Configure Automounter (AUTOFS)

Unit objectives

After completing this unit, you should be able to:

- Understand benefit of Automounter
- Review characteristics of Automounter
- Review direct and indirect maps, including wildcards
- Create an automount

Understand benefit of Automounter

- Demand mount only when user access mount point
- Reduce system's resources
- Avoid mount at boot (any error will enter emergency mode)
- When Server is ready
- Dismount when user no longer accessing mount point
- Users do not need root account to mount / umount
- NFS shares in automounter are available to all users on machine
- NFS shares not permanently connected like entries in /etc/fstab

Characteristics of Automounter

- Automounter configured on client machines
- NFS configured on server machines
- **autofs**
  - creates and removes mount points, eliminate manual management
  - autofs is a service
- Uses direct and indirect mount-point mapping – flexibilities
- Uses NFS as the default network protocol.

Review differences:

Direct Maps

- Point using **absolute** path mount point
- Example of /etc/auto.master

```
/-  /etc/auto.direct
```

- Example of /etc/auto.direct

```
/mnt/docs -rw,sync serverb:/share/docs
/info/tax -ro serverb:/share/tax
```

- If /mnt/docs or /info/tax doesn't exists, automount create the folders

Indirect Maps

- Point using **relative** path mount point
- Example of /etc/auto.master

```
/export/home /etc/auto.home
```

- Example of /etc/auto.home

```
* -rw,sync serverb:/shares/&
```

➔ ali -rw,sync serverb:/shares/ali

➔ pete -rw,sync serverb:/shares/pete

- Especially useful with automounting user's home directory
- * refers to login id
- & refers back to *

Create an automount

1. Install autofs package
2. Add a master map file to /etc/auto.master.d
3. Create mapping files
4. Start and enable the automounter service
5. User access mountpoint

Step 1: Install autofs package

- Install autofs package

```
# dnf –y install autofs
```

- Verify

```
# rpm -qa autofs*
# rpm -ql autofs
```

- List out all configuration files

```
# rpm -qc autofs
```

- Check out the master configuration file

```
# grep -v "^#" /etc/auto.master
```

Step 2: Add a master map file to /etc/auto.master.d

- Create demo.autofs

```
# vi /etc/auto.master.d/demo.autofs
/shares          /etc/auto.demo
```

- This indirect automounts use /etc/auto.demo to connect to respective NFS servers when being accessed by user

Step 3: Create the mapping files

```
# vi /etc/auto.demo
work        -rw,sync      serverb:/documents/work
non_work -rw,sync      serverc:/public/non_work
```

Step 4: Start and enable the automounter service

- Start the service now and permanently

```
# systemctl enable --now autofs
```

- Verify

```
# cat /etc/mtab | grep –i autofs
# systemctl status -l autofs
# grep –i autofs /var/log/messages | tail
# journalctl
```

Step 5: User access mountpoint

- Change directory into /

```
# cd /shares/work or cd /shares/non_work
```

- Verify

```
# df -k | grep shares
...
serverb:/documents/work      ...      ...      /shares/work
serverc:/public/non_work     ...      ...      /shares/non_work
```

- Autofs timeout after 5 minutes (by configuration)

```
# vi /etc/autofs.conf
```

Quiz

1. Why automounter are needed? [Choose two]
   a) Allow system to automatically mount NFS share folder at boot time
   b) Allow systemt o automatically mount local FS at boot time
   c) Allow system to automatically mount NFS share folder on demand
   d) Let system mount even you log in as non-root

2. Where is the main configuration of automounter?
   a) /etc/hosts
   b) /etc/auto.master
   c) /etc/autofs.conf
   d) /etc/direct

3. User change directory to /**net**, but see nothing even autofs is started. Why?
   a) automounter is not running
   b) firewall is blocking
   c) SELinux is blocking
   d) default it does not reveal host yet, must enter a hostname of the NFS server

4. True or False: Autofs must be enabled on both client and server

Quiz - Answer

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4. True or False: Autofs must be enabled on both client and server

Unit summary

Having completed this unit, you should be able to:

- Understand benefit of Automounter
- Understand Automounter better
- Understand direct and indirect maps, including wildcards
- Create an automount