

Домашнее задание «Файловые системы и LVM»

0. Создание стенда.

Использовалась VM на vmware workstation

ОС: CentOS Linux release 7.6.1810

CPU-1;

ОЗУ- 1024MB

Диски: sata sda 40Gb, sata sdb 10Gb, sata sdc 2Gb, sata sdd 1Gb, sata sde1Gb.

ОС устанавливалась на VG test sda с 2-мя LVM: swap 1,5Gb и root (оставшееся место на диске)

```
[root@lvmtest ~]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                                  8:0      0   40G  0 disk
├─sda1                               8:1      0    1M  0 part
├─sda2                               8:2      0    1G  0 part /boot
├─sda3                               8:3      0   39G  0 part
│   └─test-root                     253:0    0  37.5G  0 lvm /
│       └─test-swap                 253:1    0   1.5G  0 lvm [SWAP]
sdb                                  8:16     0   10G  0 disk
sdc                                  8:32     0    2G  0 disk
sdd                                  8:48     0    1G  0 disk
├─vg0-mirror_rmeta_0               253:2    0    4M  0 lvm
│   └─vg0-mirror                   253:6    0   816M  0 lvm
│       └─vg0-mirror_rimage_0      253:3    0   816M  0 lvm
│           └─vg0-mirror           253:6    0   816M  0 lvm
sde                                  8:64     0    1G  0 disk
├─vg0-mirror_rmeta_1               253:4    0    4M  0 lvm
│   └─vg0-mirror                   253:6    0   816M  0 lvm
│       └─vg0-mirror_rimage_1      253:5    0   816M  0 lvm
│           └─vg0-mirror           253:6    0   816M  0 lvm
```

1. Создание, форматирование, монтирование временного тома для корневого раздела:

```
[root@lvmtest ~]# pvcreate /dev/sdb
Physical volume "/dev/sdb" successfully created.
[root@lvmtest ~]# vgcreate vg_root /dev/sdb
Volume group "vg_root" successfully created
[root@lvmtest ~]# lvcreate -n lv_root -l +100%FREE /dev/vg_root
Logical volume "lv_root" created.
[root@lvmtest ~]# mkfs.xfs /dev/vg_root/lv_root
meta-data=/dev/vg_root/lv_root    isize=512    agcount=4, agsize=655104 blks
      =                               sectsz=512    attr=2, projid32bit=1
      =                               crc=1        finobt=0, sparse=0
data      =                               bsize=4096  blocks=2620416, 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
[root@lvmtest ~]# mount /dev/vg_root/lv_root /mnt
[root@lvmtest ~]# _
```

2. Копирование данных на временный раздел:

```
[root@lvmtest ~]# xfsdump -J - /dev/test/root | xfsrestore -J - /mnt_
```

```
xfsdump: ino map phase 1: constructing initial dump list
xfsdump: ino map phase 2: skipping (no pruning necessary)
xfsdump: ino map phase 3: skipping (only one dump stream)
xfsdump: ino map construction complete
xfsdump: estimated dump size: 1338981760 bytes
xfsdump: creating dump session media file 0 (media 0, file 0)
xfsdump: dumping ino map
xfsdump: dumping directories
xfsrestore: examining media file 0
xfsrestore: dump description:
xfsrestore: hostname: lvmtest.local
xfsrestore: mount point: /
xfsrestore: volume: /dev/mapper/test-root
xfsrestore: session time: Tue Dec 3 19:20:02 2024
xfsrestore: level: 0
xfsrestore: session label: ""
xfsrestore: media label: ""
xfsrestore: file system id: 5c53b23d-da34-4bc5-829a-ddc5198218a2
xfsrestore: session id: 55977515-b1e2-4c5f-828d-98ecfb096584
xfsrestore: media id: fdca87e6-d4c8-434e-a618-b61790c2b9e2
xfsrestore: searching media for directory dump
xfsrestore: reading directories
xfsdump: dumping non-directory files
xfsrestore: 4616 directories and 34082 entries processed
xfsrestore: directory post-processing
xfsrestore: restoring non-directory files
xfsdump: ending media file
xfsdump: media file size 1304535696 bytes
xfsdump: dump size (non-dir files) : 1284753056 bytes
xfsdump: dump complete: 31 seconds elapsed
xfsdump: Dump Status: SUCCESS
xfsrestore: restore complete: 31 seconds elapsed
xfsrestore: Restore Status: SUCCESS
[root@lvmtest ~]# ls /mnt
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot  etc  lib  media  opt  root  sbin  sys  usr
```

