

Lab - Configuring Samba in Linux Using Webmin

Overview

In this lab, you will learn to configure Samba using the Webmin GUI Administrative Console. Samba is a suite of Unix applications that communicate using the Server Message Block (SMB) protocol. Microsoft Windows operating systems and the OS/2 operating system use SMB to perform client-server networking for file and printer sharing and associated operations. By supporting this protocol, Samba enables computers running Linux to communicating with the same networking protocol as Microsoft Windows and appearing as another Windows system on the network from the perspective of a Windows client.

Hardware Requirements

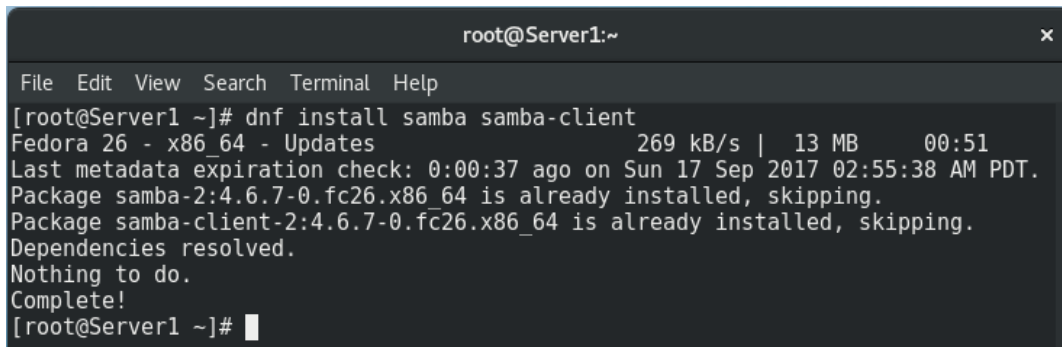
- One VM running Linux Fedora
- One VM running either a Windows or Linux client. (optional)

Begin the lab

- Logon to your Linux server as Root.
- Open a terminal window.

Type the following command to determine if samba is (if not, it will install)

```
dnf install samba samba-client
```



```
root@Server1:~  
File Edit View Search Terminal Help  
[root@Server1 ~]# dnf install samba samba-client  
Fedora 26 - x86_64 - Updates                269 kB/s | 13 MB    00:51  
Last metadata expiration check: 0:00:37 ago on Sun 17 Sep 2017 02:55:38 AM PDT.  
Package samba-2:4.6.7-0.fc26.x86_64 is already installed, skipping.  
Package samba-client-2:4.6.7-0.fc26.x86_64 is already installed, skipping.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[root@Server1 ~]#
```

Type the following command to view packages installed with samba:

```
dnf list installed | grep ^samba
```

```
root@Server1:~  
File Edit View Search Terminal Help  
[root@Server1 ~]# dnf list installed | grep ^samba  
samba.x86_64 2:4.6.7-0.fc26 @updates  
samba-client.x86_64 2:4.6.7-0.fc26 @updates  
samba-client-libs.x86_64 2:4.6.7-0.fc26 @updates  
samba-common.noarch 2:4.6.7-0.fc26 @updates  
samba-common-libs.x86_64 2:4.6.7-0.fc26 @updates  
samba-common-tools.x86_64 2:4.6.7-0.fc26 @updates  
samba-libs.x86_64 2:4.6.7-0.fc26 @updates  
samba-winbind.x86_64 2:4.6.7-0.fc26 @updates  
samba-winbind-modules.x86_64 2:4.6.7-0.fc26 @updates  
[root@Server1 ~]#
```

Check to see if Samba is permitted through the firewall.

```
firewall-cmd --permanent --add-service=samba
```

```
root@Server1:~  
File Edit View Search Terminal Help  
[root@Server1 ~]# firewall-cmd --permanent --add-service=samba  
Warning: ALREADY_ENABLED: samba  
success  
[root@Server1 ~]#
```

If access is not already present, you will need to reload the firewall:

```
firewall-cmd --reload
```

```
root@Server1:~  
File Edit View Search Terminal Help  
[root@Server1 ~]# firewall-cmd --reload  
success  
[root@Server1 ~]#
```

Create a testuser and password for a Samba user:

```
useradd testuser
```

```
root@Server1:~  
File Edit View Search Terminal Help  
[root@Server1 ~]# useradd testuser  
[root@Server1 ~]#
```

