Section 8 Lab
LPIC-1, Exam 1 (101-500)
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Recommended Linux Distributions for this exercise:
- CentOS version 7
- Ubuntu Desktop 18.04LTS

Note: For a successful lab session, it is assumed you are using the recommended Linux distribution(s) and the recommended version, and that your Linux systems are booted. In addition, it is assumed that you can log into the system as a standard user as well as either the root account or a user with super user privileges. Also, you should have successfully completed the prior sections' labs and sessions & viewed this section's videos.

Follow these actions to explore concepts and commands covered in this section (but please feel free to explore as much as you want. And don't forget that you can get help on the usage of these commands through the man pages. Type in **man** and follow it with the utility name, then press Enter to view information on the utility):

1. Log into either your Ubuntu or CentOS distro tty2 terminal, using the username and password you created when you installed the system.
2. Copy over a log file to use in your home directory for this lab by typing **cp /var/log/wtmp file1** and pressing Enter. (If the /var/log/wtmp file does not exist, pick another log file you can copy over to your home directory without super user privileges).
3. Make a second copy of the log file to use in your home directory for this lab by typing **cp /var/log/wtmp file2** and pressing Enter.
4. Make a third and final copy of the log file to use in your home directory for this lab by typing **cp /var/log/wtmp file3** and pressing Enter.
5. Try compressing a file with gzip, by typing **gzip file1** and pressing Enter.
6. Try compressing a file with bzip2, by typing **bzip2 file2** and pressing Enter.
7. Try compressing a file with xz, by typing **xz file3** and pressing Enter.
8. Compare the compressed file sizes by typing **ls -l file?.*** and pressing Enter.
9. View the gzip compressed file, by typing **zcat file1.gz** and pressing Enter.
10. View the bzip2 compressed file, by typing **bzcat file2.bz2** and pressing Enter.
11. View the xz compressed file, by typing **xzcat file1.gz** and pressing Enter.
12. Attempt to decompress each of the files, using the appropriate utilities: either **gunzip**, **bunzip2**, or **unxz**.
13. If you did not do the previous step, copy over more log files to use by repeating this lab's steps #2-4.
14. Create a tar archive of the log files, by typing **tar -cvf log.tar file?** and pressing Enter.
15. View a long listing of the tar archive by typing **ls -l log.tar** and pressing Enter.
16. Peek inside the tar archive by typing **tar -tf log.tar** and pressing Enter.
17. Extract the files from the tar archive, by typing **tar -xvf log.tar** and pressing Enter.
18. Create a tarball of the log files, by typing **tar -Jcvf log.tar.xz file?** and pressing Enter.
19. View a long listing of the tar archive by typing **ls -l log.tar.xz** and pressing Enter.
20. Extract the files from the tarball, by typing **tar -Jxvf log.tar.xz** and pressing Enter.
21. Create a cpio archive of the log files, by typing **ls file? | cpio -ov > log.cpio** and pressing Enter.
22. Peek inside the cpio archive, by typing **cpio -itvI log.cpio** and pressing Enter.
23. Create a new subdirectory in your home directory, by typing **mkdir logFiles** and pressing Enter.
24. Move the cpio archive into the new logFiles directory.
25. Change your present working directory into the new logFiles directory.
26. Extract the files from the cpio archive, by typing **cpio -iv --no-absolute-filenames -I log.cpio** and pressing Enter.
27. Use the list command to make sure the files were extracted.
28. Change your present working directory back to your home directory.
29. Remove the logFiles directory and its contents.
30. Remove any log files and/or archive files created in this lab from your home directory, if desired.