3. Монтирование /proc /sys /dev /run /boot; chroot

```
xfsdump: ino map phase 3: skipping (only one dump stream)
xfsdump: ino map construction complete
xfsdump: estimated dump size: 1338981760 bytes
xfsdump: creating dump session media file 0 (media 0, file 0)
xfsdump: dumping ino map
xfsdump: dumping directories
xfsrestore: examining media file 0
xfsrestore: dump description:
xfsrestore: hostname: lvmtest.local
xfsrestore: mount point: /
xfsrestore: volume: /dev/mapper/test-root
xfsrestore: session time: Tue Dec 3 19:20:02 2024
xfsrestore: level: 0
xfsrestore: session label: ""
xfsrestore: media label: ""
xfsrestore: file system id: 5c53b23d-da34-4bc5-829a-ddc5198218a2
xfsrestore: session id: 55977515-b1e2-4c5f-828d-98ecfb096584
xfsrestore: media id: fdca87e6-d4c8-434e-a618-b61790c2b9e2
xfsrestore: searching media for directory dump
xfsrestore: reading directories
xfsdump: dumping non-directory files
xfsrestore: 4616 directories and 34082 entries processed
xfsrestore: directory post-processing
xfsrestore: restoring non-directory files
xfsdump: ending media file
xfsdump: media file size 1304535696 bytes
xfsdump: dump size (non-dir files) : 1284753056 bytes
xfsdump: dump complete: 31 seconds elapsed
xfsdump: Dump Status: SUCCESS
xfsrestore: restore complete: 31 seconds elapsed
xfsrestore: Restore Status: SUCCESS
[root@lvmtest ~]# ls /mnt
bin dev home lib64 mnt proc run srv tmp var
boot etc lib media opt root sbin sys usr
[root@lvmtest ~]# for i in /proc/ /sys/ /dev/ /run/ /boot/;do mount --bind $i /mnt/$i; done
[root@lvmtest ~]# chroot /mnt/
[root@lvmtest /]# _
```

4. Конфигурирование загрузчика, обновление initramfs, изменение /boot/grub2/grub.cfg:

```
[root@lvmtest /]# grub2-mkconfig -o /boot/grub2/grub.cfg
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-3.10.0-957.el7.x86_64
Found initrd image: /boot/initramfs-3.10.0-957.el7.x86_64.img
Found linux image: /boot/vmlinuz-0-rescue-0ce0deeaab5b4ee49ff566c0e963d182
Found initrd image: /boot/initramfs-0-rescue-0ce0deeaab5b4ee49ff566c0e963d182.img
done
```

```
[root@lvmtest boot]# dracut --force
[root@lvmtest boot]# ll
total 93668
-rw-r--r--. 1 root root 151918 Nov 9 2018 config-3.10.0-957.el7.x86_64
drwxr-xr-x. 3 root root 17 Dec 2 18:54 efi
drwxr-xr-x. 2 root root 27 Dec 2 18:55 grub
drwx-----. 5 root root 97 Dec 3 19:46 grub2
-rw-----. 1 root root 57147027 Dec 2 18:57 initramfs-0-rescue-0ce0deeaab5b4ee49ff566c0e963d182.img
-rw-----. 1 root root 21459346 Dec 3 19:53 initramfs-3.10.0-957.el7.x86_64.img
-rw-r--r--. 1 root root 314036 Nov 9 2018 symvers-3.10.0-957.el7.x86_64.gz
-rw-----. 1 root root 3543471 Nov 9 2018 System.map-3.10.0-957.el7.x86_64
-rwxr-xr-x. 1 root root 6639904 Dec 2 18:57 vmlinuz-0-rescue-0ce0deeaab5b4ee49ff566c0e963d182
-rwxr-xr-x. 1 root root 6639904 Nov 9 2018 vmlinuz-3.10.0-957.el7.x86_64
[root@lvmtest boot]# _
```

```

fi
### END /etc/grub.d/00_header ###

### BEGIN /etc/grub.d/00_tuned ###
set tuned_params=""
set tuned_initrd=""
### END /etc/grub.d/00_tuned ###

### BEGIN /etc/grub.d/01_users ###
if [ -f ${prefix}/user.cfg ]; then
source ${prefix}/user.cfg
if [ -n "${GRUB2_PASSWORD}" ]; then
set superusers="root"
export superusers
password_pbkdf2 root ${GRUB2_PASSWORD}
fi
fi
### END /etc/grub.d/01_users ###

### BEGIN /etc/grub.d/10_linux ###
menuentry 'CentOS Linux (3.10.0-957.el7.x86_64) 7 (Core)' --class centos --class gnu-linux --class g
nu --class os --unrestricted $menuentry_id_option 'gnulinux-3.10.0-957.el7.x86_64-advanced-b8e7d96a-
2682-4e84-b7e6-672c3ac90b2f' {
load_video
set gfxpayload=keep
insmod gzio
insmod part_msdos
insmod xfs
set root='hd0,msdos2'
if [ x${feature_platform_search_hint} = xy ]; then
search --no-floppy --fs-uuid --set=root --hint-bios=hd0,msdos2 --hint-efi=hd0,msdos2 --hin
t-baremetal=ahci0,msdos2 --hint='hd0,msdos2' 98fc14d0-9229-49d2-9000-04bb78b3002f
else
search --no-floppy --fs-uuid --set=root 98fc14d0-9229-49d2-9000-04bb78b3002f
fi
linux16 /vmlinuz-3.10.0-957.el7.x86_64 root=/dev/mapper/test-root ro rd.lvm.lv=test/root rd.

