (e.g., delete, copy).

2. **Insert Mode:**

- o Used to insert text.

- o Enter by pressing i, a, o, etc. from Normal mode.

- o Return to Normal mode by pressing Esc.

3. **Command-Line Mode (Last Line Mode):**

   - o Accessed from Normal mode by pressing :

   - o Used to save, quit, or run commands.

   - o Examples:

     - :w – Save

     - :q – Quit

     - :wq – Save and quit

     - :q! – Quit without saving