

# lvm

xfs는 파일 시스템을 관리하는 데 사용되는 파일 시스템이다. ~ 파일 시스템을 관리하는 데 사용된다.

## df

1. df 명령어를 사용하여 파일 시스템의 사용량을 확인한다.

```
$> df -Th /data
```

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/content_vg-content_lv	xfs	3.6T	3.3T	346G	91%	/data

.. 3.6T 3.3T 346G 91% . ^

2. fdisk 명령어를 사용하여 디스크의 용량을 확인한다.

```
$> fdisk -l
```

...

Disk /dev/sdc: 500 GiB, 536870912000 bytes, 1048576000 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

3. vg content\_vg, lv content\_lv를 생성한다.

## lvm

1. sdc를 pv로 지정하고, (lv content\_lv를 생성한다.)



```
$> pvcreate /dev/sdc
```

```
Physical volume "/dev/sdc" successfully created.
```

## 2. pv ☐ ☐

### 1. ☐ ☐

```
$> pvdisplay
```

```
--- Physical volume ---
```

```
PV Name      /dev/sdb
```

```
VG Name      content_vg
```

```
PV Size      <3.64 TiB / not usable <1.72 MiB
```

```
Allocatable  yes (but full)
```

```
PE Size      4.00 MiB
```

```
Total PE     953479
```

```
Free PE      0
```

```
Allocated PE  953479
```

```
PV UUID      QnstsS-xBJ0-Qv0l-RFan-SgaA-z3Fg-RJrZK8
```

### 2. ☐ ☐

```
$> pvdisplay
```

```
--- Physical volume ---
```

```
PV Name      /dev/sdb
```

```
VG Name      content_vg
```

```
PV Size      <3.64 TiB / not usable <1.72 MiB
```

```
Allocatable  yes (but full)
```

```
PE Size      4.00 MiB
```

```
Total PE     953479
```

```
Free PE      0
```

```
Allocated PE  953479
```

```
PV UUID      QnstsS-xBJ0-Qv0l-RFan-SgaA-z3Fg-RJrZK8
```

```
--- Physical volume ---
```

```
PV Name      /dev/sdc
```

```
VG Name      content_vg
```

```
PV Size      500.00 GiB / not usable 4.00 MiB
```

```
Allocatable  yes (but full)
```



PE Size	4.00 MiB
Total PE	127999
Free PE	0
Allocated PE	127999
PV UUID	Bsm9b5-DZTB-2iWr-6RH0-6uly-canP-SOhMeC

### 3. Volume Group

```
$> vgextend content_vg /dev/sdc
Volume group "content_vg" successfully extended
```

### 1.

```
$> vgs
--- Volume group ---
VG Name          content_vg
System ID
Format           lvm2
Metadata Areas    1
Metadata Sequence No 5
VG Access         read/write
VG Status         resizable
MAX LV           0
Cur LV           1
Open LV           1
Max PV           0
Cur PV           1
Act PV           1
VG Size          <3.64 TiB
PE Size           4.00 MiB
Total PE          953479
Alloc PE / Size   943718 / <3.60 TiB
Free PE / Size    9761 / <38.13 GiB
VG UUID           liEZ8G-kbcL-l8MD-Ax6m-dWSZ-ZTCd-OvBWff
```

### 2.



```
$> vgdisplay
--- Volume group ---
VG Name          content_vg
System ID
Format           lvm2
Metadata Areas   2
Metadata Sequence No 6
VG Access        read/write
VG Status        resizable
MAX LV          0
Cur LV          1
Open LV          1
Max PV           0
Cur PV          2
Act PV           2
VG Size          <4.13 TiB
PE Size          4.00 MiB
Total PE         1081478
Alloc PE / Size  943718 / <3.60 TiB
Free PE / Size   137760 / 538.12 GiB
VG UUID          liEZ8G-kbcL-l8MD-Ax6m-dWSZ-ZTCd-OvBWff
```

vg Size 3.64 500G 4.13T . lv  
 Alloc PE 3.6T, Free PE 538.12 Gib  
 .

#### 4. LV

```
$> lvextend -l +100%FREE /dev/content_vg/content_lv
Size of logical volume content_vg/content_lv changed from <3.60 TiB (943718 extents) to
<4.13 TiB (1081478 extents).
Logical volume content_vg/content_lv successfully resized.
```

100%FREE

#### 1.

```
$> lvdisplay
--- Logical volume ---
```







## 1. xfs\_growfs 실행

```
$> xfs_growfs -d /dev/content_vg/content_lv
meta-data=/dev/mapper/content_vg-content_lv isize=512  agcount=4, agsize=241591808 blks
         =                       sectsz=512  attr=2, projid32bit=1
         =                       crc=1      finobt=1, sparse=1, rmapbt=0
         =                       reflink=1   bigtime=0 inobtcount=0
data      =                       bsize=4096  blocks=966367232, imaxpct=5
         =                       sunit=0     swidth=0 blks
naming    =version 2              bsize=4096  ascii-ci=0, ftype=1
log        =internal log          bsize=4096  blocks=471859, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime   =none                  extsz=4096  blocks=0, rtextents=0
data blocks changed from 966367232 to 1107433472
```

## 2. df -Th 실행 (3.6T -> 4.2T)

```
$> df -Th /data
Filesystem                                Type  Size  Used Avail Use% Mounted on
/dev/mapper/content_vg-content_lv xfs   4.2T  3.3T  881G  80% /data
```

## Reference

- <https://m.blog.naver.com/hanajava/220779211465>
- <https://devinegrace.tistory.com/40>
- [https://access.redhat.com/documentation/ko-kr/red\\_hat\\_enterprise\\_linux/9/html/managing\\_file\\_systems/assembly\\_increasing-the-size-of-an-xfs-file-system\\_managing-file-systems](https://access.redhat.com/documentation/ko-kr/red_hat_enterprise_linux/9/html/managing_file_systems/assembly_increasing-the-size-of-an-xfs-file-system_managing-file-systems)
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