Vanier College

Faculty of Careers and Technical Programs

Department of Computer Science Technology

Advanced UNIX

Lab #4

Title: Linux File System Management

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Review Questions *(p.170-173)*:

1. False
2. C. FHS
3. False
4. D. rwxrwxrwx and rw-rw-rw-
5. E. Just type `cp` or `mv`, because they run in interactive mode by default.
6. A. Run `chgrp` again listing the root user as the new owner.
7. A. User1 has read and write permissions, members of the root group have read and execute permissions, and all others have read permissions to the file.
8. C. ---r--rw-
9. D. Additional entries exist within the ACL of the file that can be viewed using the `getfacl` command.
10. D. the data in the file you modified as well as the data in all hard-linked files are modified, because they share the same data and all have the same inode and file size
11. B. --wx--xrwx 1 user1 root 0 Apr 29 15:40 file1
12. A. `chown user1:root file1`
13. B. spools and log files
14. C. It moves a directory. and D. It moves a file.
15. D. `chmod u=x,g=r,o=wx file1`
16. D. searches for a file only in directories that are in the PATH variable
17. True
18. A. causes all new files created in the directory to have the same group membership as the directory, and not the entity that created them
19. B. `mv`
20. C. execute, read, write
21. B. two
22. False

Project 4-1 *(p.174)***:**

1.

```
Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login: marissa
Password:
Last login: Thu Oct  1 10:58:56 on tty2
[marissa@server13 ~]$
```

2.

```
[marissa@server13 ~]$ ls -F
Desktop/  Documents/  Downloads/  Music/  Pictures/  Public/  Templates/  Videos/
```

3. There are nine directories since we recently created a new directory called "mysamples".

```
[marissa@server13 ~]$ mkdir mysamples
[marissa@server13 ~]$ ls -F
Desktop/  Documents/  Downloads/  Music/  mysamples/  Pictures/  Public/  Templates/  Videos/
```

4. There are no files/folder in the "mysamples" directory since we haven't created any yet.

```
[marissa@server13 ~]$ cd mysamples
[marissa@server13 mysamples]$ ls -F
```

5. There is one directory in the "mysamples" directory since we have created a new folder called "undermysamples".

```
[marissa@server13 mysamples]$ mkdir undermysamples
[marissa@server13 mysamples]$ ls -F
undermysamples/
```

6. Yes, the recently created directory "todelete" is listed.

```
[marissa@server13 mysamples]$ mkdir todelete
[marissa@server13 mysamples]$ ls -F
todelete/  undermysamples/
```

7.

```
[marissa@server13 mysamples]$ cd ..
[marissa@server13 ~]$ ls -R
.:
Desktop  Documents  Downloads  Music  mysamples  Pictures  Public  Templates  Videos

./Desktop:

./Documents:
Python_Programs

./Documents/Python_Programs:
age.py           grade.py          income_tax_report.py  mySplitText.py    suma2.py
divisible.py     guessing_game.py  investment_report.py  string_methods.py suma.py
equilateral.py   hello.py          line.py               subprocess1.py    triangle.py

./Downloads:

./Music:

./mysamples:
todelete   undermysamples

./mysamples/todelete:

./mysamples/undermysamples:

./Pictures:

./Public:

./Templates:

./Videos:
```

8. Our current directory is "/home".

```
[marissa@server13 ~]$ cd ..
[marissa@server13 home]$ pwd
/home
```

9. Yes, the recently created subdirectory "foruser1" is displayed.

```
[root@server13 home]# mkdir foruser1
[root@server13 home]# ls -F
foruser1/  marissa/
```

10.

```
[root@server13 home]# exit
exit
[marissa@server13 home]$ exit_
```

```
Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login:
```

Project 4-2 *(p.174-175)*:

1.

```
Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login: marissa
Password:
Last login: Thu Oct  1 11:10:24 on tty2
[marissa@server13 ~]$ _
```

2.

```
[marissa@server13 ~]$ ls -F
Desktop/    Downloads/  mysamples/  Public/   Templates/
Documents/  Music/      Pictures/   sample1   Videos/
```

3. The error message is displayed since we need to specify a destination file before the command is executed.

```
[marissa@server13 ~]$ cp sample1
cp: missing destination file operand after 'sample1'
Try 'cp --help' for more information.
```

4. There are two files and their names are "sample1" and "sample1A", since the copy command managed to copy the data from "sample1" to create the "sample1A" file.

```
[marissa@server13 ~]$ cp sample1 sample1A
[marissa@server13 ~]$ ls -F
Desktop/    Downloads/  mysamples/  Public/   sample1A    Videos/
Documents/  Music/      Pictures/   sample1   Templates/
```

