

## 到第30个

2022年6月21日 17:34



01\_linux

### 19 chmod vi

2022年6月17日 星期五 07:10

ls -F *reveal file types*

ls -ltr

ls -R → tree -d list directories

*recursively*

tree -C colorize output

!

file

@

link

\*

executable

tree show all

tree -d show only directories, the files are not shown.

ls -d list directory names, not contents

ls --color colorize the output *(beiden distinktion the file types)*

ls --color -F show the color and type of files.

- Hyphens | dash

- Underscores

Camel Case

*File name with spaces:*

to use quotes: ls -L "my note.txt"

30 log file in /var/logs  
home directory /home

### Permissions

```
$ ls -l  
-rw-rw-r-- 1 jason users 10400 Sep 27 08:52 sales.data
```

First symbol

- "-" regular file
- "d" directory
- "l" link

Symbol

- "x" execute
- 

Permission categories

"u" user

"g" group

"o" other

"a" all

Use the id -Gn synonymy for group

```
(base) sudo su - bob -c id -Gn  
gu adm cdrom sudo dip plugdev lpadmin sambashare docker  
(base) bob bob bob
```

```
[jason@linuxsvr ~]$ groups  
jason sales  
[jason@linuxsvr ~]$ id -Gn  
jason sales  
[jason@linuxsvr ~]$ groups pat  
pat : finance newyork  
[jason@linuxsvr ~]$ groups adminuser  
adminuser : adminuser  
[jason@linuxsvr ~]$
```

这个?

```
[jason@linuxsvr ~]$ groups pat  
pat : finance newyork  
[jason@linuxsvr ~]$ groups adminuser  
adminuser : adminuser  
[jason@linuxsvr ~]$
```

### Secret Decoder Ring

```
Type Group  
-rw-r--r-- 1 bob users 10400 Sep 27 08:52 sales.data
```



## Changing Permissions

Item	Meaning
chmod	Change mode command
ugoa	User category user, group, other, all
+ -=	Add, subtract, or set permissions
rwX	Read, Write, Execute

```
[jason@linuxsvr ~]$ ls -l sales.data
-rw-r--r--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$ chmod g+w sales.data
[jason@linuxsvr ~]$ ls -l sales.data
-rw-rw-r--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$
```

```
[jason@linuxsvr ~]$ ls -l sales.data
-rw-r--r--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$ chmod g+w sales.data
[jason@linuxsvr ~]$ ls -l sales.data
-rw-rw-r--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$ chmod g-w sales.data
[jason@linuxsvr ~]$ ls -l sales.data
-rw-r--r--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$ chmod g+wx sales.data
[jason@linuxsvr ~]$ ls -l sales.data
-rw-rwxr--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$ chmod u+rwX,g-x sales.data
[jason@linuxsvr ~]$ ls -l sales.data
-rwxrw-r--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$ chmod u-x sales.data
[jason@linuxsvr ~]$ ls -l sales.data
-r--r--r--. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$ chmod o+x sales.data
[jason@linuxsvr ~]$ ls -l sales.data
-rwxr-x---. 1 jason jason 36 Feb  6 16:30 sales.data
[jason@linuxsvr ~]$
```

## Commonly Used Permissions

Symbolic	Octal
-rwx-----	700
-rwxr-xr-x	755
-rw-rw-r--	664
-rw-rw----	660
-rw-r--r--	644

View files and the Nano Editor

- Cat more less head tail

## Displaying the Contents of Files

cat file      Display the contents of file.

### Displaying the Contents of Files

cat file	Display the contents of file.
more file	Browse through a text file.
less file	More features than more.
head file	Output the beginning (or top) portion of file.
tail file	Output the ending (or bottom) portion of file.

## Head and Tail

- Displays only 10 lines by default
- Change this behavior with -n
  - n = number of lines
  - tail -15 file.txt

Last 15 lines in file  
"tail -15 file.txt"

## Viewing Files in Real Time

tail -f file      Follow the file.

Displays data as it is being written to the file.

## Nano Editor

- Nano is a simple editor.
- Easy to learn.
- Not as advanced as vi or emacs.
- If nano isn't available, look for pico.

Vi Editor

### The Vi Editor

`vi [file]` Edit file.

`vim [file]` Same as vi, but more features.

`view [file]` Starts vim in read-only mode.

### Vi Command Mode and Navigation

- `k` Up one line.
- `j` Down one line.
- `h` Left one character.
- `l` Right one character.
- `w` Right one word.
- `b` Left one word.
- `^` Go to the beginning of the line.
- `$` Go to the end of the line.

### Vi Insert Mode

`i` Insert at the cursor position.

