

ADVANCED COMPUTER NETWORK ASSIGNMENT 5

TOPIC: - Lab exercises

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ASSIGNMENT 5: LAB EXERCISES

Lab Assignment Managing Files, Creating Users and Groups Using Command-line tools

1. a) Create six files with name of the form songX.mp3 .
- b) Create six files with name of the form snapX.mp3 .
- c) Create six files with name of the form filmX.mp3 (In each set, replace X with the numbers 1 through 6) .

```
kaj@kaj-VirtualBox:~$ mkdir Assignment
kaj@kaj-VirtualBox:~$ cd Assignment/
kaj@kaj-VirtualBox:~/Assignment$ touch song{1..6}.mp3
kaj@kaj-VirtualBox:~/Assignment$ ls
song1.mp3  song2.mp3  song3.mp3  song4.mp3  song5.mp3  song6.mp3
kaj@kaj-VirtualBox:~/Assignment$ touch snap{1..6}.mp3
kaj@kaj-VirtualBox:~/Assignment$ ls
snap1.mp3  snap2.mp3  snap3.mp3  snap4.mp3  snap5.mp3  snap6.mp3
kaj@kaj-VirtualBox:~/Assignment$ touch film{1..6}.mp3
kaj@kaj-VirtualBox:~/Assignment$ ls
film1.mp3  film2.mp3  film3.mp3  film4.mp3  film5.mp3  film6.mp3
kaj@kaj-VirtualBox:~/Assignment$
```

2. From your home directory, move the song files into your music subdirectory, the snapshot files into your pictures subdirectory, and the movie files into videos subdirectory.

```
kaj@kaj-VirtualBox:~/Assignment$ mv song{1..6}.mp3 /home/kaj/Music/
kaj@kaj-VirtualBox:~/Assignment$ mv snap{1..6}.mp3 /home/kaj/Pictures/
kaj@kaj-VirtualBox:~/Assignment$ mv film{1..6}.mp3 /home/kaj/Videos/
kaj@kaj-VirtualBox:~/Assignment$ cd ..
kaj@kaj-VirtualBox:~$ cd Music/
kaj@kaj-VirtualBox:~/Music$ ls
song1.mp3  song2.mp3  song3.mp3  song4.mp3  song5.mp3  song6.mp3
kaj@kaj-VirtualBox:~/Music$ cd ..
kaj@kaj-VirtualBox:~$ cd Pictures/
kaj@kaj-VirtualBox:~/Pictures$ ls
snap1.mp3  snap2.mp3  snap3.mp3  snap4.mp3  snap5.mp3  snap6.mp3
kaj@kaj-VirtualBox:~/Pictures$ cd ..
kaj@kaj-VirtualBox:~$ cd Videos/
kaj@kaj-VirtualBox:~/Videos$ ls
film1.mp3  film2.mp3  film3.mp3  film4.mp3  film5.mp3  film6.mp3
kaj@kaj-VirtualBox:~/Videos$ cd ..
kaj@kaj-VirtualBox:~$
```

3. In your home directory, create three subdirectories for organizing your files. Call these directories friends, family, and work. Create all three with one command.

```
kaj@kaj-VirtualBox:~$ mkdir -p Assignment/{friends,family,work}
kaj@kaj-VirtualBox:~$ cd Assignment/
kaj@kaj-VirtualBox:~/Assignment$ ls
family  friends  work
kaj@kaj-VirtualBox:~/Assignment$
```

4. Copy song files to the friends folder and snap files to family folder.

```
kaj@kaj-VirtualBox:~$ cp -i /home/kaj/Music/* /home/kaj/Assignment/friends/
kaj@kaj-VirtualBox:~$ ls /home/kaj/Assignment/friends/
song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3
kaj@kaj-VirtualBox:~$ cp -i /home/kaj/Pictures/* /home/kaj/Assignment/family/
kaj@kaj-VirtualBox:~$ ls /home/kaj/Assignment/family/
snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3 snap6.mp3
kaj@kaj-VirtualBox:~$
```

