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Exercise 1 – SAMBA Server Installation and configuration

Installation of SAMBA Server

Use the root account to complete this exercise

Exercise 1.1: Tasks to Perform on AlmaLinux:

1. Install the **SAMBA server** and its dependencies.

```
[root@server1 /]# dnf install-y samba
No such command: install-y. Please use /usr/bin/dnf --help
It could be a DNF plugin command, try: "dnf install 'dnf-command(install-y)'"
[root@server1 /]# dnf install -y samba
Last metadata expiration check: 2:44:37 ago on Wed 02 Apr 2025 10:07:52 AM.
Dependencies resolved.
================================================================================
 Package                 Architecture  Version                 Repository   Size
================================================================================
Installing:
 samba                   x86_64        4.20.2-2.el9_5.alma.1   baseos      938 k
Installing dependencies:
 libnetapi               x86_64        4.20.2-2.el9_5.alma.1   baseos      142 k
 samba-common-tools      x86_64        4.20.2-2.el9_5.alma.1   baseos      482 k
 samba-dcerpc            x86_64        4.20.2-2.el9_5.alma.1   baseos      716 k
 samba-ldb-ldap-modules  x86_64        4.20.2-2.el9_5.alma.1   baseos       27 k
 samba-libs              x86_64        4.20.2-2.el9_5.alma.1   baseos      123 k

Transaction Summary
================================================================================
Install  6 Packages
```

2. Start and enable the **SAMBA service**.

   systemctl enable - -now smb

3. Verify that the SAMBA service is both **active** and **enabled.**

   systemctl status smb

```
[root@server1 /]#
[root@server1 /]# systemctl enable --now smb
Created symlink /etc/systemd/system/multi-user.target.wants/smb.service → /usr/lib/systemd/system/smb.service.
[root@server1 /]#
[root@server1 /]# systemctl status sm
smartcard.target  smartd.service    smb.service
[root@server1 /]# systemctl status smb
● smb.service - Samba SMB Daemon
     Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
     Active: active (running) since Wed 2025-04-02 12:54:14 EDT; 20s ago
       Docs: man:smbd(8)
             man:samba(7)
             man:smb.conf(5)
   Main PID: 62894 (smbd)
     Status: "smbd: ready to serve connections..."
      Tasks: 3 (limit: 22829)
     Memory: 18.8M
        CPU: 46ms
     CGroup: /system.slice/smb.service
             ├─62894 /usr/sbin/smbd --foreground --no-process-group
             ├─62897 /usr/sbin/smbd --foreground --no-process-group
             └─62898 /usr/sbin/smbd --foreground --no-process-group

Apr 02 12:54:13 server1 systemd[1]: Starting Samba SMB Daemon...
Apr 02 12:54:14 server1 smbd[62894]: [2025/04/02 12:54:14.007170,  0] ../../source3/smbd/server.c:1746(main)
Apr 02 12:54:14 server1 smbd[62894]:   smbd version 4.20.2 started.
Apr 02 12:54:14 server1 smbd[62894]:   Copyright Andrew Tridgell and the Samba Team 1992-2024
Apr 02 12:54:14 server1 systemd[1]: Started Samba SMB Daemon.
[root@server1 /]#
```

4. Authorize the SAMBA service in the **firewall**.

firewall-cmd –permanent --add-service=samba –zone-nm=shared

firewall-cmd –reload

5. Verify that the necessary services have been added and allowed through the firewall.

firewall-cmd –list-services –zone=nm-shared

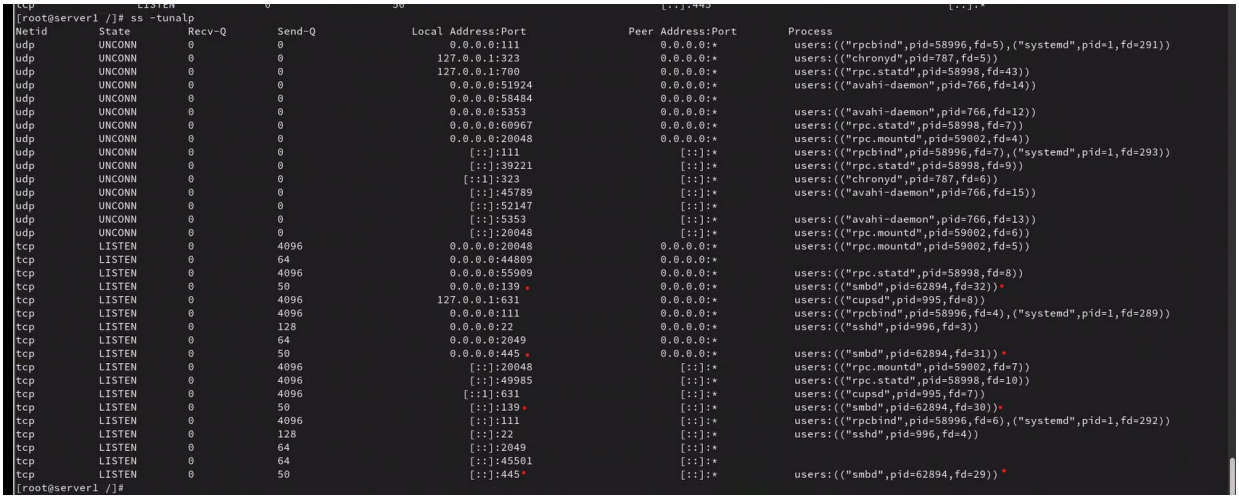
```
[root@server1 /]#
[root@server1 /]# firewall-cmd --permanent --add-service=samba --zone=nm-shared
success
[root@server1 /]# firewall-cmd --reload
success
[root@server1 /]# firewall-cmd --list-s
--list-services      --list-source-ports  --list-sources
[root@server1 /]# firewall-cmd --list-services --zone=nm-shared
dhcp dns mountd nfs rpc-bind samba ssh
[root@server1 /]#
```

