

Midterm Test Review

- ▶ Midterm test on Tuesday, October 18, 2011
- ▶ One hour test
- ▶ BRING A PENCIL
 - For marking your multiple choice scantron sheet
 - HB or softer

Review Fdisk

- ▶ fdisk command and partitions
 - Divide disk, up to 4 “chunks” ie partitions
 - 1, 2, 3, 4
 - One of those 1 to 4 can be extended, the others are primary
 - **Inside** the one extended partition (if present), logical partitions start at 5, then 6, 7, etc
 - Primary partitions **can be** 1 2 3 or 4
 - The **one** extended partition **can be** 1 2 3 or 4

Partitioning examples

▶ Assume we are partitioning /dev/sdb

Partition 1 primary sdb1	Partition 2 extended sdb5,6,7,etc	Unused?	Partition 3 primary sdb3	Unused
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Partition 1 primary sdb1	Partition 2 primary sdb2	Partition 3 primary sdb3	Unused
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Partition 1 primary sdb1	Partition 2 primary sdb2	Partition 3 extended sdb5, sdb6	Partition 4 Primary sdb4
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Review File Systems

- ▶ **fdisk** used to make the partitions (previous slide)
 - fdisk also can list the partitions on a device
 - eg `fdisk -l /dev/sdb`
- ▶ **mkfs** command (making file systems)
 - Example: `mkfs -t ext4 /dev/sdb1`
 - Example: `mkfs -t VFAT /dev/sdb2`
- ▶ **fsck** command (checking file systems)
 - Example `fsck /dev/sdb1`
 - `/dev/sdb1` needs to be unmounted or mounted readonly

Review File Systems (cont'd)

- ▶ **mount command (mounting file systems)**
 - **mount** command with no arguments prints info
 - one line for each **mounted** filesystem
 - **mount <devicename> <mountpoint>** mounts a filesystem
 - does not require filesystem to be mentioned in `/etc/fstab`
 - **mount <devicename>** relies on `/etc/fstab`, and mounts the corresponding filesystem
 - **mount <mountpoint>** relies on `/etc/fstab`, and mounts the corresponding filesystem

Review Filesystems (cont'd)

- ▶ **fstab file format fields, in order:**
 - device
 - mount point
 - filesystem type
 - options
 - field for dump program
 - fsck order when booting

Review Filesystems (cont'd)

- ▶ Partitions versus Directories
 - directories in the filesystem **can be** used as mount points for filesystems on partitions
 - Example: /boot is a directory in the root filesystem
 - Depending on how the system was installed/setup
 - the contents of /boot might be included in the root filesystem itself
 - OR alternatively
 - /boot can be used as a mount point for a separate “boot partition” or even “/boot partition”, in which case the contents of the /boot directory actually reside in a separate filesystem, separate partition, from the root filesystem

Basic commands, etc

- ▶ Examples (know the common options too)
 - man
 - rm
 - ls
 - touch
 - more or less
 - mv
- ▶ Pathnames (absolute, relative)
 - Pathnames beginning with / are **absolute**
 - Pathnames not beginning with / are **relative** to the current working directory
 - Watch out for shell helpfulness (~, \$HOME)

Etc..

- ▶ Character versus block devices
 - devices reside in /dev hierarchy
 - can tell which are which with ls -l
 - First character “c” means character device
 - First character “b” means block device

- ▶ LVM
 - Create logical volume from several physical elements (several partitions on several drives)
 - Can then divide up the one logical volume

The Shell

- ▶ Shell
 - (tilde expansion)
 - Redirection <, >, >>
 - Pipes |

Swap

- ▶ Preparing a swap partition
 - Example: `mkswap /dev/sdb3`
 - This assumes we intended `/dev/sdb3` to be swap
 - This sets up the `/dev/sdb3` partition to be swap space
 - Example `swapon /dev/sdb3`
 - This assumes we have set up `/dev/sdb3` to be swap
 - The system will thereafter use the swap space

Shutting down

- ▶ Shutting down gracefully
 - shutdown -h now
 - poweroff

Example Questions

▶ Short Answer example

Consider the following output

```
/dev/sda2 on / type ext4 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
/dev/sda1 on /boot type ext4 (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
```

What command produced this output

answer: mount

What device contains the root filesystem for this system?

answer: /dev/sda2

Multiple Choice examples

- ▶ Assume only one of these commands would produce an error. Which one is it?
 - A) `cd mydir/`
 - B) `rmdir mydir/`
 - C) `rm -rf mydir/`
 - D) `ls mydir/`
- ▶ What does the command “`cd ../`” do?
 - A) change directory to the parent of the user’s home directory
 - B) print out the contents of the parent directory
 - C) change directory to the parent of the user’s current working directory
 - D) print out the contents of the current directory