

# Mounting /var/log to a separate mount point on Linux

1- We assume the disk is added and formatted already, and no logs are being written to disk when starting the task in hand

```
root@debian-kvm:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            3.9G   0    3.9G  0% /dev
tmpfs           795M  1.4M  794M  1% /run
/dev/vda1        60G   4.9G  52G  9% /
tmpfs           3.9G   12K   3.9G  1% /dev/shm
tmpfs           5.0M   8.0K   5.0M  1% /run/lock
tmpfs           1.0M   0    1.0M  0% /run/credentials/systemd-journald.service
tmpfs           3.9G   16K   3.9G  1% /tmp
tmpfs           795M   96K   795M  1% /run/user/1000
tmpfs           795M   60K   795M  1% /run/user/0

root@debian-kvm:~# fdisk -l
Disk /dev/vda: 64 GiB, 68719476736 bytes, 134217728 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
Disklabel type: dos
Disk identifier: 0x7ca474fe

Device      Boot   Start     End   Sectors  Size Id Type
/dev/vda1    *      2048 127299583 127297536 60.7G 83 Linux
/dev/vda2          127301630 134215679 6914050  3.3G  f W95 Ext'd (LBA)
/dev/vda5          127301632 134215679 6914048  3.3G 82 Linux swap / Solaris

Disk /dev/vdb: 30 GiB, 32212254720 bytes, 62914560 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
Disklabel type: dos
Disk identifier: 0x20fcb95a

Device      Boot Start     End   Sectors  Size Id Type
/dev/vdb1      2048 62914559 62912512  30G 83 Linux
root@debian-kvm:~#
```



2- get the disk UUID by running the following command:

```
# blkid
```

```
root@debian-kvm:~# blkid
/dev/vdb1: LABEL="logs" UUID="1fc661d-6a2f-4ea4-9b27-2e0db6733c98" BLOCK_SIZE="4096" TYPE="ext4" PARTUUID="20fcb95a-01"
/dev/vda5: UUID="1bce05a8-feaa-4f7f-8bb0-590811d85d5a" TYPE="swap" PARTUUID="7ca474fe-05"
/dev/vda1: UUID="4a3a542a-3b17-47e7-ae3d-3195df3976dc" BLOCK_SIZE="4096" TYPE="ext4" PARTUUID="7ca474fe-01"
root@debian-kvm:~#
```

### 3- Add entry in /etc/fstab for the disk to be mounted later, don't mounted yet, and don't run "systemctl daemon-reload" or "mount -a"

```
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# # # <file system> <mount point> <type> <options> <dump> <pass>
# # was on /dev/vda1 during installation
UUID=4a3a542a-3b17-47e7-ae3d-3195df3976dc / ext4 errors=remount-ro 0 1
# swap was on /dev/vda5 during installation
UUID=1bc05a8-faea-4f7f-8bb0-590811d85d5a none swap sw 0 0
/dev/sr0 /media/cdrom0 udf,iso9660 user,noauto

### Separate disk for /var/log
UUID=1fc6601d-6a2f-4ea4-9b27-2e0db6733c98 /var/log ext4 errors=remount-ro 0 1
```

### 4- Take backup of /var/log

**Note:** When you mount a new filesystem (your separate disk) on /var/log, it hides the original contents of /var/log that live on your root (/) filesystem.

Those old log files still exist underneath the mount point — but they're invisible until you unmount or access them another way.

So, Now, let's mount /dev/vdb1 on a temporary mount point, /mnt

```
root@debian-kvm:~# mount /dev/vdb1 /mnt/
mount: (hint) your fstab has been modified, but systemd still uses
      the old version; use 'systemctl daemon-reload' to reload.
root@debian-kvm:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            3.9G   0B  3.9G  0% /dev
tmpfs           795M  1.4M 794M  1% /run
/dev/vda1        60G  4.9G  52G  9% /
tmpfs           3.9G  12K  3.9G  1% /dev/shm
tmpfs           5.0M  8.0K  5.0M  1% /run/lock
tmpfs           1.0M   0  1.0M  0% /run/credentials/systemd-journald.service
tmpfs           3.9G  16K  3.9G  1% /tmp
tmpfs           795M  96K  795M  1% /run/user/1000
tmpfs           795M  60K  795M  1% /run/user/0
/dev/vdb1        30G  2.1M  30G  1% /mnt
root@debian-kvm:~#
```

Don't mind the error, it is our safety net, we don't want the new disk to be mounted at /var/log yet