Type the following to see if the new user is in the passwd file of the Linux OS:

```
cat /etc/passwd
```

```
gnome-initial-setup:x:984:981::/run/gnome-initial-setup:/sbin/nologin
named:x:25:25:Named:/var/named:/sbin/nologin
dhcpd:x:177:177:DHCP server:/sbin/nologin
testuser:x:1001:1001::/home/testuser:/bin/bash
[root@Server1 ~]#
```

Create a samba user and its password by typing the following:
(the user acct must be in the passwd file before you can add him to Samba passwd file)

```
smbpasswd -a testuser
```

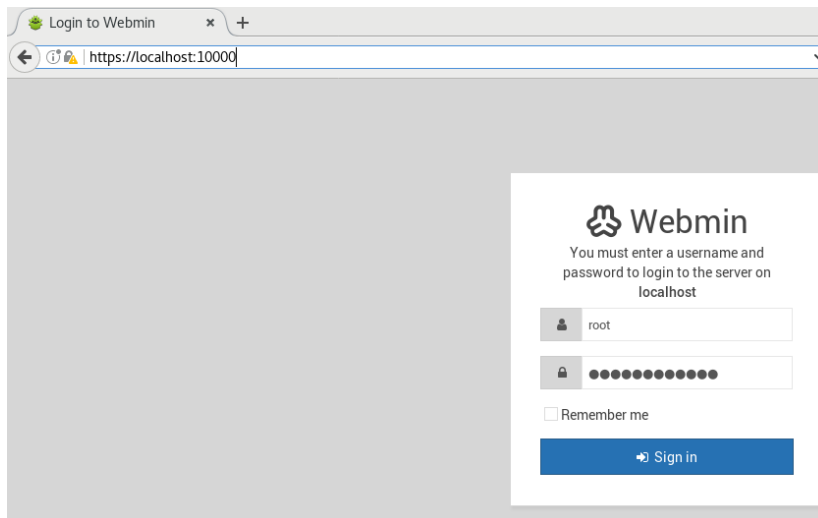
```
[root@Server1 ~]# smbpasswd -a testuser
New SMB password:
Retype new SMB password:
Added user testuser.
[root@Server1 ~]#
```

Remember the user and password you just created!

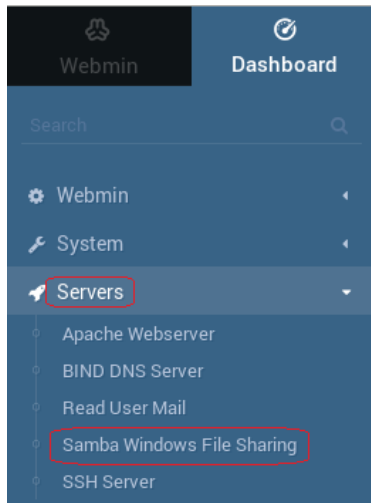
Open Firefox and access your Webmin page by typing

```
https://localhost:10000
```

Logon as root with your root password.

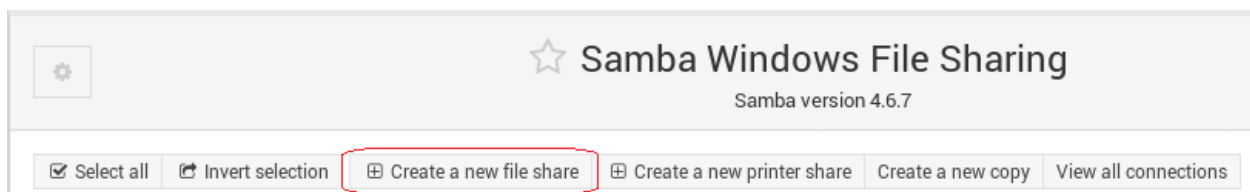


From the Dashboard menu on the left, scroll down until you get to Servers. Expand and scroll down the list of available servers until you get to Samba Windows File Sharing.

