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Logical Volume Manager

LVM 아기텍쳐

출처 : redhat 공식 문서

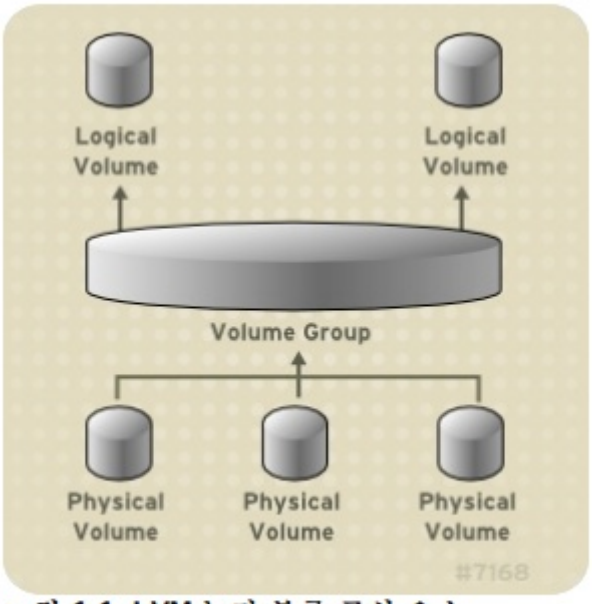


그림 1.1. LVM 논리 볼륨 구성 요소

LVM 구성 순서

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

Phsycal Volume 생성 방법

* 단일 디스크 Size 10G 물리 볼륨 생성

- ** 물리 볼륨 생성할 디스크 정보 확인**

```
[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
```

- **물리 볼륨 생성**

```
[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]
    [--bootloaderareasize 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
```

- ** 물리볼륨 생성 확인**

```
[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-Op9D-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-OtO0-KCfn-oHkB-vL7d-qMTE-2itl4i
```

Volume Group 생성 방법

- Volume Group 생성

```
[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]metadatacopies #copies]
    [-p|--maxphysicalvolumes MaxPhysicalVolumes]
    [-s|--physicalextentsize PhysicalExtentSize[bBsSkKmMgGtTpPeE]]
    [-t|--test]
    [-v|--verbose]
    [--version]
    [-y|--yes]
    [ PHYSICAL DEVICE OPTIONS ]
    VolumeGroupName PhysicalDevicePath [PhysicalDevicePath...]
```

** * Volume Group 확인 **

```
[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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