

Step-by-Step Guide: Setup GlusterFS

If you don't know what GlusterFS is or what it's for, you may consider checking out this [Post](#).

Step-by-Step Guide to Setting Up GlusterFS on a 3-Node Cluster

This guide will walk you through setting up GlusterFS on a 3-node cluster using Raspberry Pis, with the IP addresses: `192.168.0.10`, `192.168.0.11`, and `192.168.0.12`. GlusterFS will be used to create a distributed, replicated file system across these nodes. Follow these steps to get your cluster up and running.

Step 1: Install GlusterFS on All Nodes

First, you need to install the required packages on **all nodes**. The `software-properties-common` package allows managing repositories, and `glusterfs-server` installs the GlusterFS server.

```
sudo apt install software-properties-common glusterfs-server -y
```

This ensures that every node in your cluster has GlusterFS installed and ready to share and replicate files.

Step 2: Enable Automatic Start of GlusterFS on Reboot

To ensure GlusterFS starts automatically after each reboot, you need to enable the `glusterd` service (GlusterFS daemon) on all nodes. Run this command on each node:

```
sudo systemctl start glusterd && sudo systemctl enable glusterd
```

This command starts the Gluster service immediately and ensures it starts automatically on system reboot.

Step 3: Peer Probe the Nodes

Now, log in to the main node (192.168.0.10) via SSH as root. You need to "peer probe" the other nodes to add them to the GlusterFS cluster. The peer probe is a command that connects the other nodes to the Gluster network, allowing them to participate in the distributed file system.

On the main node (192.168.0.10), run the following commands:

```
gluster peer probe 192.168.0.11  
gluster peer probe 192.168.0.12
```

The `peer probe` command tells the main node to reach out to the other nodes, establishing a connection and syncing them into the cluster.

Step 4: Create the GlusterFS Volume

A volume in GlusterFS is essentially a storage pool made up of directories on different nodes. Here, we'll create a **replicated** volume across all three nodes. Replication ensures that the same data is stored on all nodes, making it resilient to failures.

Run the following command on the main node (192.168.0.10):

```
gluster volume create [glustername] replica 3 192.168.0.10:/root/gluster 192.168.0.11:/root/gluster  
192.168.0.12:/root/gluster force
```

Explanation:

- `[glustername]` is the name you want to give to your GlusterFS volume.
- `replica 3` specifies that this is a replicated volume across all 3 nodes.
- The paths after each node's IP specify where the volume will be stored on each node (`/root/gluster`).

The `force` option is used to bypass potential warnings (such as creating volumes in a root directory).

Step 5: Start the GlusterFS Volume

Once the volume is created, you need to start it. This also needs to be done on the main node:

```
gluster volume start [glustername]
```

Replace `[glustername]` with the name of the volume you created in the previous step.

Step 6: Create a Mount Directory on Each Node

On **each node**, create a directory where you will mount the GlusterFS volume. For this guide, we'll use `/mnt/glustermount` as the mount point.

Run this command on all nodes:

```
sudo mkdir -p /mnt/glustermount
```

This ensures that the GlusterFS volume has a place to be mounted on each node.

Step 6.1: Mount the GlusterFS Volume

Now, mount the GlusterFS volume on the `/mnt/glustermount` folder. Run this command on each node:

```
sudo mount.glusterfs localhost:/[glustername] /mnt/glustermount
```

Replace `[glustername]` with the name of your volume. This mounts the volume, making it accessible from the `/mnt/glustermount` directory on each node.

To Setup Automatic Mount of GlusterFS on Boot check out this [Post](#),

Your 3-node GlusterFS cluster should now be up and running, providing a replicated and distributed file system that's resilient and ready for use!

Revision #15

Created 8 September 2024 12:46:35 by aeoneros

Updated 9 September 2024 09:21:02 by aeoneros