

→ **‘GlusterFS’** → **Replicación de Volúmenes** → **‘HA’**.

→ **Notaciones.**

→ Indica que debe hacerse para **ambos** ‘Servidores’.

[root@srv1 ~]# → Solo para el **srv1**.

[root@srv2 ~]# → Solo para el **srv2**.

→ **Objetivo inicial de montaje para los ‘Filesystem’s’.**

```
# lsblk
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda       8:0  0  40G  0 disk
├─sda1    8:1  0   1G  0 part /boot
├─sda2    8:2  0  39G  0 part
├─cl-root 253:0  0  36G  0 lvm  /
└─cl-swap 253:1  0  3,1G  0 lvm  [SWAP]
sdb       8:16  0  40G  0 disk
sr0       11:0  1   7G  0 rom
```

→ **srv1**

...

```
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/repBrick-01 xfs defaults 1 2
srv1.enermol.lan:/repVol-01 /srv/repVol-01/ glusterfs defaults 1 2
#srv2:/repVol-01 /srv/nfsganesha nfs _netdev 1 2
```

...

→ **srv2**

...

```
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/repBrick-01 xfs defaults 1 2
srv2.enermol.lan:/repVol-01 /srv/repVol-01/ glusterfs defaults 1 2
#srv1:/repVol-01 /srv/nfsganesha nfs _netdev 1 2
```

...

→ **Preparación del entorno ‘HA’.**

```
# dnf install setroubleshoot setroubleshoot-server -y
```

```
# cat /etc/hosts
```

```
#127.0.0.1 srv1 srv1
```

```
#127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
```

```
#::1 localhost localhost.localdomain localhost6 localhost6.localdomain6
```

```
192.168.10.150 pgsql-vip.enermol.lan
```

```
pgsql-vip
```

```
192.168.10.160 pgsql-alt-vip.enermol.lan
```

```
pgsql-alt-vip
```

```
192.168.10.151 srv1.enermol.lan
```

```
srv1
```

```
192.168.10.152 srv2.enermol.lan          srv2
192.168.10.161 srv1-alt.enermol.lan     srv1-alt
192.168.10.162 srv2-alt.enermol.lan     srv2-alt
192.168.10.13  ilo-srv1.enermol.lan     ilo-srv1
192.168.10.14  ilo-srv2.enermol.lan     ilo-srv2
```

→ Preparación para los ‘dispositivos de bloque’.

```
# dnf install lvm2* -y
```

```
# pvs && vgs && lvs
```

```
PV      VG Fmt Attr PSize  PFree
/dev/sda2 cl lvm2 a-- <39,00g  0
VG #PV #LV #SN Attr  VSize  VFree
cl  1  2  0 wz--n- <39,00g  0
LV   VG Attr   LSize Pool Origin Data%  Meta%  Move Log Cpy%Sync Convert
root cl -wi-ao---- 35,94g
swap cl -wi-ao----  3,05g
```

```
# fdisk /dev/sdb
```

Bienvenido a fdisk (util-linux 2.32.1).

Los cambios solo permanecerán en la memoria, hasta que decida escribirlos.

Tenga cuidado antes de utilizar la orden de escritura.

El dispositivo no contiene una tabla de particiones reconocida.

Se ha creado una nueva etiqueta de disco DOS con el identificador de disco 0x7f99c825.

Orden (m para obtener ayuda): p

Disco /dev/sdb: 30 GiB, 32212254720 bytes, 62914560 sectores

Unidades: sectores de 1 * 512 = 512 bytes

Tamaño de sector (lógico/físico): 512 bytes / 512 bytes

Tamaño de E/S (mínimo/óptimo): 512 bytes / 512 bytes

Tipo de etiqueta de disco: dos

Identificador del disco: 0x7f99c825

Orden (m para obtener ayuda): n

Tipo de partición

p primaria (0 primaria(s), 0 extendida(s), 4 libre(s))

e extendida (contenedor para particiones lógicas)

Seleccionar (valor predeterminado p): p

Número de partición (1-4, valor predeterminado 1):

Primer sector (2048-62914559, valor predeterminado 2048):

Último sector, +sectores o +tamaño{K,M,G,T,P} (2048-62914559, valor predeterminado 62914559):

Crea una nueva partición 1 de tipo 'Linux' y de tamaño 30 GiB.

Orden (m para obtener ayuda): p

Disco /dev/vdb: 30 GiB, 32212254720 bytes, 62914560 sectores

Unidades: sectores de 1 * 512 = 512 bytes

Tamaño de sector (lógico/físico): 512 bytes / 512 bytes

Tamaño de E/S (mínimo/óptimo): 512 bytes / 512 bytes

Tipo de etiqueta de disco: dos

Identificador del disco: 0x7f99c825

Disposit.	Inicio	Comienzo	Final	Sectores	Tamaño	Id	Tipo
/dev/sdb1	2048	62914559	62912512	30G	83	Linux	

Orden (m para obtener ayuda): w

Se ha modificado la tabla de particiones.

Llamando a ioctl() para volver a leer la tabla de particiones.

Se están sincronizando los discos.

partprobe

→ **Para una configuración específica y para RAID-10 y en un entorno brick-pool, debe utilizarse como referencia:** → [‘91-Addenda-brick-pool-RAID-10-v3.2.pdf’](#).

pvcreate /dev/sdb1

Physical volume "/dev/sdb" successfully created.

vgcreate vg_bricks /dev/sdb1

Volume group "vg_bricks" successfully created

lvcreate -n lv_brickpool-01 -l 100%FREE vg_bricks

pvs && vgs && lvs

PV	VG	Fmt	Attr	PSize	PFree
/dev/sda2	cl	lvm2	a--	<39,00g	0
/dev/sdb	vg_bricks	lvm2	a--	<40,00g	0

VG	#PV	#LV	#SN	Attr	VSize	VFree
cl	1	2	0	wz--n-	<39,00g	0
vg_bricks	1	1	0	wz--n-	<40,00g	0

LV	VG	Attr	LSize	Pool	Origin	Data%	Meta%	Move	Log	Cpy%	Sync	Convert
root	cl	-wi-ao----	35,94g									
swap	cl	-wi-ao----	3,05g									
lv_brickpool-01	vg_bricks	-wi-a-----	<40,00g									

mkfs.xfs -i size=512 /dev/mapper/vg_bricks-lv_brickpool--01

mkdir -p /bricks/repBrick-01

lsblk

```
NAME                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                  8:0  0  40G  0 disk
├─sda1                8:1  0   1G  0 part /boot
├─sda2                8:2  0  39G  0 part
│ └─cl-root           253:0  0  36G  0 lvm /
│ └─cl-swap           253:1  0  3,1G  0 lvm [SWAP]
sdb                  8:16  0  40G  0 disk
└─vg_bricks-lv_brickpool--01 253:2  0  40G  0 lvm
sr0                  11:0  1   7G  0 rom
```

→ Montaje 'Temporal'.

```
# mount /dev/mapper/vg_bricks-lv_brickpool--02 /bricks/repBrick-01
```

```
# df -hT
```

```
S.ficheros          Tipo  Tamaño Usados  Disp Uso% Montado en
devtmpfs            devtmpfs  1,4G   0  1,4G  0% /dev
tmpfs               tmpfs     1,4G  53M  1,4G  4% /dev/shm
tmpfs               tmpfs     1,4G  8,7M  1,4G  1% /run
tmpfs               tmpfs     1,4G   0  1,4G  0% /sys/fs/cgroup
/dev/mapper/cl-root xfs       36G  2,8G  34G  8% /
/dev/sda1           ext4     976M  190M  720M  21% /boot
tmpfs               tmpfs     284M   0  284M  0% /run/user/0
/dev/mapper/vg_bricks-lv_brickpool--01 xfs      40G  318M  40G  1% /bricks/repBrick-01
```

