

Ex 5 PACKAGE MANAGEMENT SYSTEM

Date: 08.09.20

Aim: To study and implement the package management system

Description:

Samba:

Samba is the standard Windows interoperability suite of programs for Linux and Unix. Since 1992, Samba has provided secure, stable and fast file and print services for all clients using the SMB/CIFS protocol, such as all versions of DOS and Windows, OS/2, Linux and many others.

Samba is an important component to seamlessly integrate Linux/Unix Servers and Desktops into Active Directory environments. It can function both as a domain controller or as a regular domain member.

Samba is a software package that gives network administrators flexibility and freedom in terms of setup, configuration, and choice of systems and equipment. Because of all that it offers, Samba has grown in popularity, and continues to do so, every year since its release in 1992.

We'll create the following Samba shares and users:

Users:

- **sadmin** - An administrative user with read and write access to all shares.
- **debby** - A regular user with its own private file share

Shares:

- **users** - This share will be accessible with read/write permissions by all users.
- **debby** - This share will be accessible with read/write permissions only by users debby and sadmin.

The file shares will be accessible from all devices on your network. Later in this tutorial, we will also provide detailed instructions on how to connect to the Samba server from Linux, Windows and macOS clients.

Commands:

Sl. No.	Command Name	Syntax	options
1.	rpm	rpm {rpm-file}	-a, --all Query all packages -f Query for packages owning given file
2.	apt-get	apt-get [options] source pkg1 [pkg2 ...]	-a It prints all the system information in the order -s It prints the kernel name. -n It prints the hostname of the network node -r It prints the kernel release date -v It prints the version of the current kernel
3.	systemctl	systemctl [OPTIONS] COMMAND [NAME]	-t It Lists the unit types -p It shows all the available properties -a

			<p>It Lists all units installed on the system</p> <p>-r</p> <p>It shows units of local containers</p>
4.	UFW	ufw [options]	<p>allow</p> <p>To allow incoming tcp and udp packet</p> <p>deny</p> <p>To deny incoming tcp and udp packet</p> <p>delete</p> <p>To delete the existing rule</p>
5.	Smbclient	smbclient {servicename} [options]	<p>-h</p> <p>It Prints the command-line help information</p> <p>-d debug_level</p> <p>Sets the debug level from 0 to 10, with A for all</p> <p>-n NetBIOS_name</p> <p>It allows you to override the NetBIOS name</p>

Exercise:

1. Install (Samba) free software re-implementation of the SMB/CIFS networking protocol.

Installing samba using terminal

```
gloria@kali:~/Desktop$ sudo apt-get install samba
[sudo] password for gloria:
Reading package lists... Done
Building dependency tree
Reading state information... Done
samba is already the newest version (2:4.12.5+dfsg-3).
The following packages were automatically installed and are no longer required:
  libcdio18 libmpdec2 libprotobuf22 libx264-155 libx264-159 openjdk-8-jre
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 281 not upgraded.
gloria@kali:~/Desktop$
```

Checking the status of Samba service

```
gloria@kali:~$ sudo systemctl status smbd
● smbd.service - Samba SMB Daemon
   Loaded: loaded (/lib/systemd/system/smbd.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
     Docs: man:smbd(8)
           man:samba(7)
           man:smb.conf(5)
gloria@kali:~$
```

Starting the samba services

```
gloria@kali:~/Desktop$ sudo systemctl start smb
gloria@kali:~/Desktop$ sudo systemctl status smb
● smb.service - Samba SMB Daemon
   Loaded: loaded (/lib/systemd/system/smb.service; disabled; vendor preset: enabled)
   Active: active (running) since Mon 2020-10-12 23:14:35 CDT; 6s ago
     Docs: man:smbd(8)
           man:samba(7)
           man:smb.conf(5)
  Process: 1280 ExecStartPre=/usr/share/samba/update-apparmor-samba-profile (code=exited, status=0/SUCCESS)
 Main PID: 1289 (smbd)
    Status: "smbd: ready to serve connections..."
     Tasks: 4 (limit: 5882)
    Memory: 27.4M
   CGroup: /system.slice/smb.service
           └─1289 /usr/sbin/smbd --foreground --no-process-group
             └─1291 /usr/sbin/smbd --foreground --no-process-group
               └─1292 /usr/sbin/smbd --foreground --no-process-group
                 └─1293 /usr/sbin/smbd --foreground --no-process-group

Oct 12 23:14:33 kali systemd[1]: Starting Samba SMB Daemon ...
Oct 12 23:14:34 kali update-apparmor-samba-profile[1283]: grep: /etc/apparmor.d/abstractions/samba: No such file or directory
Oct 12 23:14:34 kali update-apparmor-samba-profile[1286]: diff: /etc/apparmor.d/abstractions/samba: No such file or directory
Oct 12 23:14:35 kali systemd[1]: Started Samba SMB Daemon.
lines 1-21/21 (END) ... skipping ...
● smb.service - Samba SMB Daemon
   Loaded: loaded (/lib/systemd/system/smb.service; disabled; vendor preset: enabled)
   Active: active (running) since Mon 2020-10-12 23:14:35 CDT; 6s ago
     Docs: man:smbd(8)
           man:samba(7)
           man:smb.conf(5)
  Process: 1280 ExecStartPre=/usr/share/samba/update-apparmor-samba-profile (code=exited, status=0/SUCCESS)
 Main PID: 1289 (smbd)
```