### Vi Insert Mode

- `i` Insert at the cursor position.
- `I` Insert at the beginning of the line.
- `a` Append after the cursor position.
- `A` Append at the end of the line.

输入 i 可在当前行开始进行输入。用 ESC 回 command line 的状态。

### Vi Line Mode

- `:w` Writes (saves) the file.
- `:w!` Forces the file to be saved.
- `:q` Quit.
- `:q!` Quit without saving changes.
- `:wq!` Write and quit.
- `:x` Same as `:wq`.

### Vi Line Mode

- `:n` Positions the cursor at line n.
- `:$` Positions the cursor on the last line.
- `:set nu` Turn on line numbering.
- `:set nonu` Turn off line numbering.
- `:help [subcommand]` Get help.

LinuxTrainingAcad

### Vi Modes

Mode	Key
Command	<u>Esc</u>
Insert	<u>i   a A</u>
Line	<u>:</u>

### Vi - Repeating Commands

- Repeat a command by preceding it with a number.
  - `5k` = Move up a line 5 times
  - `80i<Text><ESC>` = Insert <Text> 80 times
  - `80l<ESC>` = Insert 80 " " characters

## Vi - Deleting Text

---

- x Delete a character.
- dw Delete a word.
- dd Delete a line.
- D Delete from the current position.
- x Delete a character.
- dw Delete a word.
- dd Delete a line.
- D Delete from the current position.

## Vi - Changing Text

---

- r Replace the current character.
- cw Change the current word.
- cc Change the current line.
- c\$ Change the text from the current position.
- C Same as c\$.
- ~ Reverses the case of a character.

## Vi - Copying and Pasting

---

- yy Yank (copy) the current line.
- y<position> Yank the <position>.
- p Paste the most recent deleted or yanked text.

## Vi - Undo / Redo

---

- u Undo
- Ctrl-R Redo

## Vi - Searching

---

- /<pattern> Start a forward search.
- ?<pattern> Start a reverse search.

## 3\_Find Locate

2022 年 6 月 21 日 16:47

### The find Command

```
find [path...] [expression]
```

Recursively finds files in path that match expression. If no arguments are supplied it find all files in the current directory.

### find Options

**-name pattern** Find files and directories that match pattern.

**-iname pattern** Like -name, but ignores case.

**-ls** Performs an ls on each of the found items.

### find Options

**-mtime days** Finds files that are days old.

**-size num** Finds file that are of size num.

**-newer file** Finds files that are newer than file.

**-exec command {} \;**

Run command against all the files that are found.

```
[jason@linuxsvr ~]$ find /sbin -name MAKEDEV
[jason@linuxsvr ~]$ find /sbin -iname MAKEDEV
/sbin/MAKEDEV
```

```

[jason@linuxsvr ~]$
[jason@linuxsvr ~]$ find /bin -name *v
/bin/mv
/bin/env
[jason@linuxsvr ~]$ find . -mtime +10 -mtime -13
./ssh
./ssh/authorized_keys
./bashrc
./Music/jazz/john-coletrane.mp3
./my notes.txt
./tpsreports/coversheet.doc
./tpsreports/sales-report.txt
[jason@linuxsvr ~]$ find . -name s* -ls
131161 4 -rw-r--r-- 1 jason jason 36 Feb 8 23:05 ./sales.data
[jason@linuxsvr ~]$ find . -size +1M
./Music/jazz/jazz-album-1.mp3
[jason@linuxsvr ~]$ find . -name s* -ls
131161 4 -rw-r--r-- 1 jason jason 36 Feb 8 23:05 ./sales.data
[jason@linuxsvr ~]$ find . -size +1M
./Music/jazz/jazz-album-1.mp3
[jason@linuxsvr ~]$ find . -size +1G
[jason@linuxsvr ~]$ find . -type d -newer file.txt
./Desktop
./Music/jazz
./tpsreports
[jason@linuxsvr ~]$ ls -l file.txt
-rw-r--r-- 1 jason jason 296 Feb 15 14:59 file.txt
[jason@linuxsvr ~]$ find -exec file {} \;

```

Locate

## A Fast Find - locate

locate pattern

## A Fast Find - locate

locate pattern

- Lists files that match pattern.
- Faster than the find command.
- Queries an index.
- Results are not in real time.
- May not be enabled on all systems.

