

## 南昌大学实验报告

一、 实验项目名称

Linux 系统管理

- 二、 实验目的
  - 1. 了解 Linux 系统服务进程的概念。
  - 2. 熟悉 Linux 磁盘操作管理的相关内容。
  - 3. 掌握进程管理的操作。
- 三、 实验要求

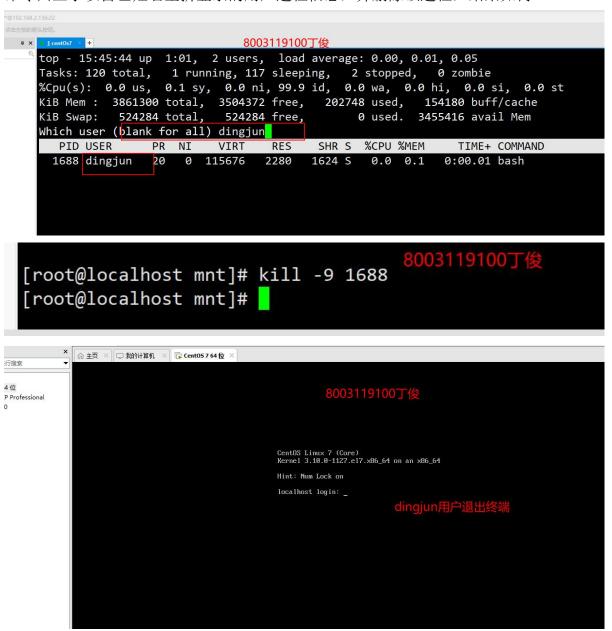
要求使用 Xshell 进行登录,具体操作如下:

1. 任意使用多个命令后,利用 ps 显示所有用户进程的详细信息,并说明这些进程的当前状态。

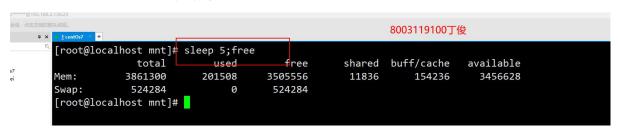
```
8003119100丁俊
               1673 0.0 0.0 155472 1856 pts/0 R+ 15:37
    [1]+ 已停止
    [root@localhost mnt]# clear
    [root@localhost mnt]# vi &
    [2] 1676
    [root@localhost mnt]# ls &
    [3] 1677
    [2]+ 已停止
    [root@localhost mnt]# cdrom
    cd &
    [4] 1678
    [3] 完成
                                ls --color=auto
    [root@localhost mnt]# ps -aux
                PID %CPU %MEM VSZ
                                       RSS TTY
    USER
                                                   STAT START
                                                                TIME COMMAND
                                                        14:43
                                                                0:02 /usr/lib/systemd/systemd --switched
    root
                  1 0.0 0.1 193548
                                     6712 ?
                                                   Ss
                    0.0
                         0.0
                                        0 ?
                                                        14:43
                                                                0:00
                                                                     [kthreadd]
    root
                                                                0:00 [kworker/0:0H]
                  4
                    0.0
                                        0 ?
                                                   SK
                                                        14:43
    root
                         0.0
                                   0
                                                                0:00 [kworker/u256:0]
                                   0
                                        0 ?
                                                   S
                                                        14:43
    root
                    0.0
                         0.0
                    0.0
                          0.0
                                                        14:43
                                                                0:00
                                                                     [ksoftirqd/0]
    root
                                                                0:00 [migration/0]
    root
                    0.0
                         0.0
                                   0
                                        0
                                                        14:43
                                        0 ?
    root
                  8
                    0.0
                         0.0
                                   0
                                                        14:43
                                                                0:00 [rcu_bh]
                                                                0:00 [rcu_sched]
0:00 [lru-add-drain]
                  9
                    0.0
                          0.0
                                                        14:43
    root
                                                        14:43
    root
                 10
                    0.0
                         0.0
                                                                    @100 1 [kworker/0:0]
                                         0 ?
            1674
                  0.0
                        0.0
                                                     S
                                                           15:39
root
                                  0
                                                                    0:00 vi
            1676
                        0.0 124176 1592 pts/0
                                                      Т
                                                           15:39
root
                  0.0
root
            1679
                  0.0 0.0 155472 1864 pts/0
                                                     R+
                                                           15:39
                                                                    0:00 ps -aux
```

T表示 vi 进程现在处于停止状态, S表示休眠, R+表示 ps-aux 正在进行且位于后台。

2. 以自己姓名全拼的用户以终端方式, root 用户使用 Xshell 远程登录, 使用 top 命令只显示以自己姓名全拼登录的用户进程信息,并删除该进程,结果如何?



