

## 1. Working with Vi editor

- a. Create a file – EditorFile using vi cmd

```
[siddharrth@siddharrth linux]$ vi Editor\ File
```

- b. Insert some text of your choice – i (insert mode)

```
Hi, this is editor using vi editor
```

```
~
```

```
~
```

```
-- INSERT --
```

- c. Practise the following cmds .

**Exiting vi**

- i. :q - quit - if you have made any changes, vi will warn you of this, and you'll need to use one of the other quits.

```
Hi, this is editor using vi editor
```

```
~
```

```
~
```

```
E37: No write since last change (add ! to override)
```

- ii. :w - write to disk

```
Hi, this is editor using vi editor
```

```
~
```

```
"Editor File" [New] 1L, 35B written
```

- iii. :w filename - write to disk as filename

```
Hi, this is editor using vi editor  
saving as new file
```

```
~
```

```
"newFilename" [New] 2L, 55B written
```

- iv. :wq! - write to disk and quit

```
Hi, this is editor using vi editor  
saving as new files  
saving and quit
```

```
~
```

```
:wq!
```

- v. ZZ - write to disk and quit

```
Hi, this is editor using vi editor  
saving as new files  
saving and quit  
doing again using zz
```

- vi. :q! - quit without writing to disk

```
Hi, this is editor using vi editor  
saving as new files  
saving and quit  
doing again using zz  
quit without saving
```

```
~  
:q!  
~
```

## Inserting text

- i. a - append text after cursor \*

```
Hi, this is editor using vi editor
saving as new files
saving and quit
doing again using zz
```

- ii. A - append text at end of line \*

```
Hi, this is editor using vi editor
saving as new files
saving and quit
doing again using zz
```

- iii. i - insert text before cursor \*

```
Hi, this is editor using vi editor
saving as new files
saving and quit
doing again using zz
```

- iv. I - insert text at beginning of line \*

```
Hi, this is editor using vi editor
saving as new files
saving and quit
doing again using zz
```

- v. o - open a blank line after the current line for text input \*

```
Hi, this is editor using vi editor
saving as new files
saving and quit
doing again using zz
```

- vi. O - open a blank line before the current line for text input \*

```
Hi, this is editor using vi editor
saving as new files
saving and quit
doing again using zz
```

\*Note: hit ESC (escape) key when finished inserting!

## Deleting text

- i. x - delete character at cursor

```
Hi, this is editor using vi editor
saving as new files
saving and quit
doing again using
```

- ii. dh - delete character before cursor

```
Hi, this is editor using vi editor  
  
saving as new files  
  
saving and quit  
doing again using
```

- iii. nx - delete n characters at cursor

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
doing again using  
now copying the text and paste  
now copying the text and pastg
```

- iv. dnw - delete n words from cursor

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
doing again using  
now copying the text and paste  
now copying the text and pas
```

- v. D - delete to end of line

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
doing again using  
now copying the text and paste  
now copying the t
```

- vi. dd - delete current line

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
doing again using  
now copying the text and paste
```

- vii. ndd - delete n lines (start at current line)

```
Hi, this is editor using vi editor
saving as new files
now copying the text and pasteing
~
```

## Copying lines

- i. yy - "yank": copy 1 line into buffer

```
Hi, this is editor using vi editor
saving as new files
doing again using
now copying the text and pasteing
~
```

- ii. nyy - "yank": copy n lines into buffer

```
copying the data
datas
datas
datas
~
```

- iii. p - put contents of buffer after current line

```
Hi, this is editor using vi editor
saving as new files
doing again using
now copying the text and pasteing
now copying the text and pasteing
~
```

- iv. P - put contents of buffer before current

```
Hi, this is editor using vi editor
saving as new files
now copying the text and pasteing
doing again using
now copying the text and pasteing
now copying the text and pasteing
~
```

## Searching / Substituting

- i. /str - search forward for str

```
Hi, this is editor using vi editor
saving as new files
now copying the text and pasteing
doing again using
now copying the text and pasteing
now copying the text and pasteing
~
```

```
:/ text
```

- ii. ?str - search backward for str

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
doing again using  
now copying the text and pasteing  
now copying the text and pasteing  
~
```

