第八次实验报告

实验报告要求：将实验过程按照"实验报告模板"的形式写好后存成 PDF 格式提交。

实验时间：	2021.7.12	实验人：	徐浩钦

实验名称：Linux 系统基础第八次实验

1. **实验任务和目标：**

    1、创建一个 VG 和 LV，PE 大小 8M，LV 中 PE 个数为 100，将 LV 格式化为 ext4 文件系统，开机时自动挂载到/mnt/wshare，其中 VG 名称为 wgroup ,LV 名称为 wshare。
    2、为 wshare 逻辑卷创建大小为 160M 的快照 wshare_snap，并将快照挂载到/mnt/wshare_snap。

实验环境描述：Linux 环境

实验拓扑及网络规划：

Linux 服务器内网 IP:192.168.135.128

实验操作过程及配置说明：

1、创建一个 VG 和 LV，PE 大小 8M，LV 中 PE 个数为 100，将 LV 格式化为 ext4 文件系统，开机时自动挂载到/mnt/wshare，其中 VG 名称为 wgroup ,LV 名称为 wshare。

```
[root@host-172-29-4-123 ~]# lvm
lvm> pvcreate /dev/vda3
  Device /dev/vda3 not found.
lvm> pvcreate /dev/vdb3
  Physical volume "/dev/vdb3" successfully created.
lvm> pvcreate /dev/vdb2
  Physical volume "/dev/vdb2" successfully created.
lvm> vgcreate -s 8M wgroup /dev/vdb2
  Volume group "wgroup" successfully created
```

```
lvm> lvcreate -n wshare -L 800M wgroup
  Logical volume "wshare" created.
```

```
[root@host-172-29-4-123 ~]# fdisk -l
```

```
磁盘 /dev/mapper/wgroup-wshare: 838 MB, 838860800 字节, 1638400 个扇区
Units = 扇区 of 1 * 512 = 512 bytes
扇区大小(逻辑/物理): 512 字节 / 512 字节
I/O 大小(最小/最佳): 512 字节 / 512 字节
```

```
[root@host-172-29-4-123 ~]# mkfs -t ext4 /dev/mapper/wgroup-wshare
mke2fs 1.42.9 (28-Dec-2013)
文件系统标签=
OS type: Linux
块大小=4096 (log=2)
分块大小=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
51296 inodes, 204800 blocks
10240 blocks (5.00%) reserved for the super user
第一个数据块=0
Maximum filesystem blocks=209715200
7 block groups
32768 blocks per group, 32768 fragments per group
7328 inodes per group
Superblock backups stored on blocks:
        32768, 98304, 163840

Allocating group tables: 完成
正在写入inode表：完成
Creating journal (4096 blocks): 完成
Writing superblocks and filesystem accounting information: 完成
```
```
[root@host-172-29-4-123 ~]# vi /etc/fstab
```
```
#
# /etc/fstab
# Created by anaconda on Sat Jul 18 13:55:29 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-root /                      xfs     defaults        0 0
UUID=012d80a7-bfe3-40b2-b3d4-6e429148d70b /boot            xfs     defaults        0 0
/dev/mapper/centos-home /home                  xfs     defaults        0 0
/dev/mapper/centos-swap swap                   swap    defaults        0 0
/dev/vdb5               /mnt/kk                 xfs     defaults        1 2
UUID=98b5ebba-27ad-4762-a3c6-65caa6b45adf    /mnt/kk             xfs     defaults        1 2
/dev/mapper/wgroup-wshare  /mnt/wshare  ext4   defaults  1  2
/dev/wgroup/wshare_snap /mnt/wshare_snap ext4  defaults 1 2
```

