LINUX - Lab 1

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1. Install CentOS /RHEL

Already have Linux – CentOs 8

2. What is the difference between cat and more command?

The difference between Cat, less, more is in the display way of the file's content:

Cat: display the entire content of a file at once and is useful for small files

More: display a content one screenful at a time
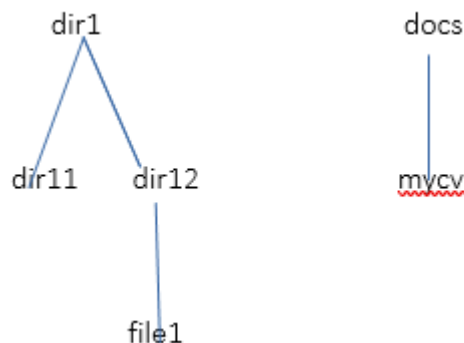
Less: same as more but allow you to scroll and search in the file

3. What is the difference between rm and rmdir using man?

Rm: is remove files

Rmdir: is to remove empty directories (if there is no recursive option)

4. Create the following hierarchy under your home directory

```
      dir1                        docs
      /  \                          |
  dir11  dir12                    mycv
           |
         file1
```

```
34 directories, 33 files
[kdawoud@localhost ~]$ touch dir1/docs/mycv
touch: cannot touch 'dir1/docs/mycv': No such file or directory
[kdawoud@localhost ~]$ touch docs/mycv
[kdawoud@localhost ~]$ tree
.
├── Desktop
├── dir1
│   ├── dir11
│   └── dir12
│       └── file1
├── docs
    └── mycv
```

a. Remove dir11 in one-step. What did you notice? And how did you overcome that?

```
34 directories, 34 files
[kdawoud@localhost ~]$ rmdir dir1/dir11
[kdawoud@localhost ~]$ ls
Desktop  dir1  docs  Documents  Downloads  lodaa  Music  Pictures  Public  Study  Templates  test1  Videos
[kdawoud@localhost ~]$ ls dir1
dir12
[kdawoud@localhost ~]$
```

b. Then remove dir12 using rmdir –p command. State what happened to the hierarchy (Note: you are in your home directory).

Won't be able to remove the directories as it is not empty, we have to use recursive option to delete all subsidiaries.

c. The output of the command pwd was /home/user. Write the absolute and relative path for the file mycv

/home/kdawoud/docs/mycv

5. Copy the /etc/passwd file to your home directory making its name is mypasswd.

```
[kdawoud@localhost ~]$ cp /etc/passwd mypasswd
[kdawoud@localhost ~]$ ls
Desktop  dir1  docs  Documents  Downloads  lodaa  Music  mypasswd  Pictures  Public  Study  Templates  test1  Videos
[kdawoud@localhost ~]$
```

6. Rename this new file to be oldpasswd.

```
[kdawoud@localhost ~]$ mv mypasswd oldpasswd
[kdawoud@localhost ~]$ ls
Desktop  dir1  docs  Documents  Downloads  lodaa  Music  oldpasswd  Pictures  Public  Study  Templates  test1  Videos
[kdawoud@localhost ~]$
```

7. You are in /usr/bin, list four ways to go to your home directory

- Write cd
- Write cd ~
- Write cd /home/kdawoud
- Write cd ../../home/kdawoud

8. List Linux commands in /usr/bin that start with letter w

```
[kdawoud@localhost ~]$ ls /usr/bin/w*
/usr/bin/w        /usr/bin/watchgnupg  /usr/bin/wget      /usr/bin/whiptail  /usr/bin/wnck-urgency-monitor  /usr/bin/wvgain
/usr/bin/wait   /usr/bin/wavpack     /usr/bin/whatis    /usr/bin/who       /usr/bin/wodim                /usr/bin/wvtag
/usr/bin/wall   /usr/bin/wc          /usr/bin/whereis   /usr/bin/whoami    /usr/bin/word-list-compress    /usr/bin/wvunpack
/usr/bin/watch  /usr/bin/wdctl       /usr/bin/which     /usr/bin/withsctp  /usr/bin/write
[kdawoud@localhost ~]$
```

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9. Display the first 4 lines of /etc/passwd

```
[kdawoud@localhost ~]$ head -n4 /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
[kdawoud@localhost ~]$
```

10. Display the last 7 lines of /etc/passwd

```
[kdawoud@localhost ~]$ tail -n4 /etc/passwd
officeboy:x:1004:1004::/home/officeboy:/bin/bash
dataentry:x:1005:1005::/home/dataentry:/bin/bash
accountant:x:1007:1007::/home/accountant:/bin/bash
recruiter:x:1008:1011::/home/recruiter:/bin/bash
[kdawoud@localhost ~]$
```