→ Instalar 'glusterFS'.

```
# dnf install centos-release-gluster -y
```

```
# dnf update -y
```

```
# dnf provides glusterfs | grep -i 7
```

```
glusterfs-7.2-1.el8.x86_64 : Distributed File System
```

```
Repositorio : centos-gluster7-test
```

```
Proporciona : glusterfs = 7.2-1.el8
```

```
glusterfs-7.3-1.el8.x86_64 : Distributed File System
```

```
Repositorio : centos-gluster7-test
```

```
Proporciona : glusterfs = 7.3-1.el8
```

```
glusterfs-7.4-1.el8.x86_64 : Distributed File System
```

```
Proporciona : glusterfs = 7.4-1.el8
```

```
glusterfs-7.4-1.el8.x86_64 : Distributed File System
```

```
Repositorio : centos-gluster7-test
```

```
Proporciona : glusterfs = 7.4-1.el8
```

```
# ls /etc/yum.repos.d/
```

```
CentOS-AppStream.repo  CentOS-CR.repo      CentOS-Extras.repo  CentOS-HA.repo
```

```
CentOS-Sources.repo   epel-modular.repo  epel-testing-modular.repo
```

```
CentOS-Base.repo      CentOS-Debuginfo.repo  CentOS-fasttrack.repo  CentOS-Media.repo
```

```
CentOS-Storage-common.repo epel-playground.repo epel-testing.repo
CentOS-centosplus.repo CentOS-Devel.repo CentOS-Gluster-7.repo CentOS-
PowerTools.repo CentOS-Vault.repo epel.repo
```

```
# vim /etc/yum.repos.d/CentOS-Gluster-7.repo
# CentOS-Gluster-7.repo
#
# Please see http://wiki.centos.org/SpecialInterestGroup/Storage for more
# information
```

```
[centos-gluster7]
name=CentOS-$releasever - Gluster 7
mirrorlist=http://mirrorlist.centos.org?arch=\$basearch&release=\$releasever&repo=storage-
gluster-7
#baseurl=http://mirror.centos.org/\$contentdir/\$releasever/storage/\$basearch/gluster-7/
gpgcheck=1
enabled=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-SIG-Storage
```

```
[centos-gluster7-test]
name=CentOS-$releasever - Gluster 7 Testing
baseurl=http://buildlogs.centos.org/centos/\$releasever/storage/\$basearch/gluster-7/
gpgcheck=0
enabled=0
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-SIG-Storage
```

dnf repolist

Última comprobación de caducidad de metadatos hecha hace 0:00:48, el mié 25 mar 2020 13:41:00 CET.

id del repositorio	nombre del repositorio
estado	
AppStream	CentOS-8 - AppStream
5.107	
BaseOS	CentOS-8 - Base
2.110	
centos-gluster7	CentOS-8 - Gluster 7
17	
*epel	Extra Packages for Enterprise Linux 8 -
x86_64	5.074
*epel-modular	Extra Packages for Enterprise Linux
Modular 8 - x86_64	0
extras	CentOS-8 - Extras

```
# dnf install epel-release-8-8.el8.noarch -y
# dnf install yum-utils -y
```

```
# yum-config-manager --enable PowerTools
```

```
# dnf update -y
```

```
# dnf repolist
```

```
CentOS-8 - AppStream          5.4 kB/s | 4.3 kB   00:00
CentOS-8 - Base               7.4 kB/s | 3.8 kB   00:00
CentOS-8 - Extras            2.6 kB/s | 1.5 kB   00:00
CentOS-8 - Gluster 7         3.9 kB/s | 3.0 kB   00:00
CentOS-8 - PowerTools        93 kB/s | 2.0 MB    00:22
Extra Packages for Enterprise Linux Modular 8 - x86_64 22 kB/s | 32 kB    00:01
Extra Packages for Enterprise Linux 8 - x86_64      27 kB/s | 27 kB    00:01
GlusterFS is a clustered file-system capable of scaling to several petabytes. 2.9 kB/s | 3.0 kB
00:01
GlusterFS is a clustered file-system capable of scaling to several petabytes. 3.7 kB/s | 3.0 kB
00:00
id del repositorio    nombre del repositorio                estado
AppStream            CentOS-8 - AppStream                  5.107
BaseOS               CentOS-8 - Base                       2.110
PowerTools           CentOS-8 - PowerTools                 1.523
centos-gluster7     CentOS-8 - Gluster 7                  17
epel                 Extra Packages for Enterprise Linux 8 - x86_64 5.074
epel-modular        Extra Packages for Enterprise Linux Modular 8 - x86_64 0
extras              CentOS-8 - Extras                      9
glusterfs-noarch-rhel8  GlusterFS is a clustered file-system capable of scaling to several petabytes.
1
glusterfs-rhel8     GlusterFS is a clustered file-system capable of scaling to several petabytes.
29
```

```
# dnf install glusterfs glusterfs-server -y
```

```
# systemctl enable --now glusterd && systemctl status glusterd
```

```
● glusterd.service - GlusterFS, a clustered file-system server
   Loaded: loaded (/usr/lib/systemd/system/glusterd.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2020-03-25 16:36:43 CET; 4s ago
     Docs: man:glusterd(8)
   Process: 10279 ExecStart=/usr/sbin/glusterd -p /var/run/glusterd.pid --log-level $LOG_LEVEL
$GLUSTERD_OPTION>
 Main PID: 10280 (glusterd)
   Tasks: 9 (limit: 17950)
  Memory: 4.1M
   CGroup: /system.slice/glusterd.service
           └─10280 /usr/sbin/glusterd -p /var/run/glusterd.pid --log-level INFO
```

```
mar 25 16:36:42 srv1.enermol.lan systemd[1]: Starting GlusterFS, a clustered file-system server...
mar 25 16:36:43 srv1.enermol.lan systemd[1]: Started GlusterFS, a clustered file-system server.
```

```
# gluster --version
```

```
glusterfs 7.7
```

```
Repository revision: git://git.gluster.org/glusterfs.git
```

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General Public License, version 3 or any later version (LGPLv3
or later), or the GNU General Public License, version 2 (GPLv2),
in all cases as published by the Free Software Foundation.

