

Section 3 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 as well as viewed the videos in this section.

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. (I'll let you figure this one out. Accessing a TTY terminal was covered in an earlier section.)
2. Try out the **ls** command on the /etc/passwd file, by typing **ls /etc/passwd** and pressing Enter.
3. Now use the **ls -l** (that's a lowercase L) on the /etc/passwd file.
4. Use the **ls -F** without any arguments to view the files and their file categorization codes in your home directory.
5. Try out the **ls -a** command on the files in your home directory.
6. View the password file, by typing **cat /etc/passwd** and pressing Enter.
7. View the top of the password file, by typing **head /etc/passwd** and pressing Enter. How many lines are displayed from the file's top?
8. View the bottom of the password file, by typing **tail /etc/passwd** and pressing Enter. How many lines are displayed from the file's bottom?
9. Use the **more** pager to view the password file, by typing **more /etc/passwd** and pressing Enter. Try to go forward in the file using the various methods (You cannot go backwards using **more**, so don't even try.) Press the q key to quit, when you are done experimenting.
10. Use the **less** pager to view the password file, by typing **less /etc/passwd** and pressing Enter. Try to go forward and backwards in the file using the various methods. Try to search for a word in the file. Press the q key to quit, when you are done experimenting.
11. Try out the **wc** command on the password file, by typing **wc /etc/passwd** and pressing Enter. How many lines are in the file?
12. Experiment with the different options on the **wc** command using the password file as an argument, and just display the number of line, then the number of words, and finally only display the number of bytes.
13. Temporarily number the lines on the display of the password file, by typing **nl /etc/passwd** and pressing Enter.
14. Try out the **md5sum** hash utility on the password file, by typing **md5sum /etc/passwd** and pressing Enter.
15. Try out the **sha256sum** hash utility on the password file, by typing **sha256sum /etc/passwd** and pressing Enter.
16. Try out the **sha512sum** hash utility on the password file, by typing **sha512sum /etc/passwd** and pressing Enter.
17. Viewing the output from the last three steps, which hash utility produces the longest hash?