

Purpose: This assignment covers disk and file system administration.

Submission: You will submit hw05.txt using “~grader/submit 05” as before. Your instructor will also test your configurations while grading.

1) On the machine you administer there is a second drive. It should be `/dev/sdb`, if you don't locate such a disk let the instructor know.

Run `fdisk` on `sdb`. Remove all existing partitions and create two partitions. The first partition should use about 10 percent of the disk, and the second partition should contain the remainder. Change the type of the first partition to linux swap. (You can have `fdisk` give you a list of partition codes that it uses.)

While running `fdisk` make sure the second partition you created is marked as “linux native” or “linux”, this is almost always the default when you make a partition, but it is always worth checking when using a version of `fdisk` you haven't used before. Save your partition table.

Run `mke2fs` to build an ext2 file system on the second disk partition (the large one) and attach that file system as `/newdisk`. Be careful not to modify (or damage) your main drive which is `sda` or you will destroy your system.

Now mount the file system you just created by hand (this is the safest way to make sure it is set up right).

Submit: 1a) a brief description what you did with `fdisk` and a listing of your partition table. 1b) the exact form of the `mount` command you used and the disk free `df` report on the new file system.

2) Modify your system so that the mount will occur automatically at boot. Test this by rebooting the machine.

Submit: the line you added to your `fstab`.

3) You will need a floppy disk or flashdrive for questions 3 and 4. Set-up an ext2 file system on this device (similar process to setting up second disk); Make an entry in `fstab` that allows any user to insert and mount an ext2 floppy/flashdrive using `/mnt/extdisk` as the mount point. Change the permissions on `/mnt/extdisk` to 777 (`chmod 777 /mnt/extdisk`). Login as bob (not root), plug in your ext2 device, mount it, copy a file to the device, unmount and remove the device.

Submit: the line you entered into `fstab` and the exact mount command you used.

4) As the system administrator: run an `fsck` on your device. *Remember:* Unix/Linux usually wants the file system being checked to be unmounted, so it is not changing while the check is performed. If the file system is clean you may need to force a check (`-f` option) to see one actually occur.

Submit: the exact command you used and summarize what the command output.

Clean up: Change the permissions on `/mnt` back to 755. Unmount the device before removing and returning it. Leave the hard drive mounted, leave the `fstab` for the instructor to examine.

Note: the first smaller partition you created on your harddrive in this assignment will be used in the next assignment.