→ 'Peer's' → 'GlusterFS'.

```
# firewall-cmd --permanent --add-service=glusterfs
# firewall-cmd --reload
```

```
[root@srv1 ~]# gluster peer probe srv2.enermol.lan
peer probe: success.
```

```
[root@srv2 ~]# gluster peer probe srv1.enermol.lan
peer probe: success.
```

```
[root@srv1 ~]# lsblk -f
NAME        FSTYPE     LABEL                UUID                                MOUNTPOINT
sda
├─sda1      ext4                73729d53-b304-4429-8576-443befb733b1 /boot
├─sda2      LVM2_member        xcCLpn-utrQ-TTfd-rV5H-V1kG-gYCP-B0Kq00
│ └─cl-root xfs                e2a18af2-c5c9-489c-b787-35569c948620 /
│ └─cl-swap swap              076f3fb1-44e8-4934-b275-0167f09b35dc [SWAP]
sdb         LVM2_member        DAzhzk-HLxq-9OWn-ka3X-ftKH-gHYO-GVtdCQ
├─vg_bricks-lv_brickpool-01
│   xfs                a37f49ac-2b03-4d45-8619-aa4bc3f64f69 /bricks/repBrick-01
sr0         iso9660          CentOS-8-1-1911-x86_64-dvd 2020-01-03-21-42-40-00
```

```
[root@srv2 ~]# lsblk -f
NAME        FSTYPE     LABEL                UUID                                MOUNTPOINT
sda
├─sda1      ext4                1d61ef2d-6a6b-4a0a-9a3e-bfd8c60a6508 /boot
├─sda2      LVM2_member        u71JaU-5erm-8p3s-LKZd-8Ku6-Doyi-tIqS46
│ └─cl-root xfs                2a6bc616-3109-416d-908a-d1c48be57c0f /
│ └─cl-swap swap              a93cf46c-0cc6-4acf-a6cf-81d7aeb817ba [SWAP]
sdb         LVM2_member        HS1jQi-NQZE-qA70-Ql51-1b8Q-a96t-djeoR6
├─vg_bricks-lv_brickpool-02
│   xfs                bd427755-99e6-44c1-b5c5-6e57afd5bcf8 /bricks/repBrick-01
sr0         iso9660          CentOS-8-1-1911-x86_64-dvd 2020-01-03-21-42-40-00
```

```
# mkdir -p /bricks/repBrick-01/data
```

```
[root@srv1 ~]# gluster volume create repVol-01 replica 2 \
srv1.enermol.lan:/bricks/repBrick-01/data \
srv2.enermol.lan:/bricks/repBrick-01/data
```

> **Nos Indica a continuación que debe existir un árbitro siempre que existan '3' Volúmenes !**
→ **No es el caso > Solo tenemos '2' !. En Producción un mínimo de 3 Servers !!.**

Replica 2 volumes are prone to split-brain. Use Arbiter or Replica 3 to avoid this. See:
<http://docs.gluster.org/en/latest/Administrator%20Guide/Split%20brain%20and%20ways%20to%20deal%20with%20it/>.

Do you still want to continue?

(y/n) y

volume create: **repVol-01**: success: please start the volume to access data

```
[root@srv1 ~]# gluster volume start repVol-01
```

```
volume start: repVol-01: success
```

```
# gluster volume info repVol-01
```

```
Volume Name: repVol-01
```

```
Type: Replicate
```

```
Volume ID: a6071a2f-c545-4713-a0e1-69f7ed1696fa
```

```
Status: Started
```

```
Snapshot Count: 0
```

```
Number of Bricks: 1 x 2 = 2
```

```
Transport-type: tcp
```

```
Bricks:
```

```
Brick1: srv1.enermol.lan:/bricks/repBrick-01/data
```

```
Brick2: srv2.enermol.lan:/bricks/repBrick-02/data
```

```
Options Reconfigured:
```

```
transport.address-family: inet
```

```
nfs.disable: on
```

```
performance.client-io-threads: off
```

→ **Montamos en modo: → Cliente → 'De forma Temporal'.**

```
# mkdir -p /srv/repVol-01
```

```
# mount.glusterfs srv1.enermol.lan:/repVol-01 /srv/repVol-01
```

```
[root@srv1 ~]# echo "En => srv1 -----" && df -hT && echo "En => srv2 -----"  
&& ssh root@srv2 'df -hT'
```

```
En => srv1 -----
```

S.ficheros	Tipo	Tamaño Usados	Disp	Uso%	Montado en
devtmpfs	devtmpfs	1,4G 0	1,4G	0%	/dev
tmpfs	tmpfs	1,4G 38M	1,4G	3%	/dev/shm
tmpfs	tmpfs	1,4G 8,6M	1,4G	1%	/run
tmpfs	tmpfs	1,4G 0	1,4G	0%	/sys/fs/cgroup
/dev/mapper/cl-root	xf	36G 2,6G	34G	8%	/


```

/dev/sda1          ext4    976M  190M  720M  21% /boot
tmpfs             tmpfs   284M    0 284M  0% /run/user/0
/dev/mapper/vg_bricks-lv_brickpool--01 xfs     40G  318M  40G  1% /bricks/repBrick-01
srv1.enermol.lan:/repVol-01 fuse.glusterfs 40G  728M  40G  2% /srv/repVol-01
En => srv2 -----
S.ficheros        Tipo    Tamaño Usados  Disp Uso% Montado en
devtmpfs          devtmpfs 1,4G    0 1,4G  0% /dev
tmpfs             tmpfs   1,4G   53M  1,4G  4% /dev/shm
tmpfs             tmpfs   1,4G   8,6M  1,4G  1% /run
tmpfs             tmpfs   1,4G    0 1,4G  0% /sys/fs/cgroup
/dev/mapper/cl-root xfs     36G   2,5G  34G  7% /
/dev/sda1          ext4    976M  190M  720M  21% /boot
tmpfs             tmpfs   284M    0 284M  0% /run/user/0
/dev/mapper/vg_bricks-lv_brickpool--02 xfs     40G  318M  40G  1% /bricks/repBrick-02
srv2.enermol.lan:/repVol-01 fuse.glusterfs 40G  728M  40G  2% /srv/repVol-01

```

→ **‘Pruebas cruzadas’.**

```

[root@srv1 ~]# touch /srv/repVol-01/Desde_srv1.test
[root@srv2 ~]# touch /srv/repVol-01/Desde_srv2.test

```

```

[root@srv1 ~]# ls /srv/repVol-01/
[root@srv2 ~]# ls /srv/repVol-01/
Desde_srv1.test Desde_srv2.test

```

```
# shutdown -r 0
```

→ **De Forma ‘Permanente’.**

```

[root@srv1 ~]# vim /etc/fstab
...
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/repBrick-01 xfs defaults 1 2
srv1.enermol.lan:/repVol-01 /srv/repVol-01/ glusterfs defaults 1 2
...

```

```

[root@srv2 ~]# vim /etc/fstab
...
/dev/mapper/vg_bricks-lv_brickpool--02 /bricks/repBrick-02 xfs defaults 1 2
srv2.enermol.lan:/repVol-01 /srv/repVol-01/ glusterfs defaults 1 2
...

```

```
# mount -a
```

```

[root@srv1 ~]# df -hT
S.ficheros        Tipo    Tamaño Usados  Disp Uso% Montado en
devtmpfs          devtmpfs 1,4G    0 1,4G  0% /dev
tmpfs             tmpfs   1,4G   53M  1,4G  4% /dev/shm

```

```
tmpfs          tmpfs          1,4G  8,7M  1,4G  1% /run
tmpfs          tmpfs          1,4G   0  1,4G  0% /sys/fs/cgroup
/dev/mapper/cl-root    xfs           36G  2,8G  34G  8% /
/dev/sda1          ext4          976M  190M  720M  21% /boot
/dev/mapper/vg_bricks-lv_brickpool--01 xfs           40G  318M  40G  1% /bricks/repBrick-01
tmpfs          tmpfs          284M   0  284M  0% /run/user/0
srv1.enermol.lan:/repVol-01 fuse.glusterfs 40G  728M  40G  2% /srv/repVol-01
```

```
[root@srv2 ~]# df -hT
```

```
S.ficheros      Tipo      Tamaño Usados  Disp Uso% Montado en
devtmpfs        devtmpfs  1,4G   0  1,4G  0% /dev
tmpfs           tmpfs     1,4G  38M  1,4G  3% /dev/shm
tmpfs           tmpfs     1,4G  8,6M  1,4G  1% /run
tmpfs           tmpfs     1,4G   0  1,4G  0% /sys/fs/cgroup
/dev/mapper/cl-root    xfs       36G  2,8G  34G  8% /
/dev/sda1        ext4      976M  190M  720M  21% /boot
/dev/mapper/vg_bricks-lv_brickpool--01 xfs        40G  318M  40G  1% /bricks/repBrick-01
tmpfs           tmpfs     284M   0  284M  0% /run/user/0
srv2.enermol.lan:/repVol-01 fuse.glusterfs 40G  728M  40G  2% /srv/repVol-01
```

```
[root@srv1 ~]# ls /srv/repVol-01/
```

```
Desde-srv1.txt Desde-srv2.txt
```

```
[root@srv2 ~]# ls /srv/repVol-01/
```

```
Desde-srv1.txt Desde-srv2.txt
```

→ **splitbrain** → Consultar Documentación al respecto → **“MUY IMPORTANTE !!”**.

