

Disk partitioning and file system management

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Disk partitioning and file system management are essential tasks when setting up a CentOS system.

1. Partitioning Disks:

• Identify the disk you want to partition using the lsblk command. For example:

sudo lsblk

• Use a partitioning tool such as fdisk, parted, or gparted to create partitions on the disk. For example, using fdisk:

sudo fdisk /dev/sdX

Replace /dev/sdX with the appropriate disk identifier.

- Follow the prompts to create partitions. You can create primary, extended, or logical partitions as needed.
- Use the p command to list existing partitions, n to create a new partition, t to change a partition's type, d to delete a partition, and w to write changes to disk and exit.

2. Formatting Partitions:

- After creating partitions, you need to format them with a file system. Common file systems in CentOS include ext4, XFS, and Btrfs.
- Use the appropriate command to format the partition. For example, to format a partition as ext4:

sudo mkfs.ext4 /dev/sdXY

Replace /dev/sdXY with the appropriate partition identifier.

• Repeat the process for each partition you've created.

3. Mounting Partitions:

- After formatting, you need to mount the partitions to make them accessible in the file system.
- Create mount points (directories) for each partition. For example:

sudo mkdir /mnt/data

• Edit the /etc/fstab file to automatically mount partitions at boot time. Add an entry for each partition in the following format:

/dev/sdXY /mnt/data ext4 defaults 0 0

Replace /dev/sdXY with the partition identifier and /mnt/data with the mount point.

• Mount the partitions manually using the mount command:

sudo mount /dev/sdXY /mnt/data

4. Managing File Systems:

- Check disk usage and file system information using commands like df, du, and lsblk.
- Resize partitions and file systems using tools like parted, resize2fs, or xfs_growfs.
- Repair file systems using tools like fsck for ext4 or xfs_repair for XFS.

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