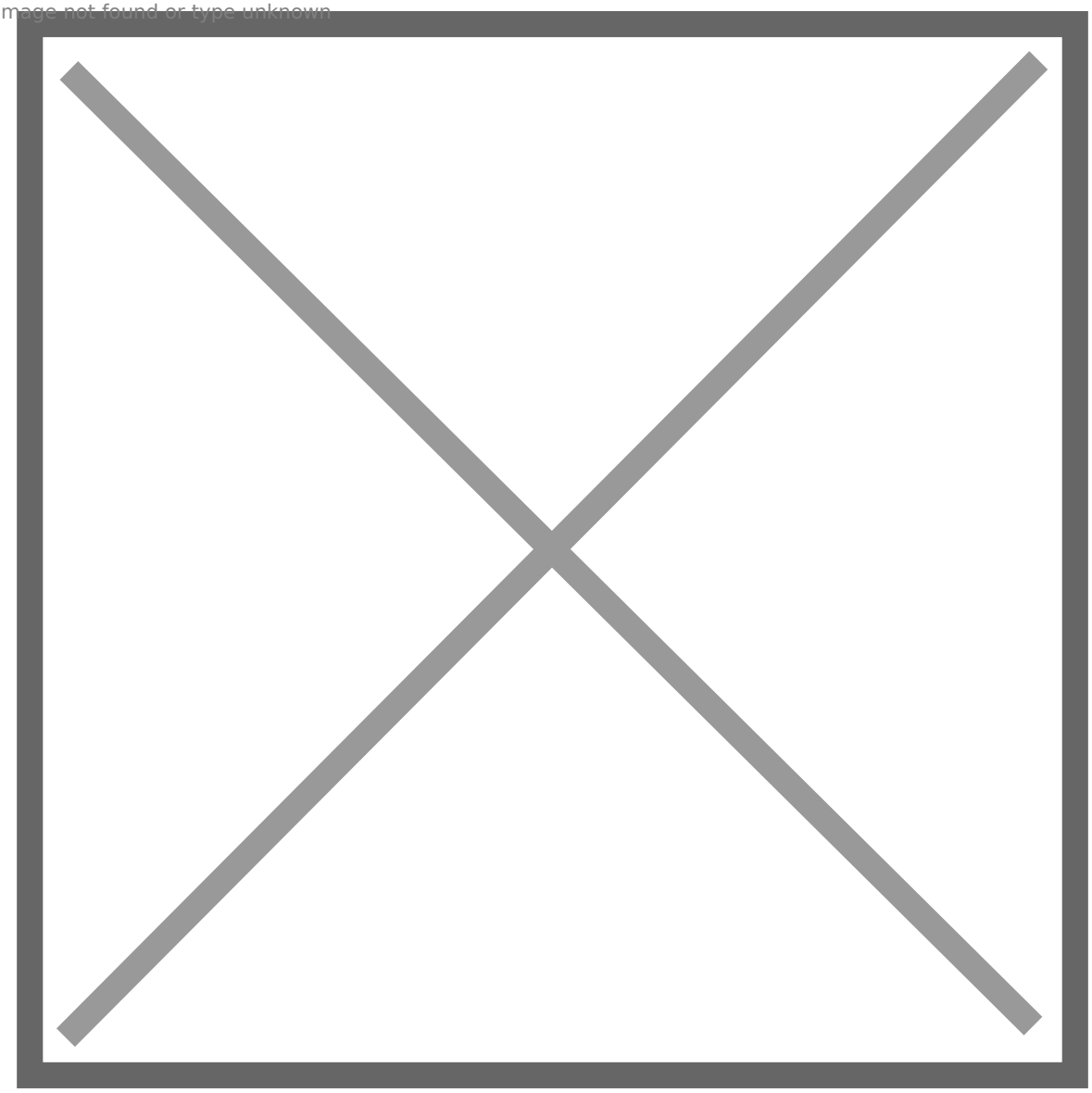
Resizing a logical group then volume within a parented RAID number

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

Image not found or type unknown



```
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/snapd/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.

```
--- 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 **L**ogical **V**olume 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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