```
/*
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TITLE:

Implementation of Network File System [NFS]

AIM:

To implement Network File System [NFS] to show

1. Mouting, unmounting of a file system
2. Addition and Deletion of Files

OBJECTIVE:

To understand the concept of Network File System [NFS]

THEORY:

Describe NFS:
 NFS, or Network File System, is a distributed file system protocol allowing a user on a client computer to access files over a network as if they were on a local device. Explain mounting and unmounting of remote files

Mounting: Attaching a remote file system onto a local directory, allowing the files from the remote system to be accessed as if they were part of the local file system.

Unmounting: Detaching the remote file system from the local directory, severing the connection and preventing further access to the remote files from that specific mount point.

Give all steps to accomplish the NFS
   • Install NFS server software on the server machine.
   • Configure shared directories to be accessed by NFS.
   • Specify access permissions for the shared directories.
   • Start the NFS server service.
   • Install NFS client software on the client machine.
   • Mount the remote NFS directory onto a local mount point on the client.

- Access and use files in the mounted directory as if they were local.
- Unmount the directory when finished to terminate the connection.

INPUT:
Addition or deletion of a file in the file system

OUTPUT:
The depiction of Addition or deletion of a file in the file system

CONCLUSION:
The NFS was accomplished for file related functionalities
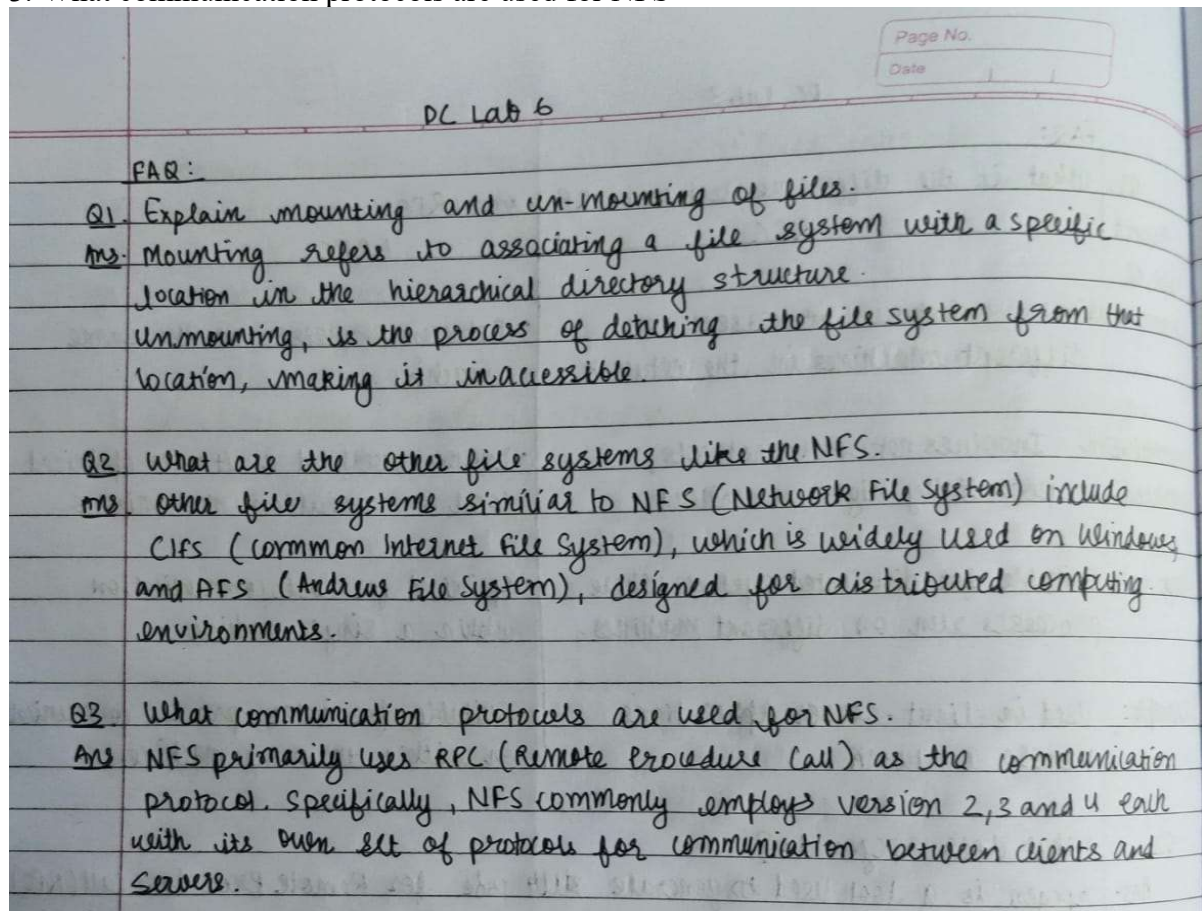
PLATFORM:
           Linux

LANGUAGE:
           C language.

FAQs

1. Explain mounting and un-mounting of files
2. What are the other file systems like the NFS
3. What communication protocols are used for NFS

DC Lab 6

FAQ:

Q1. Explain mounting and un-mounting of files.

Ans. Mounting refers to associating a file system with a specific location in the hierarchical directory structure. Unmounting, is the process of detaching the file system from that location, making it inaccessible.

Q2. What are the other file systems like the NFS.

Ans. Other file systems similar to NFS (Network File System) include CIFS (Common Internet File System), which is widely used on Windows and AFS (Andrew File System), designed for distributed computing environments.

Q3. What communication protocols are used for NFS.

Ans. NFS primarily uses RPC (Remote Procedure Call) as the communication protocol. Specifically, NFS commonly employs version 2, 3 and 4 each with its own set of protocols for communication between clients and servers.

Client NFS:

Server NFS:


