第三次实验报告

实验时间：	2020.11.16	实验人：	詹泽晔

实验名称：Linux 命令的使用

1. 实验任务和目标：

- 使用及熟悉第七，八，九章 PPT 中的命令

实验环境描述：Linux 环境

实验操作过程及配置说明：

第七章

1、使用命令创建用户账户 zhangsan，并设置其密码为 111111，设置用户名全称为“张三”。

useradd zhangsan

passwd zhangsan

```
[root@centos1 home]# useradd zhangsan
[root@centos1 home]# tail -1 /etc/passwd
zhangsan:x:1001:1001::/home/zhangsan:/bin/bash
[root@centos1 home]# tail -1 /etc/shadow
zhangsan:!!:18582:0:99999:7:::
[root@centos1 home]# passwd zhangsan
Changing password for user zhangsan.
New password:
BAD PASSWORD: The password is a palindrome
Retype new password:
passwd: all authentication tokens updated successfully.
[root@centos1 home]# tail -1 /etc/shadow
zhangsan:$6$s98JvH3C$cWJvIixTHEf4mUw6S2t9PbUFOcbruaysZYhj6OLy7g9kYXhD0S2pkvIVKmQQfC00M/ibq4epE
AT4muR064DOL/:18582:0:99999:7:::
```

2、使用命令修改用户账户 zhangsan 的 UID 为 1700，其 Shell 类型为/bin/ksh。

usermod -u 1700 zhangsan

```
[root@centos1 ~]# usermod -u 1700 zhangsan
[root@centos1 ~]# cat /etc/passwd | grep zhangsan
zhangsan:x:1700:1001::/home/zhangsan:/bin/bash
```

3、使用命令删除用户账户 zhangsan，并且在删除该用户的同时一起删除其主目录。

userdel -r zhangsan

```
[root@centos1 ~]# userdel -r zhangsan
[root@centos1 ~]# cat /etc/passwd | grep zhangsan
[root@centos1 ~]#
```

4、使用命令创建组群 group1，并且在创建时设置其 GID 为 1800。

groupadd -g 1800 group1

```
[root@centos1 ~]# groupadd -g 1800 group1
[root@centos1 ~]# cat /etc/gro
groff/  group   group-
[root@centos1 ~]# cat /etc/group | grep group1
group1:x:1800:
```

5、使用命令修改组群 group1 的新组群名称为“shanghai”。

groupmod -n shanghai group1

```
[root@centos1 ~]# groupmod -n shanghai group1
[root@centos1 ~]# cat /etc/group | grep shanghai
shanghai:x:1800:
```

第八章

1、对硬盘上的剩余空间进行分区，创建两个逻辑驱动器，容量分别为 1GB 和 3GB。

先使用 fdisk 命令创建扩展分区

fdisk /dev/sdb

n　#创建新分区

e　#创建扩展分区

输入分区第一个扇区

输入分区最后一个扇区

w　#保存分区设置

```
[root@centos1 dev]# fdisk /dev/sdb
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table
Building a new DOS disklabel with disk identifier 0x1281f562.

Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p): e
Partition number (1-4, default 1): 4
First sector (2048-10485759, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-10485759, default 10485759):
Using default value 10485759
Partition 4 of type Extended and of size 5 GiB is set

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
```