```

--More--

5. Перезагрузка во временную файловую систему:

```
CentOS Linux 7 (Core)
Kernel 3.10.0-957.el7.x86_64 on an x86_64

lvmtest login: user
Password:
Last login: Tue Dec  3 18:30:57 on tty1
[user@lvmtest ~]$ lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                                  8:0      0   40G  0 disk
├─sda1                               8:1      0    1M  0 part
├─sda2                               8:2      0    1G  0 part /boot
├─sda3                               8:3      0   39G  0 part
│   └─test-swap                     253:1    0   1.5G  0 lvm  [SWAP]
│   └─test-root                     253:7    0  37.5G  0 lvm
sdb                                  8:16     0   10G  0 disk
└─vg_root-lv_root                  253:0    0   10G  0 lvm /
sdc                                  8:32     0    2G  0 disk
sdd                                  8:48     0    1G  0 disk
├─vg0-mirror_rmeta_0               253:2    0    4M  0 lvm
├─└─vg0-mirror                     253:6    0   816M  0 lvm
├─└─vg0-mirror_rimage_0            253:3    0   816M  0 lvm
├─└─└─vg0-mirror                   253:6    0   816M  0 lvm
sde                                  8:64     0    1G  0 disk
├─vg0-mirror_rmeta_1               253:4    0    4M  0 lvm
├─└─vg0-mirror                     253:6    0   816M  0 lvm
├─└─vg0-mirror_rimage_1            253:5    0   816M  0 lvm
├─└─└─vg0-mirror                   253:6    0   816M  0 lvm
[user@lvmtest ~]$
```

6. Удаление старого lv, создание нового размером 8G, форматирование, монтирование:

```
|sda1          8:1    0    1M  0 part
|sda2          8:2    0    1G  0 part /boot
|sda3          8:3    0   39G  0 part
|  |test-swap   253:1   0   1.5G  0 lvm [SWAP]
|  |test-root   253:7   0  37.5G  0 lvm
sdb           8:16    0   10G  0 disk
|vg0-root-lv-root 253:0   0   10G  0 lvm /
sdc           8:32    0    2G  0 disk
sdd           8:48    0    1G  0 disk
|vg0-mirror_rmeta_0 253:2   0    4M  0 lvm
|  |vg0-mirror  253:6   0   816M  0 lvm
|vg0-mirror_rimage_0 253:3   0   816M  0 lvm
|  |vg0-mirror  253:6   0   816M  0 lvm
sde           8:64    0    1G  0 disk
|vg0-mirror_rmeta_1 253:4   0    4M  0 lvm
|  |vg0-mirror  253:6   0   816M  0 lvm
|vg0-mirror_rimage_1 253:5   0   816M  0 lvm
|  |vg0-mirror  253:6   0   816M  0 lvm
[root@lvmtest ~]# lvremove /dev/test/root
Do you really want to remove active logical volume test/root? [y/n]: y
Logical volume "root" successfully removed
[root@lvmtest ~]# lvcreate -n test/root -L 8G /dev/test
WARNING: xfs signature detected on /dev/test/root at offset 0. Wipe it? [y/n]: y
Wiping xfs signature on /dev/test/root.
Logical volume "root" created.
[root@lvmtest ~]# mkfs.xfs /dev/test/root
meta-data=/dev/test/root      isize=512    agcount=4, agsize=524288 blks
=                               sectsz=512   attr=2, projid32bit=1
=                               crc=1        finobt=0, sparse=0
data      =                   bsize=4096   blocks=2097152, 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
[root@lvmtest ~]# mount /dev/test/root /mnt
[root@lvmtest ~]# _
```

