

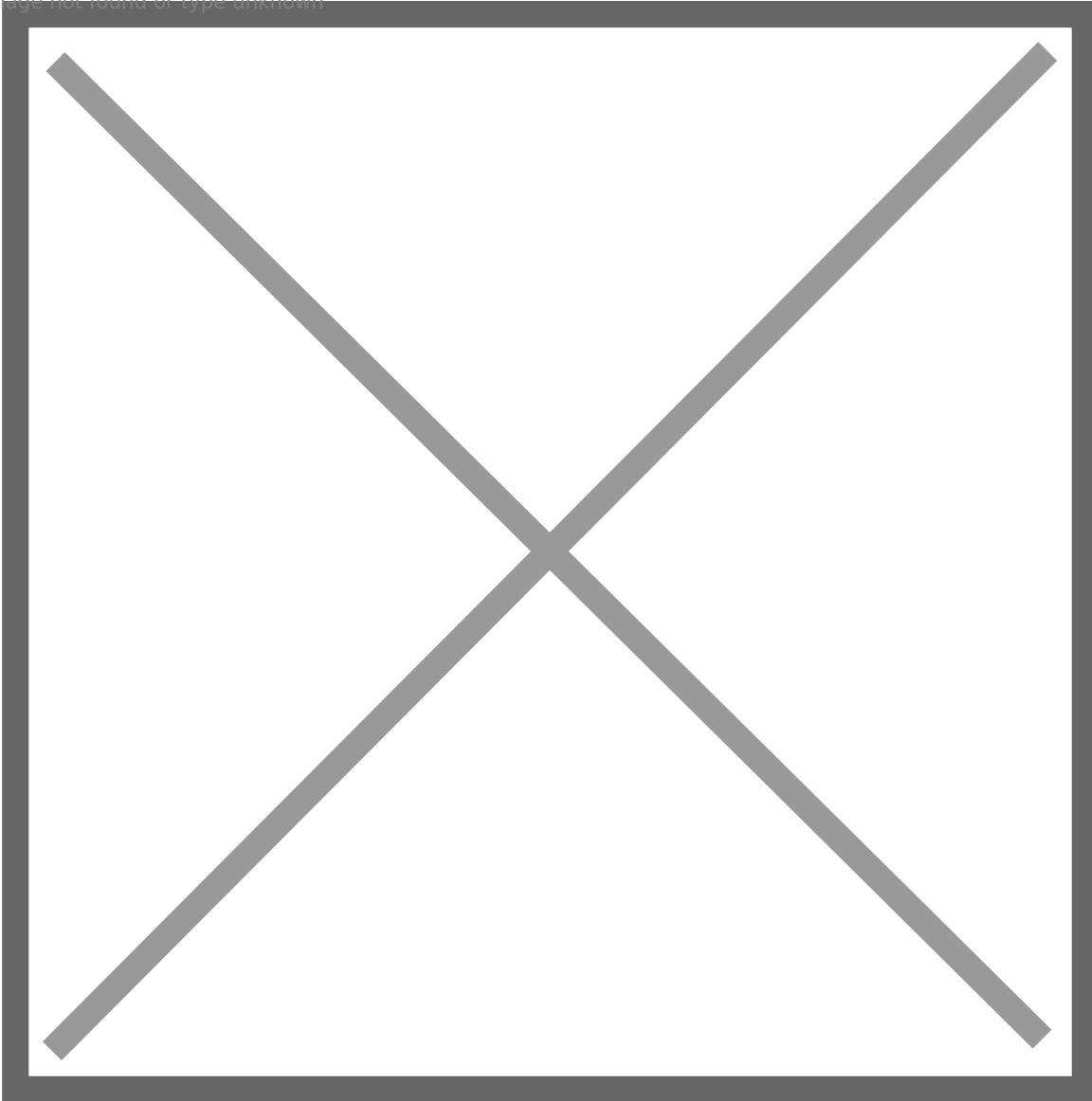
# Resizing a logical group then volume within a parented RAID number

Taken from <https://packetpushers.net/blog/ubuntu-extend-your-default-lvm-space/>

Run **cat /proc/mdstat** - Get the RAID partition you want to update after doing all the resize commands to switch from Raid 1 to Raid 0.