5. Attempt to delete both family and friends projects with a single rmdir command.

```
kaj@kaj-VirtualBox:~$ rmdir /home/kaj/Assignment/family/ /home/kaj/Assignment/f
riends/
rmdir: failed to remove '/home/kaj/Assignment/family/': Directory not empty
rmdir: failed to remove '/home/kaj/Assignment/friends/': Directory not empty
kaj@kaj-VirtualBox:~$
```

6. Use another command that will succeed in deleting both the family and friends folder.

```
kaj@kaj-VirtualBox:~$ rm -r /home/kaj/Assignment/family/ /home/kaj/Assignment/f
riends/
kaj@kaj-VirtualBox:~$ ls /home/kaj/Assignment/
work
kaj@kaj-VirtualBox:~$
```

7. Redirect a long listing of all home directory files, including hidden, into a file named allfiles.txt. Confirm that the file contains the listing.

```
kaj@kaj-VirtualBox:~$ ls -a
.          .bashrc    Downloads  Pictures   .sudo_as_admin_successful
..         .cache     .gnupg     .profile   Templates
Assignment .config    .local     Public     Videos
.bash_history Desktop    .mozilla   snap
.bash_logout Documents  Music      .ssh
kaj@kaj-VirtualBox:~$ ls -a > allfiles.txt
kaj@kaj-VirtualBox:~$ cat allfiles.txt
.
..
allfiles.txt
Assignment
.bash_history
.bash_logout
.bashrc
.cache
.config
Desktop
Documents
Downloads
.gnupg
.local
.mozilla
Music
Pictures
.profile
Public
snap
.ssh
```

8. In the command window, display today's date with day of the week, month, date and year.

```
kaj@kaj-VirtualBox:~$ date -u
Tuesday 17 August 2021 10:45:40 AM UTC
kaj@kaj-VirtualBox:~$ date "+%A %B %d %G"
Tuesday August 17 2021
kaj@kaj-VirtualBox:~$
```

9. Add the user Juliet.

```
kaj@kaj-VirtualBox:~$ sudo useradd Juliet
[sudo] password for kaj:
kaj@kaj-VirtualBox:~$
```

10. Confirm that Juliet has been added by examining the /etc/passwd file.

```
kaj@kaj-VirtualBox:~$ tail -5 /etc/passwd
chinnu:x:1001:1001::/home/chinnu:/bin/sh
ani:x:2000:1002::/home/ani:/bin/sh
sshd:x:127:65534::/run/sshd:/usr/sbin/nologin
mysql:x:128:136:MySQL Server,,,:/nonexistent:/bin/false
Juliet:x:2001:2001::/home/Juliet:/bin/sh
kaj@kaj-VirtualBox:~$
```

11. Use the passwd command to initialize Juliet's password.

```
kaj@kaj-VirtualBox:~$ sudo passwd Juliet
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
kaj@kaj-VirtualBox:~$
```

12. Create a supplementary group called Shakespeare with a group id of 30000.

```
kaj@kaj-VirtualBox:~$ sudo groupadd -g 30000 Shakespeare
kaj@kaj-VirtualBox:~$ tail -5 /etc/group
plant:x:1005:ani
AJCE:x:1006:ani
mysql:x:136:
Juliet:x:2001:
Shakespeare:x:30000:
kaj@kaj-VirtualBox:~$
```


13. Create a supplementary group called artists.

```
kaj@kaj-VirtualBox:~$ sudo groupadd artists
kaj@kaj-VirtualBox:~$ tail -5 /etc/group
AJCE:x:1006:ani
mysql:x:136:
Juliet:x:2001:
Shakespeare:x:30000:
artists:x:30001:
kaj@kaj-VirtualBox:~$
```