再创建逻辑分区

fdisk /dev/sdb

n　#创建新分区

l　# 创建逻辑分区

输入分区第一个扇区大小

+1G　#输入分区最后一个扇区大小

w 保存设置

```
[root@centos1 zhanyeye]# fdisk /dev/sdb
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.


Command (m for help): n
Partition type:
   p   primary (0 primary, 1 extended, 3 free)
   l   logical (numbered from 5)
Select (default p): l
Adding logical partition 5
First sector (4096-10485759, default 4096):
Using default value 4096
Last sector, +sectors or +size{K,M,G} (4096-10485759, default 10485759): +1G
Partition 5 of type Linux and of size 1 GiB is set

Command (m for help): n
Partition type:
   p   primary (0 primary, 1 extended, 3 free)
   l   logical (numbered from 5)
Select (default p): l
Adding logical partition 6
First sector (2103296-10485759, default 2103296):
Using default value 2103296
Last sector, +sectors or +size{K,M,G} (2103296-10485759, default 10485759): +3G
Partition 6 of type Linux and of size 3 GiB is set

Command (m for help): p

Disk /dev/sdb: 5368 MB, 5368709120 bytes, 10485760 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x1281f562

   Device Boot      Start         End      Blocks   Id  System
/dev/sdb4            2048    10485759     5241856    5  Extended
/dev/sdb5            4096     2101247     1048576   83  Linux
/dev/sdb6         2103296     8394751     3145728   83  Linux

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
```

2、对 1GB 分区创建文件系统为 xfs，并将其以只读的方式挂载到/mnt/kk 目录中。

mkfs -t xfs /dev/sdb5

```
[root@centos1 dev]# mkfs -t xfs /dev/sdb5
meta-data=/dev/sdb5              isize=512    agcount=4, agsize=65536 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=1        finobt=0, sparse=0
data     =                       bsize=4096   blocks=262144, imaxpct=25
         =                       sunit=0      swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0 ftype=1
log      =internal log           bsize=4096   blocks=2560, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none                   extsz=4096   blocks=0, rtextents=0
```

重启后查看分区的文件系统情况

```
[root@centos1 zhanyeye]# parted /dev/sdb
GNU Parted 3.1
Using /dev/sdb
Welcome to GNU Parted! Type 'help' to view a list of commands.
(parted) print list
Model: Msft Virtual Disk (scsi)
Disk /dev/sdb: 5369MB
Sector size (logical/physical): 512B/512B
Partition Table: msdos
Disk Flags:

Number  Start   End     Size    Type      File system  Flags
 4      1049kB  5369MB  5368MB  extended
 5      2097kB  1076MB  1074MB  logical   xfs
 6      1077MB  4298MB  3221MB  logical
```

3、修改/etc/fstab 文件，使得 1GB 分区开机时自动挂载到/mnt/kk 目录中。

vim /etc/fstab

```
#
# /etc/fstab
# Created by anaconda on Tue Nov 17 02:17:38 2020
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
/dev/mapper/centos_centos1-root /                       xfs     defaults        0 0
UUID=cfb4f2ec-d703-41f9-b200-6fa332981dd3 /boot                   xfs     defaults        0 0
/dev/mapper/centos_centos1-swap swap                    swap    defaults        0 0
/dev/sdb5 /mnt/kk xfs defaults 0 0
~
~
```

4、在计算机上添加交换文件，文件大小为 1GB。

dd if=/dev/zero of=/swapfiel bs=1024 count=1048576

mkswap /swapfiel

swapon --show

```
[root@centos1 etc]# dd if=/dev/zero of=/swapfile bs=1024 count=1048576
1048576+0 records in
1048576+0 records out
1073741824 bytes (1.1 GB) copied, 1.37363 s, 782 MB/s
[root@centos1 etc]# ls /
bin   dev  home  lib64  mnt  proc  run   srv       sys  usr
boot  etc  lib   media  opt  root  sbin  swapfile  tmp  var
[root@centos1 etc]# mkswap /swapfile
Setting up swapspace version 1, size = 1048572 KiB
no label, UUID=542e86ba-8e68-4493-9a5e-8fd256163539
[root@centos1 etc]# swapon /swapfile
swapon: /swapfile: insecure permissions 0644, 0600 suggested.
[root@centos1 etc]# free
              total        used        free      shared  buff/cache   available
Mem:         949132      594020       75692        1156      279420      213932
Swap:       3670008        8456     3661552
[root@centos1 etc]# swapon --show
NAME      TYPE       SIZE USED PRIO
/dev/dm-1 partition  2.5G 8.3M   -2
/swapfile file      1024M   0B   -3
```

