

2019.09.13

杰普培训笔记

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2019.09.13 杰普培训正式开始的第一天。今天学什么。★ UNIX & LINUX

## \* 学习目标

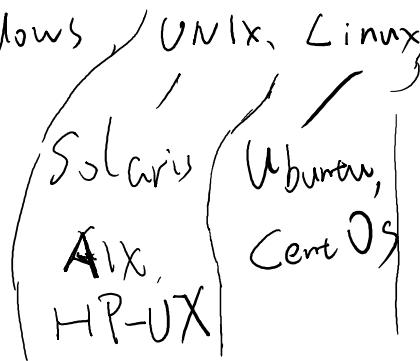
- ❖ Log in and out of a Solaris system (- 和 UNIX 操作系统)  
xshell 呀?  
以下简称SS
- ❖ Navigate the S file system.
- ❖ 创建文件、目录，修改它们的权限 (命令行)
- ❖ VI , VIM
- ❖ init 文件

1. 历史 → windows / UNIX, Linux, & Mac OS X

2. 操作系统组成

3. 常用命令

4. 云存储



Redhat

## 操作系统核心组成

a) 内核 (kernel)

b) 外壳 (shell)

c) 文件系统 (File System)

Shell:  
用户和内核之间的接口

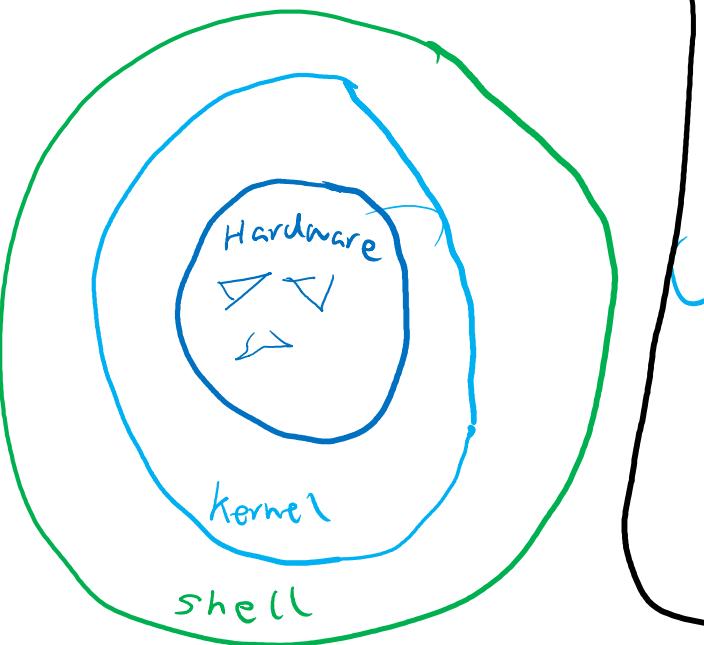
(Interface)

Bourne shell (.sh)  
shell (ksh)

Korn  
shell (csh)

C shell  
shell (bash)

Bourne-again shell  
解决兼容性，接收用户命令，执行内核命令



kernel:

○ Manage devices, memory and process

○ 管理程序与硬件之间的物理连接

○ 管理 线程与进程 (虚拟内存)

管理: Daemon 守护进程  
(后台运行)

管理文件系统 ...

Ctrl + Alt + T 启动终端



bash:

\$: 普通用户

#: 超级用户 (root)

\$ su -

# who am i (查看当前用户)

树形结构图示!

文件系统：管理所有文件，倒立树形结构..

最上面是 / 目录

文件路径： <绝对 /home/zhang>  
<相对 home/zhang>

su 方式切换：在之前那个用户目录下

su - 切换到：在 /root 下。 (使用超级用户的环境配置)

文件目录 (章四)

/opt: 放第三方应用软件

/etc: 存放配置文件

/dev: 硬件设备

/usr: 放用户东西, /usr/bin 二进制文件

/kernel: 放内核文件

/var: “可变的东西”

/export/home: “家”目录

查看Linux分区

\$ df -h

看 /dev/sda...