Adapted: 2003  
locate pattern  
• List files that match  
• Faster than the find  
• Queries an index  
• Results are not in real  
time  
• May not be enabled on  
all systems

```

[jason@linuxsvr ~]$ locate sales
/home/jason/sales.data
/home/jason/tpsreports/sales-report.txt
/usr/local/sales
/usr/local/sales/sales.data
[jason@linuxsvr ~]$
[jason@linuxsvr ~]$ touch tpsreports/new-file
[jason@linuxsvr ~]$ locate tpsre
/home/jason/tpsreports
/home/jason/tpsreports/coversheet.doc
/home/jason/tpsreports/sales-report.txt
[jason@linuxsvr ~]$ locate new-file
[jason@linuxsvr ~]$ find . -name new-file
./tpsreports/new-file
[jason@linuxsvr ~]$

```

### **Movement**

h j k l	Left, down, up, right
^	Go to the beginning of the line
\$	Go to the end of the line
gg	Go to the first line
G	Go to the last line
:n	Go to line n

### **Inserting Text**

i	Insert at cursor
I	Insert at the beginning
a	Append after cursor
A	Append at the end of
o	Open a new line below
O	Open a new line above

### Replacing Text

r Replace character  
cw Change word  
cc Change line  
c{motion} Change from cursor to {motion}

### Copy/Paste

y{motion} Yank {motion}  
yy Yank line  
p Paste after cursor  
P Paste before cursor

### Searching

/ {pattern} Forward search for {pattern}  
? {pattern} Reverse search for {pattern}  
n Repeat the last search  
N Repeat the last search in the opposite direction

### Repeating Commands

{num} {command} Repeat command {num} times  
.  
Repeat previous change

### Deleting Text

x Delete character  
dd Delete line  
dw Delete word  
d{motion} Delete {motion}

### Undo/Redo

u Undo  
Ctrl-r Redo

### Save and Quit

:w Write (save)  
:wq Write and quit  
:q Quit  
:q ! Force quit, don't save  
:wq ! Force write and quit

### Help

:help [topic/command] Get  
vimtutor Tut

### Find and Replace

:s/{old}/{new}/{options} Substitute {new} for {old} on the current line  
:%s/{old}/{new}/{options} Substitute {new} for {old} in the entire document  
The g option substitutes all occurrences on a line, otherwise just the first one.

<http://w>

## 5\_Delete rm move sort tar compressing du

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### Removing Files

```
rm file Remove file.

rm -r dir Remove the directory and its
           contents recursively.

rm -f file Force removal and never
           prompt for confirmation.
```

### Removing Files

```
$ ls s*
sales-lecture.mp3 sales.data secret secret.bak
$ rm s*
$ ls -d .*
. .. .profile .bash_history
$ rm .*
rm: cannot remove '.': Is a directory
rm: cannot remove '..': Is a directory
$ ls -d .*
. ..
$
```



## Copying Files

`cp source_file destination_file`  
Copy source\_file to destination\_file.

`cp src_file1 [src_fileN ...] dest_dir`  
Copy source\_files to destination\_directory.

## cp Options

`cp -i`  
Run in interactive mode.

`cp -r source_directory destination`  
Copy src\_directory recursively to destination.

```
[jason@linuxsvr ~]$ cp file1 file2
[jason@linuxsvr ~]$ diff file1 file2
[jason@linuxsvr ~]$ mkdir dir
[jason@linuxsvr ~]$ cp file1 file2 dir
[jason@linuxsvr ~]$ ls dir
file1 file2
[jason@linuxsvr ~]$ cp -i file1 file2
cp: overwrite 'file2'? n
[jason@linuxsvr ~]$ cp -r dir dir2
[jason@linuxsvr ~]$ ls dir2
file1 file2
[jason@linuxsvr ~]$ cp dir dir3
cp: omitting directory 'dir'
[jason@linuxsvr ~]$ mkdir dir3
[jason@linuxsvr ~]$ cp -r dir dir2 dir3
[jason@linuxsvr ~]$ ls dir3
dir dir2

[jason@linuxsvr ~]$ cp dir dir3
cp: omitting directory 'dir'
[jason@linuxsvr ~]$ mkdir dir3
[jason@linuxsvr ~]$ cp -r dir dir2 dir3
[jason@linuxsvr ~]$ ls dir3
dir dir2
```

```
[jason@linuxsvr ~]$ tree dir3
dir3
├── dir
│   ├── file1
│   └── file2
└── dir2
    ├── file1
    └── file2
```

## Moving and Renaming Files

`mv` Move or rename files and directories.

