

> init 3 use only commandline

> init 5 use Graphical interface

vi editor but only commandline (vim, nano)

gedit editor with Graphical interface

> vi work!

press i to insert text

press escape to stop inserting text

* Navigation

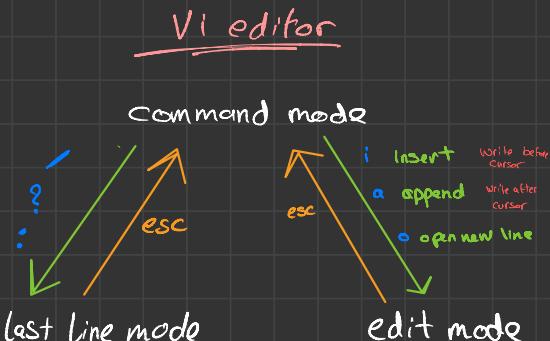
Character: h j k l navigation arrows

word : w e with e stops at end of word last line mode

Line : line G 5 , l , lt ,

0 → go to the begin of line

\$ → go to the end of line



* delete

Character : x

word : dw From cursor to the next Space .

line : dd D From cursor to the end of line .

undo: u for undo

:5,8d delete from 5 to 8

* Copy and Paste

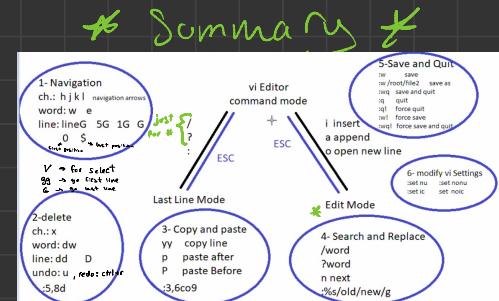
line:

YY copy line

P paste after cursor

P Paste before cursor

:3,6co3
copy this
paste here



* search and find

? find previous word

/ find next word

n next

:%s/linx/unix/g

without g first change in line only.

* Save and Quit

- :w Save
- :w path save as
- :wq save and quit
- :q quit
- :q! force quit (without saving)
- :w! force save (no permissions) only root
- :wq! force save & quit.

* modify vi settings

- :set nu set numbers lines
- :set nonu unset o -
- :set ic, disable case sensitive
ignore case
- :set noic enable case sensitive

Vi = Vim but Vim is smarter + Colored

* reading files

- >cat
 - >more
 - ↳ space page-page
 - ↳ enter line-line
 - >head file read first 10 lines
 - >head -3 file read first 3 lines
 - >tail file read last 10 lines
 - >tail -5 file read last 5 lines
 - >less file read any file in any format.
- } reading document.

* data access permissions

r read w write x execute

* change file permissions chmod

- chmod u+x file (for owners)
- g-x file (for group)
- o=x file (for others)
- a=x file (for all)

```
- data access Permissions
r read w file x execute file
ls -l list file permissions
rwx r-- rwx
OwnerUser OwnerGroup Others
changing file permissions chmod

chmod  u+x   fileName
      g-x
      o=x
      a

rwx r-- r--
chmod g+x      rwx  rwx  r--
chmod u-x      rw-  rwx  r--
chmod o=---    r--  rwx  ---
chmod u+x      rwx
chmod u=x      --x
chmod a=rwx    rwx  rwx  rwx
chmod u=rwx,g=rw-,o=r--
```

2-Octal mode 0>7

rwx rwx	rwx binary 111
r=4 w=2 x=1	r-x binary 101
	r--
	100

rwx =111 =7
rwx =110 =6
-w- =010 =2
-wx =011 =3
r-- =100 =4
--x =001 =1
--- =000 =0
r-x =101 =5

chmod 777 filename
chmod 644 filename
chmod 755 filename
chmod -R 777 data/ → give permission for directories and subdirectories.

default for file 644 rw- r-- r--
defualt for directory 755 rwx r-x r-x

* Chown for changing ownership

```
File Edit View Search Terminal Help
[root@server01 ~]# useradd ahmed
[root@server01 ~]# useradd khaled
[root@server01 ~]# groupadd hr
[root@server01 ~]# groupadd sales
[root@server01 ~]#
[root@server01 ~]#
[root@server01 ~]# ls -l work1
-rwx----- 1 root root 4285 Jan  8 13:06 work1
[root@server01 ~]# chown ahmed work1 → change owner for file work1
[root@server01 ~]# ls -l work1
-rwx----- 1 ahmed root 4285 Jan  8 13:06 work1
[root@server01 ~]# chown hany:sales work1 → change owner and group
[root@server01 ~]# ls -l work1
-rwx----- 1 hany sales 4285 Jan  8 13:06 work1
[root@server01 ~]# chown :hr work1 → change only group
[root@server01 ~]# ls -l work1
-rwx----- 1 hany hr 4285 Jan  8 13:06 work1
[root@server01 ~]# chgrp sales work1 → change group
[root@server01 ~]# ls -l work1
-rwx----- 1 hany sales 4285 Jan  8 13:06 work1
[root@server01 ~]#
```

* Set group id for every new content

> Chmod +S dir (inherit group dir to every new contents)

