

In summary follow the guide

<https://www.upcloud.com/support/resizing-storage/#decrease-linux>

Until you see df, stop here.

Once the copy process has finished, check the disk space usage to see that everything was copied. The used space will not be exactly the same, but the difference should be minimal.

```
df
```

Reference steps and output from the start:

- lsblk output with correct additional storage attached

```
[root@test ~]# lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
vda   253:0    0  25G  0 disk
├─vda1 253:1    0  25G  0 part /
vdb   253:16   0  10G  0 disk
[root@test ~]#
```

- fdisk output after running fdisk /dev/vdb

```
Command (m for help): p
Disk /dev/vdb: 10.7 GB, 10737418240 bytes, 20971520 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x2312f424

   Device Boot      Start         End      Blocks   Id  System
/dev/vdb1  *           2048     20971519     10484736   83   Linux

Command (m for help):
```

The * on boot is crucial

- Next mkfs.xfs /dev/vdb1

```
[root@test ~]# mkfs.xfs /dev/vdb1
meta-data=/dev/vdb1          isize=512    agcount=4, agsize=655296 blks
      =                       sectsz=512   attr=2, projid32bit=1
      =                       crc=1          finobt=0, sparse=0
data      =                   bsize=4096   blocks=2621184, imaxpct=25
      =                       sunit=0        swidth=0 blks
naming    =version 2          bsize=4096   ascii-ci=0 ftype=1
log       =internal log      bsize=4096   blocks=2560, version=2
      =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime  =none              extsz=4096   blocks=0, rtextents=0
[root@test ~]#
```

- Mount the partition, mount /dev/vdb1 /mnt
- yum install rsync
- rsync -avxHAX //mnt

Example successful rsync output

```
var/lib/yum/yumdb/y/43cb3222d4d080af9a5c4a46ded7f78becfd45d7-yum-3.4.3-158.el7.ce
um/yumdb/y/3519e4786d853a236a87c75f6452868089b89c79-yum-plugin-fastestmirror-1.1.
var/lib/yum/yumdb/y/43cb3222d4d080af9a5c4a46ded7f78becfd45d7-yum-3.4.3-158.el7.ce
/lib/yum/yumdb/y/3519e4786d853a236a87c75f6452868089b89c79-yum-plugin-fastestmirro
sion
var/lib/yum/yumdb/y/43cb3222d4d080af9a5c4a46ded7f78becfd45d7-yum-3.4.3-158.el7.ce
r/lib/yum/yumdb/y/3519e4786d853a236a87c75f6452868089b89c79-yum-plugin-fastestmirr
estamp

sent 1,074,496,773 bytes  received 819,551 bytes  65,170,686.30 bytes/sec
total size is 1,091,895,495  speedup is 1.02
[root@test ~]#
```

Next step is df, stop following the guide.

Run the following to copy boot sector from old to new:

dd if=/dev/vda of=/dev/vdb bs=1 count=512

```
[root@helloworld ~]# dd if=/dev/vda of=/dev/vdb bs=1 count=512
512+0 records in
512+0 records out
512 bytes (512 B) copied, 0.000635572 s, 806 kB/s
[root@helloworld ~]#
```

Next grub2-install /dev/vdb --root-directory=/mnt

```
[root@helloworld ~]# grub2-install /dev/vdb --root-directory=/mnt
Installing for i386-pc platform.
Installation finished. No error reported.
[root@helloworld ~]#
```

Next we Get the UUID of the old disk and the new disk via

```
xfs_admin -u /dev/vda1
```

```
xfs_admin -u /dev/vdb1
```

- Next run (replace command old-UUID and new-UUID field with output from above, VERY CAREFUL, if not it can't boot, don't insert < >)

```
sed -i 's/<old-UUID>/<new-UUID>/g' /mnt/boot/grub2/grub.cfg
```

EXAMPLE: sed -i

```
's/464fbc92-21c0-4076-8a24-dcbab1013c32/8ffc973f-eedd-4627-b24a-446a811a195f/g' /mnt/boot/grub2/grub.cfg (TAKE NOTE OF THE / between old and new)
```

```
[root@hw ~]# sed -i 's/464fbc92-21c0-4076-8a24-dcbab1013c32/8ffc973f-eedd-4627-b24a-446a811a195f/g' /mnt/boot/grub2/grub.cfg
```

to change the UUID throughout the new copy of grub.cfg as the previous rsync command copied the file over

Next manually edit /mnt/etc/fstab from the UUID values we got above

Change the UUID from the old to the new(2nd, from vdb1 output) in the new copy of fstab (vi or your editor of choice)

```
vi /mnt/etc/fstab
```

Example fstab file contents:

```
#
# /etc/fstab
# Created by anaconda on Wed Jul 16 15:11:52 2014
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
UUID=8ffc973f-eedd-4627-b24a-446a811a195f / xfs defaults 1 1
[root@hw ~]#
```

Save and shutdown the server.

Detach original disk(NOT delete until you verify all is working) then boot up.