`mv source destination`

`mv -i source destination`

```
[jason@linuxsvr ~]$ ls
Desktop  Downloads  file.txt  my notes.txt  secret  tpsreports
dir      file1     more-secrets.txt  Pictures  secret.bak  Videos
dir2     file2     my-cat    Public        Templates  testmask
dir3

[jason@linuxsvr ~]$ mv dir firstdir
[jason@linuxsvr ~]$ ls
Desktop  Downloads  firstdir  my notes.txt  secret  tpsreports
dir2     file1     more-secrets.txt  Pictures  secret.bak  Videos
dir3     file2     Music     Public        Templates  testmask
Documents file.txt  my-cat    sales.data

[jason@linuxsvr ~]$ mv file1 file1.renamed
[jason@linuxsvr ~]$ mv file1.renamed firstdir
[jason@linuxsvr ~]$ ls
Desktop  Downloads  firstdir  my notes.txt  secret  tpsreports
dir2     file1     more-secrets.txt  Pictures  secret.bak  Videos
dir3     file2     Music     Public        Templates  testmask
Documents file.txt  my-cat    sales.data

[jason@linuxsvr ~]$ cd firstdir
[jason@linuxsvr firstdir]$ ls
file1 file1.renamed file2
[jason@linuxsvr firstdir]$

[jason@linuxsvr firstdir]$ cat file1
This text started out in file1.
[jason@linuxsvr firstdir]$ cat file2
This text started out in file2.
[jason@linuxsvr firstdir]$ mv file1 file2
[jason@linuxsvr firstdir]$ cat file2
This text started out in file1.
[jason@linuxsvr firstdir]$ ls
file1.renamed file2
File 1 is remove by file2
```

## Sorting Data

`sort file` Sort text in file

## sort Options

- k F      Sort by key. F is the field number.
- r      Sort in reverse order.
- u      Sort unique.

```
[jason@linuxsvr ~]$ cat more-secrets
tags: credentials
site: facebook.com
user: bob
pass: Abee!
tags: credentials
[jason@linuxsvr ~]$ sort more-secrets
pass: Abee!
site: facebook.com
tags: credentials
tags: credentials
user: bob
[jason@linuxsvr ~]$ sort -u more-secrets
pass: Abee!
site: facebook.com
tags: credentials
tags: credentials
user: bob
[jason@linuxsvr ~]$ sort -u more-secrets
pass: Abee!
site: facebook.com
tags: credentials
user: bob
[jason@linuxsvr ~]$ sort -ru more-secrets
user: bob
tags: credentials
site: facebook.com
pass: Abee!

[jason@linuxsvr ~]$ sort -u -k2 more-secrets
pass: Abee!
user: bob
tags: credentials
site: facebook.com
```

## Creating a Collection of Files

tar [-] c|x|t f tarfile [pattern]

Create, extract or list contents of a tar archive using pattern, if supplied.

## tar Options

- c      Create a tar archive.
- x      Extract files from the archive.
- t      Display the table of contents (list).
- v      Be verbose.
- z      Use compression.
- f file      Use this file.

```
[jason@linuxsvr ~]$ ls tpsreports
coversheet.doc sales-report.txt
[jason@linuxsvr ~]$ tar cf tps.tar tpsreports
[jason@linuxsvr ~]$ tar tf tps.tar
tpsreports/
tpsreports/coversheet.doc
tpsreports/sales-report.txt
[jason@linuxsvr ~]$ cd /tmp
[jason@linuxsvr tmp]$ tar xf /home/jason/tps.tar
[jason@linuxsvr tmp]$ ls -l tpsreports
total 8
-rw-r--r--. 1 jason jason 188 Feb  3 18:15 coversheet.doc
-rw-r--r--. 1 jason jason  35 Feb  4 08:25 sales-report.txt

[jason@linuxsvr tmp]$ tar xvf /home/jason/tps.tar
tpsreports/
tpsreports/coversheet.doc
tpsreports/sales-report.txt
V for verbose, list the files it extracting
```

## Compressing Files To Save Space

- gzip      Compress files.
- gunzip    Uncompress files.
- gzcat     Concatenates compressed files.

zcat      Concatenates compressed files.

## Disk Usage

---

du      Estimates file usage.

## Disk Usage

---

du      Estimates file usage.

du -k   Display sizes in Kilobytes.

du -h   Display sizes in human readable format.

```
[jason@linuxsvr ~]$ du -k data
80      data
[jason@linuxsvr ~]$ gzip data
[jason@linuxsvr ~]$ ls data*
data.gz
[jason@linuxsvr ~]$ du -k data.gz
76      data.gz
[jason@linuxsvr ~]$ gunzip data.gz
[jason@linuxsvr ~]$ ls data*
data
[jason@linuxsvr ~]$ du -k data
80      data
-- --
[jason@linuxsvr ~]$ tar zcf tps.tgz tpsreports
[jason@linuxsvr ~]$ tar ztvf tps.tgz
drwxr-xr-x  jason/jason      0 2014-02-17 16:17 tpsreports/
-rw-r--r--  jason/jason    188 2014-02-03 18:15 tpsreports/coversheet.doc
-rw-r--r--  jason/jason     35 2014-02-04 08:25 tpsreports/sales-report.txt
```



