

## Module 4 Linux Essentials

### TASK 4.3

#### Danylenko HOMEWORK

After you have logged into the system, do the following.

1. Invoke **pwd** to see your current working directory (there should be your home directory).

```
danylenko@VM2:~$ pwd
/home/danylenko
```

2. Collect output of these commands

Note differences between produced outputs. Describe (in few words) purposes of these commands.

- ls -l /** - lists root directory, detailed listing format
- ls** - lists current directory
- ls ~** - lists home directory
- ls -l** - lists current directory in detailed listing format
- ls -a** - lists current directory with addition of hidden entries (.\*)
- ls -la** - lists current directory with hidden entries, detailed listing format
- ls -lda ~** - lists only home directory entry in detailed format,  
-a parameter here isn't required to list even hidden directories

```
danylenko@VM2:~$ ls -ld .test
drwxrwxr-x 2 danylenko danylenko 4096 kbi 16 15:30 .test
danylenko@VM2:~$ ls -lda .test
drwxrwxr-x 2 danylenko danylenko 4096 kbi 16 15:30 .test
danylenko@VM2:~$ ls -lda ~
drwxr-xr-x 22 danylenko danylenko 4096 kbi 16 15:30 /home/danylenko
danylenko@VM2:~$ ls -ld ~
drwxr-xr-x 22 danylenko danylenko 4096 kbi 16 15:30 /home/danylenko
danylenko@VM2:~$ cd .test
danylenko@VM2:~/test$ ls -ld
drwxrwxr-x 2 danylenko danylenko 4096 kbi 16 15:30 .
danylenko@VM2:~/test$ ls -lda
drwxrwxr-x 2 danylenko danylenko 4096 kbi 16 15:30 .
```

3. Execute and describe the following commands (store the output, if any):

- mkdir test** make directory "test" in current directory
- cd test** change directory to current/test.
- pwd** print current working directory.
- touch test.txt** update access&mod times of file test.txt in current dir,  
create empty file because test.txt doesn't exist
- ls -l test.txt** detailed listing of test.txt entry
- mkdir test2** make directory "test2" in current test directory: test/test2
- mv test.txt test2** move file test.txt from current dir, to current/test2 dir
- cd test2** change directory to current/test2
- ls** list current /test/test2 directory, it has test.txt file in it
- mv test.txt test2.txt** move file test.txt to test2.txt, renamed file
- ls** lists current /test/test2 dir, it has renamed test2.txt file in it

```
cp test2.txt ..
cd ..
ls
rm test2.txt
rmdir test2
```

copy test2.txt to parent dir (test/test2>test) with same filename  
 change directory to parent directory, to test  
 list current directory test, there is copy of file test2.txt in it  
 remove test2.txt file  
 try to remove empty directory test2, but its impossible since we didn't remove test/test2/test2.txt file.  
 rmdir - only works on empty folder tree (rm -r to remove all)

Storing output of all commands

```
danylenko@VM2:~$ mkdir test
danylenko@VM2:~$ cd test
danylenko@VM2:~/test$ pwd
/home/danylenko/test
danylenko@VM2:~/test$ touch test.txt
danylenko@VM2:~/test$ ls -l test.txt
-rw-rw-r-- 1 danylenko danylenko 0 kbi 16 15:47 test.txt
danylenko@VM2:~/test$ mkdir test2
danylenko@VM2:~/test$ mv test.txt test2
danylenko@VM2:~/test$ cd test2
danylenko@VM2:~/test/test2$ ls
test.txt
danylenko@VM2:~/test/test2$ mv test.txt test2.txt
danylenko@VM2:~/test/test2$ ls
test2.txt
danylenko@VM2:~/test/test2$ cp test2.txt ..
danylenko@VM2:~/test/test2$ cd ..
danylenko@VM2:~/test$ ls
test2  test2.txt
danylenko@VM2:~/test$ rm test2.txt
danylenko@VM2:~/test$ rmdir test2
rmdir: failed to remove 'test2': Directory not empty
```

```
danylenko@VM2:~$ rm log.txt
danylenko@VM2:~$ (
> mkdir test
> cd test
> pwd
> touch test.txt
> ls -l test.txt
> mkdir test2
> mv test.txt test2
> cd test2
> ls
> mv test.txt test2.txt
> ls
> cp test2.txt ..
> cd ..
> ls
> rm test2.txt
> rm test2
> ) >> log.txt
rm: cannot remove 'test2': Is a directory
danylenko@VM2:~$ cat log.txt
/home/danylenko/test
-rw-rw-r-- 1 danylenko danylenko 0 kbi 16 19:36 test.txt
test.txt
test2.txt
test2
test2.txt
```

4. Execute and describe the difference

**cat** /etc/fstab      cat - concatenates file\or files to standard output.  
**less** /etc/fstab    less - file reader that reads files 1 screen at a time,  
                          allows to navigate both back and forward. Upgraded version of “more”  
**more** /etc/fstab    more – file reader that outputs files into screens or numbers of rows,  
                          allows only forward navigation. Usually used to pipe long output of  
                          other commands. There is also “more” with almost same functionality  
                          in other operating systems as example Windows\DOS

5. Add to archive all ‘test’ directories.

a. to the pure ‘tar’;

```
danylenko@VM2:~$ tar -cvf arch_tar.tar test
test/
test/test2/
test/test2/test2.txt
test/test2.txt
```

b. to the zipped ‘tar’ with only tar command;

```
danylenko@VM2:~$ tar -cvzf arch_targz.tar.gz test
test/
test/test2/
test/test2/test2.txt
test/test2.txt
```

c. to the zipped 'tar' with gzip command;

```
danylenko@VM2:~$ tar -cv test | gzip -v >arch_gztargz.tar.gz
test/
test/test2/
test/test2/test2.txt
test/test2.txt
 98.4%
danylenko@VM2:~$ ls -l arch*
-rw-rw-r-- 1 danylenko danylenko 178 Kbi 16 19:14 arch_gztargz.tar.gz
-rw-rw-r-- 1 danylenko danylenko 178 Kbi 16 19:13 arch_targz.tar.gz
-rw-rw-r-- 1 danylenko danylenko 10240 Kbi 16 19:12 arch_tar.tar
```

Extract from archives all above.

```
danylenko@VM2:~$ mkdir extracted
danylenko@VM2:~$ tar -C extracted -xvzf arch_gztargz.tar.gz
test/
test/test2/
test/test2/test2.txt
test/test2.txt
danylenko@VM2:~$ mkdir extracted2
danylenko@VM2:~$ tar -C extracted2 -xvzf arch_targz.tar.gz
test/
test/test2/
test/test2/test2.txt
test/test2.txt
danylenko@VM2:~$ mkdir extracted3
danylenko@VM2:~$ tar -C extracted3 -xvf arch_tar.tar
test/
test/test2/
test/test2/test2.txt
test/test2.txt
```

```
danylenko@VM2:~$ ls -R extr*
extracted:
test

extracted/test:
test2 test2.txt

extracted/test/test2:
test2.txt

extracted2:
test

extracted2/test:
test2 test2.txt

extracted2/test/test2:
test2.txt

extracted3:
test

extracted3/test:
test2 test2.txt

extracted3/test/test2:
test2.txt
```

5. Look through man pages of the listed above commands.

Done it.