

20MCA136-NETWORKING & ADMINISTRATION

LAB EXPERIMENT

SUBMITTED BY,

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1. Managing Files, Creating Users and Groups Using Command-line tools

- a. Create six files with name of the form songX.mp3 where X=1 to 6

```
vivin@vivin-VirtualBox:~$ touch song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.m
p3 song6.mp3
vivin@vivin-VirtualBox:~$ ls
Amal          ever          Mca2          qwerty        song5.mp3
Buses         every.tar     Music         qwerty.pub   song6.mp3
Buses.txt    friends.txt  new          snap         Templates
cat.txt      haia.tar.xz  new1         song1.mp3    Videos
Desktop      hai.tar.gz   new2         song2.mp3
Documents    hello.tar.bz2 Pictures      song3.mp3
Downloads    'hello world welcome' Public        song4.mp3
```

- b. Create six files with name of the form snapX.mp3 where X=1 to 6

```
vivin@vivin-VirtualBox:~$ touch snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.m
p3 snap6.mp3
vivin@vivin-VirtualBox:~$ ls
Amal          every.tar     new           snap1.mp3    song3.mp3
Buses         friends.txt  new1          snap2.mp3    song4.mp3
Buses.txt     haia.tar.xz  new2          snap3.mp3    song5.mp3
cat.txt       hai.tar.gz   Pictures      snap4.mp3    song6.mp3
Desktop       hello.tar.bz2 Public         snap5.mp3    Templates
Documents     'hello world welcome' qwerty        snap6.mp3    Videos
Downloads     Mca2         qwerty.pub   song1.mp3
ever          Music        snap         song2.mp3
```

- c. Create six files with name of the form filmX.mp3 where X=1 to 6

```
vivin@vivin-VirtualBox:~$ touch film1.mp3 film2.mp3 film3.mp3 film4.mp3 film5.m
p3 film6.mp3
vivin@vivin-VirtualBox:~$ ls
Amal          film1.mp3    hello.tar.bz2  qwerty        song1.mp3
Buses         film2.mp3    'hello world welcome' qwerty.pub   song2.mp3
Buses.txt     film3.mp3    Mca2          snap          song3.mp3
cat.txt       film4.mp3    Music         snap1.mp3    song4.mp3
Desktop       film5.mp3    new           snap2.mp3    song5.mp3
Documents     film6.mp3    new1          snap3.mp3    song6.mp3
Downloads     friends.txt  new2          snap4.mp3    Templates
Help          haia.tar.xz  Pictures      snap5.mp3    Videos
---.tar       hai.tar.gz   Public        snap6.mp3
```

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

Music

```
vivin@vivin-VirtualBox:~$ mkdir music
vivin@vivin-VirtualBox:~$ mv song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3
song6.mp3 music
vivin@vivin-VirtualBox:~$ ls
Amal          every.tar     haia.tar.xz    new1          snap2.mp3
Buses         film1.mp3    hai.tar.gz     new2          snap3.mp3
Buses.txt     film2.mp3    hello.tar.bz2  Pictures      snap4.mp3
cat.txt       film3.mp3    'hello world welcome' Public        snap5.mp3
Desktop       film4.mp3    Mca2          qwerty        snap6.mp3
Documents     film5.mp3    music         qwerty.pub   Templates
Downloads     film6.mp3    Music         snap          Videos
ever          friends.txt  new           snap1.mp3
vivin@vivin-VirtualBox:~$ cd music
vivin@vivin-VirtualBox:~/music$ ls
song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3
```

Pictures

```
vivin@vivin-VirtualBox:~$ mkdir pictures
vivin@vivin-VirtualBox:~$ mv snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3
snap6.mp3 pictures
vivin@vivin-VirtualBox:~$ ls
Amal          ever          film6.mp3     music         Public
Buses        every.tar     friends.txt   Music         qwerty
Buses.txt     film1.mp3     haia.tar.xz   new           qwerty.pub
cat.txt       film2.mp3     hai.tar.gz    new1          snap
Desktop       film3.mp3     hello.tar.bz2 new2          Templates
Documents     film4.mp3     'hello world welcome' pictures       Videos
Downloads     film5.mp3     Mca2          Pictures
vivin@vivin-VirtualBox:~$ cd pictures
vivin@vivin-VirtualBox:~/pictures$ ls
snap1.mp3  snap2.mp3  snap3.mp3  snap4.mp3  snap5.mp3  snap6.mp3
```