就有几个分区

该命令会显示挂载点

命令；

基本语法：

\$ [command] [option(s)]-[argument(s)]

命令长度不超过 256 字节。

空格作为分隔符

大小写敏感

## 常用命令

clear

清除 (Windows 是 cls)

pwd

打印当前工作路径

print working directory (print working directory)

cd

Change Directories

Accept both absolute and relative pathnames

Current directory

. (当前), .. (父级)

Parent directory..

上一级, .. (父级)

Listing of File and Directories

cd 什么都不要加 父子回到家目录

```
root@vultr:~# cd ../home
root@vultr:/home# pwd
/home
root@vultr:/home# su zyj
zyj@vultr:/home$ cd ...
zyj@vultr:~$ cd ../..
zyj@vultr:/$ pwd
/
zyj@vultr:/$
```

# -ls 命令 :

## Displaying a Listing of Files and Directories

➢ ls -a      Displaying hidden files

Hidden file: a file started with a “.”

➢ ls -R      Displaying a recursive listing

➢ ls -t      Sorts by time stamp instead of by name

➢ ls -l      Displaying a long list

→ 隐藏文件 (以“.”开头的文件)

zyj@vultr:/ \$ ls /home

zyj

zyj@vultr:/ \$ ls -R /home

=====

zyj

递归(迭代)

/home/zyj:

zyj@vultr:/ \$ █

zyj@vultr:/ \$ ls -l /home  
total 4  
drwxr-xr-x 2 zyj zyj 4096 Sep 3 01:47 zyj

详细信息(老权限、拥有者、  
下级目录、大小、创建时间等)

time

zyj@vultr:/ \$ ls -t  
etc root dev boot vmlinuz vmlinuz.old lib libx32 lost+found  
home run sys snap var media sbin mnt  
tmp opt proc initrd.img initrd.img.old usr lib64 bin srv  
zyj@vultr:/ \$ ls  
bin etc initrd.img.old lib64 media proc sbin sys var  
boot home lib libx32 mnt root snap tmp vmlinuz  
dev initrd.img lib32 lost+found opt run srv usr vmlinuz.old

d rwx r-x r-x 4 user nobody 1024 Feb 22 09:20 a.txt @vultr:/ \$ █

文拥同其链拥拥大最后一次文  
件有组它接有有小修改时间件  
类者人人号者组名  
型权权权  
限限限

/ 目录，什么都没有(文件)

(s -F

@ 符号文件(软)

\* (可执行文件)

查看文件类型

(file + 文件名)  
(@) 例 )



```
zyj@vultr:/etc$ file passwd  
passwd: ASCII text  
zyj@vultr:/etc$ file magic  
magic: magic text file for file(1) cmd, ASCII text  
zyj@vultr:/etc$ file /usr/bin/passwd  
/usr/bin/passwd: setuid ELF 64-bit LSB shared object, x86-64, version 1 (SYSV), dynamically lin  
ked, interpreter /lib64/ld-linux-x86-64.so.2, BuildID[sha1]=758a98442188645af905d283bb43afc9bd7  
fa7ed, for GNU/Linux 3.2.0, stripped  
zyj@vultr:/etc$
```

zyj@vultr:/etc\$ ls -F /etc	grub.d/	manpath.config	rsyslog.conf
adduser.conf	gshadow	mdadm/	rsyslog.d/
alternatives/ 目录	gshadow-	mime.types	screenrc
apm/	gs/	mke2fs.conf	securetty
apparmor/	hdparm.conf	modprobe.d/	security/
apparmor.d/	host.conf	modules	selinux/
apport/	hostname	modules-load.d/	services
apt/	hosts	mtab@	shadow
at.deny 文件	hosts.allow	multipath.conf	shadow-
bash.bashrc	hosts.deny	nanorc	shells
bash_completion	init.d/	netplan/	skel/
bash_completion.d/	initramfs-tools/	network/	sos.conf
bindresvport.blacklist	inputrc	networkd-dispatcher/	ssh/
binfmt.d/	iproute2/	networks	ssl/
byobu/	iscsi/	newt/	subgid
ca-certificates/	issue	nsswitch.conf	subgid-
ca-certificates.conf	issue.net	opt/	subuid
calendar/	kernel/	os-release@ 快捷方式	subuid-
console-setup/	kernel-img.conf	overlayroot.conf	sudoers
cracklib/	ape/	pam.conf	sudoers.d/