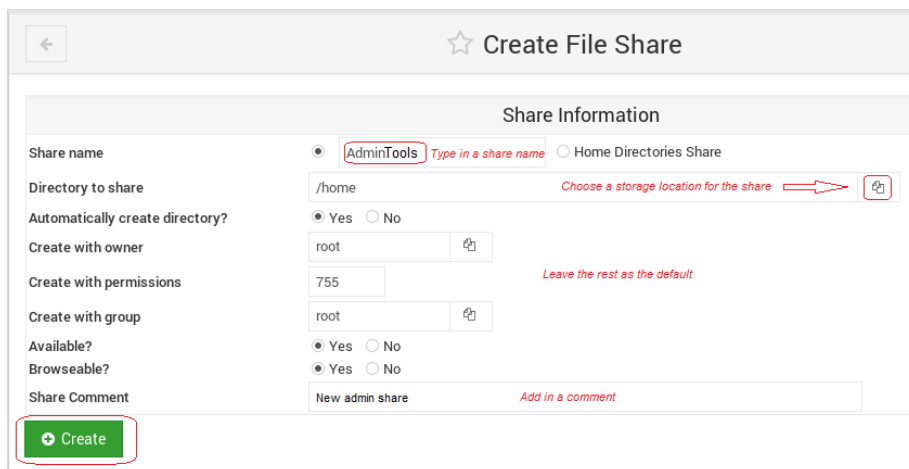


X2 click on the link for Samba Windows File Sharing, and it installs and opens.

Click on the + icon to create a new share.



1. Click on the Create a New File Share from the top section (see Figure 2).
2. In the new window, you will need to enter the following information:
 - a. Share name: Give your share a name.
 - b. Directory to share: Choose the directory you want to share.
 - a. Comment: Add a comment if needed.
 - b. Leave the rest as default (we will change some of this next).
 - c. Click Create.



Filter ×				
	bin	48 kB	13/Sep/2017	20:26
	boot	3 kB	09/Sep/2017	02:40
	dev	3.75 kB	17/Sep/2017	02:47
	etc	8 kB	17/Sep/2017	02:54
	home	43 bytes	10/Feb/2017	07:54
	lib	4 kB	09/Sep/2017	02:33
	lib64	96 kB	12/Sep/2017	00:33
	media	6 bytes	10/Feb/2017	07:54

This brings you back at the Share listing. Click on your newly created share to access the advanced configurations. When your share opens, you will find, ‘Other Share Options.’

- Security and Access control
- File Permissions
- File Naming
- Miscellaneous Options

Other Share Options



Click on Security and Access control. In this window, do the following:

- Make sure the share is writable.
- If you want to allow, guest access make sure it is checked.
- If you want to change host access, do so in hosts to allow and hosts to deny.
- If you want to add valid users, enter the users in the Valid users listing.

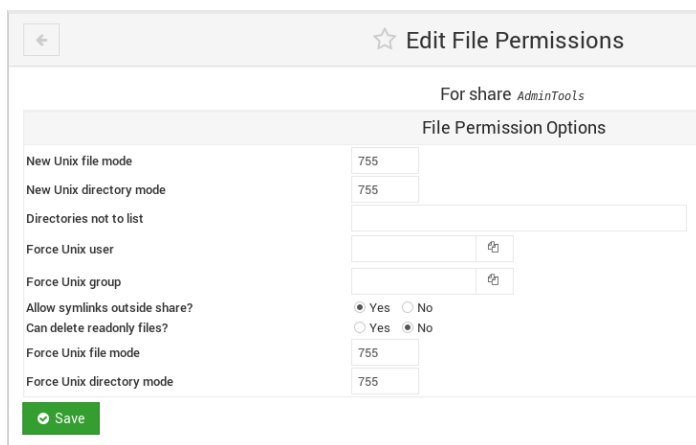
Security and Access Control	
Writable?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Guest Access?	<input checked="" type="radio"/> None <input type="radio"/> Yes <input type="radio"/> Guest only
Guest Unix user	<input type="text" value="nobody"/>
Limit to possible list?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Hosts to allow	<input checked="" type="radio"/> All <input type="radio"/> Only allow <input type="text"/>
Hosts to deny	<input checked="" type="radio"/> None <input type="radio"/> Only deny <input type="text"/>
Revalidate users?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Valid users	<input type="text" value="root"/>

Once configured, click Save and return to your share setup page.

Click File Permissions is the next section. In this window, there are four options you need to check:

- New Unix File mode
- New Unix directory mode
- Force Unix file mode
- Force Unix directory mode

If you want your users to have both read and write access to the share, you need to set these to 755. Once you are done, click Save.