11. Display the man pages of passwd the command and the file sequentially in one command.

```
Activities    Terminal ▾                              Apr 7 22:20
                                          kdawoud@localhost:/usr/bin
File  Edit  View  Search  Terminal  Help
[kdawoud@localhost bin]$ apropos passwd
chgpasswd (8)          - update group passwords in batch mode
chpasswd (8)           - update passwords in batch mode
fgetpwent_r (3)        - get passwd file entry reentrantly
getpwent_r (3)         - get passwd file entry reentrantly
gpasswd (1)            - administer /etc/group and /etc/gshadow
grub2-mkpasswd-pbkdf2 (1) - Generate a PBKDF2 password hash.
ldappasswd (1)         - change the password of an LDAP entry
lpasswd (1)            - Change group or user password
openssl-passwd (1ssl) - compute password hashes
pam_localuser (8)      - require users to be listed in /etc/passwd
passwd (1)             - update user's authentication tokens
passwd (5)             - password file
passwd2des (3)         - RFS password encryption
pwhistory_helper (8) - Helper binary that transfers password hashes from passwd or shadow to opasswd
saslpasswd2 (8)        - set a user's sasl password
smbpasswd (5)          - The Samba encrypted password file
sslpasswd (1ssl)       - compute password hashes
vncpasswd (1)          - change the VNC password
[kdawoud@localhost bin]$ man passwd 5 passwd
--Man-- next: passwd(5) [ view (return) | skip (Ctrl-D) | quit (Ctrl-C) ]

[kdawoud@localhost bin]$
```

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12. Display the man page of the passwd file.

```
Activities    Terminal                                Apr 7 22:10
                                   kdawoud@localhost:/usr/bin

File  Edit  View  Search  Terminal  Help
kdawoud@localhost bin]$ man 5 passwd
kdawoud@localhost bin]$ █
```

```
Activities   Terminal                      Apr 7 22:09
                             kdawoud@localhost:/usr/bin

File  Edit  View  Search  Terminal  Help
PASSWD(5)                          Linux Programmer's Manual                          PASSWD(5)

NAME
       passwd - password file

DESCRIPTION
       The  /etc/passwd  file  is  a  text file that describes user login accounts for the system.  It should have read permission allowed for all
       users (many utilities, like ls(1) use it to map user IDs to usernames), but write access only for the superuser.

       In the good old days there was no great problem with this general read permission.  Everybody could read the encrypted passwords,  but  the
       hardware  was  too  slow  to  crack a well-chosen password, and moreover the basic assumption used to be that of a friendly user-community.
       These days many people run some version of the shadow password suite, where /etc/passwd has an 'x' character in the password field, and the
       encrypted passwords are in /etc/shadow, which is readable by the superuser only.

       If  the  encrypted password, whether in /etc/passwd or in /etc/shadow, is an empty string, login is allowed without even asking for a pass-
       word.  Note that this functionality may be intentionally disabled in applications, or configurable  (for  example  using  the  "nullok"  or
       "nonull" arguments to pam_unix.so).

       If the encrypted password in /etc/passwd is "*NP*" (without the quotes), the shadow record should be obtained from an NIS+ server.

       Regardless  of  whether  shadow  passwords are used, many system administrators use an asterisk (*) in the encrypted password field to make
       sure that this user can not authenticate him- or herself using a password.  (But see NOTES below.)

       If you create a new login, first put an asterisk (*) in the password field, then use passwd(1) to set it.

       Each line of the file describes a single user, and contains seven colon-separated fields:

           name:password:UID:GID:GECOS:directory:shell

       The field are as follows:

       name       This is the user's login name.  It should not contain capital letters.

       password   This is either the encrypted user password, an asterisk (*), or the letter 'x'.  (See pwconv(8) for an explanation of 'x'.)

       UID        The privileged root login account (superuser) has the user ID 0.
Manual page passwd(5) line 1 (press h for help or q to quit)
```

13. Display a list of all the commands that contain the keyword passwd in their man page.

Write "apropse man" or "man -k man"

```
Activities    Terminal                                Apr 7 22:15
                                   kdawoud@localhost:/usr/bin

File  Edit  View  Search  Terminal  Help
[kdawoud@localhost bin]$ apropos passwd
chgpasswd (8)        - update group passwords in batch mode
chpasswd (8)         - update passwords in batch mode
fgetpwent_r (3)      - get passwd file entry reentrantly
getpwent_r (3)       - get passwd file entry reentrantly
gpasswd (1)          - administer /etc/group and /etc/gshadow
grub2-mkpasswd-pbkdf2 (1) - Generate a PBKDF2 password hash.
ldappasswd (1)       - change the password of an LDAP entry
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smbpasswd (5)        - The Samba encrypted password file
sslpasswd (1ssl)     - compute password hashes
vncpasswd (1)        - change the VNC password
[kdawoud@localhost bin]$ █
```