login as: root

root@192.168.44.135's password:

Last login: Sat Jul 15 18:06:46 2023

[root@client ~]# hostname

client.hpcsa.in

**[root@client ~]# systemctl stop firewalld**

**[root@client ~]# systemctl disable firewalld**

Removed symlink /etc/systemd/system/multi-user.target.wants/firewalld.service.

Removed symlink /etc/systemd/system/dbus-org.fedoraproject.FirewallD1.service.

**[root@client ~]# yum install gluster-fuse**

Loaded plugins: fastestmirror

Loading mirror speeds from cached hostfile

\* base: mirrors.nxtgen.com

\* extras: mirrors.nxtgen.com

\* updates: mirrors.nxtgen.com

No package gluster-fuse available.

Error: Nothing to do

[root@client ~]# yum install glusterfs-fuse

Loaded plugins: fastestmirror

Loading mirror speeds from cached hostfile

\* base: mirrors.nxtgen.com

\* extras: mirrors.nxtgen.com

\* updates: mirrors.nxtgen.com

Resolving Dependencies

--> Running transaction check

---> Package glusterfs-fuse.x86\_64 0:6.0-61.el7 will be installed

--> Processing Dependency: glusterfs-libs(x86-64) = 6.0-61.el7 for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Processing Dependency: glusterfs-client-xlators(x86-64) = 6.0-61.el7 for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Processing Dependency: glusterfs(x86-64) = 6.0-61.el7 for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Processing Dependency: psmisc for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Processing Dependency: attr for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Processing Dependency: libglusterfs.so.0()(64bit) for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Processing Dependency: libgfxdr.so.0()(64bit) for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Processing Dependency: libgfrpc.so.0()(64bit) for package: glusterfs-fuse-6.0-61.el7.x86\_64

--> Running transaction check

---> Package attr.x86\_64 0:2.4.46-13.el7 will be installed

---> Package glusterfs.x86\_64 0:6.0-61.el7 will be installed

---> Package glusterfs-client-xlators.x86\_64 0:6.0-61.el7 will be installed

---> Package glusterfs-libs.x86\_64 0:6.0-61.el7 will be installed

---> Package psmisc.x86\_64 0:22.20-17.el7 will be installed

--> Finished Dependency Resolution

Dependencies Resolved

===================================================================================================================

Package Arch Version Repository Size

===================================================================================================================

Installing:

glusterfs-fuse x86\_64 6.0-61.el7 updates 129 k

Installing for dependencies:

attr x86\_64 2.4.46-13.el7 base 66 k

glusterfs x86\_64 6.0-61.el7 updates 586 k

glusterfs-client-xlators x86\_64 6.0-61.el7 updates 786 k

glusterfs-libs x86\_64 6.0-61.el7 updates 389 k

psmisc x86\_64 22.20-17.el7 base 141 k

Transaction Summary

===================================================================================================================

Install 1 Package (+5 Dependent packages)

Total download size: 2.0 M

Installed size: 9.1 M

Is this ok [y/d/N]: y

Downloading packages:

(1/6): attr-2.4.46-13.el7.x86\_64.rpm | 66 kB 00:00:00

(2/6): glusterfs-6.0-61.el7.x86\_64.rpm | 586 kB 00:00:00

(3/6): glusterfs-client-xlators-6.0-61.el7.x86\_64.rpm | 786 kB 00:00:00

(4/6): glusterfs-fuse-6.0-61.el7.x86\_64.rpm | 129 kB 00:00:00

(5/6): glusterfs-libs-6.0-61.el7.x86\_64.rpm | 389 kB 00:00:00

(6/6): psmisc-22.20-17.el7.x86\_64.rpm | 141 kB 00:00:00

-------------------------------------------------------------------------------------------------------------------

