Linux Server - Configure Local Storage & Firewall

1. What are the different types of local storage devices used in Linux servers?

Common local storage devices include:
- Hard Disk Drives (HDD)
- Solid State Drives (SSD)
- NVMe Drives
- USB Drives
- RAID Arrays (Software or Hardware based)

2. How do you list all storage devices connected to a Linux server?

You can use commands such as:
- `lsblk` - shows block devices
- `fdisk -l` - lists partition tables
- `blkid` - lists device UUIDs and types
- `df -h` - shows mounted filesystems

3. How do you create and mount a new partition in Linux?

1. Use `fdisk /dev/sdX` or `parted` to create the partition
2. Format it with a filesystem, e.g., `mkfs.ext4 /dev/sdX1`
3. Create a mount point: `mkdir /mnt/data`
4. Mount the partition: `mount /dev/sdX1 /mnt/data`
5. Add to `/etc/fstab` for persistence

4. What is LVM and why is it used?

LVM (Logical Volume Manager) allows flexible disk management. It lets you resize, extend, and manage volumes without rebooting, making it ideal for growing data needs.

5. How do you configure a basic firewall using firewalld in Linux?

1. Start and enable firewalld: `systemctl enable --now firewalld`
2. View zones: `firewall-cmd --get-active-zones`
3. Add a rule: `firewall-cmd --permanent --add-service=http`
4. Reload firewall: `firewall-cmd --reload`

6. What are firewall zones in firewalld?

Zones are pre-defined sets of rules in firewalld that apply to interfaces. Examples: public, internal, dmz, trusted. Each interface can be bound to a zone for different levels of trust.

7. Scenario: You need to allow SSH and HTTP traffic but block all others. How would you do that using firewalld?

1. Set default zone to drop: `firewall-cmd --set-default-zone=drop`
2. Add services to allowed zone:
   `firewall-cmd --permanent --add-service=ssh`
   `firewall-cmd --permanent --add-service=http`
3. Reload: `firewall-cmd --reload`

8. How do you check which firewall rules are currently active?

Use: `firewall-cmd --list-all` or `iptables -L` (for iptables-based systems)

9. What is the purpose of the /etc/fstab file?

The `/etc/fstab` file contains information about disk partitions and their mount points. It is used to automatically mount filesystems at boot time.

10. How would you extend an LVM logical volume?

1. Extend volume: `lvextend -L +10G /dev/vgname/lvname`
2. Resize filesystem: `resize2fs /dev/vgname/lvname` (for ext4)

This increases the space available on the logical volume without data loss.