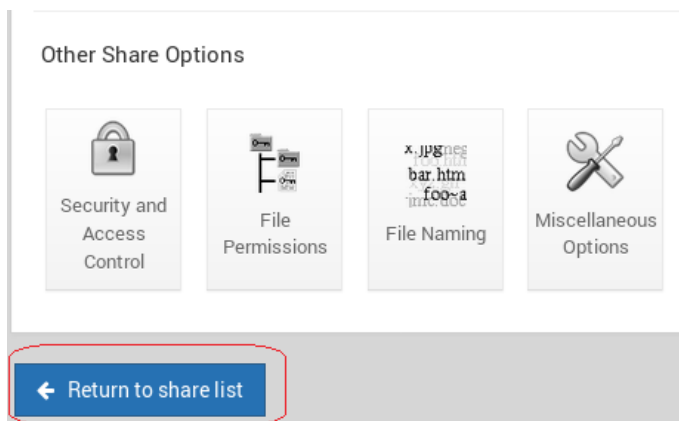
The screenshot shows the 'Edit File Permissions' window for the share 'AdminTools'. The window has a title bar with a back arrow and the title 'Edit File Permissions'. Below the title bar, it says 'For share AdminTools'. The main section is titled 'File Permission Options' and contains several settings:

- New Unix file mode: 755
- New Unix directory mode: 755
- Directories not to list: (empty text box)
- Force Unix user: (empty text box with a user icon)
- Force Unix group: (empty text box with a group icon)
- Allow symlinks outside share?: ☒ Yes ☐ No
- Can delete readonly files?: ☐ Yes ☒ No
- Force Unix file mode: 755
- Force Unix directory mode: 755

At the bottom left, there is a green 'Save' button with a checkmark icon.

Once you have your Share complete, there is but one step left: add users to Samba.

Click 'Return to Share List' just under the Other Share Option tiles. Scroll down and find the section for Samba Users.



The screenshot shows the 'Other Share Options' section. It contains four tiles: 'Security and Access Control' (with a lock icon), 'File Permissions' (with a folder icon), 'File Naming' (with a file icon), and 'Miscellaneous Options' (with a wrench icon). Below these tiles, there is a blue button with a back arrow and the text 'Return to share list', which is highlighted with a red rectangle.

Samba Users



Click on the Convert Users link. On the next page, click the Convert Users button add all your existing users to the Samba system. This ensures all users will have to access your Samba shares.

A web form titled 'Convert Users' with a back arrow in the top left. Below the title is a paragraph explaining the form's purpose. The form contains several sections: 'Unix users to convert' with two radio button options and a text input field; 'Update existing Samba users from their Unix details' with a radio button; 'Add new Samba users from the Unix user list' with a radio button; 'Delete Samba users who do not exist under Unix' with a radio button; and 'For newly created users, set the password to:' with three radio button options and a text input field. At the bottom left, the 'Convert Users' button is highlighted with a red box.

Return to the main screen, scroll to the bottom, and click the Restart Samba Server Button.

Restart Samba Servers

Click this button to restart the running Samba servers on your system. This will force the current configuration to be applied. This will also disconnect any connections to the server, so if you do not want the current configuration to be applied immediately you should just wait 1 minute until Samba reloads the configuration automatically.

Stop Samba Servers

Click this button to shut down the running Samba servers on your system. All currently logged in users will be forcibly disconnected.

Configure Samba to start at boot

By default, each time you restart your Samba server, you will have to restart the Samba service. The more practical way to remedy this would be to have Samba start at boot. To enable Samba to start at boot, open a terminal and type in the following command:

```
chkconfig smb on
```

```
root@Server1:~  
File Edit View Search Terminal Help  
[root@Server1 ~]# chkconfig smb on  
Note: Forwarding request to 'systemctl enable smb.service'.  
Created symlink /etc/systemd/system/multi-user.target.wants/smb.service → /usr/lib/systemd/system/smb.service.  
[root@Server1 ~]#
```

Testing for syntax errors

The main file for Samba is the smb.conf file. If you have Samba issues, this is where you should start looking. Just as we can test for syntax errors for DHCP and other services, the same applies with Samba. To test for syntax errors within the smb.conf file, type the following at the terminal prompt:

testparm

```
root@Server1:~  
File Edit View Search Terminal Help  
[root@Server1 ~]# testparm  
Load smb config files from /etc/samba/smb.conf  
rlimit_max: increasing rlimit_max (1024) to minimum Windows limit (16384)  
Processing section "[homes]"  
Processing section "[printers]"  
Processing section "[print$]"  
Processing section "[AdminShare]"  
Processing section "[Testshare]"  
Unknown parameter encountered: "diretcory mode"  
Ignoring unknown parameter "diretcory mode"  
Processing section "[AdminTools]"  
Loaded services file OK.  
Server role: ROLE_STANDALONE  
  
Press enter to see a dump of your service definitions
```

Few things you should remember

- 1) If you add a new user to the system, don't forget to convert that user to a Samba user.
- 2) If you need to add a new user to share access, don't forget to do so through the Security and Access window of the share.

