[GlusterFS 配置及使用](https://www.cnblogs.com/sxchengchen/p/7805667.html)

GlusterFS集群创建

## 一、简介

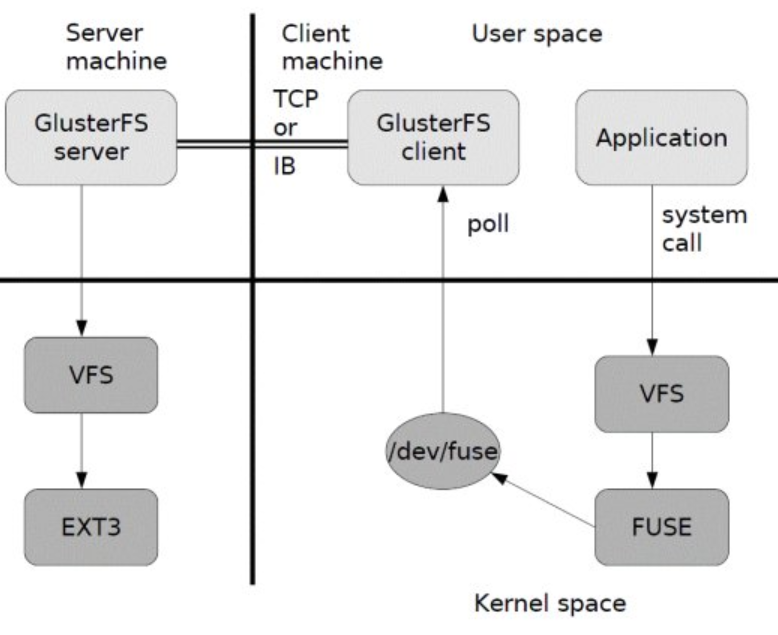
### GlusterFS概述

* Glusterfs是一个开源的分布式文件系统,是Scale存储的核心,能够处理千数量级的客户端.在传统的解决 方案中Glusterfs能够灵活的结合物理的,虚拟的和云资源去体现高可用和企业级的性能存储.
* Glusterfs通过TCP/IP或InfiniBand RDMA网络链接将客户端的存储资块源聚集在一起,使用单一的全局命名空间来管理数据,磁盘和内存资源.
* Glusterfs基于堆叠的用户空间设计,可以为不同的工作负载提供高优的性能.
* Glusterfs支持运行在任何标准IP网络上标准应用程序的标准客户端，如下图1所示，用户可以在全局统一的命名空间中使用NFS/CIFS等标准协议来访问应用数据.

### Glusterfs主要特征

* 扩展性和高性能
* 高可用
* 全局统一命名空间
* 弹性hash算法
* 弹性卷管理
* 基于标准协议

### 工作原理：



1) 首先是在客户端， 用户通过glusterfs的mount point 来读写数据， 对于用户来说，集群系统的存在对用户是完全透明的，用户感觉不到是操作本地系统还是远端的集群系统。  
2) 用户的这个操作被递交给 本地linux系统的VFS来处理。  
3) VFS 将数据递交给FUSE 内核文件系统:在启动 glusterfs 客户端以前，需要想系统注册一个实际的文件系统FUSE,如上图所示，该文件系统与ext3在同一个层次上面， ext3 是对实际的磁盘进行处理， 而fuse 文件系统则是将数据通过/dev/fuse 这个设备文件递交给了glusterfs client端。所以， 我们可以将 fuse文件系统理解为一个代理。  
4) 数据被fuse 递交给Glusterfs client 后， client 对数据进行一些指定的处理（所谓的指定，是按照client 配置文件据来进行的一系列处理， 我们在启动glusterfs client 时需要指定这个文件。  
5) 在glusterfs client的处理末端，通过网络将数据递交给 Glusterfs Server，并且将数据写入到服务器所控制的存储设备上。