Total 2.5 MB/s | 2.0 MB 00:00:00

Running transaction check

Running transaction test

Transaction test succeeded

Running transaction

Installing : glusterfs-libs-6.0-61.el7.x86\_64 1/6

Installing : glusterfs-client-xlators-6.0-61.el7.x86\_64 2/6

Installing : glusterfs-6.0-61.el7.x86\_64 3/6

Installing : psmisc-22.20-17.el7.x86\_64 4/6

Installing : attr-2.4.46-13.el7.x86\_64 5/6

Installing : glusterfs-fuse-6.0-61.el7.x86\_64 6/6

Verifying : glusterfs-client-xlators-6.0-61.el7.x86\_64 1/6

Verifying : glusterfs-6.0-61.el7.x86\_64 2/6

Verifying : glusterfs-fuse-6.0-61.el7.x86\_64 3/6

Verifying : glusterfs-libs-6.0-61.el7.x86\_64 4/6

Verifying : attr-2.4.46-13.el7.x86\_64 5/6

Verifying : psmisc-22.20-17.el7.x86\_64 6/6

Installed:

glusterfs-fuse.x86\_64 0:6.0-61.el7

Dependency Installed:

attr.x86\_64 0:2.4.46-13.el7 glusterfs.x86\_64 0:6.0-61.el7 glusterfs-client-xlators.x86\_64 0:6.0-61.el7

glusterfs-libs.x86\_64 0:6.0-61.el7 psmisc.x86\_64 0:22.20-17.el7

Complete!

**Replication file is created with these commands.**

**[root@client ~]# mkdir /mnt/gdrive**

**[root@client ~]# mount -t glusterfs node1.hpcsa.in:/gdisk2 /mnt/gdrive/**

**[root@client ~]# lsblk**

NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT

sda 8:0 0 20G 0 disk

├─sda1 8:1 0 1G 0 part /boot

└─sda2 8:2 0 19G 0 part

├─centos-root 253:0 0 17G 0 lvm /

└─centos-swap 253:1 0 2G 0 lvm [SWAP]

sr0 11:0 1 973M 0 rom

**[root@client ~]# df -TH**

Filesystem Type Size Used Avail Use% Mounted on

devtmpfs devtmpfs 498M 0 498M 0% /dev

tmpfs tmpfs 510M 0 510M 0% /dev/shm

tmpfs tmpfs 510M 8.0M 502M 2% /run

tmpfs tmpfs 510M 0 510M 0% /sys/fs/cgroup

/dev/mapper/centos-root xfs 19G 1.6G 17G 9% /

/dev/sda1 xfs 1.1G 144M 920M 14% /boot

tmpfs tmpfs 102M 0 102M 0% /run/user/0

node1.hpcsa.in:/gdisk2 fuse.glusterfs 22G 258M 20G 2% /mnt/gdrive

**[root@client ~]# cd /mnt/gdrive/**

**[root@client gdrive]# dd if=/dev/zero of=file.txt bs=1024 count=1236778675**

^Z

[1]+ Stopped dd if=/dev/zero of=file.txt bs=1024 count=1236778675

[root@client gdrive]# df -TH

Filesystem Type Size Used Avail Use% Mounted on

devtmpfs devtmpfs 498M 0 498M 0% /dev

tmpfs tmpfs 510M 0 510M 0% /dev/shm

tmpfs tmpfs 510M 8.0M 502M 2% /run

tmpfs tmpfs 510M 0 510M 0% /sys/fs/cgroup

/dev/mapper/centos-root xfs 19G 1.6G 17G 9% /

/dev/sda1 xfs 1.1G 144M 920M 14% /boot

tmpfs tmpfs 102M 0 102M 0% /run/user/0

node1.hpcsa.in:/gdisk2 fuse.glusterfs 22G 8.8G 12G 44% /mnt/gdrive

**[root@client gdrive]# ls**

file.txt (Replication of this file will be present in all 3 server nodes)