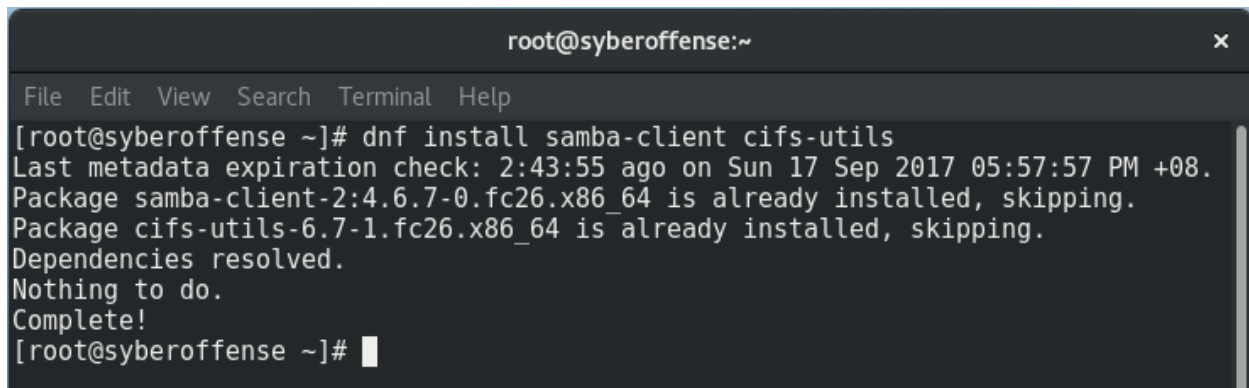
3) If you have Windows users that need to access shares, make sure they have an account on the Samba server that matches (both username and password) on the Windows machine. NOTE: This is only necessary when using SECURITY = USER

Testing your Samba Server

Login to your Linux client as root.

Open a terminal window and install the Samba client using the following command:

```
dnf install samba-client cifs-utils
```



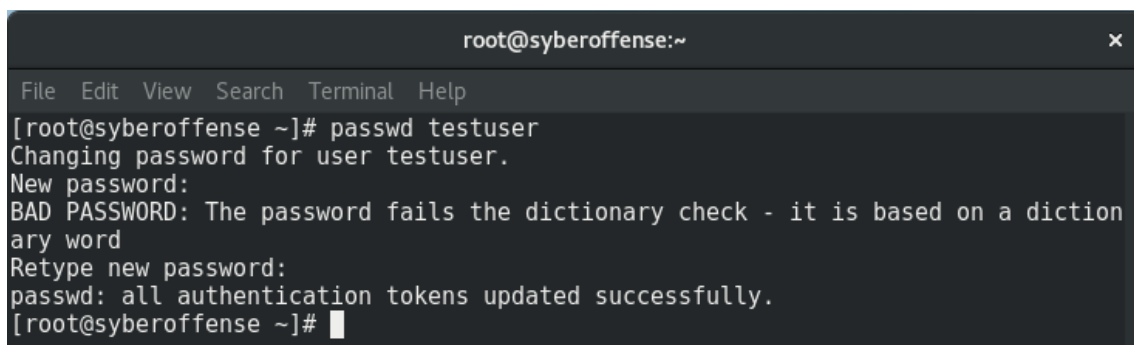
```
root@syberoffense:~  
File Edit View Search Terminal Help  
[root@syberoffense ~]# dnf install samba-client cifs-utils  
Last metadata expiration check: 2:43:55 ago on Sun 17 Sep 2017 05:57:57 PM +08.  
Package samba-client-2:4.6.7-0.fc26.x86_64 is already installed, skipping.  
Package cifs-utils-6.7-1.fc26.x86_64 is already installed, skipping.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[root@syberoffense ~]#
```

Create the same testuser account that was created on the server earlier by typing the following:

```
useradd testuser
```

Use the same password you for the testuser you created earlier:

```
passwd testuser
```



```
root@syberoffense:~  
File Edit View Search Terminal Help  
[root@syberoffense ~]# passwd testuser  
Changing password for user testuser.  
New password:  
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word  
Retype new password:  
passwd: all authentication tokens updated successfully.  
[root@syberoffense ~]#
```

Type the following on the client to see a list of shares on the server:

```
smbclient -L //192.168.145.136/admin tools -U testuser
```

(where 192.168.145.136 is the IP address of the server and admintools is share name)

This is my IP address, not yours! Your's will differ! Go back to the Samba server and do an IFCONFIG from the terminal.