查看目录本身详细信息, `ls -l -d /xxx` (`(ls -ld /xxx)`)

```
zyj@vultr:/etc$ ls -l groff
total 8
-rw-r--r-- 1 root root 1048 Feb 28 2019 man.local
-rw-r--r-- 1 root root 1042 Feb 28 2019 mdoc.local
zyj@vultr:/etc$ ls -l -d groff
drwxr-xr-x 2 root root 4096 Aug 4 20:32 groff
zyj@vultr:/etc$
```

同理, `ls -la` 查看所有文件(包括隐藏文件) 详细信息。

权限:

读 - r

r

-读权限

写 - w

w

-写权限,对目录来说,可生成文件与子目录或删除文件与子目录

执行 - x

x

-执行权限,对目录来说,可查找该目录下内容

-

-没有权限

u: 拥有者

g - 同组用户

o - 其他用户

a - 所有用户

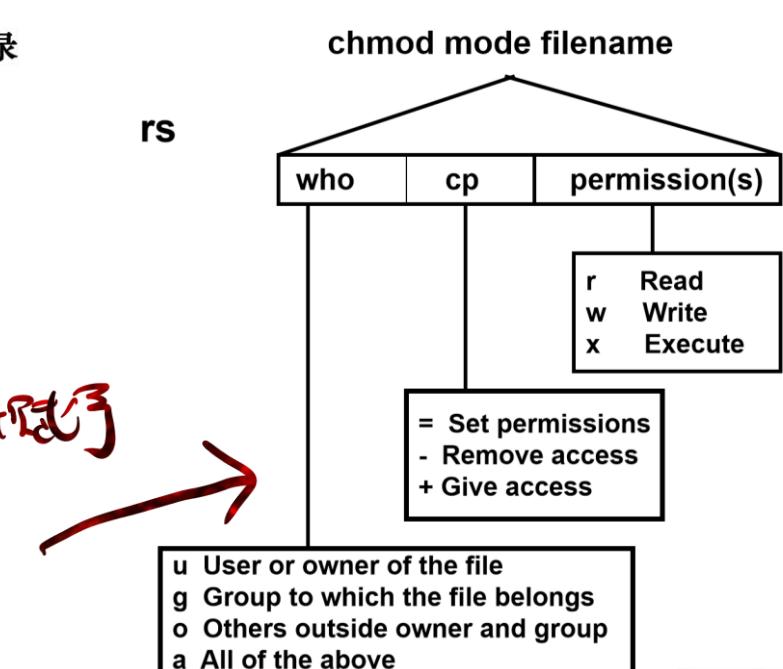
修改权限:

+ , - , =

| | |

增 减 重新赋值

chmod g-r file



创建目录：

mkdir

右图方便看更改权限的操作

win 执行者后缀，Linux 看权限

用数字见助于权限：

chmod 555 dante

chmod 644 dante

chmod 755 dante



```
zyj@vultr:~/jd1915/Linux$ ls -l a.txt
-rw-rw-rw- 1 zyj zyj 0 Sep  3 03:35 a.txt
zyj@vultr:~/jd1915/Linux$ chmod 755 a.txt
zyj@vultr:~/jd1915/Linux$ ls -l a.txt
-rwxr-xr-x 1 zyj zyj 0 Sep  3 03:35 a.txt
zyj@vultr:~/jd1915/Linux$ █
```

