Homework 2: More Practice with Linux

Assigned: Monday 12 February
Due Date: Monday 19 February

Objectives

To become more familiar with navigating the Linux operating system, and understand how to use basic Unix commands. This assignment builds on the work which was done in Classwork 2.

Assignment: Exploring Unix Commands

The commands used in this assignment: `cat`, `cd`, `ls`, `mkdir`, `mv`, `pwd`, `rm`, `rmdir`, `tree`. With practice, you'll remember what these commands do and when to use them, which will be important for subsequent assignments.

1. Log in to GL.

2. Change directory to your `hw2` directory, and make sure you are there.

    ```
    [arsenaul@linux1 ~]$ cd ~/cs104/hw2
    [arsenaul@linux1 hw2]$ pwd
    /afs/umbc.edu/users/r/z/arsenaul/home/cs104/hw2
    [arsenaul@linux1 hw2]$
    ```

3. Create a new directory called "Personal". Verify that the directory exists.

    ```
    [arsenaul@linux1 hw2]$ mkdir Personal
    [arsenaul@linux1 hw2]$ ls
    Personal
    [arsenaul@linux1 hw2]$
    ```

4. Move to the "Personal" directory. Verify that you are there.

    ```
    [arsenaul@linux1 hw2]$ cd Personal
    [arsenaul@linux1 Personal]$ pwd
    /afs/umbc.edu/users/r/z/arsenaul/home/cs104/hw2/Personal
    [arsenaul@linux1 Personal]$
    ```

5. Use the `nano` text editor to create a file called "things2do.txt".

    ```
    [arsenaul@linux1 Personal]$ nano things2do.txt
    ```

6. Once you've opened the file, type in the following:

    ```
    1. Finish homework 2.
    2. Do a few push-ups
    3. Figure out where my pet tarantula went (maybe this should be #1)
    ```

7. Save the file and exit nano.

8. Move back to the homework 2 directory. Verify that you are there.

```
[arsenaul@linux1 Personal]$ cd ..
[arsenaul@linux1 hw2]$ pwd
/afs/umbc.edu/users/r/z/arsenaul/home/cs104/hw2
[arsenaul@linux1 hw2]$
```

9. Start a transcript of your Unix session. **Do not** skip this step!

```
[arsenaul@linux1 hw2]$ script
Script started, file is typescript
[arsenaul@linux1 hw2]$
```

10. List the contents of the homework 2 directory. It should contain the "Personal" subdirectory and a placeholder for the transcript you've just started.

```
[arsenaul@linux1 hw2]$ ls
Personal typescript
[arsenaul@linux1 hw2]$
```

11. List the contents of "Personal", which should only contain the file "things2do.txt".

```
[arsenaul@linux1 hw2]$ ls Personal
things2do.txt
[arsenaul@linux1 hw2]$
```

12. Display the contents of "things2do.txt"

```
[arsenaul@linux1 hw2]$ cat Personal/things2do.txt
NOTE: The contents of your file should display here.
[arsenaul@linux1 hw2]$
```

13. Create a new subdirectory called "PersonalBackup". Verify that it exists.

```
[arsenaul@linux1 hw2]$ pwd
/afs/umbc.edu/users/r/z/arsenaul/home/cs104/hw2
[arsenaul@linux1 hw2]$ mkdir PersonalBackup
[arsenaul@linux1 hw2]$ ls
Personal  PersonalBackup  typescript
[arsenaul@linux1 hw2]$
```

14. Copy the file "things2do.txt" from "Personal" to "PersonalBackup".
    Make sure you have the slash at the end, or the computer will think you're trying to copy the file to a new file called PersonalBackup, and not into the directory called PersonalBackup.

```
[arsenaul@linux1 hw2]$ cp Personal/things2do.txt PersonalBackup/
[arsenaul@linux1 hw2]$
```

15. Look at the contents of "PersonalBackup", it should contain "things2do.txt"

```
[arsenaul@linux1 hw2]$ ls PersonalBackup
things2do.txt
[arsenaul@linux1 hw2]$
```

16. Try to delete the subdirectory "Personal". Notice that this won't work right away.

    (a) Delete "things2do.txt" from "Personal"

(b) List the contents of "Personal" to make sure it's empty.

