

# Lab 6: Red Hat Gluster

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## 1. Complete the tutorial

The gluster directory on the **host**:

```
student@student-virtual-machine: /mnt/glusterfs
-----+-----+-----+
| client1 | RUNNING | 10.29.27.169 (eth0) | fd42:1e51:689a:3c7c:216:3eff:feea:d3c7 (eth0) | CONTAINER | 0 |
-----+-----+-----+
| client2 | RUNNING | 10.29.27.137 (eth0) | fd42:1e51:689a:3c7c:216:3eff:fe4f:927f (eth0) | CONTAINER | 0 |
-----+-----+-----+
| gluster1 | RUNNING | 10.29.27.33 (eth0) | fd42:1e51:689a:3c7c:216:3eff:fe35:c447 (eth0) | CONTAINER | 0 |
-----+-----+-----+
| gluster3 | RUNNING | 10.29.27.213 (eth0) | fd42:1e51:689a:3c7c:216:3eff:fe99:12a5 (eth0) | CONTAINER | 0 |
-----+-----+-----+
student@student-virtual-machine:~$ ls /mnt/glusterfs
student@student-virtual-machine:~$ ls /mnt/glusterfs
test.txt
student@student-virtual-machine:~$ cd /mnt/glusterfs/
student@student-virtual-machine:/mnt/glusterfs$ ls
test.txt
student@student-virtual-machine:/mnt/glusterfs$
```

The gluster directory on **client1**:

```
root@client1: /mnt/glusterfs
stud... x root... x stud... x root... x root... x root... x
if dirpath is "/":
Setting up glusterfs-client (7.2-2build1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for man-db (2.9.1-1) ...
root@client1:~# sudo mkdir -p /mnt/glusterfs
root@client1:~# sudo mount -t glusterfs gluster1.lxd:/v01 /mnt/glusterfs/
root@client1:~# touch test.txt
root@client1:~# ls
snap test.txt
root@client1:~# ls
snap test.txt
root@client1:~# ls /mnt/glusterfs/
root@client1:~# ls
snap test.txt
root@client1:~# cd ..
root@client1:/# ls
bin dev home lib32 libx32 mnt proc run snap sys usr
boot etc lib lib64 media opt root sbin srv tmp var
root@client1:/# cd /mnt/glusterfs/
root@client1:/mnt/glusterfs# ls
root@client1:/mnt/glusterfs# touch test.txt
root@client1:/mnt/glusterfs# ls
test.txt
root@client1:/mnt/glusterfs#
```

The gluster directory on **gluster1**:

```
root@gluster1: /glusterfs/distributed
Hostname: gluster2.lxd
Uuid: e2e5b05b-5ff3-45d2-8bbf-639c29bacaa9
State: Peer in Cluster (Connected)

Hostname: gluster3.lxd
Uuid: 3130610b-e0f4-4dce-a679-27c36c0eab12
State: Peer in Cluster (Connected)
root@gluster1:~# sudo mkdir -p /glusterfs/distributed
root@gluster1:~# sudo gluster volume create v01 replica 3 transport tcp gluster1
.lxd:/glusterfs/distributed gluster2.lxd:/glusterfs/distributed gluster3.lxd:/gl
usterfs/distributed force
volume create: v01: success: please start the volume to access data
root@gluster1:~# sudo gluster volume start v01
volume start: v01: success
root@gluster1:~# cd ..
root@gluster1:/# ls
bin  dev  glusterfs  lib  lib64  media  opt  root  sbin  srv  tmp  var
boot  etc  home      lib32  libx32  mnt  proc  run  snap  sys  usr
root@gluster1:/# cd glusterfs/distributed/
root@gluster1:/glusterfs/distributed# ls
test.txt
root@gluster1:/glusterfs/distributed# ls
test.txt
root@gluster1:/glusterfs/distributed#
```