<https://docs.gluster.org/en/latest/Troubleshooting/resolving-splitbrain/>

https://access.redhat.com/documentation/en-us/red_hat_gluster_storage/3.5/html/administration_guide/sect-managing_split-brain

→ **Pacemaker** → Instalación de los recursos para ‘GlusterFS’.

```
[root@srv1 ~]# pcs status
```

```
Cluster name: cluster-odoo
```

```
Cluster Summary:
```

- * Stack: corosync
- * Current DC: srv1.enermol.lan (version 2.0.3-5.el8_2.1-4b1f869f0f) - partition with quorum
- * Last updated: Fri Jun 19 13:43:14 2020
- * Last change: Fri Jun 19 11:44:51 2020 by root via cibadmin on srv2.enermol.lan
- * 2 nodes configured
- * 1 resource instance configured

```
Node List:
```

- * Online: [srv1.enermol.lan srv2.enermol.lan]

Full List of Resources:

```
* pgsq1-vip (ocf::heartbeat:IPaddr2): Started srv1.enermol.lan
```

Daemon Status:

```
corosync: active/enabled
pacemaker: active/enabled
pcsd: active/enabled
```

```
[root@srv1 ~]# pcs constraint
```

Location Constraints:

```
Resource: pgsq1-vip
```

Enabled on:

```
Node: srv1.enermol.lan (score:INFINITY)
```

Ordering Constraints:

Colocation Constraints:

Ticket Constraints:

```
# systemctl disable glusterd.service
```

```
# systemctl stop glusterd.service
```

```
# vim /etc/fstab
```

...

```
## Replicación para HA.
```

```
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/repBrick-01 xfs defaults 1 2
```

```
#srv1.enermol.lan:/repVol-01 /srv/repVol-01/ glusterfs _netdev 1 2
```

...

```
# shutdown -r 0
```

→ Preparamos el entorno 'xfs/glusterfs' para Pacemaker.

→ glusterfs → ocf:heartbeat:Filesystem

Recordamos: → ('/etc/fstab'):

...

```
## Replicación para HA.
```

```
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/repBrick-01 xfs defaults 1 2
```

```
#srv1.enermol.lan:/repVol-01 /srv/repVol-01/ glusterfs defaults 1 2
```

...

```
## Replicación para HA.
```

```
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/repBrick-01 xfs defaults 1 2
```

```
#srv2.enermol.lan:/repVol-01 /srv/repVol-01/ glusterfs defaults 1 2
```

...

```
[root@srv1 ~]# pcs resource create glusterd ocf:glusterfs:glusterd
```

```
[root@srv1 ~]# pcs resource clone glusterd
```

```
[root@srv1 ~]# pcs resource create glusterFS-srv1 ocf:heartbeat:Filesystem
device="srv1:/repVol-01" directory="/srv/repVol-01/" fstype="glusterfs"
```

```
[root@srv1 ~]# pcs resource create glusterFS-srv2 ocf:heartbeat:Filesystem
device="srv2:/repVol-01" directory="/srv/repVol-01/" fstype="glusterfs"
```

```
[root@srv1 ~]# pcs constraint location glusterFS-srv1 prefers srv1.enermol.lan=INFINITY
[root@srv1 ~]# pcs constraint location glusterFS-srv2 prefers srv1.enermol.lan=0
```

```
[root@srv1 ~]# pcs constraint location glusterFS-srv2 prefers srv2.enermol.lan=INFINITY
[root@srv1 ~]# pcs constraint location glusterFS-srv1 prefers srv2.enermol.lan=0
```

```
[root@srv1 ~]# pcs constraint location
```

Location Constraints:

Resource: glusterFS-srv1

Enabled on:

Node: srv1.enermol.lan (score:INFINITY)

Resource: glusterFS-srv2

Enabled on:

Node: srv2.enermol.lan (score:INFINITY)

Resource: pgsql-vip

Enabled on:

Node: srv1.enermol.lan (score:INFINITY)

```
[root@srv1 ~]# pcs status
```

Cluster name: cluster-odoo

Cluster Summary:

* Stack: corosync

* Current DC: srv2.enermol.lan (version 2.0.3-5.el8_2.1-4b1f869f0f) - partition with quorum

* Last updated: Wed Aug 5 07:20:16 2020

* Last change: Wed Aug 5 07:12:53 2020 by hacluster via crmd on srv2.enermol.lan

* 2 nodes configured

* 5 resource instances configured

Node List:

* Online: [srv1.enermol.lan srv2.enermol.lan]

Full List of Resources:

* pgsql-vip (ocf::heartbeat:IPaddr2): Started srv1.enermol.lan

* Clone Set: glusterd-clone [glusterd]:

* Started: [srv1.enermol.lan srv2.enermol.lan]

* glusterFS-srv1 (ocf::heartbeat:Filesystem): Started srv1.enermol.lan

* glusterFS-srv2 (ocf::heartbeat:Filesystem): Started srv2.enermol.lan

Daemon Status:

corosync: active/enabled

```
pacemaker: active/enabled
pcsd: active/enabled
```

```
[root@srv1 ~]# touch /srv/repVol-01/srv1.txt
[root@srv2 ~]# touch /srv/repVol-01/srv2.txt
```

```
[root@srv1 ~]# ls /srv/repVol-01/
srv1.txt srv2.txt
```

```
[root@srv2 ~]# ls /srv/repVol-01/
srv1.txt srv2.txt
```

```
[root@srv1 ~]# pcs node standby srv1.enermol.lan
[root@srv1 ~]# pcs resource
* postgresql-vip (ocf::heartbeat:IPaddr2): Started srv2.enermol.lan
* Clone Set: glusterd-clone [glusterd]:
* Started: [ srv2.enermol.lan ]
* Stopped: [ srv1.enermol.lan ]
* glusterFS-srv1 (ocf::heartbeat:Filesystem): Started srv2.enermol.lan
* glusterFS-srv2 (ocf::heartbeat:Filesystem): Started srv2.enermol.lan
```

```
[root@srv1 ~]# pcs node unstandby srv1.enermol.lan
[root@srv1 ~]# pcs resource cleanup
[root@srv1 ~]# pcs resource
* postgresql-vip (ocf::heartbeat:IPaddr2): Started srv1.enermol.lan
* Clone Set: glusterd-clone [glusterd]:
* Started: [ srv1.enermol.lan srv2.enermol.lan ]
* glusterFS-srv1 (ocf::heartbeat:Filesystem): Started srv1.enermol.lan
* glusterFS-srv2 (ocf::heartbeat:Filesystem): Started srv2.enermol.lan
```

