

CS 309 Assignment 7

1. Comment your fstab file with a description of what each line does.
2. Use the df command to determine how much space is being used from each partition. Try the m option also.
3. Use the du command to see how space is being used in /var.
4. Get a floppy disk and build an ext2 filesystem on it. Mount it at /mnt/floppy. Copy some files back and forth. Now use another floppy or the same one and put an msdos file system on it and perform the same operations (Check out the question below that uses the ext2 file system on the floppy). Use fdformat to perform a low level format on the floppy before doing anything else. You don't have to do this for a hard drive as the low-level formatting is done at the factory.
5. Set up your system to automount your CDROM and verify that it works.
6. Use fdisk to get the data on the partitions on your hard drive and describe what you see. If you had a new 20 GB hard drive and you wanted to partition it into three partitions of 4, 8 and 8 GB, what would you do. Please don't do this on the hard drive on your system. Just describe it.
7. Use debugfs to dump the information about one of your partitions. Dump the output to a file so that you can annotate indicating what you see from the superblock and from the first block group. Also, list the deleted files on one of your partitions and see what happens. Dump one of the deleted files to a file on your disk and see what it contains.
8. Use tune2fs on the floppy disk you created to set the maximum number of mounts between file checks to 10; set the volume label to something you like; and change the percentage of reserved blocks.
9. Using *dump*, dump a small directory to a file. Then delete a file from the directory. Using *restore*, recover the deleted file. This is most easily done you using the *-i* option to run recover. Remember that backup and recover can't depend on an existing file system, so full pathnames are needed for the files backed up and when extracting, it attempts to place the extracted files on the same path starting at the current working directory. If restore asks for a volume number, give it the number 1.
10. Export /home/gjh from your system so that it can be mounted only by the host malt.cs.montana.edu with read-write access and with the uid and gid set up to match the normal uid and gid of gjh on your system. Hint: after modifying exports, you will have to restart your nfs services. You can use *etc/init.d/nfs restart* or *service nfs restart*. You can also run *exportfs -a* which simply updates the exports table for nfs.
11. Set up autofs for your cdrom and floppy.

12. Set up smartd to monitor your harddrive. Also run smartctl with the -Ha options and report what you find out.