**\\ LOKESH PANCHAL \\ Module :3- Linux server**

**Configure local storage Assignment**

**24.** Learn about different filesystem types (e.g., ext4, NTFS). **Ans.** Here’s a brief overview of common filesystem types: Here’s a brief overview of common filesystem types:

**NTFS**: The default filesystem for Windows. It supports large files, advanced permissions, and journaling. It’s commonly used for Windows operating systems and external drives.

**FAT32**: A legacy filesystem compatible with many operating systems, but with limitations on file size (4GB max) and partition size (2TB max).

**XFS**: A high-performance filesystem for Linux, optimized for handling large files and high-capacity storage.

**Btrfs**: A modern Linux filesystem offering advanced features like snapshots, dynamic inode allocation, and built-in RAID support.

**25.** Manage disk partitions and filesystems using tools like fdisk, mkfs, and mount. **Ans.** Here's a brief guide on managing disk partitions and filesystems using common tools:

1. fdisk (Partitioning Tool) List partitions: sudo fdisk –l Create a new partition: sudo fdisk /dev/sdX Delete a partition: sudo fdisk /dev/sdX

2. mkfs (Create Filesystem) Create an ext4 filesystem: sudo mkfs.ext4 /dev/sdX1 Create an NTFS filesystem: sudo mkfs.ntfs /dev/sdX1 Create a XFS filesystem: sudo mkfs.xfs /dev/sdX1

3. mount (Mounting Filesystems) Mount a filesystem: sudo mount /dev/sdX1 /mnt Unmount a filesystem: sudo umount /mnt List mounted filesystems: df -h

Replace /dev/sdX1 with your actual partition and /mnt with your desired mount point.

**26.** create a 2048MB partition and verify if the partition has been created. **Ans.** To create a 2048MB partition and verify it, follow these steps:

1.Create the partition using fdisk: sudo fdisk /dev/sdX Type n to create a new partition. Select primary or extended partition. Enter the partition number and size (+2048M). Type w to write changes and exit.

2.Verify the partition: sudo fdisk -l /dev/sdX

Replace /dev/sdX with your actual disk identifier (e.g., /dev/sda).

**27.** Why LVM is required? **Ans.** LVM (Logical Volume Manager) is required because it allows for flexible disk management, enabling dynamic resizing of volumes without repartitioning. It supports creating snapshots for backups and simplifies managing multiple physical disks as a single logical volume group.

**28.** How can you find out how much memory Linux is using? **Ans.** To find out how much memory Linux is using:

1. **Use** free: free -h
2. **Check with** top: top
3. **View** /proc/meminfo: cat /proc/meminfo
4. **Use** vmstat: vmstat -s

**29.** What is a typical size for a swap partition under a Linux system? **Ans.** A typical size for a swap partition in a Linux system is generally between 1x and 2x the amount of physical RAM. For systems with 4GB of RAM, a swap size of 4GB to 8GB is common. However, the ideal swap size can vary based on system usage, workload, and specific requirements.

**30.** What is the maximum file size on the ext4 file system? **Ans.** The maximum file size on the ext4 filesystem is 16 TiB (terabytes).

**31.** What is the maximum file size on the xfs file system **Ans.** The maximum file size on the XFS filesystem is 8 EiB (exbibytes).