Octal Value	Permissions
4	Read
2	Write
1	Execute

Octal Value	Permissions
7	r w x
6	r w -
5	r - x
4	r --
3	- w x
2	- w -
1	-- x
0	---

```
zyj@vultr:~$ pwd
/home/zyj
zyj@vultr:~$ mkdir jd1915
zyj@vultr:~$ ls
jd1915
zyj@vultr:~$ cd jd1915
zyj@vultr:~/jd1915$ mkdir Linux
zyj@vultr:~/jd1915$ cd Linux
zyj@vultr:~/jd1915/Linux$ touch a.txt
zyj@vultr:~/jd1915/Linux$ ls
a.txt
zyj@vultr:~/jd1915/Linux$ ls -l a.txt
-rw-rw-r-- 1 zyj zyj 0 Sep  3 03:35 a.txt
zyj@vultr:~/jd1915/Linux$ chmod u+x a.txt
zyj@vultr:~/jd1915/Linux$ ls -s a.txt
0 a.txt
zyj@vultr:~/jd1915/Linux$ ls -l a.txt
-rwxrwxr-- 1 zyj zyj 0 Sep  3 03:35 a.txt
zyj@vultr:~/jd1915/Linux$ chmod a-w a.txt
zyj@vultr:~/jd1915/Linux$ ls -l a.txt
-r-xr--r-- 1 zyj zyj 0 Sep  3 03:35 a.txt
zyj@vultr:~/jd1915/Linux$ chmod a=rw a.txt
zyj@vultr:~/jd1915/Linux$ ls -l a.txt
-rw-rw-rw- 1 zyj zyj 0 Sep  3 03:35 a.txt
zyj@vultr:~/jd1915/Linux$ █
```

**touch**: 创建一个空文件, 若文件存在, 则更新时间

Create new, empty files or update access and modification times

```
zyj@vultr:~/jd1915/Linux$ ls -l a.txt  
-rwxr-xr-x 1 zyj zyj 0 Sep 3 03:35 a.txt  
zyj@vultr:~/jd1915/Linux$ touch a.txt  
zyj@vultr:~/jd1915/Linux$ ls -l a.txt  
-rwxr-xr-x 1 zyj zyj 0 Sep 3 03:46 a.txt  
zyj@vultr:~/jd1915/Linux$
```

**mkdir**: 创建目录

~: 家目录, 父目录, 子目录  
~Documents, Desktop, Games

创建新目录

Create directories using either an absolute or a relative pathname

Must have the appropriate permissions to create a directory

**mkdir [-p] directory\_name**

**mkdir dir1/dir2**

**mkdir dir3 dir4 dir5**

**mkdir ~/games**

**mkdir -p dir6/dir7/dir8**

创建新目录, 即使不存在, 会自动创建

# CP：拷贝命令

```
zyj@vultr:~/jd1915/Linux$ cat a.txt  
zyj@vultr:~/jd1915/Linux$ cp /etc/passwd a.txt  
zyj@vultr:~/jd1915/Linux$ cat a.txt  
root:x:0:0:root:/root:/bin/bash  
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin  
bin:x:2:2:bin:/bin:/usr/sbin/nologin
```

## Copy files

cp [-i] source\_file destination\_file  
cp [-i] source\_file(s) destination\_directory

cp beans apple

cp beans apple dir2

cp -i beans apple

```
sb...nologin  
sb...nologin  
/nologin  
nologin
```

## Copy a directory and its contents to another directory

cp -r[i] source\_directory(s) destination\_directory

cp -r dir3 dir4

cp -r dir3 dir4 /tmp

# MV 動向 補充

使用 mv 进行重命名。  
文件 目录

Ver. info

# rm 删除

Remove files

rm [-i] filename(s)

rm file1 file2 file3

rm -i file4

Removing Directories

rmdir directory\_name(s)

rm -r[i] directory\_name(s)

rmdir empty\_dir

rm -r dir6

rm -ir ~/dir7

Move or rename files and directories

mv [-i] source target\_file

mv [-i] source target\_directory

mv nuts beans

mv /export/home/jerry/brands ~

mv dir5 dir6

man: 查看帮助手册

-help (UNIX)

