23.25Apr.Linux Adv

25 April 2023   07:14 PM

1. Permission
   a. chmod
   b. chown
2. User Management
   a. Create
   b. Delete
   c. List
3. Manage TAR File
4. Scripting
5. Create Script
   a. Welcome Message
   b. Prime Number

- Kali (Virtual Box)
- EC2 Instance(Ubuntu)
- BareMetal Ubuntu
- Mac OS
- WSL

Linux File Permission Management

Operations
- r = Read
- w = Write
- x = eXecute
- d = Directory/Folder

File
- Owner User (u)
- Group Users (g)
- Other User (o)
- All(a)

  d

drwxrwxrwx

d = Directory
r = Read
w = Write
x = Execute

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

chmod 777

rwx | rwx | rwx
Owner | Group | Others

Code	r	w	x
7	4	2	1
5	4	0	1
4	4	0	0
2	0	2	0
1	0	0	1

$ chmod CODE fileName

$ chmod 755 abc.txt
# Owner (rwx), Group(rx), Other(rx)

-**rw-**rwxr--

$ chmod 674 a.txt

Symbolic mode

User	Group	Other
rwx	r-x	r-x

111 101 101

Numeric mode   7   5   5
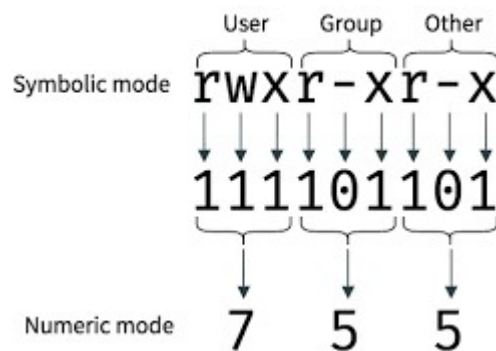
```
# ls -l file
-rw-r--r-- 1 root root 0 Nov 19 23:49 file

        Other (r - -)           r = Readable
     Group (r- -)               w = Writeable
  Owner (rw-)                   x = Executable
                                - = Denied
File type
```

```
shum@sol:~$ ls -l
total 20
drwx------   2 shum     staff      4096 Jan 16 22:04 Mail
drwx------   3 shum     staff      4096 Jan 16 14:15 csc128
drwxr-xr-x   2 shum     staff      4096 Jan 13 16:42 public
drwxr-xr-x   2 shum     staff      4096 Jan 16 14:07 public_html
-rw-r--r--   1 shum     staff       628 Jan 15 20:04 verse
```
filename
date/time last modified
size
group name
user (owner) name
number of hard links
other (everyone) permissions
group permissions
user permissions
file type

rwx
executable
writeable
readable

Input
drwxr-xr-x

Output
dr-xr-xr-x

$ chmod 555 a

$ chmod u-w b

$ chmod u+w b

Input
drwxr-xr-x

Output
drwxr**wx**r-x

$ chmod g+w b

Input

drwxr--r-x

Output
drwxr**wx**r-x

$ chmod g+wx b

$ chmod -R g-x,o-x f

$

1. OS:
    a. Linux Lab
    b. Windows
    c. Kali
    d. Ubuntu
2. Python Lab
3. K8S Lab
    a. Docker
    b. Docker Compose
    c. Docker Swarm
    d. Kubernetes

Opening File using Linux Editor(vi)
$ vi FileName   # Edit FileName
$ vi -r FileName   # Edit last version of FileName after crash

$ vi + 799 FileName # Edit FileName at line Number(ex: 799)

$ vi + FileName   # Edit FileName at end of File(Last line)

$ vi +/str FileName   #Edit FileName at First occurrence of str(ex: abc)

MODES in vi Editor
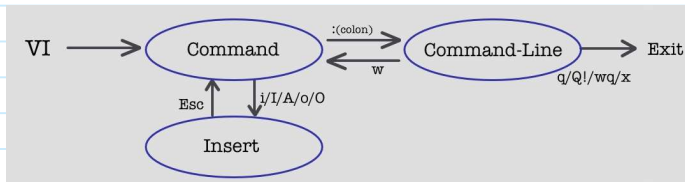1. Command Mode (Esc Key) = Accept Commands
    a. **:w** = Save
    b. **:x** = Save & Exit
    c. **:q** = Exit if no changes made
    d. **:q!** = Exit & Discard any changes
2. Insertion Mode (i Key)

Auto Save --> FileName.swp

$ vim 8 Version

Scripting

Cursor Movement :   h,j,k,l

Delete Actions:
- ➢ x = Single Character
- ➢ dw = word
- ➢ dd = Line
- ➢ u = Undo last action

```
# vi display-message.sh
Activate Insert Mode ( i  key)
```

Write Code
Shebang=Open With
#!/bin/bash

```
#!/usr/bin/python3
print("ONLY Python");
```

```
x=a--
((a--))
```

```
a=10
10      Error
((10))
```

```
# Display 10 to 1
#!/bin/bash
a=10
while [ $a -gt 0 ];
do
    echo $a
    ((a--))
done
```

```
#!/usr/bin/bash
file=c.txt
```

```bash
while read -r line;
do
    echo "Line is: $line "
done < "$file"
```

-le = Less than or equal to
-ge = Greater than or equal to

-ne = Not Equal to

This program is used to display 1 to 10 using for loop
```bash
#!/bin/bash
startValue=1
stopValue=10
for((i=$startValue; i<=$stopValue;++i)) do
        echo $i
done
```

Shell Script
  ➢ Loop(Inc, Dec)
  ➢ Vi Editor
  ➢ Read Value
  ➢ Display Variable value
  ➢ Conditions
  ➢ Read File line by line
  ➢ Shebang (Find any program if installed whereis)
  ➢ Which

  1. Linux QnA
  2. Maven (JaCoCo, Spring Boot)