→ **Ajustes 'split-brain', y otros, ... → 'repVol-01' → 'gluster volume info repVol-01'**

```
[root@srv1 ~]# gluster volume set repVol-01 features.barrier-timeout 2m
[root@srv1 ~]# gluster volume set repVol-01 features.uss enable
[root@srv1 ~]# gluster volume set repVol-01 cluster.self-heal-daemon on
[root@srv1 ~]# gluster volume set repVol-01 cluster.entry-self-heal on
[root@srv1 ~]# gluster volume set repVol-01 cluster.metadata-self-heal on
[root@srv1 ~]# gluster volume set repVol-01 cluster.data-self-heal on
[root@srv1 ~]# gluster volume bitrot repVol-01 enable
[root@srv1 ~]# gluster volume set repVol-01 features.barrier enable
[root@srv1 ~]# gluster volume set repVol-01 auth.allow 192.168.10.*
[root@srv1 ~]# gluster volume set repVol-01 cluster.quorum-type auto
[root@srv1 ~]# gluster volume set repVol-01 cluster.server-quorum-type server
[root@srv1 ~]# gluster volume set all cluster.enable-shared-storage enable
[root@srv1 ~]# gluster volume set all cluster.server-quorum-ratio 51%
[root@srv1 ~]# gluster snapshot config auto-delete enable
```

```
[root@srv1 ~]# gluster volume info repVol-01
```

```
Volume Name: repVol-01
Type: Replicate
Volume ID: 84c89f93-9904-4aa2-8c48-3e8e7c3c3338
Status: Started
Snapshot Count: 0
Number of Bricks: 1 x 3 = 3
Transport-type: tcp
Bricks:
Brick1: srv1.enermol.lan:/bricks/repBrick-01/data
Brick2: srv2.enermol.lan:/bricks/repBrick-01/data
Brick3: srv3.enermol.lan:/bricks/repBrick-01/data
Options Reconfigured:
features.barrier: enable
features.scrub: Active
features.bitrot: on
auth.allow: 192.168.10.*
cluster.server-quorum-type: server
cluster.quorum-type: auto
cluster.data-self-heal: on
cluster.metadata-self-heal: on
cluster.entry-self-heal: on
cluster.self-heal-daemon: on
features.uss: enable
features.barrier-timeout: 2m
transport.address-family: inet
storage.fips-mode-rchecksum: on
nfs.disable: on
performance.client-io-threads: off
auto-delete: enable
cluster.enable-shared-storage: enable
cluster.server-quorum-ratio: 51%
```

```
[root@srv1 ~]# gluster volume info gluster_shared_storage
```

```
Volume Name: gluster_shared_storage
Type: Replicate
Volume ID: 0e668ac8-51d8-4422-bcf0-e711574c0023
Status: Started
Snapshot Count: 0
Number of Bricks: 1 x 3 = 3
Transport-type: tcp
Bricks:
Brick1: srv2.enermol.lan:/var/lib/glusterd/ss_brick
Brick2: srv3.enermol.lan:/var/lib/glusterd/ss_brick
Brick3: srv1.enermol.lan:/var/lib/glusterd/ss_brick
Options Reconfigured:
transport.address-family: inet
storage.fips-mode-rchecksum: on
nfs.disable: on
performance.client-io-threads: off
auto-delete: enable
cluster.enable-shared-storage: enable
cluster.server-quorum-ratio: 51%
```

→ **Instalar** → 'NFS Ganesha' → `srv{1,2}`.

<http://knowledgebase.45drives.com/kb/glusterfs-ha-nfs-ganesha/>

```
# firewall-cmd --permanent --add-service=nfs && firewall-cmd --reload
```

```
# gluster volume info
```

```
Volume Name: repVol-01
Type: Replicate
Volume ID: d9301cec-03ff-4c0c-b091-9347b688f9ed
Status: Started
Snapshot Count: 0
Number of Bricks: 1 x 2 = 2
Transport-type: tcp
Bricks:
Brick1: srv1.enermol.lan:/bricks/repBrick-01/data
Brick2: srv2.enermol.lan:/bricks/repBrick-02/data
Options Reconfigured:
performance.client-io-threads: off
nfs.disable: on
storage.fips-mode-rchecksum: on
transport.address-family: inet
```

```
# gluster volume set repVol-01 nfs.disable on
```

```
# gluster volume get repVol-01 nfs.disable
```

```
Option          Value
-----          -
nfs.disable     on
```

```
# systemctl status nfs-server
```

```
● nfs-server.service - NFS server and services
   Loaded: loaded (/usr/lib/systemd/system/nfs-server.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
```

```
# dnf install centos-release-nfs-ganesha30 -y
```

```
# dnf update -y
```

```
# dnf repolist
```

```
Última comprobación de caducidad de metadatos hecha hace 0:00:15, el jue 26 mar 2020 13:58:38 CET.
```

id del repositorio	nombre del repositorio
estado	
AppStream	CentOS-8 - AppStream
5.120	
BaseOS	CentOS-8 - Base
2.126	
PowerTools	CentOS-8 - PowerTools

```
1.525
centos-gluster7                               CentOS-8 - Gluster 7
34
centos-nfs-ganesha3                           CentOS-8 - NFS Ganesha 3
11
epel                                           Extra Packages for Enterprise Linux 8 -
x86_64                                         5.098
*epel-modular                                 Extra Packages for Enterprise Linux
Modular 8 - x86_64                             0
extras                                         CentOS-8 - Extras
```

```
# dnf install nfs-ganesha nfs-ganesha-gluster nfs-utils -y
```

```
# dnf info nfs-ganesha
```

```
...
Paquetes instalados
Nombre      : nfs-ganesha
Versión     : 3.2
Lanzamiento : 2.el8
Arquitectura : x86_64
Tamaño      : 2.4 M
Fuente      : nfs-ganesha-3.2-2.el8.src.rpm
Repositorio : @System
Desde repo  : centos-nfs-ganesha3
Resumen     : NFS-Ganesha is a NFS Server running in user space
URL         : https://github.com/nfs-ganesha/nfs-ganesha/wiki
Licencia    : LGPLv3+
Descripción : nfs-ganesha : NFS-GANESHA is a NFS Server running in user space.
              : It comes with various back-end modules (called FSALs) provided as
              : shared objects to support different file systems and name-spaces.
```

```
# vim /etc/yum.repos.d/CentOS-NFS-Ganesha-3.repo
```

```
# CentOS-NFS-Ganesha-3.repo
```

```
#
```

```
# Please see http://wiki.centos.org/SpecialInterestGroup/Storage for more
```

```
# information
```

```
[centos-nfs-ganesha3]
```

```
name=CentOS-$releasever - NFS Ganesha 3
```

```
mirrorlist=http://mirrorlist.centos.org?arch=$basearch&release=$releasever&repo=storage-nfsganesha-3
```

```
#baseurl=https://mirror.centos.org/$contentdir/$releasever/storage/$basearch/nfsganesha-3/
```

```
gpgcheck=1
```

```
enabled=1
```

```
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-SIG-Storage
```

```
[centos-nfs-ganesha3-test]
```



```
name=CentOS-$releasever - NFS Ganesha 3 Testing
baseurl=https://buildlogs.centos.org/centos/$releasever/storage/$basearch/nfsganesha-3/
gpgcheck=0
enabled=0
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-CentOS-SIG-Storage

# mv /etc/ganesha/ganesha.conf /etc/ganesha/ganesha.conf.sample
```

```
[root@srv1 ~]# mkdir -p /srv2/nfsganesha
[root@srv2 ~]# mkdir -p /srv1/nfsganesha
```

