

????

- [CentOSv5] http://www.centos.org/docs/5/html/Cl...olume_Manager/
- [RedHatv6] https://access.redhat.com/documentat...#fs_create_ex2

Logical Volume - LV

```
// ???? LV ????
#> lvs
```

```
#> lvdisplay -C
```

```
// ?? LV
```

```
#> lvcreate -L 10G -n LV_name VG_name
```

```
// ?? LV
```

```
#> lvremove /dev/VG_name>/LV_name
```

```
// ?? LV
```

```
#> lvrename /dev/VG-name/old-LV-name /dev/VG-name/new-LV-name
```

```
// ?? LV ??
```

```
#> lvs
```

```
#> lvs -a -o name,copy_percent,devices
```

```
#> lvs -a -o name,copy_percent,devices <vg-name>
```

```
#> lvs -a --segments -o +devices
```

```
// ?? LV ????
#> lvextend -L +2G /dev/vg/lv
```

```
#> lvextend -l +100%FREE /dev/vg_db2v9/lv_root ????????
```

```
#> ext2online /dev/vg/lv (RHEL v4)
```

```
#> resize2fs /dev/vg/lv (RHEL v5,6)
```

```
#> xfs_growfs /dev/vg/lv (RHEL v7 with XFS filesystem)
```

```
// ?? LV ?? (RHEL v4)
```

```
???445GB -> 2GB
```

```
#> umount /worktmp
```

```
#> e2fsck -f /dev/rootVG/worktmpLV
```

```
#> resize2fs /dev/rootVG/worktmpLV 1843M
```

```
#> lvreduce -L 2GB /dev/rootVG/worktmpLV
```

```
#> resize2fs /dev/rootVG/worktmpLV
```

```
#> mount /worktmp
```

```
??1843MB ???? 2GB ? 90%????????????? GB
```

```
// Shrinking LV (RHEL 5/6)
```

```
100 GB -> 5GB
```

```
#> umount /opt/oracle/arclog
```

```
#> resize2fs /dev/VolGroup00/arclogLV 5G
```

```
#> lvreduce -L 5G /dev/VolGroup00/arclogLV
```

```
#> e2fsck -f /dev/VolGroup00/arclogLV
```

```
#> mount /opt/oracle/arclog
```

Volume Group - VG

```
// ?? VG ????
```

```
#> vgdisplay -C
```

```
// ??/?? VG
```

```
#> vgchange -a y VG_name
```

```
#> vgchange -a n VG_name
```

```
???????? vgdisplay ?????? /dev/** * ?????
```

```
// ?? VG
```

```
#> vgcreate VG_name /dev/pv1 /dev/pv2
```

```
// ?? VG
```

```
#> vgrename vg_esxa01db01 vg_root
```

```
// ?? VG
```

```
#> vgremove VG_name
```

```
// ?? PV ? VG
```

```
#> vgextend VG_name /dev/pv3
```

```
// ? VG ??? PV
```

```
NOTE: PV ????????(???? pvs -o+pv_used)
```

```
#> vgreduce VG_name /dev/mypv
```

Physical Volume - PV

```
// ?? PV ????
```

```
#> pvdisplay -C
```

```
// ????? PV ???????
```

```
#> pvs -o+pv_used
```

```
// ?? PV
```

```
#> pvcreate /dev/hdd1
```

```
// ?? PV
```

```
#> pvremove /dev/hdd1
```

```
// ????? disk ????? PV????????????????????????????
```

```
#> dd if=/dev/zero of=/dev/sdd bs=512 count=1
```

FAQ

Q: ??? PV

Device /dev/sdj not found (or ignored by filtering).

Ans: ?????????????

```
# fdisk -l /dev/sdj
```

WARNING: GPT (GUID Partition Table) detected on '/dev/sdj'! The util fdisk doesn't support GPT. Use GNU Parted.

```
Disk /dev/sdj: 3848.3 GB, 3848290697216 bytes
255 heads, 63 sectors/track, 467861 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disk identifier: 0x00000000
```

```
Device Boot Start End Blocks Id System
/dev/sdj1 1 267350 2147483647+ ee GPT
Partition 1 does not start on physical sector boundary.
```

????????????????