(c) Delete "Personal".

(d) List the contents of the directory to make sure "Personal" has been deleted.

```
[arsenaul@linux1 hw2]$ rmdir Personal
rmdir: 'Personal/': Directory not empty
[arsenaul@linux1 hw2]$ rm Personal/things2do.txt
rm: remove regular file 'Personal/things2do.txt'? y
[arsenaul@linux1 hw2]$ ls Personal
[arsenaul@linux1 hw2]$ rmdir Personal
[arsenaul@linux1 hw2]$ ls
PersonalBackup  typescript
[arsenaul@linux1 hw2]$
```

17. Move "things2do.txt" from "PersonalBackup" to your current working directory.
    Note the period at the end of the command, which refers to your current directory.

```
[arsenaul@linux1 hw2]$ mv PersonalBackup/things2do.txt .
[arsenaul@linux1 hw2]$
```

18. Look at the contents of your "hw2" directory to be sure that "things2do.txt" is there.

```
[arsenaul@linux1 hw2]$ ls
PersonalBackup  things2do.txt  typescript
[arsenaul@linux1 hw2]$
```

19. Look at the contents of "PersonalBackup" to be sure that "things2do.txt" is not there.

```
[arsenaul@linux1 hw2]$ ls PersonalBackup
[arsenaul@linux1 hw2]$
```

20. Delete "PersonalBackup"

```
[arsenaul@linux1 hw2]$ rmdir PersonalBackup
[arsenaul@linux1 hw2]$
```

21. Move back to your "cs104" directory and show all files and directories that you have created.

```
[arsenaul@linux1 hw2]$ cd ..
[arsenaul@linux1 ~/cs104]$ tree
NOTE: You should see all your classwork and homework directories,
along with the files you created for this assignment, in a tree-like structure.
[arsenaul@linux1 ~/cs104]$
```

22. Now you have to stop the recording of the transcript of your Unix session.

```
[arsenaul@linux1 ~/cs104]$ exit
exit
Script done, file is typescript
[arsenaul@linux1 hw2]$
```

23. Check that you have a file named "typescript".

```
[arsenaul@linux1 hw2]$ ls
```

```
        things2do.txt  typescript
        [arsenaul@linux1 hw2]$
```

24. Check that the file is not empty.

```
        [arsenaul@linux1 hw2]$ cat typescript
        NOTE: The contents of your file should display here.
        [arsenaul@linux1 hw2]$
```

Optionally, check the size of the file using the "ls -l" command:

```
        [arsenaul@linux1 hw2]$ ls -l typescript
        -rw-r--r-- 1 arsenaul rzak 160 Jul  5 13:48 typescript
        [arsenaul@linux1 hw2]$
```

25. Submit your "things2do.txt" and "typescript" files.

```
        [arsenaul@linux1 hw2]$ submit cmsc104_arsenaul hw2 things2do.txt typescript
```

26. Double-check that your files were submitted using the `submitls` command:

```
        [arsenaul@linux1 hw2]$ submitls cmsc104_arsenaul hw2
        drwxr-xr-x  2 arsenaul rpc 2048 Sep  1 21:51 .
        drwxr-xr-x 23 arsenaul rpc 2048 Sep  1 21:49 ..
        -rw-r--r--  1 arsenaul rpc   54 Sep 15 21:48 things2do.txt
        -rw-r--r--  1 arsenaul rpc  160 Sep 15 21:51 typescript
```

27. Disconnect from GL.

```
        [arsenaul@linux1 hw2]$ exit
```

Grading Rubric

- things2do.txt is complete: 50 points

- typescript is complete and not garbled: 20 points

- tree in typescript shows proper directory structure: 30 points

What to Submit

You should have already submitted the two necessary files (things2do.txt and typescript) by following the instructions above.