info

```
zyj@vultr:~/jd1915/Linux$ info ls
Next: dir invocation, Up: Directory listing
10.1 'ls': List directory contents
=====
The 'ls' program lists information about files (of any type, including
directories). Options and file arguments can be intermixed arbitrarily,
as usual.

  For non-option command-line arguments that are directories, by
  default 'ls' lists the contents of directories, not recursively, and
  omitting files with names beginning with '..'. For other non-option
  arguments, by default 'ls' lists just the file name. If no non-option
  argument is specified, 'ls' operates on the current directory, acting as
  if it had been invoked with a single argument of '..'.

  By default, the output is sorted alphabetically, according to the
  locale settings in effect.(1) If standard output is a terminal, the
  output is in columns (sorted vertically) and control characters are
  output as question marks; otherwise, the output is listed one per line
  and control characters are output as-is.
```

```
zyj@vultr:~/jd1915/Linux$ ls --help
Usage: ls [OPTION]... [FILE]...
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.
-a, --all              do not ignore entries starting with .
-A, --almost-all       do not list implied . and ..
--author              with -l, print the author of each file
-b, --escape            print C-style escapes for nongraphic characters
--block-size=SIZE       with -l, scale sizes by SIZE when printing them;
                       e.g., '--block-size=M'; see SIZE format below
-B, --ignore-backups   do not list implied entries ending with ~
-c                   with -lt: sort by, and show, ctime (time of last
                     modification of file status information);
                     with -l: show ctime and sort by name;
```

```
zyj@vultr:~/jd1915/Linux$ man ls
LS(1)                               User Commands                         LS(1)

NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  List information about the FILEs (the current directory by default). Sort entries
  alphabetically if none of -cftuvSUX nor --sort is specified.

  Mandatory arguments to long options are mandatory for short options too.
```

telnet,

ping

ifconfig -a      ip.网卡信息.

# 课后整理：

## 1. 操作系统历史：

1970 - UNIX 诞生元年

1983 - “图灵奖”

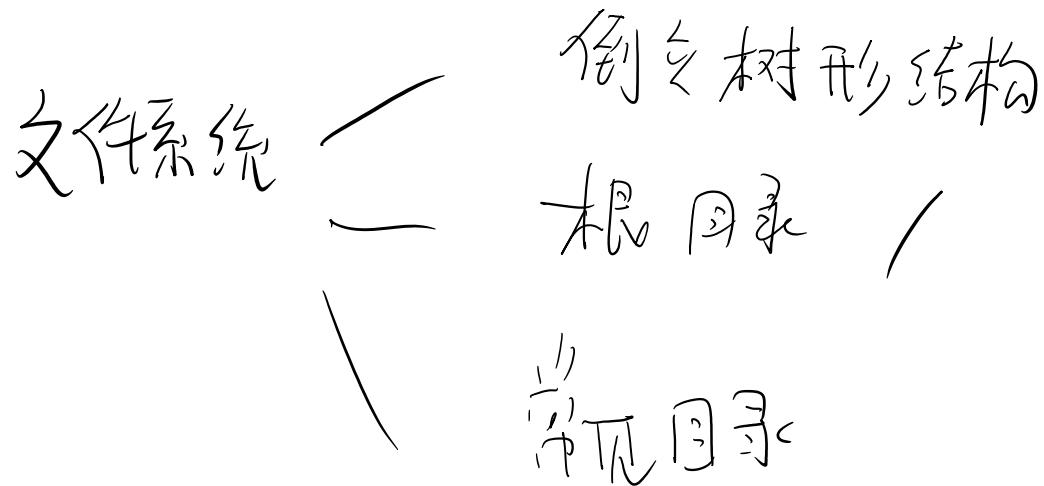
、 、

2.

## 2、操作系统组成（洋葱图）

内核  作用：  
交换分区  
管理进程

Shell  解释器  
常用快捷键  
常用命令



○ 常用命令：

1. 语法格式：命令、选项、参数

EOF

今天結束了。