3. 延迟 5 秒后显示内存使用情况。



4. 自己设计一组案例,对进程的前台和后台进行控制。

```
8003119100丁俊
[root@localhost ~]# nc -lp 8000 &
[1] 1987
[root@localhost ~]# jobs -1
[1]+ 1987 运行中
                              nc -1p 8000 &
[root@localhost ~]# fg 1
nc -1p 8000
^Z
[1]+ 己停止
                         nc -lp 8000
[root@localhost ~]# jobs -1
[1]+ 1987 停止
                               nc -lp 8000
[root@localhost ~]# bg1
-bash: bg1: 未找到命令
[root@localhost ~]# bg 1
[1]+ nc -lp 8000 &
[root@localhost ~]# jobs -1
[1]+ 1987 运行中
                              nc -1p 8000 &
[root@localhost ~]#
```

5. 任意选择一个服务,查看是否开机启动,如没有开机启动,请设置为开机自启。

```
bus-org.treedesktop.import1.service
bus-org.freedesktop.locale1.service
                                             static
bus-org.freedesktop.login1.service
                                             static
bus-org.freedesktop.machine1.service
                                             static
bus-org.freedesktop.nm-dispatcher.service
                                             enabled
bus-org.freedesktop.timedate1.service
                                             static
bus.service
                                             static
root@localhost mnt]# systemctl list-unit-files --type service | grep console-shell
onsole-shell.service
                                            disabled
root@localhost mnt]# systemctl enable console-shell.service
reated symlink from /etc/systemd/system/getty.target.wants/console-shell.service to /usr/lib/systemd/sys
ole-shell.service.
root@localhost mnt]# systemctl list-unit-files --type service | grep console-shell
onsole-shell.service
                                             enabled
root@localhost mnt]#
```

6. 任意选择一个服务, 查看该服务的状态, 如果启动请停止, 反之亦然。

```
8003119100丁俊
      [root@localhost mnt]# service crond status
      Redirecting to /bin/systemctl status crond.service
      crond.service - Command Scheduler
         Loaded: loaded (/usr/lib/systemd/system/crond.service; enabled; vendor preset: enabled)
         Active: active (running) since ≡ 2021-11-10 14:43:56 CST; 1h 14min ago
       Main PID: 585 (crond)
         CGroup: /system.slice/crond.service
                  └─585 /usr/sbin/crond -n
      11月 10 14:43:56 localhost.localdomain systemd[1]: Started Command Scheduler.
      11月 10 14:43:56 localhost.localdomain crond[585]: (CRON) INFO (RANDOM_DELAY will be scaled with fac
      11月 10 14:43:57 localhost.localdomain crond[585]: (CRON) INFO (running with inotify support)
      Hint: Some lines were ellipsized, use -1 to show in full. [root@localhost mnt]# service crond stop
      Redirecting to /bin/systemctl stop crond.service
      [root@localhost mnt]# service crond status
      Redirecting to /bin/systemctl status crond.service

    crond.service - Command Scheduler

         Loaded: |loaded (/usr/lib/systemd/system/crond.service; enabled; vendor preset: enabled)
        Active: inactive (dead) since \equiv 2021-11-10 15:58:23 CST; 4s ago
有会话
件夹
       Process: 585 ExecStart=/usr/sbin/crond -n $CRONDARGS (code=exited, status=0/SUCCESS)
      Main PID: 585 (code=exited, status=0/SUCCESS)
     11月 10 14:43:56 localhost.localdomain systemd[1]: Started Command Scheduler.
     11月 10 14:43:56 localhost.localdomain crond[585]: (CRON) INFO (RANDOM_DELAY will be scaled with fac
```

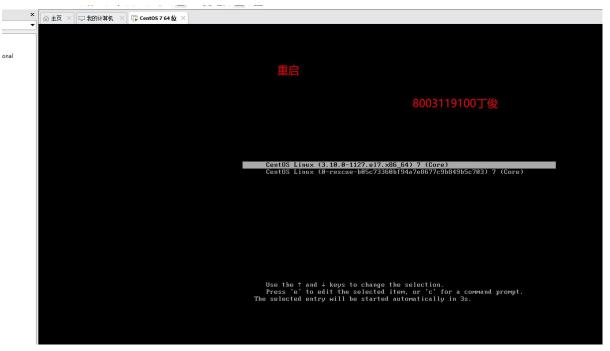
7. 设置 centos 系统镜像为系统启动时自动挂载,利用转换服务运行级别的方式进