Videos

```
vivin@vivin-VirtualBox:~$ mkdir videos
vivin@vivin-VirtualBox:~$ mv film1.mp3 film2.mp3 film3.mp3 film4.mp3 film5.mp3
film6.mp3 videos
vivin@vivin-VirtualBox:~$ ls
Amal          Downloads     hello.tar.bz2  new1          qwerty.pub
Buses        ever          'hello world welcome' new2          snap
Buses.txt     every.tar     Mca2           pictures       Templates
cat.txt       friends.txt   music          Pictures       videos
Desktop       haia.tar.xz  Music          Public         Videos
Documents     hai.tar.gz   new            qwerty
vivin@vivin-VirtualBox:~$ cd videos
vivin@vivin-VirtualBox:~/videos$ ls
film1.mp3  film2.mp3  film3.mp3  film4.mp3  film5.mp3  film6.mp3
```

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.

```
vivin@vivin-VirtualBox:~$ mkdir friends family work
vivin@vivin-VirtualBox:~$ ls
Amal          ever          hello.tar.bz2  new2          Templates
Buses        every.tar     'hello world welcome' pictures       videos
Buses.txt     family       Mca2           Pictures       Videos
cat.txt       friends     music          Public         work
Desktop       friends.txt Music          qwerty
Documents     haia.tar.xz new            qwerty.pub
Downloads     hai.tar.gz  new1          snap
```

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

```
vivin@vivin-VirtualBox:~$ cp music/song1.mp3 music/song2.mp3 music/song3.mp3 music/song4.mp3 music/song5.mp3 music/song6.mp3 friends
vivin@vivin-VirtualBox:~$ cd friends
vivin@vivin-VirtualBox:~/friends$ ls
song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3
vivin@vivin-VirtualBox:~/friends$ cd ..
vivin@vivin-VirtualBox:~$ cd music
vivin@vivin-VirtualBox:~/music$ ls
song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3
vivin@vivin-VirtualBox:~/music$ cp pictures/snap1.mp3 pictures/snap2.mp3 pictures/snap3.mp3 pictures/snap4.mp3 pictures/snap5.mp3 pictures/snap6.mp3 family
cp: target 'family' is not a directory
vivin@vivin-VirtualBox:~/music$ cd ..
vivin@vivin-VirtualBox:~$ cp pictures/snap1.mp3 pictures/snap2.mp3 pictures/snap3.mp3 pictures/snap4.mp3 pictures/snap5.mp3 pictures/snap6.mp3 family
vivin@vivin-VirtualBox:~$ cd family
vivin@vivin-VirtualBox:~/family$ ls
snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3 snap6.mp3
vivin@vivin-VirtualBox:~/family$ cd ..
vivin@vivin-VirtualBox:~$ cd pictures
vivin@vivin-VirtualBox:~/pictures$ ls
snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3 snap6.mp3
```

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

```
vivin@vivin-VirtualBox:~$ rmdir family friends
rmdir: failed to remove 'family': Directory not empty
rmdir: failed to remove 'friends': Directory not empty
```

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

```
vivin@vivin-VirtualBox:~$ rm -r family friends
vivin@vivin-VirtualBox:~$ ls
Anal          Downloads    hello.tar.bz2  new1          qwerty.pub
Buses         ever         'hello world welcome'  new2          snap
Buses.txt     every.tar    Mca2           pictures      Templates
cat.txt       friends.txt  Music          Pictures      videos
Desktop       hala.tar.xz Music          Public        Videos
Documents     hai.tar.gz  new            qwerty        work
```

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.

```
vivin@vivin-VirtualBox:~$ ls -al >>allfiles.txt
vivin@vivin-VirtualBox:~$ ls -al
total 160
drwxr-xr-x 25 vivin vivin 4096 Aug 17 21:30 .
drwxr-xr-x  3 root  root  4096 Jun  1 17:06 ..
-rw-rw-r--  1 vivin vivin    0 Aug 17 21:30 allfiles.txt
drwxrwxr-x  5 anu   vivin 4096 Jun 13 20:34 Anal
-rw-----  1 vivin vivin 3006 Aug 17 19:56 .bash_history
-rw-r--r--  1 vivin vivin  220 Jun  1 17:06 .bash_logout
-rw-r--r--  1 vivin vivin 3771 Jun  1 17:06 .bashrc
drwxrwxrwx  2 vivin vivin 4096 Aug 10 23:26 Buses
-rw-rw-r--  1 vivin vivin   65 Aug 11 17:10 Buses.txt
drwx----- 15 vivin vivin 4096 Aug 12 15:29 .cache
-rw-rw-r--  1 vivin vivin   22 Aug 11 18:16 cat.txt
drwx----- 14 vivin vivin 4096 Aug 11 16:07 .config
drwxr-xr-x  6 vivin vivin 4096 Aug 17 21:22 Desktop
drwxr-xr-x  2 vivin vivin 4096 Jun  1 17:18 Documents
drwxr-xr-x  2 vivin vivin 4096 Jun  1 17:18 Downloads
drwxrwxr-x  3 vivin vivin 4096 Aug 11 18:06 ever
-rw-rw-r--  1 vivin vivin 10240 Aug 11 17:58 every.tar
```