```
~  
:? cop
```

- iii. n - find next occurrence of current string

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
doing again using  
now copying the text and pasteing  
now copying the text and pasteing  
~
```

- iv. N - repeat previous search in reverse direction

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
doing again using  
now copying the text and pasteing  
now copying the text and pasteing  
~
```

- v. :s/old/new - substitute new for first occurrence of old in current line

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
replace the word second  
be first
```

```
~  
:s/first/second
```

- vi. :s/old/new/g - substitute new for all occurrences of old in current line

```
Hi, this is editor using vi editor  
  
saving as new files  
now copying the text and pasteing  
replace the word second  
example to replaced the words and replaced the phrase in line  
~
```

```
~  
:s/replace/replaced/g
```

- vii. `:%s/old/new/g` - substitute new for all occurrences of old in the entire file

```
Hi, this is editor using vi editor

saving as new files
now copying the text and pasteing
changed the word second
example to changedd the words and changedd the phrase in line

~
```

1

#### SHEET -4 – VI EDITOR ,USER ACC MGMT AND FILE OWNERSHIP

2. User Account management (Become root user) – Create users and groups complete exercise 3 and then perform delete.

- a. Add users – Saurav,Robin,Ronaldo and Messi using `useradd` cmd

```
[root@siddharrth siddharrth]# useradd Saurav
[root@siddharrth siddharrth]# useradd Robin
[root@siddharrth siddharrth]# useradd Ronaldo
[root@siddharrth siddharrth]# useradd Messi
```

- b. Add groups – Football and Cricket using `groupadd` cmd

```
[root@siddharrth siddharrth]# groupadd Football
[root@siddharrth siddharrth]# groupadd Criket
```

- c. Add Saurav and Robin to Cricket grp using `usermod -aG groupname username`

```
[root@siddharrth siddharrth]# usermod -aG Criket Saurav
[root@siddharrth siddharrth]# usermod -aG Criket Robin
```

- d. Add Messi and Ronaldo to Football grp using `usermod -aG groupname username`

```
[root@siddharrth siddharrth]# usermod -aG Football Messi
[root@siddharrth siddharrth]# usermod -aG Football Ronaldo
```

- e. Verify using `id` cmd – `id username`

```
[root@siddharrth siddharrth]# id Saurav
uid=1009(Saurav) gid=1009(Saurav) groups=1009(Saurav),1014(Criket)
[root@siddharrth siddharrth]# id Robin
uid=1010(Robin) gid=1010(Robin) groups=1010(Robin),1014(Criket)
[root@siddharrth siddharrth]# id Ronaldo
uid=1011(Ronaldo) gid=1011(Ronaldo) groups=1011(Ronaldo),1013(Football)
[root@siddharrth siddharrth]# id Messi
uid=1012(Messi) gid=1012(Messi) groups=1012(Messi),1013(Football)
```

- f. Verify using `groups` cmd – `groups username`

```
[root@siddharrth siddharrth]# groups Saurav
Saurav : Saurav Criket
[root@siddharrth siddharrth]# groups Robin
Robin : Robin Criket
[root@siddharrth siddharrth]# groups Ronaldo
Ronaldo : Ronaldo Football
[root@siddharrth siddharrth]# groups Messi
Messi : Messi Football
```

- g. Add user Dravid to group Cricket – `useradd -G groupname username`

```
[root@siddharrth siddharrth]# useradd -G Cricket Dravid
[root@siddharrth siddharrth]# groups Dravid
Dravid : Dravid Cricket
[root@siddharrth siddharrth]# id Dravid
uid=1013(Dravid) gid=1015(Dravid) groups=1015(Dravid),1014(Cricket)
[root@siddharrth siddharrth]#
```

- h. Add user Neymar to group Football – `useradd -G groupname username`

```
[root@siddharrth siddharrth]# useradd -G Football Neymar
[root@siddharrth siddharrth]# groups Neymar
Neymar : Neymar Football
[root@siddharrth siddharrth]# id Neymar
uid=1014(Neymar) gid=1016(Neymar) groups=1016(Neymar),1013(Football)
[root@siddharrth siddharrth]#
```

