

Prepared by Shiba Ratna Tamrakar

### Lab on Package management with RPM and Yum

1. to install the package bind-utils

```
#rpm -hiv bind-utils*
```

Note: i for install, h for hash, v for verbose

2. to install the package bind-utils from URL ftp://www.xyz.com/rpms

```
#rpm -hiv ftp://www.xyz.com/rpms
```

3. To remove the package

```
# rpm -e bind-utils.<version>
```

4. To upgrade the package user -U or -F options

-U will upgrade the package if exist else install new package

-F only upgrade the package if exist.

### Updating the Kernel RPM

Steps:

Install the new kernel (don't user -U or -F option)

if the new kernel is installed the system should be rebooted properly with new kernel, else

remove the new kernel as it is not working for your system.

### Query the packages

1. To find if the package is installed or not

```
#rpm -q portmap
```

2. To find the list of packages installed

```
#rpm -qa
```

3. To know the package to which the package belongs to

```
rpm -qf filename
```

```
#rpm -qf /sbin/ifconfig
```

4. To get general information about the package

```
rpm -qi packagename
```

```
#rpm -qi nfs
```

5. To install packets along with it's dependent packages

```
rpm -hiv packagename--aid
```

```
#rpm -hiv nfs--aid
```

Note: To install or remove package forcefully use --force option

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### RPM Versification

```
#rpm -V packagename  
#rpm -Vp packagefile.i386.rpm  
#rpm -Va
```

### Signature verification before package is installed

```
#rpm --import RPM-GPG-KEY  
#rpm -k packagefiles.i386.rpm
```

### verification example

```
#rpm -V zip  
#rpm -Va  
#rpm -Vp zip-2.3-8.i386.rpm
```

### Yum

- Front-end for rpm designed to resolve package dependencies

1. To install package called zip

```
#yum install zip
```

2. To update all available new files for installed packages

```
#yum -y update  
-y is for yes to all
```

3. To remove package zip

```
#yum remove zip
```

4. To search package

```
yum search packagename
```

```
#yum search nfs
```

5. To list available packages

```
yum list
```

```
#yum list 'nfs*'
```

6. To get the information of package

```
#yum info packagename
```

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7. To search all package installed or available for file nfs

```
#yum whatprovides nfs
```

### Configuring Additional Repositories

create a file /etc/yum.repos.d for your repository

Require information

```
[repo-name]
```

```
name= any name
```

```
baseurl=http://yoursourcelist.com/path
```

```
enable=1
```

```
gpgcheck=0
```

### Creating a private repository

- create a directory to hold your package
- Make this directory available by http or ftp
- Install the createrepo RPM
- to create a repodata subdirectory and then needed support files

```
#rpm -hiv createrepo
```

```
#createrepo -v /package/directory
```

- to configure your source

```
#vi /etc/yum.repos.d/server1.repo
```

```
[myserver]
```

```
name=my packages
```

```
baseurl=http://server1.com/rpms
```

```
enable=1
```

```
gpgcheck=0
```

### Lab on DNS with BIND

- root name server is indicated by '.'
- named.ca is used to store root's information.
- Daemon name: named

```
#vi /var/named/chroot/etc/var/named/cba.com.zone
```

```
$TTL 2D
```

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```
@ IN SOA ns.cba.com. Root.cba.com.
(
    1;    SN
    1H;   refresh time
    1M;   retry
    1W;   expire
    1D;   minimum Time to leave (-ve response)
)
@ IN NS ns.cba.com.
@ IN A 192.168.0.1
ns IN A 192.168.0.2
mail IN A 192.168.0.3
ftp IN A 192.168.0.1
pop IN A MX 1 mail

station1.cba.com IN A 192.168.0.1
station2.cba.com IN A 192.168.0.2
```

```
#vi /var/named/chroot/etc/named.conf
zone "cba.com" IN {
    type master;
    file "cba.com.zone";
}
```

**check for error**

```
#named-checkconf
```

```
#named-checkzone www.cba.com /var/named/chroot/var/named/cba.com.zone
```

**Client side DNS tools and configuration**

```
#vi /etc/resolv.conf
nameserver <ip of dns server>
```

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```
#nslookup mail.cba.com
#dig www.cba.com
#host www.cba.com
#host -al cba.com
#host -t mx cba.com
#dig -t mx cba.com
#dig -t cname ftp.cba.com
```

