

CIS232 –Homework – Samba One

Requirements of the Assignment

- The objective of this assignment is to configure your OpenSuse Server as a Samba Server and configure a Windows 10 virtual operating system (provided by me) as a Samba Client.
- This assignment will require you to access the Linux samba shares from the Windows client as well as from the Linux client. The second samba assignment will concentrate on accessing Windows samba shares from a Linux client.
- **You must use an OpenSuse Linux 15.1 for this assignment. The server must be configured with DDNS, DHCP & NAT.** I must have checked your 15.1 system before working on this assignment.
- Configure your Linux Server as a Samba Server. When configuring,
 - Samba must be configured to start at boot
 - Samba must be configured as part of a Workgroup . The workgroup name must be CIS232.BCC.
 - Disable the following shares: groups, profiles and users (don't delete them, just disable them)
- I've added a Windows 10 virtual machine to your VMWare folder. The Administrator's password on the machine is Microsoft! Do not change it.
- Create two new groups on the Linux Server: Marketing and Accounting
- Create 4 new users on the Linux Server; make 2 of the users members of the Marketing group and 2 members of the Accounting group. One user should not be a member of both groups.
- Create 4 corresponding users on the Windows 10 machine.
- On the Linux Server, create a folder named **Marketing** at the root of the drive. The folder must be configured as follows:
 - Linux permissions must be configured such that the owner and the Marketing group have full rights to the folder; all others have read access. The files and folders written to the folder must be assigned to the marketing group and must be available to all members of that group; all marketing group members must be able to view, change or delete any file placed in the folder. Other users should only be able to read the files that are there.

The folder must also be configured as a samba share. Files *written to this folder from a samba client* must be configured such that the owner and marketing group can read and write to the file while all others can only read; no one should have execute permissions to a file. Folders *created in this folder from a samba client* must be configured such that the owner and the group can read, write and navigate into the folder while all others can read and navigate into the folder.
- On the Linux Server, create a folder named **Accounting** at the root of the drive. The folder must be configured as follows:
 - Linux permissions must be configured such that the owner and the Accounting group have full rights to the folder; all others have local read access. The files and folders written to the folder must be assigned to the Accounting group and must be available to all members of that group; all Accounting group members must be able to view, change or delete any file placed in the folder. Other users should only be able to read the files that are there.

The folder must also be configured as a samba share. Only the owner and members of the Accounting Group should have remote access to this share. (The owner should be root.) Files *written to this folder from a samba client* must be configured such that the owner and Accounting group can read and write to the folder; the execute permission must not be assigned for anyone to any file. Others should have no rights. Folders *created in this folder from a samba client* must be configured such that the owner and the group can read, write and navigate into the folder while all others have no rights to the folder.

Additional requirements of the Accounting folder/share:

- Any files or folders that are named payroll or have payroll as part of their name should not be visible *or accessible* while at the samba client.
 - When a user other than root or a user who is a member of the accounting group attempts to access this share while at a Windows client, an authentication screen must appear (as opposed to an error message).
- On the Linux Server, create a folder named **secretstuff**. Configure the linux security such that root has full access locally and from a samba client; no one else should have access. In addition, using an smb.conf file entry, configure this share to be hidden.
 - On the Linux Server, create a folder named publicstuff. Configure the linux security such that anyone has full access locally and from a samba client.
 - Create all necessary accounts / passwords to test the security of all shares.

After you have configured and tested everything, answer the following questions and provide screenshots where appropriate.

1. Explain, *in detail*, how you tested each aspect of each of the shares. Please be clear and concise and use complete sentences in your answers.

At the Linux Samba Server:

2. I need to see the entire contents of the /etc/samba/smb.conf file. A single screenshot won't work here because the file is more than one screen of information. You can either, do two screenshots or email yourself the file and copy its contents to your word document. I don't want the smb.conf file as a separate attachment.
3. Use the pdbedit command to display the contents of the tdb database.
4. Provide the exact syntax for two different commands that could be used to delete a samba user.
5. Execute the *commands* that will show the current status of the samba daemons on the server. Your answer must include each command and its output.
6. Show me the last 10 or so lines from the /etc/passwd file. I need to see the 4 new users created in this assignment.
7. Show me the last 10 or so lines from the /etc/group file. I need to see the 2 groups created in this assignment.
8. Display the linux permissions assigned to each of the 3 shared folders created in this assignment.
9. Use the ifconfig command to show me the server's ip address.