- i. Observe the files - `/etc/passwd` , `/etc/shadow` , `/etc/groups`

```
[root@siddharrth siddharrth]# tail -5 /etc/passwd
Robin:x:1010:1010::/home/Robin:/bin/bash
Ronaldo:x:1011:1011::/home/Ronaldo:/bin/bash
Messi:x:1012:1012::/home/Messi:/bin/bash
Dravid:x:1013:1015::/home/Dravid:/bin/bash
Neymar:x:1014:1016::/home/Neymar:/bin/bash
```

```
[root@siddharrth siddharrth]# tail -5 /etc/shadow
Robin:!!:20007:0:99999:7:::
Ronaldo:!!:20007:0:99999:7:::
Messi:!!:20007:0:99999:7:::
Dravid:!!:20007:0:99999:7:::
Neymar:!!:20007:0:99999:7:::
```

```
[root@siddharrth siddharrth]# tail -5 /etc/group
Messi:x:1012:
Football:x:1013:Messi,Ronaldo,Neymar
Cricket:x:1014:Saurav,Robin,Dravid
Dravid:x:1015:
Neymar:x:1016:
```

- j. Create a group players. Add all the users to Players grp.

```
[root@siddharrth siddharrth]# usermod -aG Players Saurav
[root@siddharrth siddharrth]# usermod -aG Players Robin
[root@siddharrth siddharrth]# usermod -aG Players Ronaldo
[root@siddharrth siddharrth]# usermod -aG Players Messi
[root@siddharrth siddharrth]# usermod -aG Players Dravid
[root@siddharrth siddharrth]# usermod -aG Players Neymar
[root@siddharrth siddharrth]#
```

- k. Delete user Saurav and Messi including their home directory

```
[root@siddharrth siddharrth]# userdel -r Saurav
```

```
[root@siddharrth home]# ls -ltr | tail -6
drwxr-xr-x. 18 siddharrth siddharrth 4096 Oct  8 15:06 siddharrth
drwx-----.  3 Robin      Robin      78 Oct 11 14:30 Robin
drwx-----.  3 Ronaldo    Ronaldo    78 Oct 11 14:30 Ronaldo
drwx-----.  3 Messi      Messi      78 Oct 11 14:31 Messi
drwx-----.  3 Dravid     Dravid     78 Oct 11 14:37 Dravid
drwx-----.  3 Neymar     Neymar     78 Oct 11 14:39 Neymar
[root@siddharrth home]#
```

- l. Remove user Neymar and Dravid from Player grp using `gpasswd -d username groupname`

```
[root@siddharrth home]# gpasswd -d Neymar Players
Removing user Neymar from group Players
[root@siddharrth home]# id Neymar
uid=1014(Neymar) gid=1016(Neymar) groups=1016(Neymar),1013(Football)
[root@siddharrth home]# gpasswd -d Dravid Players
Removing user Dravid from group Players
[root@siddharrth home]# id Dravid
uid=1013(Dravid) gid=1015(Dravid) groups=1015(Dravid),1014(Criquet)
```

- m. Delete group Football using `groupdel` cmd

```
[root@siddharrth home]# groupdel Football

[root@siddharrth home]# tail /etc/group
einstein:x:1006:
bob:x:1007:
adrian:x:1008:
Robin:x:1010:
Ronaldo:x:1011:
Messi:x:1012:
Criquet:x:1014:Robin,Dravid
Dravid:x:1015:
Neymar:x:1016:
Players:x:1017:Robin,Ronaldo,Messi
```

- n. Create group Chess and add users Pragg,Anand,vaishala and gukesh

```
[root@siddharrth home]# useradd -G Chess Pragg
[root@siddharrth home]# useradd -G Chess Anand
[root@siddharrth home]# useradd -G Chess Vaishala
[root@siddharrth home]# useradd -G Chess gukesh
[root@siddharrth home]# tail -5 /etc/passwd
Neymar:x:1014:1016::/home/Neymar:/bin/bash
Pragg:x:1015:1020::/home/Pragg:/bin/bash
Anand:x:1016:1021::/home/Anand:/bin/bash
Vaishala:x:1017:1022::/home/Vaishala:/bin/bash
gukesh:x:1018:1023::/home/gukesh:/bin/bash
[root@siddharrth home]# tail -5 /etc/group
Chess:x:1019:Pragg,Anand,Vaishala,gukesh
Pragg:x:1020:
Anand:x:1021:
Vaishala:x:1022:
gukesh:x:1023:
```