### 常用卷类型

分布（distributed）

复制（replicate）

条带（striped）

### 基本卷：

(1)  distribute volume：分布式卷

(2)  stripe volume：条带卷

(3)  replica volume：复制卷

### 复合卷：

(4)  distribute stripe volume：分布式条带卷

(5)  distribute replica volume：分布式复制卷

(6) stripe replica volume：条带复制卷

(7) distribute stripe replicavolume：分布式条带复制卷

## 二、环境规划

**注：node1-node6 为服务端 ，node-client为客户端**

|  |  |  |  |
| --- | --- | --- | --- |
| 操作系统 | IP | 主机名 | 硬盘数量（三块） |
| centos 7.3 | 172.16.2.51 | node1 | sdb:2G  sdc:2G  sdd:2G |
| centos 7.3 | 172.16.2.52 | node2 | sdb:2G  sdc:2G  sdd:2G |
| centos 7.3 | 172.16.2.53 | node3 | sdb:2G  sdc:2G  sdd:2G |
| centos 7.3 | 172.16.2.54 | node4 | sdb:2G  sdc:2G  sdd:2G |
| centos 7.3 | 172.16.2.55 | node5 | sdb:2G  sdc:2G  sdd:2G |
| centos 7.3 | 172.16.2.56 | node6 | sdb:2G  sdc:2G  sdd:2G |
| centos 7.3 | 172.16.2.57 | node7-client | sda:20G |

### 1、环境准备：(node1-node6 同时操作)

**1.1 给node1-node6 每台主机添加三块各2G硬盘。**

[root@node1 ~]# df -h

文件系统             容量  已用  可用 已用% 挂载点

/dev/mapper/cl-root   18G  4.2G   14G   24% /

devtmpfs             473M     0  473M    0% /dev

tmpfs                489M   84K  489M    1% /dev/shm

tmpfs                489M  7.1M  482M    2% /run

tmpfs                489M     0  489M    0% /sys/fs/cgroup

/dev/sdd             2.0G   33M  2.0G    2% /glusterfs/sdd

/dev/sdc             2.0G   33M  2.0G    2% /glusterfs/sdc

/dev/sdb             2.0G   33M  2.0G    2% /glusterfs/sdb

/dev/sda1            297M  158M  140M   54% /boot

tmpfs                 98M   16K   98M    1% /run/user/42

tmpfs                 98M     0   98M    0% /run/user/0

### 1.2 关闭防火墙，seLinux，同步时间

关闭防火墙

 systemctl stop firewalld

 systemctl disable firewalld

关闭SELinux

 sed 's/=permissive/=disabled/' /etc/selinux/config

 setenforce 0

同步时间

ntpdate  ntp.gwadar.cn

### 1.3 主机解析（hosts文件配置)

 [root@node1 ~]# cat /etc/hosts

127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4

::1         localhost localhost.localdomain localhost6 localhost6.localdomain6

172.16.2.51      node1

172.16.2.52     node2

172.16.2.53     node3

172.16.2.54    node4

172.16.2.55     node5

172.16.2.56     node6

### 1.4  测试所有存储节点网络情况

for i in {1..6}

do

ping -c3 node$i &> /dev/null     && echo   "$i  up "

done

### 1.5  配置epel源

yum install http://mirrors.163.com/centos/7.3.1611/extras/x86\_64/Packages/epel-release-7-9.noarch.rpm

