Ubuntu Server 18.04 LVM out of space with improper default partitioning

Asked 1 year, 1 month ago Active 1 month ago Viewed 19k times

33

28

I installed Ubuntu Server 18.04 with the LVM option and left the default partition setup. Now my main drive only has 4GB in a 1TB hard drive. How can I fix this without starting from scratch?

Results of `df -h` :

```
Filesystem                         Size    Used Available Use% Mounted on
udev                                16G       0       16G   0% /dev
tmpfs                               32G    1.7M       32G   1% /run
/dev/mapper/ubuntu--vg-ubuntu--lv  3.9G    3.6G       92M  98% /
tmpfs                               16G       0       16G   0% /dev/shm
tmpfs                              5.0M       0      5.0M   0% /run/lock
tmpfs                               16G       0       16G   0% /sys/fs/cgroup
/dev/loop0                          87M     87M         0 100% /snap/core/4917
/dev/loop1                         3.2M    3.2M         0 100% /snap/stress-
ng/471
/dev/loop2                          90M     90M         0 100% /snap/core/6130
/dev/sda2                          976M    143M      766M  16% /boot
tmpfs                              3.2G       0      3.2G   0% /run/user/1000
```

edited Oct 8 '19 at 23:48

karel
74.4k 15 166 194

asked Jan 4 '19 at 3:22

CyborgDroid
343 1 4 6

It happens to me too, by using the "ubuntu-18.04.3-live-server-amd64.iso" instead of dedicated server iso. – stwienert Nov 25 '19 at 12:58

3 Answers

63

Had the exact same problem with a fresh install of Ubuntu Server 18.04.1.

What I had to do was:

```
# We need to resize the logical volume to use all the existing and free space of
the volume group
$ lvm
lvm> lvextend -l +100%FREE /dev/ubuntu-vg/ubuntu-lv
lvm> exit

# And then, we need to resize the file system to use the new available space in
the logical volume
$ resize2fs /dev/ubuntu-vg/ubuntu-lv
resize2fs 1.44.1 (24-Mar-2018)
Filesystem at /dev/ubuntu-vg/ubuntu-lv is mounted on /; on-line resizing
required
old_desc_blocks = 1, new_desc_blocks = 58
The filesystem on /dev/ubuntu-vg/ubuntu-lv is now 120784896 (4k) blocks long.

# Finally, you can check that you now have available space:
$ df -h
Filesystem                         Size  Used Avail Use% Mounted on
udev                               3.9G     0  3.9G   0% /dev
tmpfs                              786M  1.2M  785M   1% /run
/dev/mapper/ubuntu--vg-ubuntu--lv  454G  3.8G  432G   1% /
```

If you didn't customize the LVM settings, the names for the volume group and logical volume should be the same as mine (`ubuntu-vg` and `ubuntu-lv` respectively).

If your partition is completely full, you could get a `no space left` error when trying to resize the logical volume like:

```
lvm> lvextend -l +100%FREE /dev/ubuntu-vg/ubuntu-lv
  /etc/lvm/archive/.lvm_computer: write error failed: No space left on device
```

The easiest way to fix this is by removing `apt` cache (it will get regenerated next time you do `apt update`), which should give you more than enough space to complete the operation:

```
$ rm -rf /var/cache/apt/*
```

776 6 8

perfect.. any idea why this happens? what should we have done on loggin in? – Andy Mar 11 '19 at 19:27

7 I would count this as major bug - but apparently the folks at Canonical don't since a fresh installation of an Ubuntu Server 18.04.2 installation has exactly the same "behavior". – Jey DWork Jul 9 '19 at 16:19

5 Are you serious? How is this expected behavior? I landed here after just installing a fresh 18.04.2 and wondering why / is only 4Gigs. – Plazgoth Jul 10 '19 at 4:47

1 I continue to visit this answer and will continue to do so as long as LVM doesn't allocate all of available disk space on a disk – jspinella Sep 8 '19 at 2:56

@Plazgoth youp, you are right, I assume it's a bug. IMHO, expected behavior should be: take entire vm disk, then I increase disk size from hypervisor or add more drives to physical machine, then I use LVM to acquire additional space.... – Aleksandar Pavić Oct 16 '19 at 8:14

2

It appears that you need to extend your Logical Volume.

It can be a bit tricky but if you understand that there are 3 parts, it'll be much easier.

- Physical Volume (PV) => The physical space on a drive.
- Volume Group (VG) => An abstracted amount of drive space that can be split between multiple drives/devices.
- Logical Volume (LV) => The space that ubuntu "sees"

You'll need to extend your VG all the way across your 1TB Drive (or extend however much you want), then extend the Logical Volume group to take up that space.

Technet has a nice writeup that (if you follow carefully) you'll be able to follow and extend your drive.

answered Jan 5 '19 at 2:47

Andy
121 2

1

Expected behavior on an LVM install is indeed the smaller partitions. The system creates minimal space waste on physical partition creation expecting you to customize and expand the LVM as needed, since the added partitions aren't necessary to the operating systems function, and users having additional storage space, quotas, and expansion is the point of having an on-the-fly expandable LV and VG

What it should do, however, is explain that better on install

11 2