**GlusterFS Practical**

**Required Machines**

**Storage1 : 1GB RAM, 20+20+20 GB HDD, NAT**

**Storage2 : 1GB RAM, 20+20+20 GB HDD, NAT**

**Storage3 : 1GB RAM, 20+20+20 GB HDD, NAT**

**Client : 1GB RAM, 20 GB HDD, NAT**

**On All Machines**

**# systemctl stop firewalld.service && systemctl disable firewalld.service**

**#yum install rsync -y**

**On Storage1 Machine**

**# vi /etc/hosts**

**192.168.44.160 node1.hpcsa.in**

**192.168.44.161 node2.hpcsa.in**

**192.168.44.162 node3.hpcsa.in**

**192.168.44.163 client.hpcsa.in**

**# rsync /etc/hosts root@node2.hpcsa.in:/etc/hosts**

**# rsync /etc/hosts root@node3.hpcsa.in:/etc/hosts**

**# rsync /etc/hosts root@client.hpcsa.in:/etc/hosts**

**On Storage 1,2,3 Machines**

**# fdisk /dev/sdb**

**# mkfs.ext4 /dev/sdb1**

**#** **mkdir /mnt/disk1**

**# mount /dev/sdb1 /mnt/disk1**

**# lsblk**

**#** **yum install centos-release-gluster -y**

**# yum install epel-release -y**

**# yum install glusterfs-server -y**

**# systemctl start glusterd.service && systemctl enable glusterd.service && systemctl status glusterd.service**

**On Storage 1 Machines**

**# gluster peer probe node2.hpcsa.in**

**# gluster peer probe node3.hpcsa.in**

**# gluster pool list**

**# gluster peer status**

**On All Machines**

**# mkdir /mnt/disk1/diskvol**

**Replication**

**On Storage 1 Machines**

**# gluster volume create gdisk1 replica 3 node1.hpcsa.in:/mnt/disk1/diskvol/gdisk1 node2.hpcsa.in:/mnt/disk1/diskvol/gdisk1 node3.hpcsa.in:/mnt/disk1/diskvol/gdisk1**

**# gluster volume start gdisk1**

**# gluster volume info gdisk1**

**On Client Machine**

**# yum install glusterfs-fuse -y**

**# mkdir /mnt/gdrive**

**# mount -t glusterfs node1.hpcsa.in:/gdisk1 /mnt/gdrive**

**# df –h**

**# cd /mnt/gdrive/**

**# dd if=/dev/zero of=file.txt bs=1024 count=1024**

**Now you can check same file in this path /mnt/disk1/diskvol/gdisk1/ in all 3 stoarage nodes**

**Distributed**

**On Storage 1 Machines**

**# gluster volume create gdisk2 node1.hpcsa.in:/mnt/disk1/diskvol/gdisk2 node2.hpcsa.in:/mnt/disk1/diskvol/gdisk2 node3.hpcsa.in:/mnt/disk1/diskvol/gdisk2**

**# gluster volume start gdisk2**

**# gluster volume info gdisk2**

**On Client Machine**

**# mkdir /mnt/distribute**

**# mount -t glusterfs node1.hpcsa.in:/gdisk2 /mnt/distribute**

**# df –h**

**# cd /mnt/distribute/**

**# dd if=/dev/zero of=file.txt bs=1024 count=1024**

**# dd if=/dev/zero of=file1.txt bs=1024 count=1024**

**# dd if=/dev/zero of=file2.txt bs=1024 count=1024**

**# dd if=/dev/zero of=file3.txt bs=1024 count=1024**

**# dd if=/dev/zero of=file4.txt bs=1024 count=1024**

**Now all your 5 files are distributed in all 3 storage machines randomly and you can check it distributed files in this path /mnt/disk1/diskvol/gdisk2/ of all 3 machines**

**Disperse**

**On Storage 1 Machines**

**# gluster volume create gdisk3 disperse 3 node1.hpcsa.in:/mnt/disk1/diskvol/gdisk3 node2.hpcsa.in:/mnt/disk1/diskvol/gdisk3 node3.hpcsa.in:/mnt/disk1/diskvol/gdisk3**

**# gluster volume start gdisk3**

**# gluster volume info gdisk3**

**On Client Machine**

**# mkdir /mnt/disperse**

**# mount -t glusterfs node1.hpcsa.in:/gdisk1 /mnt/disperse**

**# df –h**

**# cd /mnt/disperse/**

**# dd if=/dev/zero of=file.txt bs=1024 count=1024**

**Now in 2 storage nodes file will be stored in disperse mode & in remaining node parity of the file will be store**