### 1.6 配置glusterfs 的本地 yum源（采用网络源方式）

vim /etc/yum.repos.d/gluster-epel.repo

[root@node1 ~]# cat /etc/yum.repos.d/gluster.repo

[gluster]

name=gluster

baseurl=https://buildlogs.centos.org/centos/7/storage/x86\_64/gluster-3.8/

gpgcheck=0

enabled=1

### 1.7 安装GlusterFS和rpcbind

(他是一个[RPC](https://www.baidu.com/s?wd=RPC&tn=44039180_cpr&fenlei=mv6quAkxTZn0IZRqIHckPjm4nH00T1YkuARkm1c4rHRkujT4n1fs0ZwV5Hcvrjm3rH6sPfKWUMw85HfYnjn4nH6sgvPsT6KdThsqpZwYTjCEQLGCpyw9Uz4Bmy-bIi4WUvYETgN-TLwGUv3EPWDLn1ckrHmsPjTdrjmsrjRz)服务，主要是在nfs共享时候负责通知客户端，服务器的nfs端口号的。简单理解[rpc](https://www.baidu.com/s?wd=rpc&tn=44039180_cpr&fenlei=mv6quAkxTZn0IZRqIHckPjm4nH00T1YkuARkm1c4rHRkujT4n1fs0ZwV5Hcvrjm3rH6sPfKWUMw85HfYnjn4nH6sgvPsT6KdThsqpZwYTjCEQLGCpyw9Uz4Bmy-bIi4WUvYETgN-TLwGUv3EPWDLn1ckrHmsPjTdrjmsrjRz)就是一个中介服务。)

yum install -y glusterfs-server samba rpcbind

systemctl start glusterd.service

systemctl enable glusterd.service

systemctl start rpcbind                                               // rpcbind 用于以nfs方式挂在

systemctl enable rpcbind

systemctl status rpcbind

以上操作均在node1-node6上同时操作

## 三、Gluster管理

### 1、gluster 命令帮助

[root@node1 ~]# gluster peer help

peer detach { <HOSTNAME> | <IP-address> } [force] - detach peer specified by <HOSTNAME>

peer help - Help command for peer

peer probe { <HOSTNAME> | <IP-address> } - probe peer specified by <HOSTNAME>

peer status - list status of peers

pool list - list all the nodes in the pool (including localhost)

### 2、添加GlusterFS节点（在node1上操作就可以）

[root@node1 ~]# gluster peer probe node2

peer probe: success.

[root@node1 ~]# gluster peer probe node3

peer probe: success.

[root@node1 ~]# gluster peer probe node4

peer probe: success.

查看所添加节点的状态

[root@node1 ~]# gluster peer status

Number of Peers: 3

Hostname: node2

Uuid: 67c60312-a312-43d6-af77-87cbbc29e1aa

State: Peer in Cluster (Connected)

Hostname: node3

Uuid: d79c3a0b-585a-458d-b202-f88ac1439d0d

State: Peer in Cluster (Connected)

Hostname: node4

Uuid: 97094c6e-afc8-4cfb-9d26-616aedc55236

State: Peer in Cluster (Connected)

 从存储池中删除节点

[root@node1 ~]# gluster peer detach node2

peer detach: success

[root@node1 ~]# gluster peer probe node2

peer probe: success.