```
Open          ⏷    🗗                                              server (6)
                                                                  ~/Downloads
 1 https://www.digitalocean.com/community/tutorials/how-to-set-up-an-nfs-mount-on-ubuntu-20-04
 2
 3
 4 sudo apt-get install nfs-kernel-server
 5
 6
 7 sudo mkdir /var/nfs/general -p
 8 ls -la /var/nfs/general
 9 sudo chown nobody:nogroup /var/nfs/general
10 ls -la /var/nfs/general
11 sudo nano /etc/exports
12          /var/nfs/general    client_ip(rw,sync,no_subtree_check)
13 sudo systemctl restart nfs-kernel-server
14 sudo ufw status
15 sudo ufw allow from 172.16.182.109 to any port nfs
16 sudo ufw status
```



```
                      computer@computer: ~                              ×

(base) computer@computer:~$ sudo apt-get install nfs-kernel-server
[sudo] password for computer:
Reading package lists... Done
Building dependency tree
Reading state information... Done
nfs-kernel-server is already the newest version (1:1.3.4-2.5ubuntu3.5).
The following packages were automatically installed and are no longer required:
  libboost-program-options1.71.0 libgoogle-perftools4 libpcrecpp0v5 libsnappy1v5
  libtcmalloc-minimal4 libxmlb1 libyaml-cpp0.6 mongo-tools mongodb-mongosh mongodb-server-core
  ubuntu-advantage-desktop-daemon
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 89 not upgraded.
(base) computer@computer:~$ sudo mkdir /var/nfs/general -p
(base) computer@computer:~$ ls -la /var/nfs/general
total 8
drwxr-xr-x 2 nobody nogroup 4096 Nov 21 14:06 .
drwxr-xr-x 3 root   root    4096 Nov 21 14:06 ..
(base) computer@computer:~$ sudo nano /etc/exports/var/nfs/general
(base) computer@computer:~$ sudo nano /etc/exports


Use "fg" to return to nano.

[1]+  Stopped                 sudo nano /etc/exports
(base) computer@computer:~$ sudo nano /etc/exports
(base) computer@computer:~$ sudo systemctl restart nfs-kernel-server
(base) computer@computer:~$ ▯
```

Recent
Starred
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash

Other Locations

general.
test