Q: ?????? PV ? VG ? LV

```
??? PV - /dev/sdc ?????? VG ? LV ????????????
```

Couldn't find device with uuid APgmaN-yCZG-WfQS-L5zm-vd6g-oEJc-WjzNrT.
Can't remove locked LV isths_DMS

Couldn't find device with uuid APgmaN-yCZG-WfQS-L5zm-vd6g-oEJc-WjzNrT.
WARNING: Partial LV isths_home needs to be repaired or removed.
WARNING: Partial LV isths_DMS needs to be repaired or removed.
WARNING: Partial LV pvmove0 needs to be repaired or removed.
There are still partial LVs in VG vg_db.
To remove them unconditionally use: vgreduce --removemissing --force.
Proceeding to remove empty missing PVs.

?????VG Name: vg_db

```
# vgcfgbackup vg_db
```

Couldn't find device with uuid APgmaN-yCZG-WfQS-L5zm-vd6g-oEJc-WjzNrT.
Volume group "vg_db" successfully backed up.

```
# vi /etc/lvm/backup/vg_db
```

```
/etc/lvm/backup/vg_db:
```

...

```
logical_volumes {
...
...
}
...
```

??? logical_volumes ?????

```
# vgcfgrestore vg_db
Restored volume group vg_db
```

???????????? LV ? VG

```
# pvs
# vgs
# lvs
# vgremove vg_db
```

Q: ?? USB ????? LVM ??????????

```
fax:~# mount -t ext3 /dev/VolGroup00/LogVol00 /mnt/lvm00
mount: wrong fs type, bad option, bad superblock on /dev/mapper/VolGroup00-LogVol00,
missing codepage or helper program, or other error
In some cases useful info is found in syslog - try
dmesg | tail or so
```

???

```
# vgchange -an VolGroup00
# vgchange -ay VolGroup00
# mount -t ext3 /dev/VolGroup00/LogVol00 /mnt/lvm00
```

Q: ????? LV ?????????? PV Disk (/dev/sdb1)

NOTE: ?? LV ??? VG ?????????????

- https://access.redhat.com/site/docum...disk_remove_ex
- <http://www.tecmint.com/lvm-storage-migration/>

```
# pvs -o+pv_used
PV    VG  Fmt Attr PSize PFree Used
/dev/sda1 myvg lvm2 a- 17.15G 12.15G 5.00G
/dev/sdb1 myvg lvm2 a- 17.15G 12.15G 5.00G
/dev/sdc1 myvg lvm2 a- 17.15G 12.15G 5.00G
/dev/sdd1 myvg lvm2 a- 17.15G 2.15G 15.00G
```

```
# pvmove /dev/sdb1
```

```
/dev/sdb1: Moved: 2.0%
```

```
...
```

```
/dev/sdb1: Moved: 79.2%
```

```
...
```

```
/dev/sdb1: Moved: 100.0%
```

```
# pvs -o+pv_used
```

```
PV    VG  Fmt Attr PSize PFree Used
/dev/sda1 myvg lvm2 a- 17.15G 7.15G 10.00G
/dev/sdb1 myvg lvm2 a- 17.15G 17.15G 0
/dev/sdc1 myvg lvm2 a- 17.15G 12.15G 5.00G
/dev/sdd1 myvg lvm2 a- 17.15G 2.15G 15.00G
```

```
# vgreduce myvg /dev/sdb1
```

```
Removed "/dev/sdb1" from volume group "myvg"
```

```
[root@tng3-1 ~]# pvs
```

```
PV    VG  Fmt Attr PSize PFree
/dev/sda1 myvg lvm2 a- 17.15G 7.15G
/dev/sdb1  lvm2 -- 17.15G 17.15G
/dev/sdc1 myvg lvm2 a- 17.15G 12.15G
/dev/sdd1 myvg lvm2 a- 17.15G 2.15G
```

```
Q: ??? PV Disk (/dev/sdb1) ?????????? PV Disk (/dev/sdd1)
```

```
????? Mirror ?? *??*
```