### 3、创建卷

3.1创建分布卷

[root@node1 ~]# gluster volume create dis\_vol \

> node1:/glusterfs/sdb/dv1 \

> node2:/glusterfs/sdb/dv1 \

> node3:/glusterfs/sdb/dv1

volume create: dis\_vol: success: please start the volume to access data

查看分布卷

[root@node1 ~]# gluster volume  info dis\_vol

3.2创建复制卷

[root@node1 ~]# gluster volume create rep\_vol replica 3 \

>  node1:/glusterfs/sdb/rv2 \

> node2:/glusterfs/sdb/rv2 \

> node3:/glusterfs/sdb/rv2

volume create: rep\_vol: success: please start the volume to access data

查看

[root@node1 ~]#  gluster volume  info rep\_vol

3.3创建条带卷

[root@node1 ~]# gluster volume create str\_vol  stripe 3 \

>  node1:/glusterfs/sdb/sv3 \

> node2:/glusterfs/sdb/sv3  \

> node3:/glusterfs/sdb/sv3

volume create: str\_vol: success: please start the volume to access data

查看gluster volume  info str\_vol

3.4 创建分布条带卷

[root@node1 ~]# gluster volume create dir\_str\_vol stripe 4 \

> node1:/glusterfs/sdb/dsv4 \

> node2:/glusterfs/sdb/dsv4 \

> node3:/glusterfs/sdb/dsv4 \

> node4:/glusterfs/sdb/dsv4 \

> node5:/glusterfs/sdb/dsv4 \

> node6:/glusterfs/sdb/dsv4 \

> node1:/glusterfs/sdc/dsv4 \

> node2:/glusterfs/sdc/dsv4

volume create: dir\_str\_vol: failed: Host node5 is not in ' Peer in Cluster' state

3.5 创建分布复制卷

[root@node1 ~]# gluster volume create dir\_rep\_vol replica 2 \

> node2:/glusterfs/sdb/drv5 \

> node1:/glusterfs/sdb/drv5 \

> node3:/glusterfs/sdb/drv5 \

> node4:/glusterfs/sdb/drv5

volume create: dir\_rep\_vol: success: please start the volume to access data

3.6 创建分布条带复制

[root@node1 ~]# gluster volume create dis\_str\_rep\_vol stri  2 repl 2 \

> node1:/glusterfs/sdb/dsrv6 \

> node2:/glusterfs/sdb/dsrv6 \

> node3:/glusterfs/sdb/drsv6 \

> node4:/glusterfs/sdb/drsv6

volume create: dis\_str\_rep\_vol: success: please start the volume to access data

3.7 创建条带复制卷

[root@node1 ~]# gluster volume create str\_rep\_vol stripe 2 replica 2 \

> node1:/glusterfs/sdb/srv7 \

> node2:/glusterfs/sdb/srv7 \

> node3:/glusterfs/sdb/srv7 \

> node4:/glusterfs/sdb/srv7

volume create: str\_rep\_vol: success: please start the volume to access data

3.8 创建分散卷（不常用）

[root@node1 ~]# gluster volume create disperse\_vol disperse 4 \

> node1:/glusterfs/sdb/dv8 \

> node2:/glusterfs/sdb/dv8 \

> node3:/glusterfs/sdb/dv8 \

> node4:/glusterfs/sdb/dv8

There isn't an optimal redundancy value for this configuration. Do you want to create the volume with redundancy 1 ? (y/n) y

volume create: disperse\_vol: success: please start the volume to access data

查看卷的状态

[root@node1 ~]#  gluster volume  info disperse\_vol

Volume Name: disperse\_vol

Type: Disperse

Volume ID: 8be1cd6f-49f8-4b11-bcfb-ef5a4f22e224

Status: Created

Snapshot Count: 0

Number of Bricks: 1 x (3 + 1) = 4

Transport-type: tcp

Bricks:

Brick1: node1:/glusterfs/sdb/dv8

Brick2: node2:/glusterfs/sdb/dv8

Brick3: node3:/glusterfs/sdb/dv8

Brick4: node4:/glusterfs/sdb/dv8

Options Reconfigured:

transport.address-family: inet

performance.readdir-ahead: on

nfs.disable: on

3.9 创建分布分散卷（不常用）

[root@node1 ~]# gluster volume create disperse\_vol\_3 disperse 3 \

> node1:/glusterfs/sdb/d9 \

> node2:/glusterfs/sdb/d9 \

> node3:/glusterfs/sdb/d9 \

> node4:/glusterfs/sdb/d9 \

> node5:/glusterfs/sdb/d9 \

> node6:/glusterfs/sdb/d9

volume create: disperse\_vol\_3: success: please start the volume to access data

### 4、查看卷

4.1 查看单个卷的详细信息

[root@node1 ~]# gluster volume info disperse\_vol\_3

Volume Name: disperse\_vol\_3

Type: Distributed-Disperse

Volume ID: 3065d729-8a4f-4717-b8dc-cd73950d8ef7

Status: Created

Snapshot Count: 0

Number of Bricks: 2 x (2 + 1) = 6

Transport-type: tcp

Bricks:

Brick1: node1:/glusterfs/sdb/d9

Brick2: node2:/glusterfs/sdb/d9

Brick3: node3:/glusterfs/sdb/d9

Brick4: node4:/glusterfs/sdb/d9

Brick5: node5:/glusterfs/sdb/d9

Brick6: node6:/glusterfs/sdb/d9

Options Reconfigured:

transport.address-family: inet

performance.readdir-ahead: on

nfs.disable: on

4.2查看所有创建卷的状态

[root@node1 ~]# gluster volume status

Status of volume: dir\_rep\_vol

Gluster process                             TCP Port  RDMA Port  Online  Pid

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

Brick node2:/glusterfs/sdb/drv5             49152     0          Y       17676

Brick node1:/glusterfs/sdb/drv5             49152     0          Y       16821

Brick node3:/glusterfs/sdb/drv5             49152     0          Y       16643

Brick node4:/glusterfs/sdb/drv5             49152     0          Y       17365

Self-heal Daemon on localhost               N/A       N/A        Y       16841

Self-heal Daemon on node3                   N/A       N/A        Y       16663

Self-heal Daemon on node6                   N/A       N/A        Y       16557

Self-heal Daemon on node2                   N/A       N/A        N       N/A

Self-heal Daemon on node5                   N/A       N/A        Y       15374

Self-heal Daemon on node4                   N/A       N/A        Y       17386

Task Status of Volume dir\_rep\_vol

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

There are no active volume tasks

Volume dis\_str\_rep\_vol is not started

Volume dis\_vol is not started

Volume disperse\_vol is not started

Volume disperse\_vol\_3 is not started

Volume rep\_vol is not started

Volume str\_rep\_vol is not started

Volume str\_vol is not started

### 5、/启/停/删除卷 $gluster volume start mamm-volume $gluster volume stop mamm-volume $gluster volume delete mamm-volume

### 6、扩展收缩卷

$gluster volume add-brick mamm-volume [strip|repli <count>] brick1...  
$gluster volume remove-brick mamm-volume [repl <count>] brick1...  
  