- o. Delete user Pragg and Anand using userdel -r username and observe the changes.

```
[root@siddharrth home]# userdel -r Pragg
[root@siddharrth home]# userdel -r Anand
[root@siddharrth home]# tail -5 /etc/passwd
Messi:x:1012:1012::/home/Messi:/bin/bash
Dravid:x:1013:1015::/home/Dravid:/bin/bash
Neymar:x:1014:1016::/home/Neymar:/bin/bash
Vaishala:x:1017:1022::/home/Vaishala:/bin/bash
gukesh:x:1018:1023::/home/gukesh:/bin/bash
[root@siddharrth home]#
```

- p. Add a user of your choice and add to any grp as primary group

- i. Usermod -g groupname username

```
[root@siddharrth home]# usermod -g Marvel gukesh
```

- ii. Delete this group and observe the changes.

```
[root@siddharrth home]# groupdel Marvel
groupdel: cannot remove the primary group of user 'gukesh'
```

### 3. File Ownership commands

- a. Cricketers file under your home directory change owner to Saurav using chown username filename

```
[root@siddharrth siddharrth]# chown Dravid cricket
```

```
[siddharrth@siddharrth ~]$ ls -ltr cricket
-rw-r--r--. 1 Dravid siddharrth 30 Oct 11 15:16 cricket
```

```
[siddharrth@siddharrth ~]$ cat > cricket
bash: cricket: Permission denied
```

- b. Sample file under your home directory change group to Cricket using chgrp grpname filename

```
[root@siddharrth siddharrth]# chgrp Criket cricket
[root@siddharrth siddharrth]# ls -l cricket
-rw-r--r--. 1 Dravid Criket 30 Oct 11 15:16 cricket
```

- c. Change owner and grp of file Footballers using chown username:groupname filename

```
[root@siddharrth siddharrth]# ls -l footballers
-rw-r--r--. 1 siddharrth siddharrth 28 Oct 11 15:22 footballers
[root@siddharrth siddharrth]# chown Neymar:Marvel footballers
[root@siddharrth siddharrth]# ls -l footballers
-rw-r--r--. 1 Neymar Marvel 28 Oct 11 15:22 footballers
```

- d. For the CEO directory change owner to Neymar and grp to Football

```
[root@siddharrth siddharrth]# chown Neymar:Football CEO/
drwxr-xr-x. 6 Neymar Football 90 Oct 3 16:35 CEO
```

- e. Observe the changes in its sub directories and files

```
[root@siddharrth siddharrth]# ls -ltr CEO
total 4
drwxr-xr-x. 4 siddharrth siddharrth 48 Oct 1 19:29 VP_Product
drwxr-xr--. 3 siddharrth siddharrth 24 Oct 1 19:31 VP_Sales
drwxr-xr-x. 3 siddharrth siddharrth 21 Oct 1 19:32 VP_People
drwxr-xr-x. 4 siddharrth siddharrth 41 Oct 1 19:34 VP_Engineering
-rw-r--r--. 1 siddharrth siddharrth 18 Oct 3 16:35 try
```

- f. For the CEO directory change owner to Neymar and grp to Football using -R option

```
[root@siddharrth siddharrth]# chown -R Neymar:Football CEO/
```

- g. Observe the changes in its sub directories and files

```
[root@siddharrth siddharrth]# ls -ltr CEO
total 4
drwxr-xr-x. 4 Neymar Football 48 Oct  1 19:29 VP_Product
drwxr-xr--. 3 Neymar Football 24 Oct  1 19:31 VP_Sales
drwxr-xr-x. 3 Neymar Football 21 Oct  1 19:32 VP_People
drwxr-xr-x. 4 Neymar Football 41 Oct  1 19:34 VP_Engineering
-rw-r--r--. 1 Neymar Football 18 Oct  3 16:35 try
[root@siddharrth siddharrth]#
```