5. There are still two files called "sample1" and "sample1A" in the current directory since the new file "sample1B" is located in the "mysamples" folder.

```
[marissa@server13 ~]$ cp sample1 mysamples/sample1B
[marissa@server13 ~]$ ls -F
Desktop/     Downloads/  mysamples/  Public/   sample1A    Videos/
Documents/   Music/      Pictures/   sample1   Templates/
```

6. Yes, the file "sample1B" was copied successfully.

```
[marissa@server13 ~]$ cd mysamples
[marissa@server13 mysamples]$ ls -F
sample1B  todelete/  undermysamples/
```

7. There are three files called "sample1", "sample1A" and "sample2", due to "sample2" file copied from the root directory to the current directory.

```
[root@server13 marissa]# cp /root/sample2 .
[root@server13 marissa]# ls -F
Desktop/     Downloads/  mysamples/  Public/   sample1A   Templates/
Documents/   Music/      Pictures/   sample1   sample2    Videos/
```

8. Yes, once again the file "sample1B" was copied successfully.

```
[marissa@server13 mysamples]$ cp sample1B ..
[marissa@server13 mysamples]$ cd ..
[marissa@server13 ~]$ ls -F
Desktop/     Downloads/  mysamples/  Public/   sample1A   sample2     Videos/
Documents/   Music/      Pictures/   sample1   sample1B   Templates/
```

9. We didn't receive any message for the first command. When listing all files/folders in the "mysamples" directory, there are five files called "sample1", "sample2", "sample3", "sample1A" and "sample1B" since the three files from the initial command were copied into the "mysamples" directory.

```
[marissa@server13 ~]$ cp sample1 sample2 sample3 mysamples
[marissa@server13 ~]$ ls -F
Desktop/     Downloads/  mysamples/  Public/   sample1A   sample2   Templates/
Documents/   Music/      Pictures/   sample1   sample1B   sample3   Videos/
[marissa@server13 ~]$ cd mysamples
[marissa@server13 mysamples]$ ls -F
sample1  sample1B  sample2  sample3  todelete/  undermysamples/
```

10. We have received an error message, since the option "-r" needs to be specified in order to copy files from the "mysamples" directory to the "mysamples2" directory.

```
[marissa@server13 mysamples]$ cd ..
[marissa@server13 ~]$ cp mysamples mysamples2
cp: -r not specified; omitting directory 'mysamples'
```

11. Yes, the "mysamples" directory was finally copied successfully and the contents from the "mysamples" directory did manage to copy to the "mysamples2" directory.

```
[marissa@server13 ~]$ cp -R mysamples mysamples2
[marissa@server13 ~]$ ls -F
Desktop/    Downloads/  mysamples/   Pictures/  sample1    sample1B  sample3     Videos/
Documents/  Music/      mysamples2/  Public/    sample1A   sample2   Templates/
[marissa@server13 ~]$ ls -F mysamples2
sample1  sample1B  sample2  sample3  todelete/  undermysamples/
```

12.

```
[marissa@server13 ~]$ exit
```

```
Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login:
```

Project 4-3 *(p.175-176)*:

1.

```
Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login: marissa
Password:
Last login: Thu Oct  1 12:07:20 on tty2
[marissa@server13 ~]$ _
```

2.

```
[marissa@server13 ~]$ ls -F
Desktop/    Downloads/  mysamples/   Pictures/  sample1    sample1B  sample3     Videos/
Documents/  Music/      mysamples2/  Public/    sample1A   sample2   Templates/
```

3. The error message is displayed since we need to specify a destination file before the command is executed.

```
[marissa@server13 ~]$ mv sample1
mv: missing destination file operand after 'sample1'
Try 'mv --help' for more information.
```

4. There are five files in the current directory called "sample1A", "sample1B", "sample2", "sample3" and "sample4", since the "sample1" file is replaced by the "sample4" file.

```
[marissa@server13 ~]$ mv sample1 sample4
[marissa@server13 ~]$ ls -F
Desktop/    Downloads/  mysamples/   Pictures/   sample1A   sample2   sample4      Videos/
Documents/  Music/      mysamples2/  Public/     sample1B   sample3   Templates/
```

5. There are four files in the current directory called "sample1A", "sample1B", "sample2" and "sample3" since the "sample4" file moved to the "mysamples" directory.

```
[marissa@server13 ~]$ mv sample4 mysamples
[marissa@server13 ~]$ ls -F
Desktop/    Downloads/  mysamples/   Pictures/   sample1A   sample2   Templates/
Documents/  Music/      mysamples2/  Public/     sample1B   sample3   Videos/
```

