

## How do I move my LVM 250 GB root partition to a new 120GB hard disk?

I have the following situation:

My current Ubuntu installation is running from an external HDD (250 GB) because I was to lazy to buy an new internal (120GB) and i want to move everything to the internal. Installing Ubuntu new is out of disscussion bec

Luckily (i hope so) the root partition is partitioned with LVM, so i hope i can move the partition to the smaller inte

Is this possible? And where do i find help?

☒ partitioning

☐ lvm

## 2 Answers

As you suspect, this is extremely elegant to do using LVM.

Shrink the existing installation to fit the smaller disk.

Physically install the new harddisk, format and `pvccreate` it, use `vgextend` to add it to the same vg as your root partition

Use `pvmove` to transparently move all data away from the old partition

Use `vgreduce` to remove your external hd from your vg. Unplug the old disk `/dev/sdOLD`.

In the example below:

- `/dev/sdOLD` stands for the old partition to replace
- `/dev/sdNEW` stands for the new partition to take its place.
- `vgX` stands for the volume group

Example: Of course, you have to be 100% sure that your are using the right devices. Also, having complete and up-to-date backups, removed from the system, is essential.

```
pvcreate /dev/sdNEW
vgextend vgX /dev/sdNEW
pvmove /dev/sdOLD
vgreduce vgX /dev/sdOLD
```

Use `update-grub` and `grub-install` to make your new root disk bootable

Done.

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thank you thats really great... – NotANormalNerd Jul 8 '12 at 20:29

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It would have been nice if you had provided concrete examples. – isaacw Jan 5 '13 at 0:50

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- 7 Ah, that's nice voting down a valid accepted post with helpful information. I intentionally did NOT give a concrete example, because the danger is that someone will mindlessly copy-paste that and destroy his/her data. If you do anything with lvm, you should be able to find you bearing with the pointers i give. – Floyd Jan 5 '13 at 14:28
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First, if you used the whole 250GB disk for your current installation, you'll need to shrink it to fit the 120GB disk. You can only shrink an ext4 filesystem while it's unmounted, so you'll need to boot off an Ubuntu live system (CD or USB), or a specialized maintenance live system such as GParted live. You can use `resize2fs` or GParted to resize the existing filesystem.

Once you've shrunk the filesystem(s) of your existing installation to fit on the new disk, you can do the rest of the move with the filesystem mounted if you like. If the existing filesystem fits on the new disk, you can do the transfer without unmounting anything or rebooting.

In the following description, I'll show how to move from the physical volume `/dev/sdb1` to the physical volume `/dev/sda1`, with an existing volume group called `oldvg`. Be sure to adjust the disk letters and partition numbers to match your system.

To do a live transfer:

1. Partition the new disk, using the partitioning tool of your choice ( `cfdisk`, `fdisk`, `parted`, ...). See e.g. [How do I add an additional hard drive?](#)
2. Create a physical volume on the new disk: `pvcreate /dev/sda1`
3. Add this physical volume to the existing volume group containing the logical volume(s) you want to move: `vgextend oldvg /dev/sda1`
4. Move the logical volumes from one physical volume to another: `pvmove /dev/sdb1 /dev/sda1`
5. Split the existing volume group in two: `vgsplit oldvg newvg /dev/sda1`

Another method is to make the existing logical volume(s) a mirror volume with `lvconvert --mirror`, set up a mirror on the new disk, then split the mirrors with `lvconvert --splitmirrors`. This way, you end up with two copies of your data, and after the split each copy leads its own life.

After you've done the copy, you'll need to make the new disk bootable. Mount the filesystem for this. Assuming it's mounted on `/mnt`, run these commands as root:


```
chroot /mnt
# if the name of the volume group has changed, edit /etc/fstab
update-grub
grub-install /dev/sda
```

Alternatively, you might be able to use Clonezilla. This is a powerful disk manipulation and cloning tool, and I think it covers your situation, but I have no experience with it.

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How an answer that basically says `pvadd`, `pvmove`, `pvremove` gets accepted over THIS is beyond me... – izx Jul 8 '12 at 21:01

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Much too complicated and not what he needs – Floyd Jul 9 '12 at 5:19 

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