### 5- rsync /var/log/ to /mnt ("The new disk which mounted temporarily")

```
root@debian-kvm:~# rsync -av --stats --progress /var/log/. /mnt/
```

```
installer/cdebconf/templates.dat      15,094,380 100% 959.67MB/s  0:00:00 (xfr#20, to .chk=4/35)
journal/
journal/f95764dc588d4caaa839923bb941fd50/
journal/f95764dc588d4caaa839923bb941fd50/system.journal
      8,388,608 100% 400.00MB/s   0:00:00 (xfr#21, to -chk=2/35)
journal/f95764dc588d4caaa839923bb941fd50/user-1000.journal
      8,388,608 100% 333.33MB/s   0:00:00 (xfr#22, to -chk=1/35)
private/
runit/
runit/ssh/
speech-dispatcher/

Number of files: 35 (reg: 22, dir: 12, link: 1)
Number of created files: 34 (reg: 22, dir: 11, link: 1)
Number of deleted files: 0
Number of regular files transferred: 22
Total file size: 34,800,365 bytes
Total transferred file size: 34,800,326 bytes
Literal data: 34,800,326 bytes
Matched data: 0 bytes
File list size: 0
File list generation time: 0.001 seconds
File list transfer time: 0.000 seconds
Total bytes sent: 34,810,933
Total bytes received: 504

sent 34,810,933 bytes received 504 bytes 69,622,874.00 bytes/sec
total size is 34,800,365 speedup is 1.00
root@debian-kvm:~#
```

#### 6- un-mount /mnt and make sure /dev/vbd1 is not mounted anymore

```
root@debian-kvm:~# umount /mnt
root@debian-kvm:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            3.9G    0  3.9G  0% /dev
tmpfs           795M  1.4M  794M  1% /run
/dev/vda1        60G  4.9G  52G  9% /
tmpfs           3.9G   12K  3.9G  1% /dev/shm
tmpfs           5.0M  8.0K  5.0M  1% /run/lock
tmpfs           1.0M    0  1.0M  0% /run/credentials/systemd-journald.service
tmpfs           3.9G   16K  3.9G  1% /tmp
tmpfs           795M 104K  795M  1% /run/user/1000
tmpfs           795M   60K  795M  1% /run/user/0
root@debian-kvm:~#
```

## 7- go ahead and mount /var/log to the new disk

```
root@debian-kvm:~# systemctl daemon-reload
root@debian-kvm:~# mount -a
root@debian-kvm:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            3.9G    0  3.9G  0% /dev
tmpfs           795M  1.4M 794M  1% /run
/dev/vda1        60G   4.9G  52G  9% /
tmpfs           3.9G   12K  3.9G  1% /dev/shm
tmpfs           5.0M   8.0K  5.0M  1% /run/lock
tmpfs           1.0M    0  1.0M  0% /run/credentials/systemd-journald.service
tmpfs           3.9G   16K  3.9G  1% /tmp
tmpfs           795M  104K 795M  1% /run/user/1000
tmpfs           795M   60K  795M  1% /run/user/0
/dev/vdb1        30G   36M  30G  1% /var/log
root@debian-kvm:~# ls /var/log
alternatives.log  boot.log  cups       fontconfig.log  installer  lastlog    private  runit          wtmp
apt              btmp      dpkg.log  gdm3           journal    lost+found README   speech-dispatcher
root@debian-kvm:~#
```

8- You can safely clean up those hidden files without unmounting /var/log again by following the commands in this screenshot. That will remove the old /var/log data that's still occupying your / filesystem.

```
root@debian-kvm:~# mkdir /mnt/old_var_log —
root@debian-kvm:~# mount --bind / /mnt/old_var_log —
root@debian-kvm:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            3.9G    0  3.9G  0% /dev
tmpfs           795M  1.4M 794M  1% /run
/dev/vda1        60G   4.9G  52G  9% /
tmpfs           3.9G   12K  3.9G  1% /dev/shm
tmpfs           5.0M   8.0K  5.0M  1% /run/lock
tmpfs           1.0M    0  1.0M  0% /run/credentials/systemd-journald.service
tmpfs           3.9G   16K  3.9G  1% /tmp
tmpfs           795M  104K 795M  1% /run/user/1000
tmpfs           795M   60K  795M  1% /run/user/0
/dev/vdb1        30G   36M  30G  1% /var/log
root@debian-kvm:~# ls /mnt/old_var_log/
bin  dev  home  initrd.img.old  lib64  media  opt  root  sbin  sys  usr  vmlinuz
boot  etc  initrd.img  lib  lost+found  mnt  proc  run  srv  tmp  var  vmlinuz.old
root@debian-kvm:~# ls /mnt/old_var_log/var/log/—
alternatives.log  boot.log  cups       fontconfig.log  installer  lastlog  README  speech-dispatcher
apt              btmp      dpkg.log  gdm3           journal    private  runit  wtmp
root@debian-kvm:~# rm -rf /mnt/old_var_log/var/log/*
root@debian-kvm:~# ls /mnt/old_var_log/var/log/—
root@debian-kvm:~# umount /mnt/old_var_log—
root@debian-kvm:~# rm -fr /mnt/old_var_log/—
root@debian-kvm:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            3.9G    0  3.9G  0% /dev
tmpfs           795M  1.4M 794M  1% /run
/dev/vda1        60G   4.9G  52G  9% /
tmpfs           3.9G   12K  3.9G  1% /dev/shm
tmpfs           5.0M   8.0K  5.0M  1% /run/lock
tmpfs           1.0M    0  1.0M  0% /run/credentials/systemd-journald.service
tmpfs           3.9G   16K  3.9G  1% /tmp
tmpfs           795M  104K 795M  1% /run/user/1000
tmpfs           795M   60K  795M  1% /run/user/0
```