6.

```
[marissa@server13 ~]$ cd mysamples
[marissa@server13 mysamples]$ ls -F
sample1   sample1B   sample2   sample3   sample4   todelete/   undermysamples/
```

7. There are four files in the current directory called "sample1", "sample1B", "sample2" and "sample3", since the "sample4" file moved to the user's home directory.

```
[marissa@server13 mysamples]$ mv sample4 ..
[marissa@server13 mysamples]$ ls -F
sample1   sample1B   sample2   sample3   todelete/   undermysamples/
```

8.

```
[marissa@server13 mysamples]$ cd ..
[marissa@server13 ~]$ ls -F
Desktop/    Downloads/  mysamples/   Pictures/   sample1A   sample2   sample4      Videos/
Documents/  Music/      mysamples2/  Public/     sample1B   sample3   Templates/
```

9. We didn't receive any message.

```
[marissa@server13 ~]$ mv sample4 mysamples/sample2
```

10. N/A, since we didn't receive any message in Question 9.

11.

```
[marissa@server13 ~]$ mv sample? mysamples
```

12. There are only two files in the current directory since the other files with one character after the word "sample" were moved to the "mysamples" directory.

```
[marissa@server13 ~]$ ls -F
Desktop/     Downloads/   mysamples/    Pictures/   sample1A  Templates/
Documents/   Music/       mysamples2/   Public/     sample1B  Videos/
```

13.

```
[marissa@server13 ~]$ mv sample1* mysamples
```

14.

```
[marissa@server13 ~]$ ls -F
Desktop/     Downloads/   mysamples/    Pictures/   Templates/
Documents/   Music/       mysamples2/   Public/     Videos/
```

15.

```
[marissa@server13 ~]$ cd mysamples
[marissa@server13 mysamples]$ ls -F
sample1  sample1A  sample1B  sample2  sample3  todelete/  undermysamples/
```

16. We didn't need to specify the recursive option since the `mv` command already provides the recursive property, compared to the `cp` command.

```
[marissa@server13 ~]$ mv mysamples samples
[marissa@server13 ~]$ ls -F
Desktop/     Downloads/   mysamples2/   Public/    Templates/
Documents/   Music/       Pictures/     samples/   Videos/
```

17.

```
[marissa@server13 ~]$ exit_

Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login: _
```

Project 4-5 *(p.177-178)*:

1.

```
Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login: marissa
Password:
Last login: Thu Oct  1 12:42:30 on tty2
[marissa@server13 ~]$ _
```

2. The `locate` command did not find the file since the database wasn't updated before it can be located.

```
[marissa@server13 ~]$ touch newfile
[marissa@server13 ~]$ locate newfile
```

3. The `locate` command found the file instantly, due to the fact that the `updatedb` command updating the database, in order to locate the file and display the associated path.

```
[root@server13 marissa]# updatedb
[root@server13 marissa]# locate newfile
/home/marissa/newfile
```

4. The `find` command found the file for a few seconds since the command needed to search all directories under the main root directory in order to find the file.

```
[root@server13 marissa]# find / -name "newfile"
/home/marissa/newfile
```

5. The `find` command wasn't able to find the file and produced instant results since it is not located in the /root directory, but the /home directory.

```
[root@server13 marissal# find /root -name "newfile"
```

6. The `which` command wasn't able to find the file, since the "newfile" file is not located in the /bin directory, but the /home directory. In the PATH variable, the /root directory is not found but the /bin directory is listed instead.

```
[root@server13 marissal# which newfile
/usr/bin/which: no newfile in (/sbin:/bin:/usr/sbin:/usr/bin)
[root@server13 marissal# echo $PATH
/sbin:/bin:/usr/sbin:/usr/bin
```

7. The `which` command found the file since the "grep" file is located in the /bin directory.

```
[root@server13 marissal# which grep
alias grep='grep --color=auto'
        /bin/grep
```

8. There is one file listed called "sample2" since the command specifies that the filename must have the word "sample" and one other proceeding character in the /root directory

```
[root@server13 marissal# find /root -name "sample?"
/root/sample2
```

9. There are no files in the /root directory listed since the type "l" specifies to specifically search for links and there is none in the root directory.

```
[root@server13 marissal# find /root -type l
```

10. The files with no data in them are listed since the command specifies to search for files that are empty.

```
[root@server13 marissal# find /root -size 0
/root/sample2
[root@server13 marissal# find /root -size 0 | more
/root/sample2
```

11.

```
[root@server13 marissa]# exit
exit
[marissa@server13 ~]$ exit
```

```
Fedora 26 (Workstation Edition)
Kernel 4.16.11-100.fc26.x86_64 on an x86_64 (tty2)

server13 login:
```