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Setup NFS Server On openSUSE 13.1

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NFS, Network File System, is a server-client protocol used for sharing files between linux/unix to unix/linux systems. With NFS, users can access files on remote systems as if they were stored locally. This tutorial will describe how to setup NFS server on openSUSE 13.1.

Scenario

In this how-to I use two systems. Both systems are running with openSUSE 13.1. Here is the

ip address details of my server and client systems.

```
NFS Server IP Address : 192.168.1.101/24
NFS Client IP Address  : 192.168.1.100/24
```

Install NFS in Server system

```
# zypper in nfs-kernel-server
```

Start NFS service

Enable and Start rpcbind and nfs services.

```
# systemctl enable rpcbind.service
# systemctl start rpcbind.service
# systemctl enable nfsserver.service
# systemctl start nfsserver.service
```

Install NFS in Client System

Enter the following command in client to install nfs-client package.

```
# zypper in nfs-client
```

Create NFS shares in server

Create a shared directory named `‘/var/unixmen_share’` in server and let the client users to read and write files in that directory.

```
# mkdir /var/unixmen_share  
# chmod 755 /var/unixmen_share/
```

Export shared directory on NFS Server

Open `/etc/exports` file,

```
# nano /etc/exports
```

Add the nfs share in it.

```
# See the exports(5) manpage for a description of the syntax of  
this file.  
# This file contains a list of all directories that are to be  
exported to  
# other computers via NFS (Network File System).  
# This file used by rpc.nfsd and rpc.mountd. See their manpages  
for details  
# on how make changes in this file effective.  
/var/unixmen_share/  
192.168.1.0/24(rw,sync,no_root_squash,no_all_squash)
```

Save and close the file.

where,

```
/var/unixmen_share - shared directory  
192.168.1.0/24 - IP address range of clients  
rw - Read/Write permission to shared folder  
sync - Synchronize shared directory  
no_root_squash - Enable root privilege  
no_all_squash - Enable user's authority
```

Please be mindful that if you modify the `/etc/exports` file in future, you run the following command to enable the changes.

```
# exportfs -a
```

Now restart `rpcbind` and `nfs` services.

```
# systemctl restart rpcbind.service
# systemctl restart nfsserver.service
```

Mount NFS shares in client

Go to your client system and Create a mount point to mount the share directory `'var/unixmen_local'` which we created earlier.

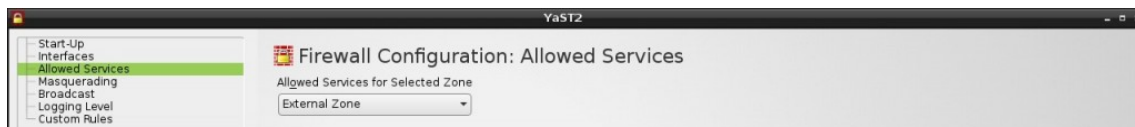
```
# mkdir /var/nfs_share
```

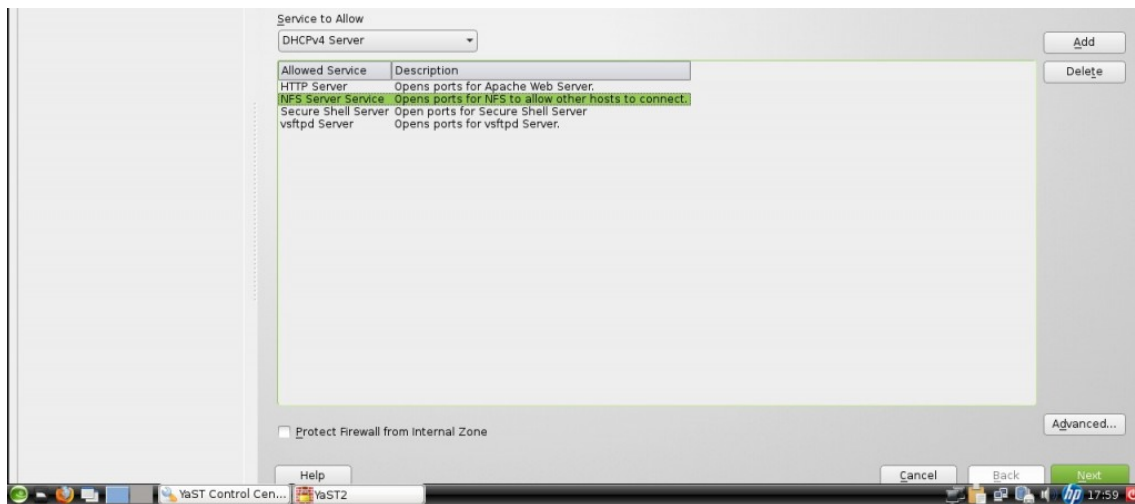
By default, openSUSE firewall doesn't allow remote clients to connect to NFS server.

To allow NFS server to access from the outbound, goto **YAST control center -> Security and Users -> Firewall**.

openSUSE 12.3 [Running] - Oracle VM VirtualBox_001

Navigate to **Allowed Services** tab. Select **NFS Secure Service** from **Service to Allow** drop down box and click add. Finally click Next to allow the nfs service through suse firewall.





Now try to mount nfs share.

```
# mount -t nfs 192.168.1.101:/var/unixmen_share/ /var/nfs_share/
```

Now the NFS share will be mounted on client systems.

Verify NFS

Verify the server NFS share is mounted in client using following methods.

```
# df -h
```

Sample output:

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/sda1	292G	229G	48G	83%	/
none	4.0K	0	4.0K	0%	/sys/fs
/cgroup					
udev	989M	4.0K	989M	1%	/dev
tmpfs	200M	852K	199M	1%	/run
none	5.0M	0	5.0M	0%	/run/lock

```
none          998M  244K  998M   1% /run/shm
none          100M   16K  100M   1% /run/user
192.168.1.101:/var/unixmen_share/ 7.6G  4.1G  3.1G  57%
/var/nfs_share
```

Also you can check the NFS shares using **mount** command.

```
# mount
```

Sample output:

```
[...]
192.168.1.101:/var/unixmen_share/ on /var/nfs_share type nfs
(rw,vers=4,addr=192.168.1.101,clientaddr=192.168.1.100)
```

Automount the NFS Shares

To mount the shares automatically instead of mounting them manually at every reboot, add the following lines shown in bold in the **'/etc/fstab'** file of client system.

Edit file **/etc/fstab**,

```
# nano vi /etc/fstab
```

Add the following line in it.

```
[...]
192.168.1.101:/var/unixmen_share/ /var/nfs_share/ nfs
```

```
rw, sync, hard, intr 0 0
```

Reboot the client system and check the share. You should see the shares are automatically mounted.

```
# mount
```

Sample output:

```
[...]
192.168.1.101:/var/unixmen_share/ on /var/nfs_share type nfs
(rw, vers=4, addr=192.168.1.101, clientaddr=192.168.1.100)
```

That's it. Now NFS server is ready to use. Good luck!

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