Screenshot of the output of the command **lxc ls** on the host:

```
student@student-virtual-machine: ~
student@student-virtual-machine:~$ lxc ls
+-----+-----+-----+-----+
| NAME | STATE | IPV4 | | IPV6 |
| | TYPE | SNAPSHOTS | |
+-----+-----+-----+-----+
| client1 | RUNNING | 10.29.27.169 (eth0) | fd42:1e51:689a:3c7c:216:3eff:feea:d3c7 (eth0) | CONTAINER | 0 |
+-----+-----+-----+-----+
| client2 | RUNNING | 10.29.27.137 (eth0) | fd42:1e51:689a:3c7c:216:3eff:fe4f:927f (eth0) | CONTAINER | 0 |
+-----+-----+-----+-----+
| gluster1 | RUNNING | 10.29.27.33 (eth0) | fd42:1e51:689a:3c7c:216:3eff:fe35:c447 (eth0) | CONTAINER | 0 |
+-----+-----+-----+-----+
| gluster3 | RUNNING | 10.29.27.213 (eth0) | fd42:1e51:689a:3c7c:216:3eff:fe99:12a5 (eth0) | CONTAINER | 0 |
+-----+-----+-----+-----+
student@student-virtual-machine:~$
```

Indeed, we see both clients and the two glusters (gluster2 was deleted per request).

## 2. Permanently mount the file system

Execute the following steps:

1. We execute the following command on the host: **sudo vi /etc/fstab**
2. Add the following line to the /etc/fstab file to permanently mount the file system:  
**gluster1.lxd:/v01 /mnt/glusterfs glusterfs defaults,\_netdev 0 0**

Indeed, we see the file system is mounted (last one):

```
student@student-virtual-machine:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            7.8G   0    7.8G   0% /dev
tmpfs           1.6G  1.9M   1.6G   1% /run
/dev/sda5       29G   21G   7.1G  75% /
tmpfs           7.9G   0    7.9G   0% /dev/shm
tmpfs           5.0M   0    5.0M   0% /run/lock
tmpfs           7.9G   0    7.9G   0% /sys/fs/cgroup
/dev/loop0      56M   56M     0 100% /snap/core18/1997
/dev/loop2     256M  256M     0 100% /snap/gnome-3-34-1804/36
/dev/loop3     219M  219M     0 100% /snap/gnome-3-34-1804/66
/dev/loop1     100M  100M     0 100% /snap/core/10958
/dev/loop5      65M   65M     0 100% /snap/gtk-common-themes/1514
/dev/loop4      66M   66M     0 100% /snap/gtk-common-themes/1515
/dev/loop6      33M   33M     0 100% /snap/snapd/11402
/dev/loop7     209M  209M     0 100% /snap/microk8s/2094
/dev/loop8      70M   70M     0 100% /snap/lxd/20309
/dev/loop9     211M  211M     0 100% /snap/microk8s/2143
/dev/loop10     50M   50M     0 100% /snap/snap-store/467
/dev/loop11     33M   33M     0 100% /snap/snapd/11588
/dev/loop12     56M   56M     0 100% /snap/core18/1988
/dev/loop13     52M   52M     0 100% /snap/snap-store/518
/dev/loop14    100M  100M     0 100% /snap/core/10908
/dev/sda1       511M  4.0K  511M   1% /boot/efi
tmpfs           1.6G  36K   1.6G   1% /run/user/1000
tmpfs           1.0M   0    1.0M   0% /var/snap/lxd/common/ns
gluster1.lxd:/v01 4.7G  2.0G  2.5G  44% /mnt/glusterfs
```

3. Reboot
4. **df -h**

However now /mnt/glusterfs is no longer present. I tried solving this problem by trying to add the following to fstab, per <https://serverfault.com/questions/800494/glusterfs-mount-on-boot-on-clustered-servers-rhel-7/823582#823582>:

```
gluster1.lxd:/v01 /mnt/glusterfs glusterfs defaults,_netdev, noauto, x-systemd.automount
0 0
```

This also did not solve the problem. The error logs did show that it failed to mount, but I don't know how to solve this issue.