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Logical Volume Manager

VM

- physical Volume(PV)
- Volume Group(VG)
- Logical Volume(LV)

Physical Volume

* Size 10G

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```
[root@localhost ~]# fdisk -l
Disk /dev/sdb: 21.5 GB, 21474836480 bytes, 41943040 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: 0x522ca171
```

Device	Boot	Start	End	Blocks	Id	System
/dev/sdb1		2048	20973567	10485760	8e	Linux LVM

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```
[root@localhost ~]# pvcreate -h
pvcreate: Initialize physical volume(s) for use by LVM
```

pvcreate

```
  [--norestorefile]
  [--restorefile file]
  [-d|--debug]
  [-f[f]|--force [--force]]
  [-h|-?|--help]
  [--labelsector sector]
  [-M|--metadatatype 1|2]
  [--pvmetadatacopies #copies]
  [--bootloaderareaseize BootLoaderAreaSize[bBsSkKmMgGtTpPeE]]
  [--metadatasize MetadataSize[bBsSkKmMgGtTpPeE]]
  [--dataalignment Alignment[bBsSkKmMgGtTpPeE]]
  [--dataalignmentoffset AlignmentOffset[bBsSkKmMgGtTpPeE]]
  [--setphysicalvolumesize PhysicalVolumeSize[bBsSkKmMgGtTpPeE]]
  [-t|--test]
```

```
[-u|--uuid uuid]
[-v|--verbose]
[-y|--yes]
[-Z|--zero {y|n}]
[--version]
PhysicalVolume [PhysicalVolume...]
```

```
[root@localhost ~]# pvcreate /dev/sdb1
Physical volume "/dev/sdb1" successfully created
```

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```
[root@localhost ~]# pvs
PV          VG   Fmt  Attr PSize  PFree
/dev/sda2   rhel lvm2 a--  29.51g    0
/dev/sdb1           lvm2 a--  10.00g 10.00g
[root@localhost ~]# pvdisplay
--- Physical volume ---
PV Name           /dev/sda2
VG Name           rhel
PV Size           29.51 GiB / not usable 3.00 MiB
Allocatable       yes (but full)
PE Size           4.00 MiB
Total PE          7554
Free PE           0
Allocated PE      7554
PV UUID           Ub2hjb-BUuv-ffkk-ytkD-0p9D-3coH-GfcyLu
"/dev/sdb1" is a new physical volume of "10.00 GiB"
--- NEW Physical volume ---
PV Name           /dev/sdb1
VG Name
PV Size           10.00 GiB
Allocatable       NO
PE Size           0
Total PE          0
Free PE           0
Allocated PE      0
PV UUID           7WPUaF-0t00-KCfn-oHkB-vL7d-qMTE-2itl4i
```

Volume Group

- Volume Group

```
[root@localhost ~]# vgcreate -h
vgcreate: Create a volume group
```

```
vgcreate
```

```

[-A|--autobackup {y|n}]
[--addtag Tag]
[--alloc AllocationPolicy]
[-c|--clustered {y|n}]
[-d|--debug]
[-h|--help]
[-l|--maxlogicalvolumes MaxLogicalVolumes]
[-M|--metadatatype 1|2]
[--[vg]metadacopies #copies]
[-p|--maxphysicalvolumes MaxPhysicalVolumes]
[-s|--physicalextentsize PhysicalExtentSize[bBsSkKmMgGtTpPeE]]
[-t|--test]
[-v|--verbose]
[--version]
[-y|--yes]
[ PHYSICAL DEVICE OPTIONS ]
VolumeGroupName PhysicalDevicePath [PhysicalDevicePath...]

```

* Volume Group

```

[root@localhost ~]# vgs
VG   #PV #LV #SN Attr   VSize  VFree
vg01  1   0   0 wz--n- 10.00g 10.00g

[root@localhost ~]# vgdisplay
--- Volume group ---
VG Name                vg01
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               10.00 GiB
PE Size               4.00 MiB
Total PE              2559
Alloc PE / Size      0 / 0
Free PE / Size       2559 / 10.00 GiB
VG UUID              o5TZxH-7BYe-dzPM-cZaZ-obwu-X2W5-lkgt7r

```

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