

MODULE 04

Managing Devices

► Objectives

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- **Disks and Partitions**
- **Partitioning Tools**
- **Bootloaders**
- **Managed devices**
- **Quotas**

► Disks and Partitions

- Physical disks
 - Hard disk descriptors in `/dev` begin with *hd* (IDE) or *sd* (SCSI)

<i>Table 1</i>	<i>Physical block devices</i>
hda	Primary Master
hdb	Primary Slave
hdc	Secondary Master
hdd	Secondary Slave
sda	First SCSI disk
sdb	Second SCSI disk

► Disks and Partitions

- **Disk Partitions**

Disks can further be partitioned. To keep track of the partitions a number is added at the end of each physical device

<i>Table 2</i>	<i>Partitions</i>
hda1	First partition on first hard disk
hda2	Second partition on first hard disk
sdc3	Third partition on third SCSI disk

► Partitioning Tools

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- **1. Before installation**
 - PartitionMagic
 - fips
- **2. During installation:**
 - For advanced users this is done in two steps:
 - Use the fdisk tool to create new partitions
 - Associate a mount point to each partition
 - For intermediate users most distributions include a userfriendly tool
 - diskdrake (Mandrake)
 - DiskDruid (RedHat)
- **3. On a Running System:**
 - Once the operating system is installed you can use the fdisk utility to configure new partitions.

► **Bootloaders**

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- **LILO the Linux Bootloader**
 - **LILO**
 - **/etc/lilo.conf**
 - **/sbin/lilo**
- **GRUB the Grand Unified Bootloader**
 - **General/Global**
 - **Image**

► Managed devices

- At boot time the `/etc/fstab` file assigns mount points for block devices.

- ***The /etc/fstab format***

device mount-point fstype options dump-number fsck-number

- **Mount**

Option summary for mount:

rw,ro	read-write and read-only
users	the device can be read and unmounted by all users
user	the device can unmounted only by the user
owner	the device will change it's permission and belong to the user that mounted it
usrquota	start user quotas on the device
grpquota	start group quotas on the device

► Quotas

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- **1. Edit /etc/fstab and add usrquota to the options**
- **2. Remount the partition**
- **3. Start the quota stats**
- **4. Edit quotas for each user**
- **5. START enforcing quotas**

▶ Exercises

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