2、为 wshare 逻辑卷创建大小为 160M 的快照 wshare_snap，并将快照挂载到 /mnt/wshare_snap。

```
lvm> lvcreate -s -n wshare_snap -L 160M /dev/mapper/wgroup-wshare
  Logical volume "wshare_snap" created.
```
```
[root@host-172-29-4-123 mnt]# mkdir /mnt/wshare_snap
```
```
[root@host-172-29-4-123 mnt]# vi /etc/fstab
```
```
#
# /etc/fstab
# Created by anaconda on Sat Jul 18 13:55:29 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-root /                      xfs     defaults        0 0
UUID=012d80a7-bfe3-40b2-b3d4-6e429148d70b /boot             xfs     defaults        0 0
/dev/mapper/centos-home /home                  xfs     defaults        0 0
/dev/mapper/centos-swap swap                   swap    defaults        0 0
/dev/vdb5               /mnt/kk                 xfs     defaults        1 2
UUID=98b5ebba-27ad-4762-a3c6-65caa6b45adf    /mnt/kk             xfs     defaults        1 2
/dev/mapper/wgroup-wshare  /mnt/wshare  ext4   defaults  1  2
/dev/mapper/wgroup-wshare_snap /mnt/wshare_snap ext4  defaults 1 2
```
```
[root@host-172-29-4-123 mnt]# mount -ro /dev/mapper/wgroup-wshare_snap /mnt/wshare_snap
```

实验结果（可以是截屏图片）：

1、创建一个 VG 和 LV，PE 大小 8M，LV 中 PE 个数为 100，将 LV 格式化为

ext4 文件系统，开机时自动挂载到/mnt/wshare，其中 VG 名称为 wgroup ,LV 名称为 wshare。

```
磁盘 /dev/vdb: 21.5 GB, 21474836480 字节，41943040 个扇区
Units = 扇区 of 1 * 512 = 512 bytes
扇区大小(逻辑/物理)：512 字节 / 512 字节
I/O 大小(最小/最佳)：512 字节 / 512 字节
磁盘标签类型：dos
磁盘标识符：0xd03d0b13

   设备 Boot       Start         End      Blocks   Id  System
/dev/vdb1            2048     2099200    1048576+   83  Linux
/dev/vdb2         2101248     4196352    1047552+   83  Linux
/dev/vdb3         4198400     6295552    1048576+   83  Linux
/dev/vdb4         6297600    41943039   17822720    5  Extended
/dev/vdb5         6299648     8396800    1048576+   83  Linux
/dev/vdb6         8400896    14692352    3145728+   83  Linux
```

```
lvm> vgdisplay
  --- Volume group ---
  VG Name               wgroup
  System ID
  Format                lvm2
  Metadata Areas        1
  Metadata Sequence No  1
  VG Access             read/write
  VG Status             resizable
  MAX LV                0
  Cur LV                0
  Open LV               0
  Max PV                0
  Cur PV                1
  Act PV                1
  VG Size               1016.00 MiB
  PE Size               8.00 MiB
  Total PE              127
  Alloc PE / Size       0 / 0
  Free  PE / Size       127 / 1016.00 MiB
  VG UUID               cyJ4zn-cAbm-UF12-uatJ-Mhu1-Vi31-Lu7PHg
```

```
lvm> lvdisplay
  --- Logical volume ---
  LV Path                /dev/wgroup/wshare
  LV Name                wshare
  VG Name                wgroup
  LV UUID                XPcu4n-95U4-Z8By-dW2P-5e4i-6SeI-xOhT56
  LV Write Access        read/write
  LV Creation host, time host-172-29-4-123, 2020-07-25 16:28:14 +0800
  LV Status              available
  # open                 0
  LV Size                800.00 MiB
  Current LE             100
  Segments               1
  Allocation             inherit
  Read ahead sectors     auto
  - currently set to     8192
  Block device           253:3
```

```
[root@host-172-29-4-123 ~]# mkfs -t ext4 /dev/mapper/wgroup-wshare
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```

2、为 wshare 逻辑卷创建大小为 160M 的快照 wshare_snap，并将快照挂载到 /mnt/wshare_snap。

```
[root@host-172-29-4-123 mnt]# mkdir /mnt/wshare_snap
[root@host-172-29-4-123 mnt]# ls
it  kk  wshare  wshare_snap
```

```
lvm> lvscan
  ACTIVE   Original '/dev/wgroup/wshare' [800.00 MiB] inherit
  ACTIVE   Snapshot '/dev/wgroup/wshare_snap' [160.00 MiB] inherit
  ACTIVE            '/dev/centos/root' [50.00 GiB] inherit
  ACTIVE            '/dev/centos/home' [<45.12 GiB] inherit
  ACTIVE            '/dev/centos/swap' [2.00 GiB] inherit
```

总结和分析：

1、学习了 Linux 逻辑卷