→ Para → 'srv1'.

```
[root@srv1 ~]# vim /etc/ganesha/ganesha.conf
EXPORT{
    Export_Id = 151 ; # Export ID unique to each export => srv1 → .151
    Path = "/repVol-01"; # Path of the volume to be exported. Eg: "/test_volume"

    FSAL {
        name = GLUSTER;
        hostname = "srv1.enermol.lan"; # IP of one of the nodes in the trusted pool
        volume = "repVol-01"; # Volume name. Eg: "test_volume"
    }

    Access_type = RW; # Access permissions
    Squash = No_root_squash; # To enable/disable root squashing
    Disable_ACL = TRUE; # To enable/disable ACL
    Pseudo = "/repVol-01"; # NFSv4 pseudo path for this export. Eg: "/test_volume_pseudo"
    Protocols = "3","4"; # NFS protocols supported
    Transports = "UDP","TCP"; # Transport protocols supported
    SecType = "sys"; # Security flavors supported
}
```

```
[root@srv1 ~]# gluster volume info
Volume Name: repVol-01
Type: Replicate
Volume ID: 7c6eb95b-2cfd-4083-aa26-127932b5d9dd
Status: Started
Snapshot Count: 0
Number of Bricks: 1 x 2 = 2
Transport-type: tcp
Bricks:
Brick1: srv1.enermol.lan:/bricks/repBrick-01/data
Brick2: srv2.enermol.lan:/bricks/repBrick-02/data
Options Reconfigured:
auth.allow: 192.168.10.*
diagnostics.count-fop-hits: on
```

```
diagnostics.latency-measurement: on
transport.address-family: inet
nfs.disable: on
performance.client-io-threads: off
```

```
[root@srv1 ~]# gluster volume set repVol-01 nfs.disable off
Gluster NFS is being deprecated in favor of NFS-Ganesha Enter "yes" to continue using Gluster
NFS (y/n) y
volume set: success
```

```
[root@srv1 ~]# gluster volume set repVol-01 nfs.rpc-auth-allow srv2.enermol.lan
volume set: success
# gluster volume set repVol-01 auth.allow 192.168.10.*
volume set: success
```

```
[root@srv1 ~]# gluster volume info
Volume Name: repVol-01
Type: Replicate
Volume ID: 7c6eb95b-2cfd-4083-aa26-127932b5d9dd
Status: Started
Snapshot Count: 0
Number of Bricks: 1 x 2 = 2
Transport-type: tcp
Bricks:
Brick1: srv1.enermol.lan:/bricks/repBrick-01/data
Brick2: srv2.enermol.lan:/bricks/repBrick-02/data
Options Reconfigured:
nfs.rpc-auth-allow: srv2.enermol.lan
auth.allow: 192.168.10.*
diagnostics.count-fop-hits: on
diagnostics.latency-measurement: on
transport.address-family: inet
nfs.disable: off
performance.client-io-threads: off
```

```
[root@srv1 ~]# systemctl restart glusterd.service
```

```
[root@srv1 ~]# setenforce 0
[root@srv1 ~]# getenforce
Permissive
```

```
[root@srv1 ~]# systemctl start nfs-ganesha.service
```

```
[root@srv1 ~]# showmount -e
Export list for srv1.enermol.lan:
/repVol-01 (everyone)
```

```
[root@srv2 ~]# mount -t nfs srv1:/repVol-01 /srv1/nfsganesha
```

```
[root@srv2 ~]# df -hT
```

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
devtmpfs	devtmpfs	1.9G	0	1.9G	0%	/dev
tmpfs	tmpfs	1.9G	38M	1.9G	2%	/dev/shm
tmpfs	tmpfs	1.9G	8.6M	1.9G	1%	/run
tmpfs	tmpfs	1.9G	0	1.9G	0%	/sys/fs/cgroup
/dev/sda1	xfs	40G	4.5G	36G	12%	/
/dev/mapper/vg_bricks-lv_brickpool--02	xfs	25G	1.1G	24G	1%	/bricks/repBrick-02
tmpfs	tmpfs	379M	0	379M	0%	/run/user/1000
srv1:/repVol-01	nfs4	25G	1.4G	24G	2%	/srv1/nfsganesha

```
[root@srv2 ~]# ls /srv1/nfsganesha
```

```
Desde-srv1.txt Desde-srv2.txt
```

→ **Para** → `'srv2'`.

```
[root@srv2 ~]# vim /etc/ganesha/ganesha.conf
```

```
EXPORT{
```

```
Export_Id = 152 ; # Export ID unique to each export => srv2 → .152
```

```
Path = "/repVol-01"; # Path of the volume to be exported. Eg: "/test_volume"
```

```
FSAL {
```

```
name = GLUSTER;
```

```
hostname = "srv2.enermol.lan"; # IP of one of the nodes in the trusted pool
```

```
volume = "repVol-01"; # Volume name. Eg: "test_volume"
```

```
}
```

```
Access_type = RW; # Access permissions
```

```
Squash = No_root_squash; # To enable/disable root squashing
```

```
Disable_ACL = TRUE; # To enable/disable ACL
```

```
Pseudo = "/repVol-01"; # NFSv4 pseudo path for this export. Eg: "/test_volume_pseudo"
```

```
Protocols = "3","4" ; # NFS protocols supported
```

```
Transports = "UDP","TCP" ; # Transport protocols supported
```

```
SecType = "sys"; # Security flavors supported
```

```
}
```

```
[root@srv2 ~]# gluster volume set repVol-01 nfs.disable off
```

```
Gluster NFS is being deprecated in favor of NFS-Ganesha Enter "yes" to continue using Gluster
```

```
NFS (y/n) y
```

```
volume set: success
```

```
[root@srv2 ~]# gluster volume set repVol-01 nfs.rpc-auth-allow srv1.enermol.lan
```

```
volume set: success
```

```
[root@srv2 ~]# gluster volume set repVol-01 auth.allow 192.168.10.*
```

```
volume set: success
```

```
[root@srv2 ~]# gluster volume info
```

```
Volume Name: repVol-01
Type: Replicate
Volume ID: 7c6eb95b-2cfd-4083-aa26-127932b5d9dd
Status: Started
Snapshot Count: 0
Number of Bricks: 1 x 2 = 2
Transport-type: tcp
Bricks:
Brick1: srv1.enermol.lan:/bricks/repBrick-01/data
Brick2: srv2.enermol.lan:/bricks/repBrick-02/data
Options Reconfigured:
nfs.rpc-auth-allow: srv1.enermol.lan
auth.allow: 192.168.10.*
diagnostics.count-fop-hits: on
diagnostics.latency-measurement: on
transport.address-family: inet
nfs.disable: off
performance.client-io-threads: off
```

```
[root@srv2 ~]# systemctl restart glusterd.service
```

```
[root@srv1 ~]# setenforce 0
```

```
[root@srv1 ~]# getenforce
```

```
Permissive
```

```
[root@srv2 ~]# systemctl start nfs-ganesha.service
```

```
[root@srv2 ~]# showmount -e
```

```
Export list for srv2.enermol.lan:
/repVol-01 (everyone)
```

```
[root@srv1 ~]# mount -t nfs srv2:/repVol-01 /srv2/nfsganesha
```

```
[root@srv1 ~]# df -hT
```

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
devtmpfs	devtmpfs	1.9G	0	1.9G	0%	/dev
tmpfs	tmpfs	1.9G	54M	1.8G	3%	/dev/shm
tmpfs	tmpfs	1.9G	8.6M	1.9G	1%	/run
tmpfs	tmpfs	1.9G	0	1.9G	0%	/sys/fs/cgroup
/dev/sda1	xfs	40G	4.4G	36G	11%	/
/dev/mapper/vg_bricks-lv_brickpool--01	xfs	25G	1.1G	24G	1%	/bricks/repBrick-01
tmpfs	tmpfs	379M	0	379M	0%	/run/user/1000
srv2:/repVol-01	nfs4	25G	1.4G	24G	2%	/srv2/nfsganesha

```
[root@srv2 ~]# df -hT
```

