

تمرین آزمایشگاه اول آشنایی با لینوکس

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1. دایرکتوری داخل میز کاری بسازید و تمامی مجوز های آن را به گونه ای تغییر دهید که فقط شما و اعضای گروه بتوانند بنویسند، بخوانند و در آن جستجو کنند.

- First the “ls” command for listing the files and folders.
- Using “cd” to go to Desktop directory.
- Using “mkdir newFolder” to create a new directory called newFolder.
- Using “ls -l” for listing newFolder with its permissions.
- Using command “chmod 770 newFolder” for changing the permissions so that user and the group has full access while the others have no permission to the folder.
- Using command “ls -l” for verifying that we changed the permissions.

```
→ ~ ls
Desktop  nerd-fonts
→ ~ cd Desktop
→ Desktop mkdir newFolder
→ Desktop ls
hello.txt  newFolder
→ Desktop ls -l
total 8
-rw-r--r-- 1 mustafa mustafa  19 Feb 16 09:00 hello.txt
drwxr-xr-x 2 mustafa mustafa 4096 Feb 21 14:40 newFolder
→ Desktop chmod 770 newFolder
→ Desktop ls -l
total 8
-rw-r--r-- 1 mustafa mustafa  19 Feb 16 09:00 hello.txt
drwxrwx--- 2 mustafa mustafa 4096 Feb 21 14:40 newFolder
→ Desktop
```

2. گروه های که شما در آن عضو هستید، را لیست کنید، سپس مالکیت فایل قبلی را به یکی دیگر از گروه های خود بدهید.

- Using command “groups” for listing the groups of the current user who is logged in the system.
- Using command “touch file.txt” for creating the file.txt.
- Using command “ls -l” for specifying the file.txt’s group which is “mustafa”.
- Using command “chgrp users file.txt” for changing the group of the file.txt from “mustafa” to “users” group.
- Using command “ls -l” for verifying that the group is changed to “users”.

```
→ newFolder groups
mustafa adm dialout cdrom floppy sudo audio dip video plugdev users ne
tdev
→ newFolder touch file.txt
→ newFolder ls -l
total 0
-rw-r--r-- 1 mustafa mustafa 0 Feb 21 14:48 file.txt
→ newFolder chgrp users file.txt
→ newFolder ls -l
total 0
-rw-r--r-- 1 mustafa users 0 Feb 21 14:48 file.txt
→ newFolder
```

3. این دستور چی کاری انجام میدهد؟

chmod 4664 file.txt

- Command “chmod” is used for changing the permissions of a file or directory using the numbers after the command with the filename specified.
- The first digit specifies the special permission which can be 4 for SetUID permission, 2 for SetGID permission and 1 for sticky bit. SetUID is for executable files and with this permission the files can only be executed by the owner not the user. SetGID is for both executable files and directories and with this permission files run as file’s group. Sticky Bit is for directories only with this permission files can only be deleted by the user.
- The second digit specifies permissions for the user in this case it is 6 which is for read and write permissions.

- The third digit specifies permissions for the group, in this case it is 6 which is for read and write permission.
- The fourth digit specifies permissions for the others, in this case it is d which is for read permission only.

4. درون کل دایرکتوری های موجود، فایل های خالی را پیدا کرده و پاک کنید (این کار باید در یک خط دستور انجام شود).

- Using the command “ls -R” lists all the folders and files recursively. As in the photo, there are two folders called “newFolder” and “newFolder2” and they have empty files “file.txt”, “file2.txt” and “file3.txt”.
- This command “find . -type f -empty -delete” deleted all the empty files which were in the directories.
 - “find .” starts searching from the current directory.
 - “type f” it specifies to only search files not directories.
 - “-empty” only finds the empty files.
 - “delete” for deleting the empty files.

```

→ Desktop ls -R
.:
hello.txt  newFolder  newFolder2

./newFolder:
file.txt  file2.txt

./newFolder2:
file3.txt
→ Desktop find . -type f -empty -delete
→ Desktop ls -R
.:
hello.txt  newFolder  newFolder2

./newFolder:

./newFolder2:
→ Desktop
```

5. با مطالعه manual page دستور less، راهی برای پیدا کردن search کردن یک عبارت درون متن یک فایل پیدا کنید.

- First, I use the command “man” for finding the manual page of the command “less”.
- In manual it says that for searching a sentence or word we can use this format:
 - / The sentence we want to search.

```
→ Desktop nano hello.txt
```

```
→ Desktop less hello.txt
```

```
Hello how are you?  
I am doing fine.  
How was your day?  
great.
```

- When I entered the sentence “/ how are you”, it found me the location of the sentence in the hello.txt.