6. List all **TCP** and **UDP** ports currently listening on the server.

netstat -tunap

```
[root@server1 /]# netstat  -tunap
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 0.0.0.0:20048           0.0.0.0:*               LISTEN      59002/rpc.mountd
tcp        0      0 0.0.0.0:44809           0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:55909           0.0.0.0:*               LISTEN      58998/rpc.statd
tcp        0      0 0.0.0.0:139             0.0.0.0:*               LISTEN      62894/smbd
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN      995/cupsd
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN      1/systemd
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      996/sshd: /usr/sbin
tcp        0      0 0.0.0.0:2049            0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:445             0.0.0.0:*               LISTEN      62894/smbd
tcp6       0      0 :::20048                :::*                    LISTEN      59002/rpc.mountd
tcp6       0      0 :::49985                :::*                    LISTEN      58998/rpc.statd
tcp6       0      0 ::1:631                 :::*                    LISTEN      995/cupsd
tcp6       0      0 :::139                  :::*                    LISTEN      62894/smbd
tcp6       0      0 :::111                  :::*                    LISTEN      1/systemd
tcp6       0      0 :::22                   :::*                    LISTEN      996/sshd: /usr/sbin
tcp6       0      0 :::2049                 :::*                    LISTEN      -
tcp6       0      0 :::45501                :::*                    LISTEN      -
tcp6       0      0 :::445                  :::*                    LISTEN      62894/smbd
udp        0      0 0.0.0.0:111             0.0.0.0:*                           1/systemd
udp        0      0 127.0.0.1:323           0.0.0.0:*                           787/chronyd
udp        0      0 127.0.0.1:700           0.0.0.0:*                           58998/rpc.statd
udp        0      0 0.0.0.0:51924           0.0.0.0:*                           766/avahi-daemon: r
udp        0      0 0.0.0.0:58484           0.0.0.0:*                           -
udp        0      0 0.0.0.0:5353            0.0.0.0:*                           766/avahi-daemon: r
udp        0      0 0.0.0.0:60967           0.0.0.0:*                           58998/rpc.statd
udp        0      0 0.0.0.0:20048           0.0.0.0:*                           59002/rpc.mountd
udp        0      0 192.168.204.128:68      192.168.204.254:67      ESTABLISHED 972/NetworkManager
udp6       0      0 :::111                  :::*                                1/systemd
udp6       0      0 :::39221                :::*                                58998/rpc.statd
udp6       0      0 ::1:323                 :::*                                787/chronyd
udp6       0      0 :::45789                :::*                                766/avahi-daemon: r
udp6       0      0 :::52147                :::*                                -
udp6       0      0 :::5353                 :::*                                766/avahi-daemon: r
udp6       0      0 :::20048                :::*                                59002/rpc.mountd
[root@server1 /]#
```

