Module :3- Linux server - Configure local storage Assignment

24. Learn about different filesystem types (e.g., ext4, NTFS).

- FAT (File Allocation Table)

- Types: FAT32
- Description: Simple, older file system used in small storage devices like USB drives and memory cards.
- Strengths: Broad compatibility, simple structure.
- Weaknesses: Limited file size (max 4GB for FAT32).

-. NTFS (New Technology File System)

- Description: Default for Windows OS with advanced features like file permissions and journaling.
- Strengths: Large file support, security features, data integrity.
- Weaknesses: Limited support outside Windows.

Ext (Extended File System)

- Types: Ext2, Ext3, Ext4
- Description: Default file system for Linux, with Ext4 being the most advanced.
- Strengths: Stable, supports large files and journaling.
- Weaknesses: Not natively supported by Windows.

25. Manage disk partitions and filesystems using tools like fdisk, mkfs, and mount.

- `fdisk`: A tool used to create, delete, or modify disk partitions on a system. It works with MBR (Master Boot Record) or GPT (GUID Partition Table) partition schemes.
  Common fdisk commands:
  - `fdisk -l` - List all partitions.
  - `fdisk /dev/sdX` - Start the `fdisk` utility on a specified disk
  - Inside fdisk:
    - `m` for help
    - p for print partition table
    - n to create a new partition
    - d to delete a partition
    - `w` to write changes
- `mkfs`: A tool used to create a filesystem on a partition. You can specify the filesystem type (e.g., ext4, xfs).
  Example:
  - `mkfs.ext4 /dev/sdX1` — Create an ext4 filesystem on the first partition of a disk.
  - `mkfs.xfs /dev/sdX1` — Create an XFS filesystem.
- `mount`: This command is used to mount a filesystem to a directory.
  Example:
  - `mount /dev/sdX1 /mnt` — Mount the partition `/dev/sdX1` to `/mnt`.
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26. create a 2048MB partition and verify if the partition has been created.

- Done in Lab

27. Why LVM is required?

- LVM (Logical Volume Manager) is a system for managing disk drives and partitions in a more flexible and scalable manner compared to traditional partitioning methods.

28. How can you find out how much memory Linux is using?

- To show how much memory using linux - **df -h**

29. What is a typical size for a swap partition under a Linux system?

- The typical size for a swap partition depends on the amount of physical RAM and the intended use of the system.

30. What is the maximum file size on the ext4 file system?

- The maximum file size on an ext4 filesystem is 16 TiB (Tebibytes).

31. What is the maximum file size on the xfs file system

- The maximum file size on an XFS filesystem is 8 Exabytes (EB) (or 8 billion gigabytes). This is far larger than the maximum file size on ext4 and is more than sufficient for typical storage needs.