[root@client gdrive]# ll -h

total 7.9G

-rw-r--r--. 1 root root 7.9G Jul 15 20:51 file.txt

[root@client gdrive]# history

1 clear

2 root

3 cdac

4 clear

5 dhclient

6 clear

7 ip a

8 hostnamectl set-hostname client.hpcsa.in

9 exec bash

10 hostname

11 systemctl stop firewalld

12 systemctl disable firewalld

13 yum install gluster-fuse

14 yum install glusterfs-fuse

15 mkdir /mnt/gdrive

16 mount -t glusterfs node1.hpcsa.in:/gdisk2 /mnt/gdrive/

17 lsblk

18 df -TH

19 cd /mnt/gdrive/

20 dd if=/dev/zero of=file.txt bs=1024 count=1236778675

21 df -TH

22 ls

23 ll

24 ll -h

25 systemctl status firewalld

26 history

**Distributed File System file creation in GlusterFs Client**

**[root@client gdrive]# cd**

**[root@client ~]# mkdir /mnt/distdrive**

**[root@client ~]# mount -t glusterfs node1.hpcsa.in:/gdisk3 /mnt/distdrive/**

**[root@client ~]# lsblk**

NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT

sda 8:0 0 20G 0 disk

├─sda1 8:1 0 1G 0 part /boot

└─sda2 8:2 0 19G 0 part

├─centos-root 253:0 0 17G 0 lvm /

└─centos-swap 253:1 0 2G 0 lvm [SWAP]

