Section 6 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. Try a simple regular expression (regex) search using grep on the password file, by typing **grep home /etc/passwd** and pressing Enter. If the word "home" is not found, try substituting a different word, such as your username (which you can determine from the **whoami** command).
3. Try another basic regular expression (BRE) by searching for a word at the end of each password file record, by typing **grep nologin$ /etc/passwd** and pressing Enter. If the word "nologin" is not found, try substituting the word "false" or "bash" for the last word.
4. Search for a word in the password file's records' beginning, by typing **grep ^nobody /etc/passwd** and pressing Enter. If the word "nobody" is not found, try substituting a different word, such as your username (which you can determine from the **whoami** command).
5. Try an extended regular expression (ERE), by typing **grep -E (nologin$|bash$) /etc/passwd** and pressing Enter. You should get an error message.
6. Recall your previous command and add quotes in the correct location to shell quote special characters, so your command now looks like this: **grep -E "(nologin$|bash$)" /etc/passwd**
   And press Enter. Now you should get some results without any error messages.
7. Try using the older variant of the grep -E command for a ERE search, by typing **egrep "(nologin$|bash$)" /etc/passwd** and pressing Enter. It's OK if your system does not have the egrep program and you get a command not found error message.
8. Try substituting the first instance of the colon (:) in the password file's records for a $, by typing **sed 's/:/$/' /etc/passwd** and pressing Enter.
9. Now substitute every instance of the colon (:) in the password file's records for a $, by typing **sed 's/:/$/g' /etc/passwd** and pressing Enter.
10. Look at the absolute directory reference of the sed program, by typing **which sed** and pressing Enter.
11. Find files and information, such as it's man page file locations, for the sed program, by typing **whereis sed** and pressing Enter.
12. View the file type of the whereis command by typing **type whereis** and pressing Enter. Most likely you will see that the whereis command is currently hashed and receives its absolute directory location.
13. View the file type of the cd command by typing **type cd** and pressing Enter. You should see that the cd command is a built into the shell.
14. Find the whereis command files, by typing **locate whereis** and pressing Enter.
15. This command may take a while to run, and it is OK if you get error messages. Find the whereis command files, by typing **find / -name whereis** and press Enter.
16. Recall your last command and send the error messages to the "black hole" to make the output easier to read by modifying the command so it looks like this: **find / -name whereis 2>> /dev/null**
    And pressing Enter.