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Access NAS server using NFS protocol under Linux or UNIX

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[1]

Q. How do I access NAS server using NFS? I am using Redhat Linux (RHEL).

[NFS](#) ^[2] (Network File System) is a protocol originally developed by Sun Microsystems.

NFS used by UNIX and Linux uses as a distributed file system which allows a computer/server/workstation to access files over a network.

NFS is a popular file-sharing protocol for Linux and UNIX. NAS (Network attached storage) also supports NFS configuration.

Linux NFS service

In order to use NFS you need to run portmap service and rpc.statd and rpc.lockd daemons. Use following commands to start these services (RedHat/Fedora Linux):

```
# chkconfig portmap on
# chkconfig nfslock on
# /etc/init.d/portmap start
# /etc/init.d/nfslock start
```

Assuming that NAS is configured properly you need to type following command to access NAS (please refer our [sample configuration](#) ^[3] diagram):

```
# mkdir /backup
# mount -o tcp 202.54.20.111:/mountpoint /backup
```

Linux supports UDP by default and TCP as an option. TCP may improve performance in some cases (as a side effect it may increase the CPU load on the local server). If you want to use UDP just type following command:

```
# mount 202.54.20.111:/mount/point /backup
```

You can also mount NFS share by editing /etc/fstab file:

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

Append following line:

```
202.54.20.111:/mountpoint /backup nfs defaults 0 0
```

Save the file and exit to shell prompt. Try to pass following values to mount command improve NFS performance:

```
# mount -t nfs -o nocto, rsize=32768, wsize=32768 202.54.20.111:/mountpoint /backup
```

Where,

- rsize=32768, wsize=32768: This will make your nfs connection faster than with the default buffer size of 4096. rsize is read size and wsize is write size.
- nocto : Suppress the retrieval of new attributes when creating a file.

There are few more options supported to tweak NFS please consult man page of nfs.

A note for FreeBSD users

NFS configuration is a relatively straightforward, all you need to do is open /etc/rc.conf and put following line (FreeBSD client system):

```
# vi /etc/rc.conf
```

Append following line:

```
nfs_client_enable="YES"
```

Save the file and use mount command as follows:

```
# /etc/init.d/nfsclient start
```

```
# mkdir /backup  
# mount 202.54.20.111:/mountpoint /backup
```

There are few options supported to tweak NFS client under FreeBSD please consult man page of nfs/mount for more information.

See also:

- [Connecting Linux or UNIX system to Network attached storage device](#) ^[4]
- [How do I access NAS server using automount?](#) ^[5]
- [Access NAS server using Windows 2000 or 2003 server](#) ^[6]
- For more information consult man pages of mount and nfs

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[1] Image: <http://www.cyberciti.biz/faq/faq/category/linux/>

[2] NFS: http://en.wikipedia.org/wiki/Network_file_system

[3] sample configuration: <http://www.cyberciti.biz/faq/tips/connecting-linux-unix-system-network-attached-storage-device.html#samnetdiag>

[4] Connecting Linux or UNIX system to Network attached storage device: <http://www.cyberciti.biz/faq/tips/connecting-linux-unix-system-network-attached-storage-device.html>

[5] How do I access NAS server using automount?: <http://www.cyberciti.biz/faq/faqs/2006/05/how-do-i-access-nas-server-using.php>

[6] Access NAS server using Windows 2000 or 2003 server: <http://www.cyberciti.biz/faq/faqs/2006/05/access-nas-server-using-windows-2000.php>

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