Success!

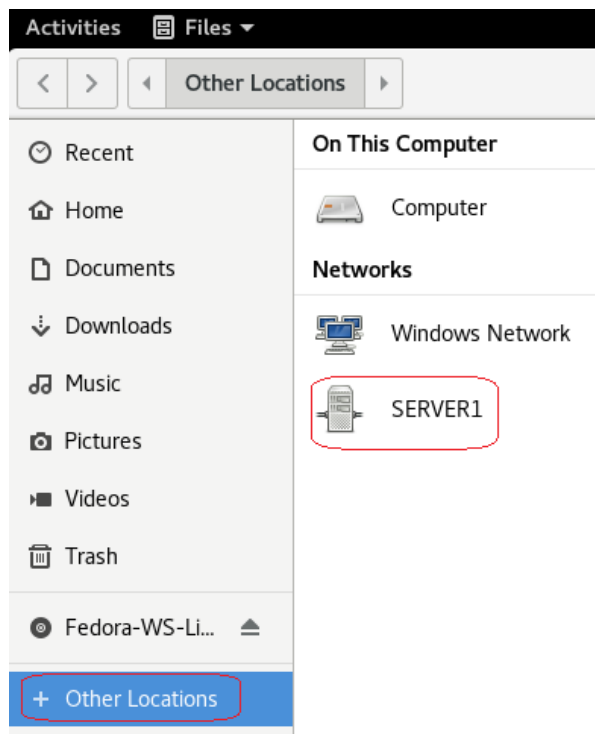
```
root@syberoffense:~  
File Edit View Search Terminal Help  
[root@syberoffense ~]# smbclient -L //192.168.145.136/ -U testuser  
Enter SAMBA\testuser's password:  
Domain=[SERVER1] OS=[Windows 6.1] Server=[Samba 4.6.7]  
  
Sharename      Type      Comment  
-----      -  
print$        Disk      Printer Drivers  
AdminShare     Disk      New Shared folder for Administrator  
Testshare      Disk  
AdminTools     Disk  
IPC$          IPC       IPC Service (Samba 4.6.7)  
testuser       Disk      Home Directories  
Domain=[SERVER1] OS=[Windows 6.1] Server=[Samba 4.6.7]  
  
Server          Comment  
-----  
Workgroup       Master  
-----  
SMB          SERVER1  
WORKGROUP    EXPAT-01  
[root@syberoffense ~]#
```

Close out the terminal.

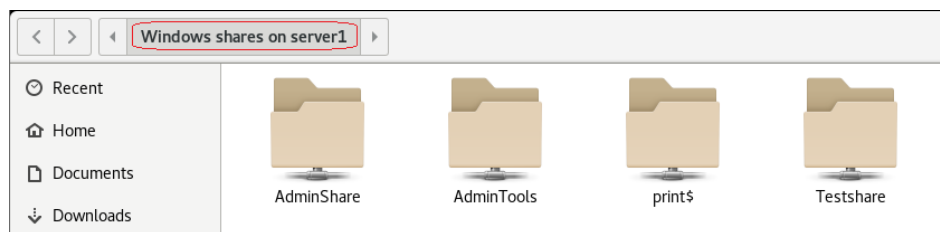
From the desktop, click on Activities. From the quick launch bar, click on the files.



Click on Other Locations.

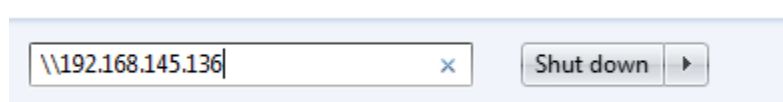


Click on your Samba server.



You can access the shares on a Samba server same as you do on a Windows network.

Again, for this to work, there must be a username using the same password that is present on the Samba server. From the search bar or the run line, type `\\<IP address of Samba server>`



You will be prompted for the username and password. To make the share show up as a mapped drive, find the Samba share you want, right click and select Map Network.

Summary

In this lab, you learned how to build a Samba server, create a share, add Samba users and access a Samba server from a client. Since Samba uses SMB, this is file service that works for both Linux and Windows clients.

End of the lab!