

## Experiment - 15

### To configure the DHCP server and DHCP client

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**AIM:** To set up DHCP server & to automate allocation of IP addresses.

#### PROCEDURE:

1. Install dhcp3-server; execute the following commands, and follow the prompts:

- aptitude install dhcp3-server



2. When asked you what connection you want to run the DHCP server on, use 'eth0'.

3. Open your DHCP server's configuration as root, using your text editor.

```
sudo gedit /etc/dhcp3/dhcpd.conf
```

4. Write the following code into dhcpd.conf. Create a backup too.

```
subnet 192.168.1.0 netmask 255.255.255.0 {  
    range 192.168.1.1 192.168.1.15;  
    option domain-name "fox.net";  
    option domain-name-servers 208.67.222.222, 208.67.220.220;  
    option broadcast-address 192.168.1.255;  
    option routers 192.168.1.1;  
    option subnet-mask 255.255.255.0; }
```

## Experiment – 16

### To configure the NFS server and NFS client

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**AIM:** Write steps to set up NFS server and client and share files & directories between ubuntu LINUX operating systems.

#### **PROCEDURE:-**

NFS (Network File System) is used to share files between Linux computers on a local network. When sharing files with NFS, there are two sides: the server and the clients. The server is the computer that is actually storing the files, while the clients are the computers that are accessing the shared folder by mounting the shared folder as a virtual drive.

Open the terminal on the server computer. This is the computer that will be hosting the shared files. The server computer will need to be turned on and logged in in order for clients to mount the shared folder. NFS requires using the terminal to install and configure both the server and client.



Type:

```
sudo apt-get install nfs-kernel-server nfs-common portmap
```

This will begin downloading and installing the NFS files on your computer.

```
wiki@Wiki:~$ sudo apt-get install nfs-kernel-server nfs
-common portmap
[sudo] password for wiki:
```




After installation, type,  
dpkg-reconfigure portmap.

Select "No" from the menu that appears. This will enable other computers on the network to connect to your shared folder.

```
wiki@Wiki: ~
version
Adding system user `statd' (UID 116) ...
Adding new user `statd' (UID 116) with shell /usr/sbin/nologin `nogroup'
...
Not creating home directory /var/lib
statd start/running, process 334
gssd stop/pre-start, process 334
idmapd start/running, process 334
Processing triggers for ureadahead (0.100.0-16) ...
Setting up nfs-kernel-server (1.3.0-0ubuntu1) ...

Creating config file /etc/exports with new version
Creating config file /etc/default/nfs-kernel-server with
h new version
* Not starting NFS kernel daemon: no exports.
Processing triggers for libc-bin (2.19-0ubuntu6.5) ...
Processing triggers for ureadahead (0.100.0-16) ...
wiki@Wiki:~$ dpkg-reconfigure portmap
```



Type ,  
sudo /etc/init.d/portmap restart  
to restart the portmap service. This will ensure that your changes  
take effect.

```
wiki@Wiki:~$ sudo /etc/init.d/portmap restart
[sudo] password for wiki:
```



Make a dummy directory that will be used to share the data. This is an empty directory that will direct the clients to the actual shared directory. This will allow you to change the shared directory on your server later without having to make any changes to the clients.

```
mkdir -p /export/dummysname
```



```
wiki@wiki:~$ sudo mkdir -p /export/dummysname
[sudo] password for wiki:
wiki@wiki:~$
```

Open the `./etc/exports` file. You will need to add your dummy directory as well as the IPs that are allowed to access it to this file. Use the following format to share with all the IP addresses on your local



```
wiki@wiki:~$ sudo gedit /etc/exports
[sudo] password for wiki:
```

Use the `.sudo /etc/init.d/nfs-kernel-server restart` command to restart the NFS server.

```
wiki@Wiki:~$ sudo /etc/init.d/nfs-kernel-server restart
[sudo] password for wiki:
* Stopping NFS kernel daemon                                [ OK ]
* Unexporting directories for NFS kernel daemon...          [ OK ]
* Not starting NFS kernel daemon: no exports.
wiki@Wiki:~$
```



## Client Computer

`sudo apt-get install portmap nfs-common`

```
wiki@Wiki:~$ sudo apt-get install portmap nfs-common
[sudo] password for wiki:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'rpcbind' instead of 'portmap'
nfs-common is already the newest version.
rpcbind is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 316 not upgraded.
wiki@Wiki:~$
```



Create the directory that the shared files will be mounted i

```
wiki@Wiki:~$ sudo mkdir /sharedFile
[sudo] password for wiki:
wiki@Wiki:~$
```