- VG: vg_data
- LV: db_worktmp, lv_mydev, lv_worktmp
- PV: from /dev/sdb1 to /dev/sdc

```
1. ??????????
```

```
#> lvs -a -o name,copy_percent,devices,lv_size vg_data
```

```
LV    Cpy%Sync Devices    LSize
db_worktmp    /dev/sdb1(0) 20.00g
lv_mydev      /dev/sdb1(5121) 60.00g
lv_mydev      /dev/sdb1(10242) 60.00g
lv_worktmp    /dev/sdb1(20482) 500.00m
```

```
2. ?????????? VG ?
```

```
#> vgextend vg_data /dev/sdc
```

```
3. ????? LV ?? Mirrir
```

```
#> lvconvert -m1 vg_data/db_worktmp
```

```
#> lvconvert -m1 vg_data/lv_mydev
#> lvconvert -m1 vg_data/lv_worktmp
```

?? Mirror ????

```
#> lvs -a -o name,copy_percent,devices,lv_size vg_data
```

4. ????? LV ?? Mirror??????????

```
#> lvconvert -m0 vg_data/db_worktmp /dev/sdb1
#> lvconvert -m0 vg_data/lv_mydev /dev/sdb1
#> lvconvert -m0 vg_data/lv_worktmp /dev/sdb1
```

5. ? VG ??? PV /dev/sdb1, ????? PV

```
#> vgreduce vg_data /dev/sdb1
#> pvremove /dev/sdb1
```

?????

- <https://www.thegeekdiary.com/centos-...ing-lvconvert/>
- <https://linux.m2osw.com/creating-dri...tition-cloning>

?????? PV ???? pvmove

NOTE: PV ?????? VG ??????

```
# pvs -o+pv_used
PV    VG  Fmt Attr PSize PFree Used
/dev/sda1 myvg lvm2 a- 17.15G 7.15G 10.00G
/dev/sdb1 myvg lvm2 a- 17.15G 15.15G 2.00G
/dev/sdc1 myvg lvm2 a- 17.15G 15.15G 2.00G
```

```
# pvcreate /dev/sdd1
Physical volume "/dev/sdd1" successfully created
```

```
# vgextend myvg /dev/sdd1
Volume group "myvg" successfully extended
```

```
[root@tng3-1]# pvs -o+pv_used
PV    VG  Fmt Attr PSize PFree Used
/dev/sda1 myvg lvm2 a- 17.15G 7.15G 10.00G
/dev/sdb1 myvg lvm2 a- 17.15G 15.15G 2.00G
/dev/sdc1 myvg lvm2 a- 17.15G 15.15G 2.00G
/dev/sdd1 myvg lvm2 a- 17.15G 17.15G 0
```

```
# pvmove /dev/sdb1 /dev/sdd1
```

```
/dev/sdb1: Moved: 10.0%
```

```
...
```

```
/dev/sdb1: Moved: 79.7%
```

```
...
```

```
/dev/sdb1: Moved: 100.0%
```

```
[root@tng3-1]# pvs -o+pv_used
```

```
PV      VG  Fmt Attr PSize PFree Used
/dev/sda1 myvg lvm2 a- 17.15G 7.15G 10.00G
/dev/sdb1 myvg lvm2 a- 17.15G 17.15G 0
/dev/sdc1 myvg lvm2 a- 17.15G 15.15G 2.00G
/dev/sdd1 myvg lvm2 a- 17.15G 15.15G 2.00G
```

```
# vgreduce myvg /dev/sdb1
```

```
Removed "/dev/sdb1" from volume group "myvg"
```

Q: LV Mirror

- [Recovering from LVM Mirror Failure](#)
- [Cloning Logical Volume using LVM](#)
- [How to Create and Remove the LVM Mirrors Using lvconvert](#)

Q: ?????????? pvdisk -C ??????????? LV

Couldn't find device with uuid ZrneWS-8KHd-UiXV-rQ4q-YU0o-r9Ga-0ZVBPW

Ans????????????? LVM ??????????????????????????????????????????????

```
# vgreduce -removemissing <vg-name>
```

TIPS?

?????????? device ??? VG?????? pvdisk ?