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

```
vivin@vivin-VirtualBox:~$ date
Tuesday 17 August 2021 09:44:42 PM IST
vivin@vivin-VirtualBox:~$
```

9. Add the user Juliet

```
vivin@vivin-VirtualBox:~$ sudo useradd Juliet
vivin@vivin-VirtualBox:~$
```

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

```
vivin@vivin-VirtualBox:~$ tail /etc/passwd
pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:124:65534:/:/run/gnome-initial-setup:/bin/false
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
vivin:x:1000:1000:Vivin V Abraham,,,:/home/vivin:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
anu:x:1500:1501:/:/home/anu:/bin/sh
anna:x:2000:1501:/:/home/anna:/bin/sh
sshd:x:126:65534:/:/run/sshd:/usr/sbin/nologin
mysql:x:127:133:MySQL Server,,,:/nonexistent:/bin/false
Juliet:x:2001:2001:/:/home/Juliet:/bin/sh
```

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

```
vivin@vivin-VirtualBox:~$ sudo passwd Juliet
New password:
Retype new password:
passwd: password updated successfully
```

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

```
vivin@vivin-VirtualBox:~$ sudo groupadd -g 30000 Shakespeare
vivin@vivin-VirtualBox:~$
vivin@vivin-VirtualBox:~$ sudo groupdel artists
```

13. Create a supplementary group called artists.

```
vivin@vivin-VirtualBox:~$ sudo groupadd artists
vivin@vivin-VirtualBox:~$
```

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

```
vivin@vivin-VirtualBox:~$ tail /etc/group
systemd-coredump:x:999:
anu:x:1001:
Lorries:x:1504:
anscii:x:1502:anu
trees:x:1501:
plants:x:1503:anu
mysql:x:133:
Juliet:x:2001:
Shakespeare:x:30000:
artists:x:30001:
```

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

```
vivin@vivin-VirtualBox:~$ sudo usermod -G Shakespeare Juliet
vivin@vivin-VirtualBox:~$ groups Juliet
Juliet : Juliet Shakespeare
```

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

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

17. Add Romeo and Hamlet to the Shakespeare group..

```
vivin@vivin-VirtualBox:~$ sudo useradd Romeo
vivin@vivin-VirtualBox:~$ sudo useradd Hamlet
vivin@vivin-VirtualBox:~$ sudo usermod -G Shakespeare Romeo
vivin@vivin-VirtualBox:~$ groups Romeo
Romeo : Romeo Shakespeare
vivin@vivin-VirtualBox:~$ sudo usermod -G Shakespeare Hamlet
vivin@vivin-VirtualBox:~$ groups Hamlet
Hamlet : Hamlet Shakespeare
```

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

```
vivin@vivin-VirtualBox:~$ sudo useradd Reba
vivin@vivin-VirtualBox:~$ sudo useradd Dolly
vivin@vivin-VirtualBox:~$ sudo useradd Elvis
vivin@vivin-VirtualBox:~$ sudo usermod -G artists Reba
vivin@vivin-VirtualBox:~$ groups Reba
Reba : Reba artists
vivin@vivin-VirtualBox:~$ sudo usermod -G artists Dolly
vivin@vivin-VirtualBox:~$ groups Dolly
Dolly : Dolly artists
vivin@vivin-VirtualBox:~$ sudo usermod -G artists Elvis
vivin@vivin-VirtualBox:~$ groups Elvis
Elvis : Elvis artists
```

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

```
vivin@vivin-VirtualBox:~$ tail /etc/group
plants:x:1503:anu
mysql:x:133:
Juliet:x:2001:
Shakespeare:x:30000:Juliet,Romeo,Hamlet
artists:x:30001:Reba,Dolly,Elvis
Romeo:x:2002:
Hamlet:x:2003:
Reba:x:2004:
Dolly:x:2005:
Elvis:x:2006:
```

20. Attempt to remove user Dolly

```
vivin@vivin-VirtualBox:~$ sudo userdel Dolly
vivin@vivin-VirtualBox:~$ id Dolly
id: 'Dolly': no such user
```