10. **Fill in** and expand the below table. Provide the specified information for root and for each of the 4 users created in this assignment. Your answer must include the table.

Linux Username	Linux Password	Samba password	Microsoft Username	Microsoft Password	Group he/she belongs to

At the Windows client machine, execute the following commands:

11. Execute the `ipconfig /all` command and include its output as your answer to this question.
12. Execute the `net user` command and include its output as your answer.
13. While at the Windows Client, login as the Windows Administrator and browse to your Linux Samba server. I want to see the list of shares that are visible BEFORE authenticating.
 - a) Show me the visible shares that exist within the Samba Server *before* authenticating.
 - b) Authenticate as one of your samba users. What username and password did you use?
 - c) Show me the visible shares that exist within the Samba Server *after* authenticating.
14. While at the Linux Server, create a file or two in the secretstuff folder then login at the Windows machine as the windows Administrator and display the contents of the secretstuff share.
 - a) From the Linux server, show me the contents of the secret stuff folder.
 - b) While at the Windows machine, show me the contents of the secretstuff folder.
 - c) Explain how you accessed the secretstuff folder while at the Windows machine.
15. While at the Linux server, create a file named payroll.txt in the Accounting folder and create a folder named payroll in the Accounting folder. Login at the Windows machine and connect to the accounting share as a user who is a member of the Accounting group. Display the contents of the Accounting share.
 - a) From the Linux server, show me the contents of the Accounting folder.
 - b) While at the Windows machine, show me the contents of the Accounting folder.
16. While at the Linux Client, create mount points for each of the samba shares created in this assignment and use the mount.cifs command to mount each to their respective folders.
 - a. What command did you use to mount the accounting share?
 - b. What command did you use to mount the marketing share?
 - c. What command did you use to mount the secretstuff share?
 - d. What command did you use to mount the publicstuff share?
 - e. After successfully mounting each of the shares, show me the output to the mount command which confirms they successfully mounted (please grep the mount command to display only the folders mounted from the server).
17. Create a batch file that will be used to establish a drive mapping to a user's linux home folder when logged in at the Windows computer. The script should be written so that it would work for all users. Configure the script to run when a user logs on. Test this with at least one user. The user should have the drive mapped after logging in at Windows; they should not have to enter any additional credentials.

- a) Show me the contents of your batch file. If you used the server's name in the mapping, include the contents of the hosts file.
- b) Explain, in detail, how you configured the batch file to execute when any user logs on. Provide the necessary screenshots that show me how you configured this.
- c) If you haven't already shown me this in your screenshots for question 17b, show me the location of the batch file that is processed at logon on Windows 10. A screenshot of the folder in Windows Explorer works here but make sure the address bar is visible in the screenshot so that I can see the absolute path.
- d) Provide the Windows credentials for this user: Username and password
- e) Provide the Linux credentials for this user: Username, Linux Password, Samba Password.

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Linux User	Linux Password	Samba password	Microsoft Username	Microsoft Password
Tom	Password!	Microsoft!	Thomas	Password!
Dick	Baseball!	Microsoft!	Dick	Microsoft!
Harry	Fishing!	Samba	Harry	Fishing!
root	Novell	Samba	Administrator	Microsoft!

Refer to the above table when answering the below questions:

- a. If Thomas logs in at the Windows computer and browses to the Samba Server in his workgroup, what username and password can he use to authenticate?
- b. If Harry logs in at the Windows computer and browses to the Samba Server in his workgroup, since his Linux and Microsoft passwords are the same, he will not be required to authenticate, the authentication will happen transparently. Is this a true or false statement? Explain your answer.
- c. If Dick logs in at the Windows computer and browses to the Samba Server in his workgroup, since his Samba and Microsoft passwords are the same, he will not be required to authenticate, the authentication will happen transparently. Is this a true or false statement? Explain your answer.
- d. If the Administrator is logged in at the windows computer and wishes to access a samba share as root, what username and password must he/she use?