Allow Samba service from firewall

```
gloria@kali:~/Desktop$ sudo ufw allow 'Samba'
Rules updated
Rules updated (v6)
gloria@kali:~/Desktop$
```

Include the localhost interface in the smb.conf file

```
#### Networking ####

# The specific set of interfaces / networks to bind to
# This can be either the interface name or an IP address/netmask;
# interface names are normally preferred
interfaces = 127.0.0.0/8 eth0

# Only bind to the named interfaces and/or networks; you must use the
# 'interfaces' option above to use this.
# It is recommended that you enable this feature if your Samba machine is
# not protected by a firewall or is a firewall itself. However, this
# option cannot handle dynamic or non-broadcast interfaces correctly.
bind interfaces only = yes

#### Debugging/Accounting ####
```

Test the parameters of the smb.conf file

```
gloria@kali:/etc/samba$ sudo vi smb.conf
[sudo] password for gloria:
gloria@kali:/etc/samba$ testparm
Load smb config files from /etc/samba/smb.conf
Loaded services file OK.
Server role: ROLE_STANDALONE

Press enter to see a dump of your service definitions
█
```

Restart the samba services

```
gloria@kali: ~
File Actions Edit View Help

gloria@kali:~$ sudo systemctl restart smbd
gloria@kali:~$ sudo systemctl restart nmbd
```

Creating a normal user named debby

```
gloria@kali: ~  
File Actions Edit View Help  
gloria@kali:~$ sudo mkdir /samba  
gloria@kali:~$ sudo chgrp sambashare /samba  
gloria@kali:~$ sudo useradd -M -d /samba/debby -s /usr/sbin/nologin -G samb  
ashare debby  
gloria@kali:~$ sudo mkdir /samba/debby  
gloria@kali:~$ sudo chown debby:sambashare /share/debby  
chown: cannot access '/share/debby': No such file or directory  
gloria@kali:~$ sudo chown debby:sambashare /samba/debby  
gloria@kali:~$ sudo chmod 2770 /samba/debby  
gloria@kali:~$
```

Setting up the Password for debby

```
gloria@kali: ~  
File Actions Edit View Help  
gloria@kali:~$ sudo smbpasswd -a debby  
New SMB password:  
Retype new SMB password:  
Added user debby.  
gloria@kali:~$ sudo smbpasswd -e debby  
Enabled user debby.  
gloria@kali:~$
```


Creating a Admin user

```
File  Actions  Edit  View  Help
gloria@kali:~$ sudo useradd -M -d /samba/users -s /usr/sbin/nologin -G sambashare sadmin
gloria@kali:~$ sudo smbpasswd -a sadmin
New SMB password:
Retype new SMB password:
Added user sadmin.
gloria@kali:~$ sudo smbpasswd -e sadmin
Enabled user sadmin.
gloria@kali:~$ sudo mkdir /samba/users
gloria@kali:~$ sudo chown sadmin:sambashare /samba/users
gloria@kali:~$ sudo chmod 2770 /samba/users
gloria@kali:~$
```

Add this configuration lines in smb.conf file

```
[users]
    path = /samba/users
    browseable = yes
    read only = no
    force create mode = 0660
    force directory mode = 2770
    valid users = @sambashare @sadmin

[debby]
    path = /samba/debby
    browseable = no
    read only = no
    force create mode = 0660
    force directory mode = 2770
    valid users = debby @sadmin
```

Again Restart the samba services

```
gloria@kali:~$ cd /etc/samba
gloria@kali:/etc/samba$ sudo vi smb.conf
gloria@kali:/etc/samba$ cd
gloria@kali:~$ sudo systemctl restart smbd
gloria@kali:~$ sudo systemctl restart nmbd
gloria@kali:~$
```


2. Install Samba_Client to connect to the samba server

Installing smbclient from terminal

```
gloria@kali:~$ sudo apt-get install smbclient
Reading package lists... Done
Building dependency tree
Reading state information... Done
smbclient is already the newest version (2:4.12.5+dfsg-3).
smbclient set to manually installed.
The following packages were automatically installed and are no longer required:
  libcdio18 libmpdec2 libprotobuf22 libx264-155 libx264-159 openjdk-8-jre
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 281 not upgraded.
gloria@kali:~$
```

Login into smb server by smbclient and test some commands

```
gloria@kali:~$ smbclient //localhost/debby -U debby
Enter WORKGROUP\debby's password:
Try "help" to get a list of possible commands.
smb: \> pwd
Current directory is \\localhost\debby\
smb: \> mkdir FU_test
smb: \> cd FU_test
smb: \FU_test\> cat FU_1.txt
cat: command not found
smb: \FU_test\> cd..
cd..: command not found
smb: \FU_test\> cd
Current directory is \FU_test\
smb: \FU_test\> ls
.                               D                0  Mon Oct 12 23:53:52 2020
..                              D                0  Mon Oct 12 23:53:52 2020

      104708920 blocks of size 1024. 85185860 blocks available
smb: \FU_test\> cd
Current directory is \FU_test\
smb: \FU_test\> exit
gloria@kali:~$
```

Result: The package management system is studied and executed.

Video Link: <https://youtu.be/AaRuUPypNWl>