Taken from <https://serverfault.com/questions/915284/is-it-possible-to-convert-raid1-to-raid0-without-system-reinstalation>

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```
md127 : active raid0 nvme1n1p3[2] nvme0n1p3[0]  
973281280 blocks super 1.2 64k chunks
```

Next, get the partition info which should look like this with **lsblk**:

```
root@S01:/dev/vg0# lsblk
NAME                MAJ:MIN RM   SIZE RO TYPE MOUNTPOINTS
loop0                7:0    0    62M  1 loop /snap/core20/1587
loop2                7:2    0   79.9M  1 loop /snap/lxd/22923
loop3                7:3    0   38.8M  1 loop /snap/snappd/21759
loop4                7:4    0   63.9M  1 loop /snap/core20/2318
loop5                7:5    0    87M  1 loop /snap/lxd/28373
nvme1n1              259:0   0  465.8G  0 disk
├─nvme1n1p1          259:5   0    550M  0 part /boot/efi
├─nvme1n1p2          259:6   0     1G  0 part
│ └─md126             9:126   0     2G  0 raid0 /boot
├─nvme1n1p3          259:7   0  464.2G  0 part
│ └─md127             9:127   0  928.2G  0 raid0
│   └─vg0-swap        253:0   0     4G  0 lvm  [SWAP]
│     └─vg0-root      253:1   0  924.2G  0 lvm  /
nvme0n1              259:1   0  465.8G  0 disk
├─nvme0n1p1          259:2   0    550M  0 part
├─nvme0n1p2          259:3   0     1G  0 part
│ └─md126             9:126   0     2G  0 raid0 /boot
├─nvme0n1p3          259:4   0  464.2G  0 part
│ └─md127             9:127   0  928.2G  0 raid0
│   └─vg0-swap        253:0   0     4G  0 lvm  [SWAP]
│     └─vg0-root      253:1   0  924.2G  0 lvm  /
root@S01:/dev/vg0#
```

Notice how **vg0-root** and **vg0-swap** are sitting on on both disks **partition 3** parented under RAID mdadm **md127**? This is what we will be working on.

Run `vgdisplay` - Get **V**olume **G**roup name and the path, in this case will be `"/dev/vg0/xxx"`. Sometimes it is `"/dev/mapper/ubuntu-vg-ubuntu-lv"`, different on how the OS was installed.

```
root@S01:/dev/vg0# vgdisplay
--- Volume group ---
VG Name                vg0
System ID
```

Increasing the size now comes in 3 steps

1. We now need to physically resize the volume of the mdadm RAID by doing `pvresize /dev/RAID#` as shown below:

```
root@S01:/dev/vg0# pvresize /dev/md127
Physical volume "/dev/md127" changed
1 physical volume(s) resized or updated / 0 physical volume(s) not resized
root@S01:/dev/vg0#
```

2. Expand the **Logical Volume** by running **lvextend -l +100%FREE /dev/VGNAME/LVNAME**. We worked out the **VGNAME** was **vg0** and we worked out the **LVNAME** is **root** from **lsblk** - this showed us **vg0-root**. It should be successful.

```
root@S01:/dev/vg0# lvextend -l +100%FREE /dev/vg0/root
Size of logical volume vg0/root changed from 460.09 GiB (117784 extents) to 924.19 GiB (236593 extents).
Logical volume vg0/root successfully resized.
```

3. Your final stage is doing the typical **resize2fs /dev/VGNAME/LVNAME**. You do **NOT** do it on the mdadm **RAID#**, as this will just fail with not finding the superblock:

```
root@S01:/dev/vg0# resize2fs /dev/md127
resize2fs 1.46.5 (30-Dec-2021)
resize2fs: Device or resource busy while trying to open /dev/md127
Couldn't find valid filesystem superblock.
root@S01:/dev/vg0# resize2fs /dev/vg0/root
resize2fs 1.46.5 (30-Dec-2021)
Filesystem at /dev/vg0/root is mounted on /; on-line resizing required
old_desc_blocks = 58, new_desc_blocks = 116
The filesystem on /dev/vg0/root is now 242271232 (4k) blocks long.
```

Check with **df -h**, and you will see it has been resized successfully:

```
root@S01:/dev/vg0# df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           6.3G  2.1M  6.3G   1% /run
/dev/mapper/vg0-root 909G  387G  481G  45% /
```

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