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
devtmpfs	devtmpfs	1.9G	0	1.9G	0%	/dev
tmpfs	tmpfs	1.9G	38M	1.9G	2%	/dev/shm
tmpfs	tmpfs	1.9G	8.6M	1.9G	1%	/run
tmpfs	tmpfs	1.9G	0	1.9G	0%	/sys/fs/cgroup
/dev/sda1	xfs	40G	4.5G	36G	12%	/
/dev/mapper/vg_bricks-lv_brickpool--02	xfs	25G	1.1G	24G	1%	/bricks/repBrick-02
tmpfs	tmpfs	379M	0	379M	0%	/run/user/1000
srv1:repVol-01	nfs4	25G	1.4G	24G	2%	/srv1/nfsganesha

```
[root@srv1 ~]# ls /mnt/
Desde-srv1.txt Desde-srv2.txt
```

→ Comprobaciones cruzadas.

```
[root@srv1 ~]# touch /srv2/nfsganesha/Desde-srv1-Ganesha.txt
[root@srv2 ~]# touch /srv1/nfsganesha/Desde-srv2-Ganesha.txt
```

```
[root@srv1 ~]# ls /srv2/nfsganesha/
Desde-srv1-Ganesha.txt Desde-srv1.txt Desde-srv2-Ganesha.txt Desde-srv2.txt
[root@srv2 ~]# ls /srv1/nfsganesha/
Desde-srv1-Ganesha.txt Desde-srv1.txt Desde-srv2-Ganesha.txt Desde-srv2.txt
```

```
[root@srv1 ~]# ls /bricks/repBrick-01/data/
Desde-srv1-Ganesha.txt Desde_srv1.test Desde-srv2-Ganesha.txt Desde_srv2.test
```

```
[root@srv2 ~]# ls /bricks/repBrick-02/data/
Desde-srv1-Ganesha.txt Desde_srv1.test Desde-srv2-Ganesha.txt Desde_srv2.test
```

→ De Forma ‘Permanente’.

```
# systemctl start nfs-ganesha.service
```

```
[root@srv1 ~]# vim /etc/fstab
```

```
...
/dev/mapper/vg_bricks-lv_brickpool--01 /bricks/repBrick-01 xfs defaults 1 2
srv1.enermol.lan:repVol-01 /srv1/repVol-01 glusterfs _netdev 1 2
srv2:repVol-01 /srv2/nfsganesha nfs _netdev 1 2
...
```

```
[root@srv2 ~]# vim /etc/fstab
```

```
...
/dev/mapper/vg_bricks-lv_brickpool--02 /bricks/repBrick-02 xfs defaults 1 2
srv2.enermol.lan:repVol-01 /srv2/repVol-01 glusterfs _netdev 1 2
srv1:repVol-01 /srv1/nfsganesha nfs _netdev 1 2
...
```

→ **Objetivo: SELinux** → **‘Enforcing’**.

```
[root@srv1 ~]# getenforce
```

Permissive

```
[root@srv2 ~]# getenforce
```

Permissive

→ Desde: **srv1, srv2**

```
# vi ganeshanfsd.te
```

```
# creamos política de acceso:  
module ganeshanfsd 1.0;
```

```
require {  
    type random_device_t;  
    type portmap_port_t;  
    type reserved_port_t;  
    type ganesha_t;  
    class capability dac_override;  
    class tcp_socket name_connect;  
    class chr_file getattr;  
}
```

```
#===== ganesha_t =====  
allow ganesha_t portmap_port_t:tcp_socket name_connect;  
allow ganesha_t random_device_t:chr_file getattr;  
allow ganesha_t reserved_port_t:tcp_socket name_connect;  
allow ganesha_t self:capability dac_override;
```

```
# checkmodule -m -M -o ganeshanfsd.mod ganeshanfsd.te  
# semodule_package --outfile ganeshanfsd.pp --module ganeshanfsd.mod  
# semodule -i ganeshanfsd.pp
```

```
# shutdown -r 0
```

→ **Pruebas cruzadas en un entorno** : → **‘Enforcing’** → **(touch’s)**.

→ **srv1**

```
[root@srv1 ~]# touch /bricks/repBrick-01/data/touch-Desde-Brick-01.txt
```

```
[root@srv1 ~]# touch /srv1/repVol-01/Desde-srv1-SELinux.txt
```

```
[root@srv1 ~]# touch /bricks/repBrick-01/data/touch-Desde-Brick-01-SELinux.txt
```

```
[root@srv1 ~]# touch /srv2/nfsganesha/Desde-srv1-NFSGanesha-SELinux.txt
```

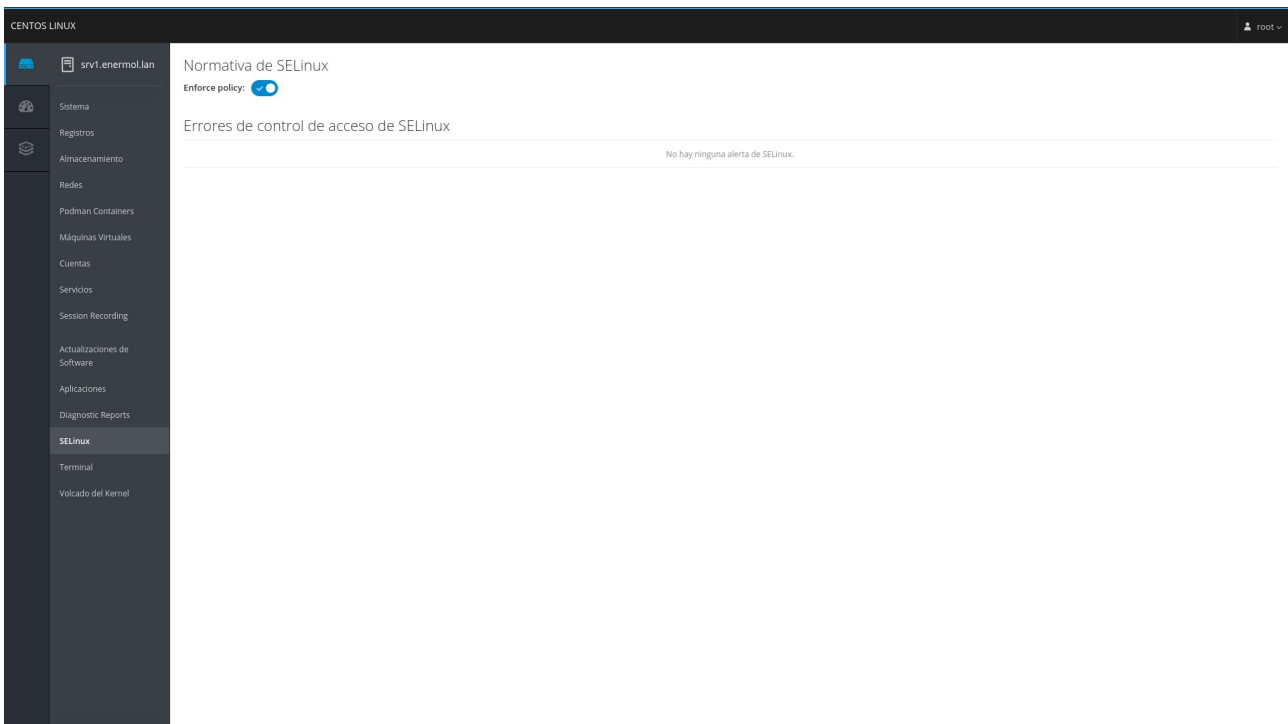
```
[root@srv1 ~]# ls /srv2/nfsganesha/
```

Desde-1.txt Desde-2.txt Desde-srv1-Ganesha.txt Desde-srv1-NFSGanesha-SELinux.txt Desde-srv1-SELinux.txt Desde_srv1.test Desde-srv2-Ganesha.txt Desde_srv2.test