7. Копирование данных в новую корневую систему:

```

[root@lvmtest ~]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                                  8:0      0   40G  0 disk
├─sda1                              8:1      0    1M  0 part
├─sda2                              8:2      0    1G  0 part /boot
├─sda3                              8:3      0   39G  0 part
│   └─test-swap                     253:1    0   1.5G  0 lvm  [SWAP]
│   └─test-root                     253:7    0    8G  0 lvm  /mnt
sdb                                  8:16     0   10G  0 disk
└─vg_root-lv_root                  253:0    0   10G  0 lvm  /
sdc                                  8:32     0    2G  0 disk
sdd                                  8:48     0    1G  0 disk
├─vg0-mirror_rmeta_0              253:2    0    4M  0 lvm
├─vg0-mirror                      253:6    0   816M  0 lvm
├─vg0-mirror_rimage_0             253:3    0   816M  0 lvm
└─vg0-mirror                      253:6    0   816M  0 lvm
sde                                  8:64     0    1G  0 disk
├─vg0-mirror_rmeta_1              253:4    0    4M  0 lvm
├─vg0-mirror                      253:6    0   816M  0 lvm
├─vg0-mirror_rimage_1             253:5    0   816M  0 lvm
└─vg0-mirror                      253:6    0   816M  0 lvm
[root@lvmtest ~]# xfsdump -J - /dev/vg_root/lv_root ; xfsrestore -J - /mnt

```

```

xfsdump: ino map phase 1: constructing initial dump list
xfsdump: ino map phase 2: skipping (no pruning necessary)
xfsdump: ino map phase 3: skipping (only one dump stream)
xfsdump: ino map construction complete
xfsdump: estimated dump size: 1337680832 bytes
xfsdump: creating dump session media file 0 (media 0, file 0)
xfsdump: dumping ino map
xfsdump: dumping directories
xfsrestore: examining media file 0
xfsrestore: dump description:
xfsrestore: hostname: lvmtest.local
xfsrestore: mount point: /
xfsrestore: volume: /dev/mapper/vg_root-lv_root
xfsrestore: session time: Tue Dec  3 20:21:48 2024
xfsrestore: level: 0
xfsrestore: session label: ""
xfsrestore: media label: ""
xfsrestore: file system id: 8f7a13fc-b5e1-4fa8-b3e6-b829201ac1d7
xfsrestore: session id: 083798ba-d329-4155-8cf1-611f0e12576f
xfsrestore: media id: e5edef22-983c-49ab-be64-e2012c883f9e
xfsrestore: searching media for directory dump
xfsrestore: reading directories
xfsdump: dumping non-directory files
xfsrestore: 4620 directories and 34087 entries processed
xfsrestore: directory post-processing
xfsrestore: restoring non-directory files
xfsdump: ending media file
xfsdump: media file size 1303114792 bytes
xfsdump: dump size (non-dir files) : 1283328856 bytes
xfsdump: dump complete: 12 seconds elapsed
xfsdump: Dump Status: SUCCESS
xfsrestore: restore complete: 12 seconds elapsed
xfsrestore: Restore Status: SUCCESS
[root@lvmtest ~]# ls /mnt
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot  etc  lib   media  opt  root  sbin  sys  usr
[root@lvmtest ~]# _