sr0 11:0 1 973M 0 rom

**[root@client ~]# df -TH**

Filesystem Type Size Used Avail Use% Mounted on

devtmpfs devtmpfs 498M 0 498M 0% /dev

tmpfs tmpfs 510M 0 510M 0% /dev/shm

tmpfs tmpfs 510M 8.0M 502M 2% /run

tmpfs tmpfs 510M 0 510M 0% /sys/fs/cgroup

/dev/mapper/centos-root xfs 19G 1.6G 17G 9% /

/dev/sda1 xfs 1.1G 144M 920M 14% /boot

tmpfs tmpfs 102M 0 102M 0% /run/user/0

node1.hpcsa.in:/gdisk2 fuse.glusterfs 22G 8.8G 12G 44% /mnt/gdrive

node1.hpcsa.in:/gdisk3 fuse.glusterfs 64G 27G 35G 44% /mnt/distdrive

**[root@client ~]# cd /mnt/distdrive/**

**[root@client distdrive]# dd if=/dev/zero of=dist.txt bs=1024 count=1000000**

1000000+0 records in

1000000+0 records out

1024000000 bytes (1.0 GB) copied, 34.0009 s, 30.1 MB/s

**[root@client distdrive]# ll -h**

total 977M

-rw-r--r--. 1 root root 977M Jul 15 21:19 dist.txt

**[root@client distdrive]# dd if=/dev/zero of=dist.ruby bs=1024 count=1000000**

1000000+0 records in

1000000+0 records out

1024000000 bytes (1.0 GB) copied, 34.8467 s, 29.4 MB/s

**[root@client distdrive]# dd if=/dev/zero of=dist.demo bs=1024 count=10085**

10085+0 records in

10085+0 records out

10327040 bytes (10 MB) copied, 0.372709 s, 27.7 MB/s

**[root@client distdrive]# dd if=/dev/zero of=dist.test bs=1024 count=10085**

10085+0 records in

10085+0 records out

10327040 bytes (10 MB) copied, 0.376926 s, 27.4 MB/s

**[root@client distdrive]# dd if=/dev/zero of=dist.lol bs=1024 count=1000000**

1000000+0 records in

1000000+0 records out

1024000000 bytes (1.0 GB) copied, 33.9041 s, 30.2 MB/s

[root@client distdrive]# history

1 clear

2 root

3 cdac

4 clear

5 dhclient

6 clear

7 ip a

8 hostnamectl set-hostname client.hpcsa.in

9 exec bash

10 hostname

11 systemctl stop firewalld

12 systemctl disable firewalld

13 yum install gluster-fuse

14 yum install glusterfs-fuse

15 mkdir /mnt/gdrive

16 mount -t glusterfs node1.hpcsa.in:/gdisk2 /mnt/gdrive/

17 lsblk

18 df -TH

19 cd /mnt/gdrive/

20 dd if=/dev/zero of=file.txt bs=1024 count=1236778675

21 df -TH

22 ls

23 ll

24 ll -h

25 systemctl status firewalld

26 history

27 cd

28 mkdir /mnt/distdrive

29 mount -t glusterfs node1.hpcsa.in:/gdisk3 /mnt/distdrive/

30 lsblk

31 df -TH

32 cd /mnt/distdrive/

33 dd if=/dev/zero of=dist.txt bs=1024 count=1000000

34 ll

35 ll -h

36 dd if=/dev/zero of=dist.ruby bs=1024 count=1000000

37 dd if=/dev/zero of=dist.demo bs=1024 count=10085

38 dd if=/dev/zero of=dist.test bs=1024 count=10085

39 dd if=/dev/zero of=dist.lol bs=1024 count=1000000

40 history

**[root@client distdrive]# ll -h**

total 2.9G

-rw-r--r--. 1 root root 9.9M Jul 15 22:02 dist.demo

-rw-r--r--. 1 root root 977M Jul 15 22:03 dist.lol

-rw-r--r--. 1 root root 977M Jul 15 22:00 dist.ruby

-rw-r--r--. 1 root root 9.9M Jul 15 22:02 dist.test

-rw-r--r--. 1 root root 977M Jul 15 21:19 dist.txt

[root@client distdrive]#

Note: Total 5 files are created and in Distributed mode 4 files are in node1 server and 1 file is in node3 server. This distribution is decided by glusterfs automatically.

**Disperse File System file creation in GlusterFs Client**

**[root@client ~]# mkdir /mnt/dispdrive**

**[root@client ~]# mount -t glusterfs node1.hpcsa.in:/gdisk4 /mnt/dispdrive/**

**[root@client ~]# lsblk**

NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT

sda 8:0 0 20G 0 disk

├─sda1 8:1 0 1G 0 part /boot

└─sda2 8:2 0 19G 0 part

├─centos-root 253:0 0 17G 0 lvm /

└─centos-swap 253:1 0 2G 0 lvm [SWAP]

sr0 11:0 1 973M 0 rom

**[root@client ~]# df -TH**

Filesystem Type Size Used Avail Use% Mounted on

devtmpfs devtmpfs 498M 0 498M 0% /dev

tmpfs tmpfs 510M 0 510M 0% /dev/shm

tmpfs tmpfs 510M 8.0M 502M 2% /run

tmpfs tmpfs 510M 0 510M 0% /sys/fs/cgroup

/dev/mapper/centos-root xfs 19G 1.6G 17G 9% /

/dev/sda1 xfs 1.1G 144M 920M 14% /boot

tmpfs tmpfs 102M 0 102M 0% /run/user/0

node1.hpcsa.in:/gdisk2 fuse.glusterfs 22G 11G 9.4G 54% /mnt/gdrive

node1.hpcsa.in:/gdisk3 fuse.glusterfs 64G 30G 32G 49% /mnt/distdrive

node1.hpcsa.in:/gdisk4 fuse.glusterfs 43G 22G 19G 54% /mnt/dispdrive

**[root@client ~]# cd /mnt/dispdrive/**

**[root@client dispdrive]# dd if=/dev/zero of=disp.py bs=1024 count=2000000**

2000000+0 records in

2000000+0 records out

2048000000 bytes (2.0 GB) copied, 69.3498 s, 29.5 MB/s

**Note: In 2 nodes file will be stored in disperse mode and in remaining node parity will be stored.**