

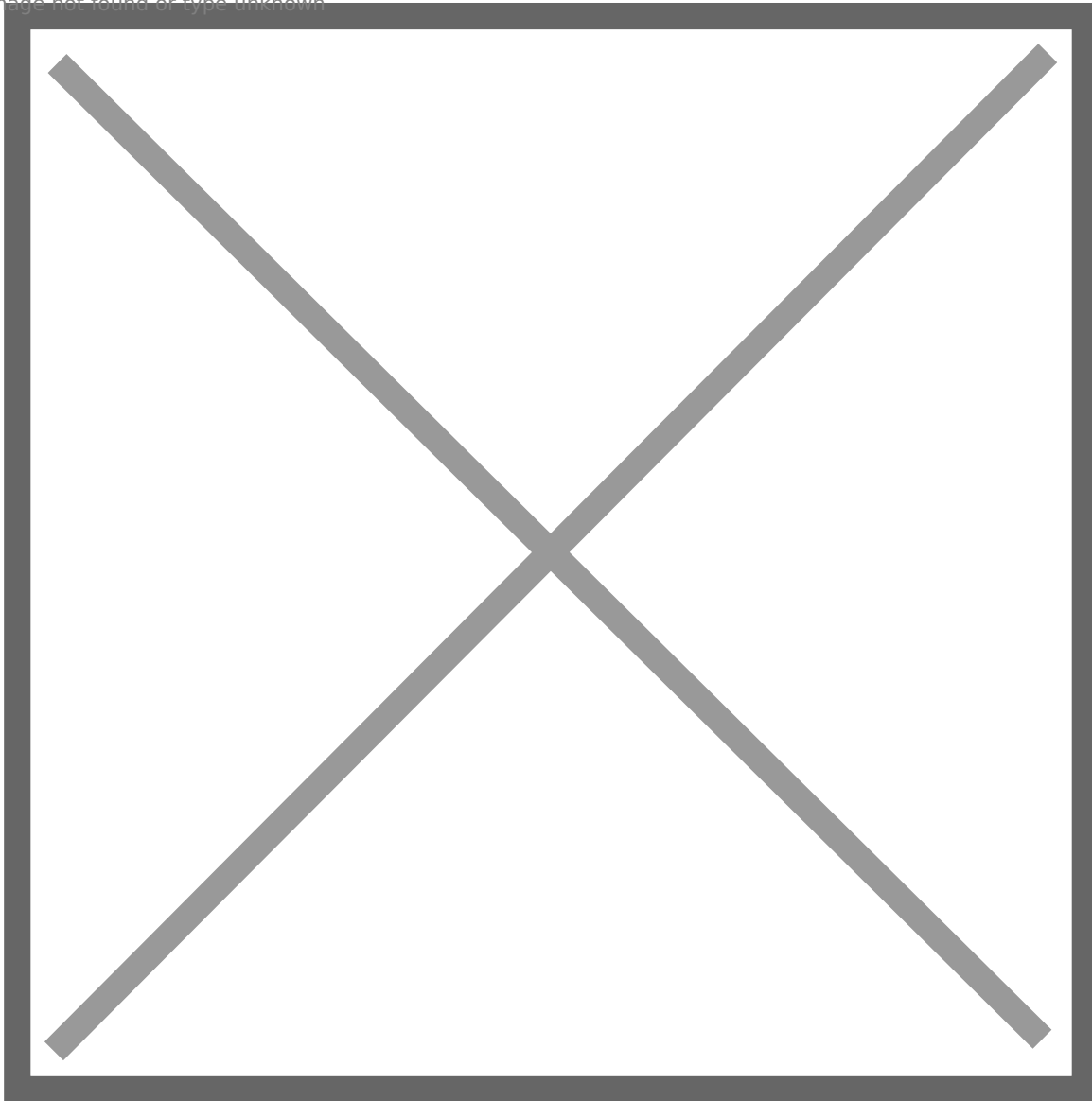
Resizing a logical group then volume within a parented RAID number

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/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.

```

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% /
```

Revision #1

Created 17 June 2024 21:21:25 by JasmeowTheCat

Updated 18 July 2024 22:10:38 by JasmeowTheCat