

RHCE BOOT CAMP

File Sharing Services



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CERTIFIED
E N G I N E E R

NFS

- The Network File Service, or NFS, is used to share data with other servers.
- For this service to work properly, `portmap` and `nfs-utils` rpms must be installed, and `portmap` and `nfs` must be running.
- The command `rpcinfo` can be run to confirm that these services are running on a remote server:
 - `rpcinfo -p server1`
- The directories to be shared are listed in `/etc/exports`

/ETC/EXPORTS

- The directories to be shared are listed in `/etc/exports`
- `/etc/exports` should be configured as follows:
 - `<shared directory> <who>(<how>)`
- Note the **lack** of space between the who and the parenthesis for how. Be very careful about this!
- Example:
 - `/to/be/shared station*.example.com(rw)`

EXPORTS NETWORK SPECIFICATIONS

- The host/network to be shared to can be specified in a number of convenient ways:
 - **Host** Just a single host (given by name/ip)
 - **Netgroup** NIS netgroup, expressed as @group
 - **Wildcards** Using the asterisk, match based off hostnames plus wildcards, as *.example.com
 - **IP Networks** Specify with IP/netmask or CIDR notation:
192.168.1.0/24

192.168.1.0/255.255.255.0

EXPORTFS

- **exportfs -r** refreshes the server share list
- **exportfs -a** exports all shares in /etc/exports
- **exportfs -u** un-exports a share name
- **showmount -e server1** shows shares on server1

NFS PERSISTENCE

- NFS mounts can be made persistent across reboots by adding the following to `/etc/fstab`:
 - `server1:/share /server1/share nfs defaults 0 0`

LAB

1. Create a new user.
2. Configure your anonymous NFS user to use this new UID.
3. Grant read/write access to a directory this user owns to our class network, except for server1, who should get read-only access. (Bonus: Does the user name matter?)
4. Mount the NFS share from your neighbour, and add it to their `fstab`.

SAMBA

- SAMBA is an open source implementation of Windows networking protocols. With SAMBA, it is possible to:
 - Provide file and print services for various Microsoft Windows clients
 - Integrate with a Windows Server domain as a Primary Domain Controller (PDC) or as a Domain Member.
 - Be part of an Active Directory domain.

SAMBA

- SAMBA provides the following services in Linux:
 - Authentication and authorization of users (Active Directory)
 - File and printer sharing
 - Name resolution
 - Browsing (Wins or NetBios)

GETTING SAMBA GOING

- Some packages what should be installed for SAMBA to work as desired:
 - **samba** provides basic software for sharing files and printers
 - **samba-client** allows server to connect to windows shares (also includes the smbclient command, which functions like a command-line ftp client)
 - **samba-common** contains samba configuration files

GETTING SAMBA GOING

- For SAMBA to work properly, the following services must be running:
 - `smbd` (SMB/CIFS Server) for authentication and authorization and file and printer sharing
 - `nmbd` (NetBIOS name server) for resource browsing and possibly as a wins server

CONFIGURING SAMBA

- The main configuration file for SAMBA is:
 - `/etc/samba/smb.conf`
- This file is **very** well commented and has examples for just about anything that you need to do.
- Once you have made a configuration change, you can test it with the `testparm` command.

SAMBA USERS

- To have a SAMBA user, that user must first be created in `/etc/passwd`
- The command `smbpasswd -a` can then be used to add a user to `/etc/samba/smbpasswd` for SAMBA authentication.

SAMBA SHARES

- To see the SAMBA shares a user has access to, you use `smbclient` as follows:
 - `smbclient -L <server> -U <user>%<passwd>`
- To mount a share, you use the UNC path:
 - `mount.cifs //server/share /mount/point -o username=<user>`
- To configure this mount to happen at boot, add the following to `fstab`:
 - `//server/share /mount/point cifs credentials=/etc/samba/pub.cred 0 0`
- (where `/etc/samba/pub.cred` is a file that only root can read which contains usernames and passwords)

LAB

1. Configure SAMBA to share your `/srv` directory only to one neighbor who must log in with the SAMBA username of `richard`.
2. Make this share read-only for the SAMBA user `guido`.
3. Mount the share from your neighbor. Configure it to mount automatically at boot time. Use a credentials file to store the account information securely.


```
slideshow.end();
```