扩展或收缩卷时，也要按照卷的类型，加入或减少的brick个数必须满足相应的要求。

扩展前状态

[root@node1 ~]#  gluster volume status dir\_rep\_vol

Status of volume: **dir\_rep\_vol**

Gluster process                             TCP Port  RDMA Port  Online  Pid

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

Brick node2:/glusterfs/sdb/drv5             49153     0          Y       2409

Brick node1:/glusterfs/sdb/drv5             49153     0          Y       1162

Brick node3:/glusterfs/sdb/drv5             49153     0          Y       1140

Brick node4:/glusterfs/sdb/drv5             49153     0          Y       1430

Self-heal Daemon on localhost               N/A       N/A        Y       2560

Self-heal Daemon on node3                   N/A       N/A        Y       2507

Self-heal Daemon on node6                   N/A       N/A        Y       2207

Self-heal Daemon on node5                   N/A       N/A        Y       2749

Self-heal Daemon on node4                   N/A       N/A        Y       2787

Self-heal Daemon on node2                   N/A       N/A        Y       2803

Task Status of Volume dir\_rep\_vol

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

扩展

[root@node1 ~]# gluster volume add-brick  dir\_rep\_vol \

> node1:/glusterfs/sdb/drv6 \

> node2:/glusterfs/sdb/drv6 \

> node3:/glusterfs/sdb/drv6 \

> node4:/glusterfs/sdb/drv6

volume add-brick: success

扩展后

[root@node1 ~]#  gluster volume status dir\_rep\_vol

Status of volume: dir\_rep\_vol

Gluster process                             TCP Port  RDMA Port  Online  Pid

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

Brick node2:/glusterfs/sdb/drv5             49153     0          Y       2409

Brick node1:/glusterfs/sdb/drv5             49153     0          Y       1162

Brick node3:/glusterfs/sdb/drv5             49153     0          Y       1140

Brick node4:/glusterfs/sdb/drv5             49153     0          Y       1430

Brick node1:/glusterfs/sdb/drv6             49154     0          Y       5248

Brick node2:/glusterfs/sdb/drv6             49154     0          Y       5093

Brick node3:/glusterfs/sdb/drv6             49154     0          Y       5017

Brick node4:/glusterfs/sdb/drv6             49154     0          Y       5103

Self-heal Daemon on localhost               N/A       N/A        Y       5268

Self-heal Daemon on node3                   N/A       N/A        Y       5037

Self-heal Daemon on node6                   N/A       N/A        Y       5041

Self-heal Daemon on node5                   N/A       N/A        Y       5055

Self-heal Daemon on node4                   N/A       N/A        Y       5132

Self-heal Daemon on node2                   N/A       N/A        N       N/A

Task Status of Volume dir\_rep\_vol

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

There are no active volume tasks

收缩卷

[root@node1 ~]# gluster volume remove-brick  dir\_rep\_vol \

> node1:/glusterfs/sdb/drv5  \

> node2:/glusterfs/sdb/drv5 \

> node3:/glusterfs/sdb/drv5 \

> node4:/glusterfs/sdb/drv5   force（强制）

Removing brick(s) can result in data loss. Do you want to Continue? (y/n) y

volume remove-brick commit force: success

[root@node1 ~]#  gluster volume status dir\_rep\_vol

Status of volume: dir\_rep\_vol

Gluster process                             TCP Port  RDMA Port  Online  Pid

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

Brick node1:/glusterfs/sdb/drv6             49154     0          Y       5248

Brick node2:/glusterfs/sdb/drv6             49154     0          Y       5093

Brick node3:/glusterfs/sdb/drv6             49154     0          Y       5017

Brick node4:/glusterfs/sdb/drv6             49154     0          Y       5103

Self-heal Daemon on localhost               N/A       N/A        Y       5591

Self-heal Daemon on node4                   N/A       N/A        Y       5377

Self-heal Daemon on node6                   N/A       N/A        Y       5291

Self-heal Daemon on node5                   N/A       N/A        Y       5305

Self-heal Daemon on node2                   N/A       N/A        Y       5341

Self-heal Daemon on node3                   N/A       N/A        Y       5282

Task Status of Volume dir\_rep\_vol

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

There are no active volume tasks

### 7、迁移卷(替换)

volume replace-brick <VOLNAME> <SOURCE-BRICK> <NEW-BRICK> {commit force}

示例：

[root@node1 ~]# gluster volume replace-brick rep\_vol node2:/glusterfs/sdb/rv2   node2:/glusterfs/sdb/rv3 commit force

volume replace-brick: failed: volume: rep\_vol is not started

[root@node1 ~]# gluster volume start rep\_vol

volume start: rep\_vol: success

[root@node1 ~]# gluster volume replace-brick rep\_vol node2:/glusterfs/sdb/rv2   node2:/glusterfs/sdb/rv3 commit force

volume replace-brick: success: replace-brick commit force operation successful

#迁移需要完成一系列的事务，假如我们准备将mamm卷中的brick3替换为brick5  
#启动迁移过程  
$gluster volume replace-brick mamm-volume node3:/exp3 node5:/exp5 start  
#暂停迁移过程  
$gluster volume replace-brick mamm-volume node3:/exp3 node5:/exp5 pause  
#中止迁移过程  
$gluster volume replace-brick mamm-volume node3:/exp3 node5:/exp5 abort  
#查看迁移状态  
$gluster volume replace-brick mamm-volume node3:/exp3 node5:/exp5 status  
#迁移完成后提交完成  
$gluster volume replace-brick mamm-volume node3:/exp3 node5:/exp5 commit