14. Confirm that Shakespeare and artists have been added by examining the /etc/group file.

```
kaj@kaj-VirtualBox:~$ tail -20 /etc/group
colord:x:127:
geoclue:x:128:
pulse:x:129:
pulse-access:x:130:
gdm:x:131:
lxd:x:132:kaj
kaj:x:1000:
sambashare:x:133:kaj
systemd-coredump:x:999:
plocate:x:134:
mlocate:x:135:
chinnu:x:1001:
ani:x:1002:
MCA:x:1003:
plant:x:1005:ani
AJCE:x:1006:ani
mysql:x:136:
Juliet:x:2001:
Shakespeare:x:30000:
artists:x:30001:
kaj@kaj-VirtualBox:~$
```

15. Add the Juliet user to the Shakespeare group as a supplementary group.

```
kaj@kaj-VirtualBox:~$ sudo usermod -a -G Shakespeare Juliet
[sudo] password for kaj:
kaj@kaj-VirtualBox:~$ groups Juliet
Juliet : Juliet Shakespeare
kaj@kaj-VirtualBox:~$
```

16. Confirm that Juliet has been added using the id command.

```
kaj@kaj-VirtualBox:~$ id Juliet
uid=2001(Juliet) gid=2001(Juliet) groups=2001(Juliet),30000(Shakespeare)
kaj@kaj-VirtualBox:~$
```

17. Add Romeo and Hamlet to the Shakespeare group.

```
kaj@kaj-VirtualBox:~$ sudo useradd Romeo
kaj@kaj-VirtualBox:~$ sudo useradd Hamlet
kaj@kaj-VirtualBox:~$ sudo usermod -G Shakespeare Romeo
kaj@kaj-VirtualBox:~$ sudo usermod -G Shakespeare Hamlet
kaj@kaj-VirtualBox:~$ members Shakespeare
Juliet Romeo Hamlet
kaj@kaj-VirtualBox:~$
```

18. Add Reba, Dolly and Elvis to the artists group.

```
kaj@kaj-VirtualBox:~$ sudo useradd Reba
kaj@kaj-VirtualBox:~$ sudo useradd Dolly
kaj@kaj-VirtualBox:~$ sudo useradd Elvis
kaj@kaj-VirtualBox:~$ sudo usermod -G artists Reba
kaj@kaj-VirtualBox:~$ sudo usermod -G artists Dolly
kaj@kaj-VirtualBox:~$ sudo usermod -G artists Elvis
kaj@kaj-VirtualBox:~$ members artists
Reba Dolly Elvis
kaj@kaj-VirtualBox:~$
```

19. Verify the supplemental group memberships by examining the /etc/group file.

```
kaj@kaj-VirtualBox:~$ tail -20 /etc/group
sambashare:x:133:kaj
systemd-coredump:x:999:
plocate:x:134:
mlocate:x:135:
chinnu:x:1001:
ani:x:1002:
MCA:x:1003:
plant:x:1005:ani
AJCE:x:1006:ani
mysql:x:136:
Juliet:x:2001:
Shakespeare:x:30000:Juliet,Romeo,Hamlet
artists:x:30001:Reba,Dolly,Elvis
Romeo:x:2002:
Hamlet:x:2003:
Arun:x:2007:
arjun:x:2008:
Reba:x:2009:
Dolly:x:2010:
Elvis:x:2011:
kaj@kaj-VirtualBox:~$
```

20. Attempt to remove user Dolly

```
kaj@kaj-VirtualBox:~$ sudo userdel Dolly
kaj@kaj-VirtualBox:~$ tail -20 /etc/group
kaj:x:1000:
sambashare:x:133:kaj
systemd-coredump:x:999:
plocate:x:134:
mlocate:x:135:
chinnu:x:1001:
ani:x:1002:
MCA:x:1003:
plant:x:1005:ani
AJCE:x:1006:ani
mysql:x:136:
Juliet:x:2001:
Shakespeare:x:30000:Juliet,Romeo,Hamlet
artists:x:30001:Reba,Elvis
Romeo:x:2002:
Hamlet:x:2003:
Arun:x:2007:
arjun:x:2008:
Reba:x:2009:
Elvis:x:2011:
kaj@kaj-VirtualBox:~$
```