Migrate data drives

This guide shows how to migrate data drives from an old server to a new machine. This works when the old server is still accessible. My setup is 2 HDD → RAID 1 → LVM2 → LUKS → ext4 so it is very important to do all the steps in the correct sequence as outlined below. In my setup all data is mounted as `/home`, the volume group is `vg_data`, the logical volume `lv_home`.

In my configuration the crypt container and mounting of the filesystem are handled in a batch file. This is not reflected here, and I have also not included instructions how to mount the encrypted container to a mount point.

Old Server

Preparation

1. Copy `/etc/mdadm/mdadm.conf` to external storage
2. Copy `/root` to external storage
3. Copy `/etc` to external storage

File System & LUKS

1. Unmount /home:

   ```
   sudo umount /home
   ```

   You might need to force unmount

2. Close the LUKS container:

   ```
   sudo cryptsetup luksClose vg_data-lv_home_crypt
   ```

3. Alternatively, instead of step 2 & 3, you may want to reboot the machine without providing the encryption password to avoid LUKS opening the encrypted container.

LVM2

1. Use `vgdisplay` and `lvdisplay` to understand your LVM configuration
2. Deactivate logical volume(s): `lvchange -an /dev/vg_data/lv_home`
3. Deactivate volume group: `vgchange -an vg_data`
4. Export the volume group: `vgexport vg_data`

New Server

1. Create a temporary `/home` mount point

2. Install RAID, LVM, and cryptsetup into the new server
3. Do not connect the data drives yet

RAID

1. Copy the RAID configuration (`mdadm.conf`) from the old server to the new server
2. Shut down the system, connect the data drives, then reboot the system
3. Check with `lsblk`

LVM2

1. Run `pvscan` to list the exported volume group(s)
2. Import the volume group: `vgimport vg_data`
3. Activate the volume group: `vgchange -ay vg_data`
4. Activate the volume(s): `lvchange -ay /dev/vg_data/lv_home`

File System & LUKS

1. Open the LUKS container and provide the passphrase:

```
sudo cryptsetup luksOpen /dev/mapper/vg_data-lv_home vg_data-
lv_home_crypt
```

2. Mount the filesystem:

```
mount /dev/mapper/vg_data-lv_home_crypt /home
```

3. Modify `fstab` and give the temporary `/home` directory a new mount point
4. Run `update-initramfs -u`

Links

- Moving a Volume Group to Another System
- Move RAID 1 Array to new system

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