

lvm 볼륨 확장 및 파일시스템 용량 확장 작업

xfss로 만들어진 경로의 데이터 사용량 증가하고 있어 추가로 디스크 장착 ~ 용량 확장하려고 합니다.

사전정보

1. 현재 알람이 발생한 디스크 사용량 정보

```
$> 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
```

흠.. 3.6T 디스크인데 3.3T사용하고 있어서 총 사용율 91%네요. π^{π}

2. 굴러다니는 디스크 500G짜리 를 하나 더 붙였습니다.

```
$> 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 이름은 content_vg, lv 이름은 content_lv로 구성이 되어 있어요.

lvm 볼륨 확장

1. sdc 디스크를 pv 구성해줍니다. (저는 디스크 전체를 lvm으로 사용할꺼라 따로 파티션을 나누진 않았어요)

```
$> pvcreate /dev/sdc
Physical volume "/dev/sdc" successfully created.
```

2. pv 정보 확인

1. 확장 후

```
$> 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. 확장 전

```
$> 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 확장

```

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

```

1. 확장 전

```

$> vgdisplay
--- 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. 확장 후

```

$> 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

```



```
=          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. 파일시스템 용량 확장 확인 (3.6T -> 4.2T로 용량 증설)

```
$> 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
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