Linux NFS Server & Client Manual Configure

Linux NFS Server

NFS :- Network File Sharing

NFS is a protocol that allows you to share directories and files with other Linux clients over a network.

Shared directories are typically created on a file server, running the NFS server component. Users add files to them, which are then shared with other users who have access to the folder.

1. Setting Up an NFS Server with an NFS Share:-

sudo apt-get update

sudo apt install nfs-kernel-server

2. Create Root NFS Directory:-

*We'll now create the root directory of the NFS shares, this is also known as an export folder

sudo mkdir **/sharing**

*Set permissions so that any user on the client machine can access the folder

sudo chown nobody:nogroup **/sharing**

sudo chmod 777 **/sharing**

3. Define Access for NFS Clients in Export File:-

*To grant access to NFS clients, we'll need to define an export file, So edit with nano and entry given below line in export fileor save it.

nano /etc/exports

*in exports file type here given below line which type of access you want to give

*To enable access to a single client

/sharing {clientIP} (rw,sync,~~no_subtree_check~~)

*To enable access to a multiple client

/sharing {clientIP-1}(rw,sync,~~no_subtree_check~~){clientIP-2}(...){clientIP-3}(...)

4. Make the NFS Share Available to Clients:-

*using given below command making the file share available or after this command your sharing directory available for client and NFS Kernel should be restarted

sudo exportfs -a

sudo systemctl restart nfs-kernel-server

Note:-

If you have a firewall enabled, you'll also need to open up firewall access using the **sudo ufw allow** command.

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Linux NFS Client

1. Installing NFS Client Packages:-

sudo apt update

sudo apt install nfs-common

2. Mounting the NFS File Share Temporarily:-

*using the following commands mount the NFS folder to a specific location on the local machine, known as a mount point

*Create a local directory - **/var/locally-mounted**...

sudo mkdir /var/locally-mounted

*Mount the file share by running the mount command, as follows. There is no output if the command is successful.

sudo mount -t nfs {IP of NFS server}:{folder path on server} /var/locally-mounted

*To verify that the NFS share is mounted successfully,

mount (for mounting) or

df -h

3. Mounting NFS File Shares Permanently:-

Note:- Remote NFS directories can be automatically mounted when the local system is started.In order to ensure an NFS file share is mounted locally on startup, you need to add a line to this file with the relevant file share details.

sudo mkdir /var/locally-mounted

nano /etc/fstab

*Add a line given below which defining the NFS share into fstab file or save.

(NFS-Server_IP) (NFS-Client_IP) /var/locally-mounted nfs defaults 0 0

*Now mount the file share using the following command-

mount /var/locally-mounted

mount {NFS-Server_IP } {Sharing-Folder-Path-of-Server}

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Linux NFS Server & Client By Bash Script Configure

Linux NFS Server-Machine

#!/bin/bash

```
# SERVER CONFIGURATION
echo "------------>> We are going to Configure a NFS-SERVER <<------------"
             sudo apt update
function installnfs(){
            sudo apt install nfs-kernel-server
if [ $? -eq 0 ]; then
            sudo systemctl start nfs-kernel-server.service
            sudo systemctl restart nfs-kernel-server.service
            sudo systemctl start portmap
        else
             echo " installation failed "
        exit 1
fi
}
sleep 1.5s
function configurenfs(){
cd / && sudo mkdir /sharing && sudo chmod 777 /sharing
sudo chown nobody:nogroup /sharing
ls -ld /sharing
sudo chmod 777 /etc/exports
echo "/sharing 192.168.1.227:( rw, sync )" > /etc/exports
sudo exportfs  -rv
sudo systemctl restart nfs-kernel-server
}
installnfs
configurenfs
whereis nfs ||  which nfs
```

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Linux NFS Client-Machine

```
#!/bin/bash
sudo apt update
function installclient(){
        sudo apt install nfs-common -y
 if [[ $? == 0 ]];  then
            systemctl status rpcbind
            systemctl start nfs-lock
            systemctl enable nfs-lock
            systemctl restart nfs-config
            sudo mkdir /var/sharing  - (/var/sharing - client sharing folder)
            sudo mount -t 192.168.65.131:/sharing  /var/sharing
            mount && df -h
            sudo mkdir /var/sharing
            echo "192.168.1.227:/sharing  /var/sharing nfs defaults 0 0" >
            /etc/fstab
            mount /var/sharing
            mount 192.168.1.227: /sharing
      else
            echo " client server configuration failed "
      exit1
fi
}
installclient  (call to install package)
```

after successfully installation and configuration we can share files server to client or client to server machine.

Note.....

machine-name	sharing folder
server-machine	/sharing
client-machine	/var/sharing

Example-

Folder sharing like this ....

Server-Machine

Folder_Name

test

Client-Machine

Folder_Name

test