```

8. Конфигурирование загрузчика, обновление initramfs:

```
microcode_ctl: kernel version "3.10.0-957.el7.x86_64" failed early load check for "intel-06-4f-0
1", skipping
microcode_ctl: final fw_dir: "/usr/share/microcode_ctl/ucode_with_caveats/intel /lib/firmware/up
dates /lib/firmware"
*** Including module: shutdown ***
*** Including modules done ***
*** Installing kernel module dependencies and firmware ***
*** Installing kernel module dependencies and firmware done ***
*** Resolving executable dependencies ***
*** Resolving executable dependencies done***
*** Hardlinking files ***
*** Hardlinking files done ***
*** Stripping files ***
*** Stripping files done ***
*** Generating early-microcode cpio image contents ***
*** Constructing GenuineIntel.bin ****
*** Constructing GenuineIntel.bin ****
*** Store current command line parameters ***
*** Creating image file ***
*** Creating microcode section ***
*** Created microcode section ***
*** Creating image file done ***
*** Creating initramfs image file '/boot/initramfs-3.10.0-957.el7.x86_64.img' done ***
[root@vmtest boot]# ll
total 93668
-rw-r--r--. 1 root root 151918 Nov 9 2018 config-3.10.0-957.el7.x86_64
drwxr-xr-x. 3 root root 17 Dec 2 18:54 efi
drwxr-xr-x. 2 root root 27 Dec 2 18:55 grub
drwx-----. 5 root root 97 Dec 3 20:26 grub2
-rw-----. 1 root root 57147027 Dec 2 18:57 initramfs-0-rescue-0ce0deeaab5b4ee49ff566c0e963d182.im
g
-rw-----. 1 root root 21459860 Dec 3 20:28 initramfs-3.10.0-957.el7.x86_64.img
-rw-r--r--. 1 root root 314036 Nov 9 2018 symvers-3.10.0-957.el7.x86_64.gz
-rw-----. 1 root root 3543471 Nov 9 2018 System.map-3.10.0-957.el7.x86_64
-rwxr-xr-x. 1 root root 6639904 Dec 2 18:57 vmlinuz-0-rescue-0ce0deeaab5b4ee49ff566c0e963d182
-rwxr-xr-x. 1 root root 6639904 Nov 9 2018 vmlinuz-3.10.0-957.el7.x86_64
[root@vmtest boot]# _
```

9. Выделение тома под /var в зеркало


```

[root@lvmtest bootl# pvcreate /dev/sdc /dev/sde
  Physical volume "/dev/sdc" successfully created.
  Physical volume "/dev/sde" successfully created.
[root@lvmtest bootl# vgcreate vg_var /dev/sdc /dev/sdd
  Physical volume "/dev/sdd" successfully created.
  Volume group "vg_var" successfully created
[root@lvmtest bootl# lvcreate -L 950M -m1 -n lv_var vg_var
  Rounding up size to full physical extent 952.00 MiB
  Logical volume "lv_var" created.
[root@lvmtest bootl# mkfs.ext4 /dev/vg_var/lv_var
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
60928 inodes, 243712 blocks
12185 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=249561088
8 block groups
32768 blocks per group, 32768 fragments per group
7616 inodes per group
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376

Allocating group tables: done
Writing inode tables: done
Creating journal (4096 blocks): done
Writing superblocks and filesystem accounting information: done

[root@lvmtest bootl# mount /dev/vg_var/lv_var /mnt
[root@lvmtest bootl# cp -aR /var/* /mnt/
[root@lvmtest bootl# mkdir /tmp/oldvar && mv /var/* /tmp/oldvar
[root@lvmtest bootl# umount /mnt
[root@lvmtest bootl# mount /dev/vg_var/lv_var /var
[root@lvmtest bootl#

```

10. Правка fstab

```

[root@lvmtest bootl# cat /etc/fstab

#
# /etc/fstab
# Created by anaconda on Mon Dec  2 18:54:39 2024
#
# 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/test-root    /                    xfs     defaults        0 0
UUID=98fc14d0-9229-49d2-9000-04bb78b3002f /boot                xfs     defaults        0 0
/dev/mapper/test-swap    swap                 swap    defaults        0 0
/dev/mapper/vg_var-lv_var /var                 ext4    defaults        0 0
[root@lvmtest bootl# _