لكل ملفات صون اب او مفروض في الملفات الجديدة
→ chmod +t dir ←

> chmod +t dir → by owner الملفات الجديدة

> chmod -t dir → disable it

Note:
The owner is the only one who can give perm.

```
root@server01:~  
File Edit View Search Terminal Help  
lrwxr-xr-x. 2 root root 6 Jan 6 21:02 Desktop  
lrwxr-xr-x. 2 root root 6 Jan 6 21:02 Documents  
lrwxr-xr-x. 2 root root 6 Jan 6 21:02 Downloads  
rv-r--r--. 1 root root 13 Jan 8 10:58 file1  
rv-r--r--. 1 root root 1957 Jan 6 21:01 initial-setup-ks.cfg  
lrwxr-Xr-x. 2 root root 6 Jan 6 21:02 Music  
lrwxr-Xr-x. 2 root root 6 Jan 6 21:02 Pictures  
lrwxr-Xr-x. 2 root root 6 Jan 6 21:02 Public  
lrwxr-Xr-x. 2 root root 6 Jan 6 21:02 Templates  
lrwxr-Xr-x. 2 root root 6 Jan 6 21:02 Videos  
rv-r--r--. 1 root root 4285 Jan 8 13:06 work1  
rv-r--r--. 1 root root 530 Jan 8 12:42 work2  
root@server01 ~]# chmod a=rwX data  
root@server01 ~]# ls -ld data/  
lrwxrwxrwx. 2 root root 6 Jan 8 13:24 data/  
root@server01 ~]# chmod a=r- data  
root@server01 ~]# ls -ld data/  
lr--r--r--. 2 root root 6 Jan 8 13:24 data/  
root@server01 ~]# touch data/report1  
root@server01 ~]# touch data/report2  
root@server01 ~]# touch data/report3  
root@server01 ~]# ls -ld data/  
lr--r--r--. 2 root root 51 Jan 8 13:25 data/  
root@server01 ~]# ls -l data/  
total 0  
rv-r--r--. 1 root root 0 Jan 8 13:25 report1  
rv-r--r--. 1 root root 0 Jan 8 13:25 report2  
rv-r--r--. 1 root root 0 Jan 8 13:25 report3  
root@server01 ~]# chmod -R a=r-- data →  
root@server01 ~]# ls -ld data/  
total 0  
r--r--r--. 1 root root 0 Jan 8 13:25 report1  
r--r--r--. 1 root root 0 Jan 8 13:25 report2  
r--r--r--. 1 root root 0 Jan 8 13:25 report3  
root@server01 ~]# ls -ld data/  
lr--r--r--. 2 root root 51 Jan 8 13:25 data/  
root@server01 ~]# █  
  
data celd = 40 40 20  
• 40. 40 C 20
```

data field = the well known
also called field.

1-Symbolic mode

```
chmod u+x      fileName  
              g-x  
              o=x  
              a
```

```
rw- r-- chmod g+x      rwx    rwx    r-
                chmod u-x      rw-    rwx    r-
                chmod o=---     rw-    rwx    ---
                chmod u+x      rwx
                chmod u=x      --x
                chmod a=rwx     rwx    rwx    rwx
                chmod u=rw,g=rw,o=r--   r--r--r--r-
                chmod -R a=r-- data
```

2-Octal mode $0 > 7$

rwx rwx		rwx binary 111
r=4 w=2 x=1		r-x binary 101
		r--
		100
rwx =111 =7		
rwx =110 =6		
-w- =010 =2		
-wx =011 =3		
r-- =100 =4		
--x =001 =1		
--- =000 =0		
r-x =101 =5		

`rw- r-- r--` default for file
`rwx r-x r-x` default for directories

`set permissions for directorys & subdirectorys`



```
less fileName  
head fileName  
head -2 fileName  
tail fileName  
tail -3 fileName
```

```
- data access Permissions  
r read w file x execute file  
ls -l list file permissions  
rwx rwx rwx  
OwnerUser OwnerGroup Others  
changing file permissions chmod
```

1-Symbolic mode

```
chmod u+x fileName  
g-x  
o=x  
a
```

```
rwx rw- r--      chmod g+x rwx rwx r--  
chmod u-x rw- rwx r--  
chmod o=--- rw- rwx ---  
chmod u+x rwx  
chmod u=x --x  
chmod a=rwx rwx rwx rwx  
chmod u=rwx,g=rw-,o=r--  
chmod -R a=r-- data
```

2-Octal mode 0>7

rwx rwx	rwx binary 111
r=4 w=2 x=1	r-x binary 101
	r-- 100

```
rwx =111 =7  
rw- =110 =6  
-w- =010 =2  
-wx =011 =3  
r-- =100 =4  
--x =001 =1  
--- =000 =0  
r-x =101 =5
```

```
chmod 777 filename  
chmod 644 filename  rw- r-- r--  
chmod 755 filename  rwx r-x r-x  
# chmod -R 777 data/
```

```
default for file 644 rw- r-- r--  
defualt for directory 755 rwx r-x r-x
```

```
-chown <<<<<<< change ownership  
#chown ahmed work1  
#chown hany:sales work1  
#chown :hr work1  
#chgrp sales work1  
#chown -R ahmed directoryName
```

```
hr group owner on any file on HrCVs  
-setGID force owner group >>> owner for new content  
chmod +s directoryName  
chmod -s directoryName
```

```
-stiky bit users can remove only files they own  
chmod +t directoryName  
chmod -t directoryName
```