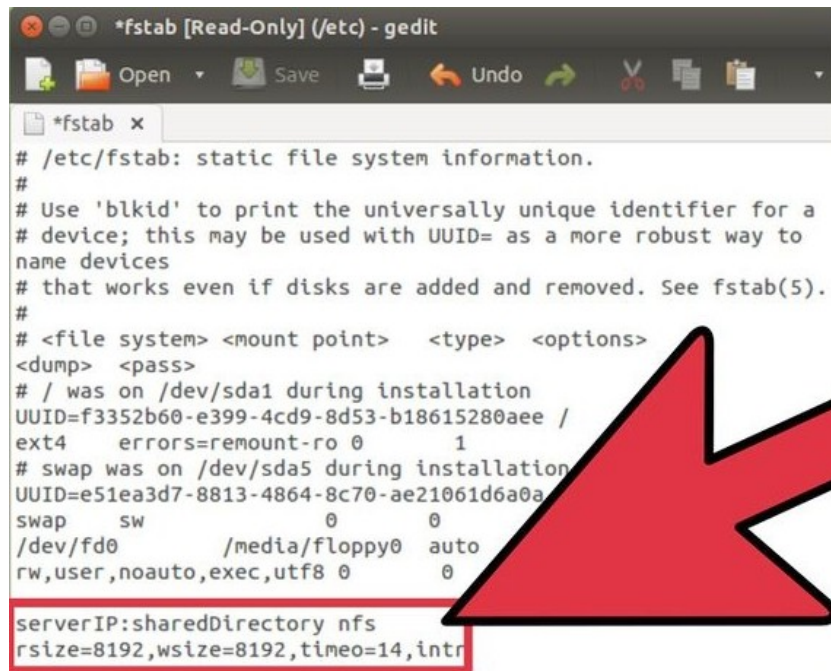
Add

`serverIP:sharedDirectory nfs  
rsize=8192,ws=8192,timeo=14,intr.`

Replace `serverIP` with the IP address of the NFS server computer.

Replace `sharedDirectory` with the dummy directory

- Using the above examples, the line might look like:  
`192.168.1.5:/export/Shared  
/sharedFilesnfsrs=8192,ws=8192,timeo=14,intr`



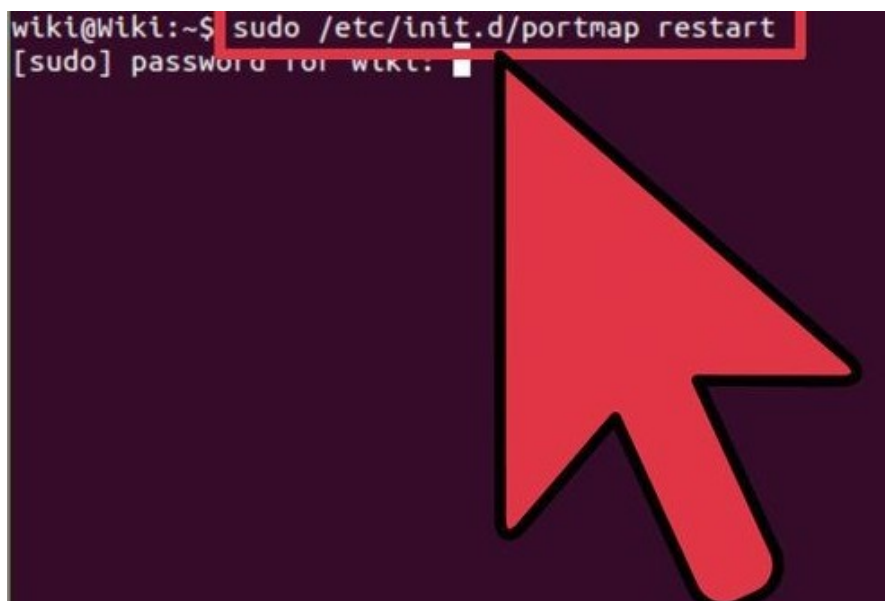
```
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to
# name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point> <type> <options>
# <dump> <pass>
# / was on /dev/sda1 during installation
UUID=f3352b60-e399-4cd9-8d53-b18615280aee /
ext4 errors=remount-ro 0 1
# swap was on /dev/sda5 during installation
UUID=e51ea3d7-8813-4864-8c70-ae21061d6a0a
swap sw 0 0
/dev/fd0 /media/floppy0 auto
rw,user,noauto,exec,utf8 0 0

serverIP:sharedDirectory nfs
rs=8192,ws=8192,timeo=14,intr
```

Type

`sudo /etc/init.d/portmap restart`

to restart portmap and use the new settings. The drive will automatically mount each time the computer reboots.



```
wiki@Wiki:~$ sudo /etc/init.d/portmap restart
[sudo] password for wiki: 
```