```

11. Создание раздела /home, правка fstab

```

[root@lvmtest ~]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                                  8:0      0   40G  0 disk
├─sda1                              8:1      0    1M  0 part
├─sda2                              8:2      0    1G  0 part /boot
├─sda3                              8:3      0   39G  0 part
│   └─test-root                    253:0      0    8G  0 lvm /
│       └─test-swap                253:1      0   1.5G  0 lvm [SWAP]
│           └─test-LogVol_Home     253:2      0    2G  0 lvm /home
sdb                                  8:16     0   10G  0 disk
sdc                                  8:32     0    2G  0 disk
├─vg_var-lv_var_rmeta_0           253:4      0    4M  0 lvm
├─vg_var-lv_var                  253:8      0   952M  0 lvm /var
├─vg_var-lv_var_rimage_0          253:5      0   952M  0 lvm
└─vg_var-lv_var                  253:8      0   952M  0 lvm /var
sdd                                  8:48     0    1G  0 disk
├─vg_var-lv_var_rmeta_1           253:6      0    4M  0 lvm
├─vg_var-lv_var                  253:8      0   952M  0 lvm /var
├─vg_var-lv_var_rimage_1          253:7      0   952M  0 lvm
└─vg_var-lv_var                  253:8      0   952M  0 lvm /var
sde                                  8:64     0    1G  0 disk
[root@lvmtest ~]# cat /etc/fstab

#
# /etc/fstab
# Created by anaconda on Mon Dec  2 18:54:39 2024
#
# 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/test-root / xfs defaults 0 0
UUID=98fc14d0-9229-49d2-9000-04bb78b3002f /boot xfs defaults 0 0
/dev/mapper/test-swap swap swap defaults 0 0
/dev/mapper/vg_var-lv_var /var ext4 defaults 0 0
/dev/mapper/test-LogVol_Home /home xfs defaults 0 0
[root@lvmtest ~]#

```

12. Восстановление удаленных файлов из раздела /home с помощью snapshot:

```

[root@lvmtest ~]# ls /home
file1  file11  file13  file15  file17  file19  file20  file4  file6  file8  user
file10  file12  file14  file16  file18  file2  file3  file5  file7  file9
[root@lvmtest ~]# rm -f /home/file{10..20}
[root@lvmtest ~]# ls /home
file1  file2  file3  file4  file5  file6  file7  file8  file9  user
[root@lvmtest ~]#

```

Hint: Num Lock on

```
lvmtest login: root
Password:
[root@lvmtest ~]# umount /home
[root@lvmtest ~]# lvconvert --merge /dev/test/home_snap
Merging of volume test/home_snap started.
test/LogVol_Home: Merged: 100.00%
[root@lvmtest ~]# mount home
mount: can't find home in /etc/fstab
[root@lvmtest ~]# mount /home
[root@lvmtest ~]# ls -al /home
total 0
drwxr-xr-x.  3 root root 289 Dec  3 21:32 .
drwxr-xr-x. 17 root root 224 Dec  3 20:22 ..
-rw-r--r--.  1 root root   0 Dec  3 21:32 file1
-rw-r--r--.  1 root root   0 Dec  3 21:32 file10
-rw-r--r--.  1 root root   0 Dec  3 21:32 file11
-rw-r--r--.  1 root root   0 Dec  3 21:32 file12
-rw-r--r--.  1 root root   0 Dec  3 21:32 file13
-rw-r--r--.  1 root root   0 Dec  3 21:32 file14
-rw-r--r--.  1 root root   0 Dec  3 21:32 file15
-rw-r--r--.  1 root root   0 Dec  3 21:32 file16
-rw-r--r--.  1 root root   0 Dec  3 21:32 file17
-rw-r--r--.  1 root root   0 Dec  3 21:32 file18
-rw-r--r--.  1 root root   0 Dec  3 21:32 file19
-rw-r--r--.  1 root root   0 Dec  3 21:32 file2
-rw-r--r--.  1 root root   0 Dec  3 21:32 file20
-rw-r--r--.  1 root root   0 Dec  3 21:32 file3
-rw-r--r--.  1 root root   0 Dec  3 21:32 file4
-rw-r--r--.  1 root root   0 Dec  3 21:32 file5
-rw-r--r--.  1 root root   0 Dec  3 21:32 file6
-rw-r--r--.  1 root root   0 Dec  3 21:32 file7
-rw-r--r--.  1 root root   0 Dec  3 21:32 file8
-rw-r--r--.  1 root root   0 Dec  3 21:32 file9
drwx-----.  2 user user  83 Dec  2 19:50 user
[root@lvmtest ~]#
```