行重启,以验证挂载成功。Vi/etc/fstab

```
[root@localhost ~]# mount /dev/cdcom1/mnt/cdcom
mount: /dev/sr0 写保护,将以只读方式挂载
[root@localhost ~]# mount -o loop /dev/cdrom /mnt/cdrom
[root@localhost ~]# vi /etc/fstab
[root@localhost ~]#
# /etc/fstab
# Created by anaconda on Tue Nov 2 20:03:03 2021
# 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
UUID=2bc48cfb-675e-41ba-b5b3-cbcef3dde127 /
                                                             defaults
                                                                           0 0
UUID=3c271069-4ddb-435a-acd3-fb0a5201d28a /boot
                                                       xfs
                                                             defaults
                                                                           0 0
UUID=f33745da-2740-47d5-95fb-cc7be0e392b8 swap
                                                              defaults
                                                                           0 0
                                                       swap
 /dev/cdrom
                                 /mnt/cdrom
                                                      iso9660 defaults
                                                                           0 0
```

```
| Remotive | Reference | Refe
```

```
[root@localhost cdrom]# ls
        CentOS BuildTag EULA images
                                          LiveOS
                                                    repodata
        EFI
                         GPL
                                isolinux
                                          Packages RPM-GPG-KEY-Ce
        [root@localhost cdrom]# cd ~
        [root@localhost ~]# init 6
        Connection closing...Socket close.
        Connection closed by foreign host.
        Disconnected from remote host(cent0s7) at 16:04:20.
        Type `help' to learn how to use Xshell prompt.
 centOs7
        [C:\~]$
 192.168.2.136
 22
SSH
```



## 自动挂载成功

```
Sentis Linux 7 (Core)

Remeil 3.18.8-1127.e17.x86_64 on an x86_64

localinest login: root
Passand:
Login incorrect

localinest login: Pri Nov 12.15:14:24 CST 2821 on ttg1

There was 1 falled login at steept since the last successful login.
Last login: Red Nov 18 16:11:88 from 192.168.2.1

FrootBeachest 7 list coron

list cament access coron: No such file or directory

TrootBeachest 7 list colories for the red list or directory

FrootBeachest 7 list of the file or directory

FrootBeachest 7 list of the red list or directory

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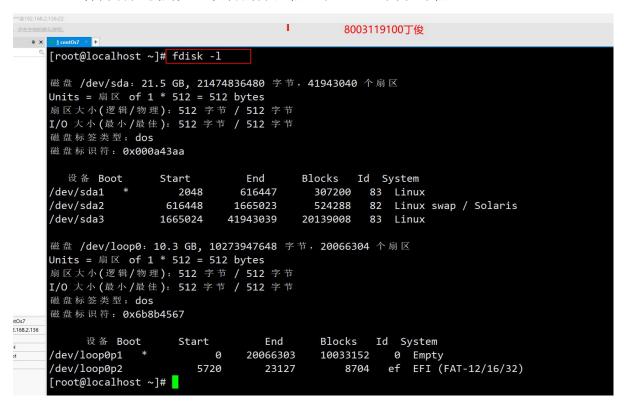
FrootBeachest 7 list of the red list or directory

FrootBeachest 7 list of the red list or directory

FrootBeachest 7 list of the red list or directory

FrootBeachest 7 list of the red list
```

8. 查看自动挂载的光盘设备的分区信息和磁盘空间统计信息。



```
[root@localhost cdrom]# du -sh
                                                    8003119100丁俊
9.6G
[root@localhost cdrom]# du -sh *
        CentOS_BuildTag
8.3M
512
        EULA
18K
        GPL
68M
        images
60M
        isolinux
        LiveOS
491M
9.0G
        Packages
29M
       repodata
       RPM-GPG-KEY-CentOS-7
2.0K
2.0K
       RPM-GPG-KEY-CentOS-Testing-7
3.0K
       TRANS.TBL
[root@localhost cdrom]#
```

## 四、主要仪器设备及耗材

计算机、VMware、CentOS 7、word

- 五、实验步骤
- 六、实验数据及处理结果
- 七、思考讨论题或体会或对改进实验的建议

## 八、参考资料

[1] 文东戈,赵艳芹.Linux 操作系统实用教程(第 2 版)[M].北京:清华大学出版社.2019,9.