→ **srv2**

```
[root@srv2 ~]# touch /bricks/repBrick-02/data/Desde_srv2.txt
[root@srv2 ~]# touch /srv2/repVol-01/Touch_desde-srv2.txt
[root@srv2 ~]# touch /srv1/nfsganesha/ToUCH-Desde-ganesha-srv2.txt
[root@srv2 ~]# ls /srv2/repVol-01/
Desde-1.txt Desde-srv1-Ganesha.txt Desde-srv1-SELinux.txt Desde-srv2-Ganesha.txt
Desde_srv2.txt Touch_desde-srv2.txt
Desde-2.txt Desde-srv1-NFSGanesha-SELinux.txt Desde_srv1.test Desde_srv2.test
ToUCH-Desde-ganesha-srv2.txt
```

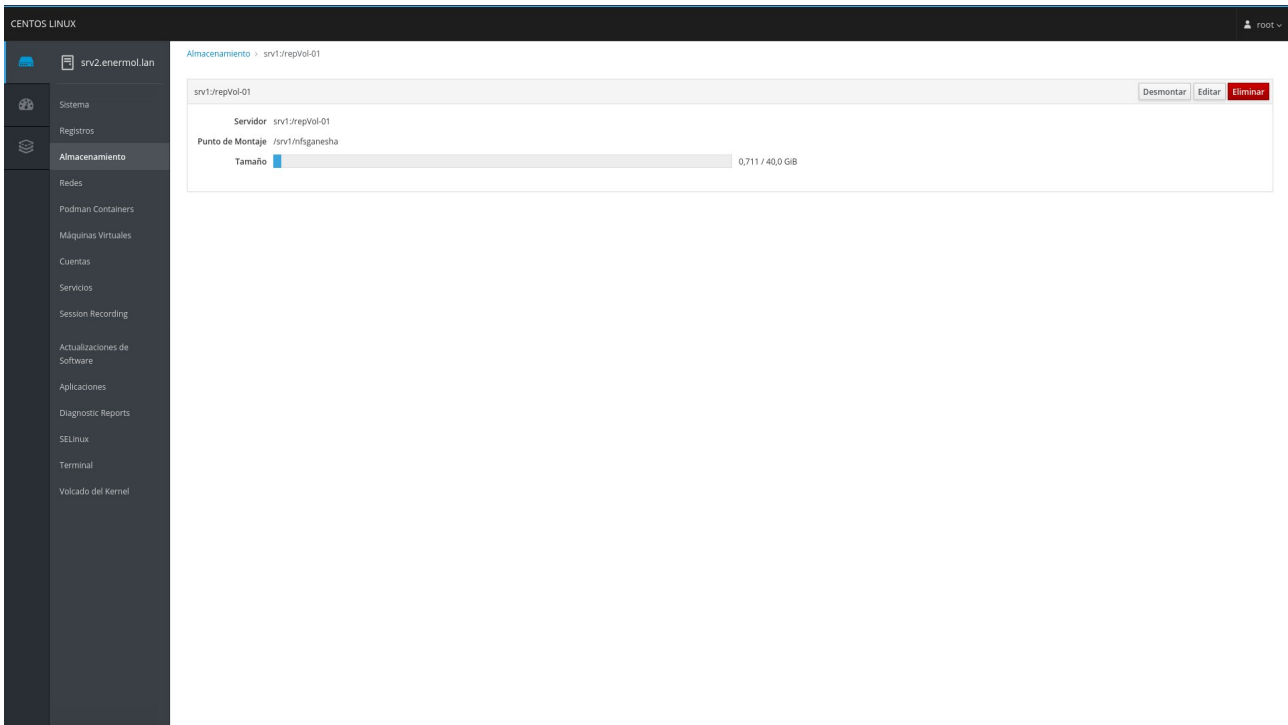
<https://192.168.10.151:9090/>



The screenshot shows the CentOS Linux desktop environment. The left sidebar contains a navigation menu with the following items: Sistema, Registros, Almacenamiento (highlighted), Redes, Podman Containers, Máquinas Virtuales, Cuentas, Servicios, Session Recording, Actualizaciones de Software, Aplicaciones, Diagnostic Reports, SELinux, Terminal, and Volcado del Kernel. The main window displays the storage configuration for 'sr2:repVol-01'. At the top, there are buttons for 'Desmontar', 'Editar', and 'Eliminar'. Below this, the configuration details are shown: 'Servidor: sr2:repVol-01' and 'Punto de Montaje: /sr2/nfs/ganesha'. A progress bar indicates the 'Tamaño' (Size) as 0,711 / 40,0 GiB.

<https://192.168.10.152:9090/>

The screenshot shows the SELinux configuration page in the CentOS Linux desktop environment. The left sidebar is identical to the previous screenshot, with 'SELinux' highlighted in the navigation menu. The main window displays the 'Normativa de SELinux' (SELinux Policy) section. It shows 'Enforce policy' with a toggle switch turned on. Below this, the 'Errores de control de acceso de SELinux' (SELinux Access Control Errors) section is visible, displaying the message 'No hay ninguna alerta de SELinux.' (There are no SELinux alerts).



→ Para un montaje correcto en el arranque del Cliente Gluster, puede ser necesario:

```
# vim /etc/systemd/system/glusterfsmounts-cba.service
```

```
[Unit]
Description=Glustermounting cba
Requires=glusterfs-server.service
```

```
[Service]
Type=simple
RemainAfterExit=true
ExecStartPre=/usr/sbin/gluster volume list
ExecStart=/bin/mount -a -t glusterfs
Restart=on-failure
RestartSec=3
```

```
[Install]
WantedBy=multi-user.target
```

```
# systemctl daemon-reload
# systemctl enable glusterfsmounts-cba
```

RECURSOS:

https://access.redhat.com/documentation/en-us/red_hat_gluster_storage/3.4/
<https://www.itzgeek.com/how-tos/linux/centos-how-tos/install-and-configure-glusterfs-on-centos-7-rhel-7.html>
<https://www.linuxtechi.com/setup-glusterfs-storage-on-centos-7-rhel-7/>
<https://www.voztovoice.org/?q=node/2812>
<https://www.vultr.com/docs/how-to-install-cockpit-on-centos-7>
<https://cockpit-project.org/running#rhel>
<https://docs.gluster.org/en/latest/Troubleshooting/resolving-splitbrain/>
<https://aws-labs.com/linux-scale-nfsv4-nfs-ganesha-glusterfs/>
<https://docs.gluster.org/en/v3/Administrator%20Guide/NFS-Ganesha%20GlusterFS%20Integration/>
https://docs.oracle.com/cd/E52668_01/F14050/html/gluster-access.html
<https://www.golinuxcloud.com/glusterfs-distributed-volume-centos-rhel-8/>
https://www.server-world.info/en/note?os=CentOS_8&p=glusterfs&f=4
https://www.server-world.info/en/note?os=CentOS_7&p=glusterfs&f=8
https://staged-gluster-docs.readthedocs.io/en/release3.7.0beta1/Features/glusterfs_nfs-ganesha_integration/
<https://microdevsys.com/wp/glusterfs-configuration-and-setup-w-nfs-ganesha-for-an-ha-nfs-cluster/>
<https://wiki.centos.org/SpecialInterestGroup/Storage/NFS-Ganesha>
<https://www.cadilinea.com/blog/wp-content/uploads/2018/02/LABORATORIO-SELinux.pdf>
<https://puerto53.com/linux/gluster-file-systems-con-alta-disponibilidad/?cn-reloaded=1>

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