## 四、客户端管理

### 1、安装

[root@node7-client ~]# yum install glusterfs glusterfs-fuse attr -y

### 2、glusterfs方式挂在

挂载（当前生效）

[root@node7 ~]# mount -t glusterfs  node2:/rep\_vol /gfs\_test/

[root@node7 ~]# df -h

文件系统             容量  已用  可用 已用% 挂载点

/dev/mapper/cl-root   18G  4.1G   14G   24% /

devtmpfs             473M     0  473M    0% /dev

tmpfs                489M   84K  489M    1% /dev/shm

tmpfs                489M  7.1M  482M    2% /run

tmpfs                489M     0  489M    0% /sys/fs/cgroup

/dev/sda1            297M  156M  142M   53% /boot

tmpfs                 98M   16K   98M    1% /run/user/42

tmpfs                 98M     0   98M    0% /run/user/0

node2:/rep\_vol       2.0G   33M  2.0G    2% /rep

node2:/rep\_vol       2.0G   33M  2.0G    2% /gfs\_test

挂载（永久）

[root@node7 ~]# echo "node2:/rep\_vol /gfs\_test glusterfs defaults,\_netdev 0 0" >> /etc/fstab

[root@node7 ~]# mount -a

### 3、Nfs方式

挂在（当前生效）

[root@node7 ~]# mount -t nfs node3:/dis\_vol gfs\_nfs

mount.nfs: requested NFS version or transport protocol is not supported

解决方法：

1）、安装 nfs-utils  rpcbind

2）、开起卷的nfs挂载方式

[root@node1 ~]# gluster volume info dis\_vol

Volume Name: dis\_vol

Type: Distribute

Volume ID: c501f4ad-5a54-4835-b163-f508aa1c07ba

Status: Started

Snapshot Count: 0

Number of Bricks: 3

Transport-type: tcp

Bricks:

Brick1: node1:/glusterfs/sdb/dv1

Brick2: node2:/glusterfs/sdb/dv1

Brick3: node3:/glusterfs/sdb/dv1

Options Reconfigured:

transport.address-family: inet

performance.readdir-ahead: on

nfs.disable: on

[root@node1 ~]# gluster volume set dis\_vol nfs.disable off

volume set: success

[root@node7 ~]# mount -t nfs node3:/dis\_vol /gfs\_nfs

[root@node7 ~]# df -h

文件系统             容量  已用  可用 已用% 挂载点

/dev/mapper/cl-root   18G  4.2G   14G   24% /

devtmpfs             473M     0  473M    0% /dev

tmpfs                489M   84K  489M    1% /dev/shm

tmpfs                489M  7.1M  482M    2% /run

tmpfs                489M     0  489M    0% /sys/fs/cgroup

/dev/sda1            297M  156M  142M   53% /boot

tmpfs                 98M   16K   98M    1% /run/user/42

tmpfs                 98M     0   98M    0% /run/user/0

node3:/dis\_vol       6.0G   97M  5.9G    2% /gfs\_nfs

永久挂载

[root@node7 ~]# echo "node3:/dis\_vol /gfs\_nfs nfs defaults,\_netdev 0 0" >> /etc/fstab

[root@node7 ~]# mount -a

[root@node7 ~]# df -h

文件系统             容量  已用  可用 已用% 挂载点

/dev/mapper/cl-root   18G  4.1G   14G   24% /

devtmpfs             473M     0  473M    0% /dev

tmpfs                489M   84K  489M    1% /dev/shm

tmpfs                489M  7.1M  482M    2% /run

tmpfs                489M     0  489M    0% /sys/fs/cgroup

/dev/sda1            297M  156M  142M   53% /boot

tmpfs                 98M   12K   98M    1% /run/user/42

tmpfs                 98M     0   98M    0% /run/user/0

node3:/dis\_vol       6.0G   97M  5.9G    2% /gfs\_nfs