### Reverse lookup zone

```
#vi <path>/etc/named.conf
zone "16.172.in-addr.arpa" IN {
    type master;
    file "reverse.cba.com";
};
```

```
#vi <path>/var/named/reverse.cba.com
@    IN    @    root
(
    1
    1H
    1M
    1W
    1D
)
@    IN    NS    ns.cba.com.
2.0  IN    PTR   ns.cba.com.
3.0.16.172.in-addr.arpa    IN    PTR   mail
```

### Slave DNS

```
#vi <path>/etc/named.conf
zone "cba.com" IN {
```

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```
    type slave;
    masters    {192.168.0.1};
    file      "slaves/slave.cba.com";
};

zone "01.168.192.in-addr.arpa" IN {
    type slave;
    master {102.168.0.2};
    file "slaves/reverse.cba.com";
};
```

#### Catching-only named server

```
#vi /etc/named.conf
options{
    forwarders {192.168.0.2};
    forward only;
};
```

#### Load Balancing with round robin

```
in zone file(cba.com.zone)
www 0 IN A 192.168.0.1
www 0 IN A 192.168.0.2
www 0 IN A 192.168.0.3
```

#### DNS Security

```
#vi <path>/etc/named.conf
acl mynetwork {192.168.0.0/24; 192.168.1.2};

options{
    allow-transfer {192.168.0.3};
    allow-query { mynetwork; };
};
```

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## Lab on Sharing file in network

### FTP (default vsftpd in RHEL)

#### 1. To enable anonymous user

The root directory of anonymous user /var/ftp

```
#vi /etc/vsftpd/vsftpd.conf
```

```
anonymous_enable=YES
```

```
#service vsftpd start
```

#### 2. Allow real user's ftp login (for deny local\_enable=NO)

```
#vi /etc/vsftpd/vsftpd.conf
```

```
local_enable=YES
```

#### 3. Denying selected real users' ftp login

```
#vi /etc/vsftpd.ftpusers
```

```
user1
```

```
user2
```

#### 4. Allowing selected user's ftp logging

```
#vi /etc/vsftpd/vsftpd.conf
```

```
userlist_enable=YES
```

```
userlist_deny=NO
```

#### 5. To set ftp banner

```
ftpd_banner=welcome to ftp.cba.com
```

#### 6. Allowing ftp users to upload

```
anon_upload_enable=YES
```

```
chown_uploads=YES
```

```
chown_username=cba
```

```
anon_umask=077
```

## Lab on Network File service (NFS)

packages needed:

```
nfs-utils
```

```
portmap
```

```
autofs
```

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Main configuration file /etc/exports

format:

Abs\_path\_of\_dir      host(option)

Example:

```
#vi /etc/exports
    /var/ftp/pub 192.168.0.0/255.255.255.0(rw,sync)
    /backup      *(ro,sync)
    /cba         server.*(rw,sync)
    /shiba      server?.cba.com(rw,sync)
```

In client Machine

```
#showmount -e <nfs_server>
#mount serverip:/var/ftp/pub /localpub
```

if using fstab

```
#vi /etc/fstab
    serverip:/var/ftp/pub /localpub nfs defaults 0 0
```

### Lab on Samba

- daemon: smbd and nmbd
  - script: /etc/init.d/smb
  - Configuration consists /etc/samba/\*
  - Tools: system-config-samba, testparm
  - Main configuration file /etc/samba/smb.conf
  - about smb.conf
    - smb.conf is styled after the .ini file format and is split into different [ ] sections
    - [global] : section for server generic or global settings
    - [homes] : used to grant some or all users to their home directories
    - [printers]:defines printer resources and services
    - user testparm to check the syntax of smb.conf
1. Example: to share a directory named myshared\_data to students group, add the following line at the end of smb.conf

```
[myshared_data]
    comment=share directory
```

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```
path = /home/cba/myshared_directory
public = no
write list = @students
printable = no
browseable = yes
```

2. Example: to share a printer named testprinter to user cba and shiba, add the following line at the end of smb.conf

```
[sharedprinter]
comment=share printer
path = /var/spool/sharedptr
public = no
valid users = cba shiba
printable = yes
```

*Note there should be a directory named shared ptr in /var/spool, if don't exist create it.*

**Adding user to samba (the user should be local users of Linux)**

```
#smbpasswd -a cba
```

```
#smbpasswd -a shiba
```

To restart the samba service

```
#service smb restart
```

**Samba clients**

1. To view the shared resources in particular host

```
#smbclient -L hostname
```

2. To copy a file in smb server to current directory

```
#smbclient //machine/service -U cba
```

```
>cd directory
```

```
>get filename
```

3. Also, mount command can be used

```
#mount //machine/service /smbclientdirecotry
```