第九章

1、使用 rpm 命令安装 bind-chroot 软件包，安装完毕后查看该软件包的描述信息。

rpm -ivh bind-chroot-9.11.24-2.fc34.x86_64.rpm

2、使用 rpm 命令查询 crontabs 软件包所包含的文件列表。

rpm -qi crontabs

```
[root@centos1 ~]# rpm -qi crontabs
Name        : crontabs
Version     : 1.11
Release     : 6.20121102git.el7
Architecture: noarch
Install Date: Tue 17 Nov 2020 02:18:27 AM CST
Group       : System Environment/Base
Size        : 3700
License     : Public Domain and GPLv2
Signature   : RSA/SHA256, Fri 04 Jul 2014 09:02:43 AM CST, Key ID 24c6a8a7f4a80eb5
Source RPM  : crontabs-1.11-6.20121102git.el7.src.rpm
Build Date  : Tue 10 Jun 2014 06:14:31 AM CST
Build Host  : worker1.bsys.centos.org
Relocations : (not relocatable)
Packager    : CentOS BuildSystem <http://bugs.centos.org>
Vendor      : CentOS
URL         : https://fedorahosted.org/crontabs
Summary     : Root crontab files used to schedule the execution of programs
Description :
This package is used by Fedora mainly for executing files by cron.

The crontabs package contains root crontab files and directories.
You will need to install cron daemon to run the jobs from the crontabs.
The cron daemon such as cronie or fcron checks the crontab files to
see when particular commands are scheduled to be executed.  If commands
are scheduled, it executes them.

Crontabs handles a basic system function, so it should be installed on
your system.
```

3、使用 rpm 命令查询/etc/crontab 文件属于哪个软件包。

rpm -qf /etc/crontab

```
[root@centos1 ~]# rpm -qf /etc/crontab
crontabs-1.11-6.20121102git.el7.noarch
[root@centos1 ~]#
```

4、在 Linux 系统上修改软件仓库为 https://mirrors.nju.edu.cn。

```
# mv /etc/yum.repos.d/CentOS-Base.repo /etc/yum.repos.d/CentOS-Base.repo.backup
#下载对应版本的 CentOS-Base.repo，放入 /etc/yum.repos.d/
#运行 sudo yum makecache 生成缓存
```

```
[root@centos1 yum.repos.d]# mv /etc/yum.repos.d/CentOS-Base.repo /etc/yum.repos.d/CentOS-Base.repo.backup
[root@centos1 yum.repos.d]# vim CentOS-Base.repo
[root@centos1 yum.repos.d]# sudo yum makecache
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
base                                                                    | 3.6 kB  00:00:00
extras                                                                  | 2.9 kB  00:00:00
updates                                                                 | 2.9 kB  00:00:00
(1/6): extras/7/x86_64/other_db                                         | 134 kB  00:00:00
(2/6): updates/7/x86_64/other_db                                        |  80 kB  00:00:00
(3/6): extras/7/x86_64/filelists_db                                     | 224 kB  00:00:00
(4/6): updates/7/x86_64/filelists_db                                    | 1.2 MB  00:00:00
(5/6): base/7/x86_64/other_db                                           | 2.6 MB  00:00:01
(6/6): base/7/x86_64/filelists_db                                       | 7.2 MB  00:00:01
Metadata Cache Created
```

5、使用 yum 命令安装 samba 软件包。

yum install samba

6、使用 yum 命令删除 bind 软件包。

#yum remove bind

7、归档/root/abc 目录，生成文件为/root/abc.tar。

#tar -cvf /root/abc /root/abc.tar

8、使用 tar 命令调用 gzip 压缩程序将/root/abc 目录压缩成/root/abc.tar.gz 文件。

tar -zcvf /root/abc /root/abc.tar.gz

实验结果（可以是截屏图片）：

总结和分析：