This is a Howto Implement Gluster FS for File Replication with Urbackup-Server

What is Gluster & What is urbackup

Requirements:

1. Two Servers backup1 and backup2

2. CentOS -7 OS (Minimal)

3. Two static IP addresses backup1 has 192.68.5.87 and backup2 has 192.168.5.133 (Private addresses to fit in your network)

4. 3TB of two hard drives (slaves only for data storage) on both servers (You can change it as per your need)

5. SELinux is disabled

6. Iptables must allow ports for urbackup and gluster

Steps:

Install CentOS minimal on both servers on the primary drives.

Edit /etc/hosts and add ip addresses of both nodes as below in each other's /etc/hosts file on both servers.

```
192.168.5.133 backup2 backup2.local
192.168.5.87 backup1 backup1.local
```

Install urbackup as below

First add the repository

```
cd /etc/yum.repos.d/
wget http://download.opensuse.org/repositories/home:kot1grun/CentOS_7/home:kot1grun.repo
```

Then

```
yum install urbackup-server
```

Install httpd (apache)

Edit /etc/httpd/conf/httpd.conf

and change line which says Listen to as follow

```
Listen 192.168.5.87:80
```

Start urback-server as follow

```
systemctl start urbackup-server.service
```

Check status

```
[root@Backup1 /]# systemctl status urbackup-server
urbackup-server.service - UrBackup Client/Server Network Backup System
   Loaded: loaded (/usr/lib/systemd/system/urbackup-server.service; enabled)
   Active: active (running) since Tue 2015-02-10 04:02:39 EST; 32s ago
  Process: 2615 ExecStart=/usr/sbin/start_urbackup_server (code=exited, status=0/SUCCESS)
```

Now check if you can see the server from web

```
http://192.168.5.87:55414
```

Ok if everything is good you will see urbackup page. But now stop and lets not do anything with urbackup

We will configure Gluster

First thing to do is to create the partitions where you will store your data (In my case i will use 3TB of Hard Drives with singel partition)

In order to create partition we use "parted"

On backup1 and backup2 type the below commands:

```
[root@Backup1 /]# parted /dev/sdb
GNU Parted 3.1
Using /dev/sdb
Welcome to GNU Parted! Type 'help' to view a list of commands.

(parted) mklabel gpt <--
(parted) unit TB <--
(parted) mkpart primary 0.00TB 3.00TB <--
(parted)print
(parted) quit
```

then

```
[root@Backup1 /]# mkfs.xfs /dev/sdb1
```

Once done you will see your newly created 3TB disk is ready to be used

Create a directory /data/brick/gv0 on both servers and

```
[root@Backup1 /]# mount /dev/sdb1 /data/brick <---
```

Now stop here and lets install Gluster.

On both Servers backup1 and backup2 do the following:

To install Gluster add the below repository

http://download.gluster.org/pub/gluster/glusterfs/LATEST/CentOS/glusterfs-epel.repo

Just go /etc/yum.repos.d/

and wget http://download.gluster.org/pub/gluster/glusterfs/LATEST/CentOS/glusterfs-epel.repo <--

Now run the below command on both backup1 and backup2

```
[root@Backup1 /]# yum -y install glusterfs glusterfs-fuse glusterfs-server

[root@Backup1 /]# systemctl start glusterd <--
```

Now type gluster on backup1 only <--

```
[root@Backup1 /]# gluster
gluster> peer probe backup2
peer probe: success. Host backup2 port 24007 already in peer list [Note: if failed check your firewall settings]
gluster>

gluster> pool list
UUID                                    Hostname        State
0fdb30e2-b026-4091-a556-4420cb72f719    192.168.5.133   Connected
4796efc6-b93e-488a-90ca-3ba250e76676    localhost       Connected
gluster>
```

Now we will create Volume

```
gluster> volume create gv0 replica 2 transport tcp backup1:/data/brick/gv0 backup2:/data/brick/gv0 force

volume create: gv0: success: please start the volume to access data

gluster> volume start gv0

volume start: gv0: success

quit
```

Now on both Servers create a mount point /mnt/gluster and mount the newly created volum gv0 onto the mount point as below:

```
[root@Backup1 /]# mount -t glusterfs backup1:/gv0 /mnt/gluster <--

[root@Backup2 /]# mount -t glusterfs backup2:/gv0 /mnt/gluster <--
```

Note: /mnt/gluster is the mount point where fuse.glusterfs is mounted so data must be wrting in this directory inorder to be replicated.
For permenant mount

vi /etc/fstab on both backup1 and backup2 and add the following line at the end

On backup 1

```
backup1:/gv0    /mnt/gluster     glusterfs defaults,_netdev     0 0
```

On backup 2

```
backup2:/gv0    /mnt/gluster     glusterfs defaults,_netdev     0 0
```

Now to test that Gluster is replicating

Lets create a file in /mnt/gluster on backup1

```
[root@Backup1 gluster]# touch gluster_test.txt
[root@Backup1 gluster]# ls
gluster_test.txt
[root@Backup1 gluster]#
```

Now lets check if the same file has been automatically created on backup2

```
[root@backup2 gluster]# cd /mnt/gluster/
[root@backup2 gluster]# ls
gluster_test.txt
[root@backup2 gluster]#
```

And Yes we have it !!

Now Lets go back and complete our urbackup-server setup which we halted earlier.

First give owner ship of gluster directory to urbackup user

```
[root@Backup1 mnt]# chown -R urbackup:urbackup gluster/
```

Now go to http://192.168.5.87:55414

Click on settings

Backup storage path: /mnt/gluster/

Cick save and check status it should be good.

Now lets create a client and check if its able to create backup and send to our GlusterFS system.

Internet clients

Add additional internet clients:

Client name: client_1

Download the client and then go to client's pc and install this specific client you just download for him/her.

Once installation is complete just click settings on urbackup client and add path for folders / files you need to backup automatically.

Once done we would be able to see the files automatically population /gluster foler of our server and replicating the same on backup2

AWESOME !! Thats it and we have created our very own Failsafe Automatic Backup Server with Gluster FS, Apache and Urbackup.

Thanks & Best Regards,
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