ss -tuanlp

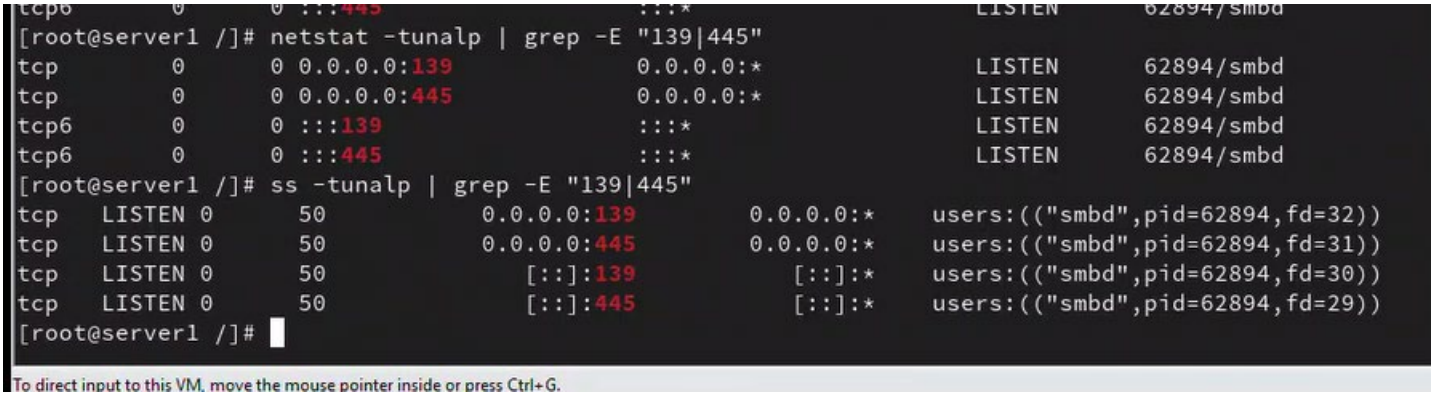


7. Identify the **TCP port numbers** used by SAMBA services.

   Port 445 and port 139

   netstat -tunalp | grep -E “139|445”

   ss -tunalp | grep -E “139|445”



SAMBA Server Configuration

Use the root account to complete this exercise

Exercise 1.2: Tasks to Perform on AlmaLinux:

1. Create the directory **/Samba/General**.

   mkdir -p /Samba/General

chmod -R 777 /Samba/General/

chown -R 777 /Samba/General/

chcon -t samba_share_t /Samba/General/

```
[root@server1 /]#
[root@server1 /]# chmod -R 777 /Samba/General/
[root@server1 /]# chown -R 777 /Samba/General/
[root@server1 /]# chcon -t samba_share_t /Samba/General/
[root@server1 /]#
[root@server1 /]# ls -lZd /Samba/
drwxr-xr-x. 3 root root unconfined_u:object_r:default_t:s0 21 Apr  2 21:01 /Samba/
[root@server1 /]#
```

2. Configure the **SAMBA service** to share the **/Samba/General** directory, accessible from SAMBA clients **without requiring a password (guest access).**

   vim /etc/samba/smb.conf

   Add:

   In section

```
[global]
 Map to guest = Bad User
[Public]
    comment = Public Share
    path = /Samba/General
         browsable = yes
         writable = yes
         guest ok = yes
         read only = no
    force user = nobody
```

```
# See smb.conf.example for a more detailed config file or
# read the smb.conf manpage.
# Run 'testparm' to verify the config is correct after
# you modified it.
#
# Note:
# SMB1 is disabled by default. This means clients without support for SMB2 or
# SMB3 are no longer able to connect to smbd (by default).

[global]
        workgroup = SAMBA
        security = user

        passdb backend = tdbsam
        map to guest = Bad User
        printing = cups
        printcap name = cups
        load printers = yes
        cups options = raw

[homes]
        comment = Home Directories
        valid users = %S, %D%w%S
        browseable = No
        read only = No
        inherit acls = Yes

[printers]
        comment = All Printers
        path = /var/tmp
        printable = Yes
        create mask = 0600
        browseable = No

[print$]
        comment = Printer Drivers
        path = /var/lib/samba/drivers
        write list = @printadmin root
        force group = @printadmin
        create mask = 0664
        directory mask = 0775

[Public]
        comment = Public Share
        path = /Samba/General
        browsable = yes
        writable = yes
        guest ok = yes
        read only = no
        force user = nobody
  INSERT
```

3. Run a command to validate the SAMBA server configuration.

```
[root@server1 /]# testparm
Load smb config files from /etc/samba/smb.conf
Loaded services file OK.
Weak crypto is allowed by GnuTLS (e.g. NTLM as a compatibility fallback)

Server role: ROLE_STANDALONE

Press enter to see a dump of your service definitions

# Global parameters
```

4. Restart the **smb service** to apply the configuration changes.

```
[root@server1 /]# systemctl restart smb
[root@server1 /]# systemctl status smb
● smb.service - Samba SMB Daemon
     Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
     Active: active (running) since Wed 2025-04-02 21:52:39 EDT; 18s ago
       Docs: man:smbd(8)
             man:samba(7)
             man:smb.conf(5)
   Main PID: 64151 (smbd)
     Status: "smbd: ready to serve connections..."
      Tasks: 3 (limit: 22829)
     Memory: 7.0M
        CPU: 36ms
     CGroup: /system.slice/smb.service
             ├─64151 /usr/sbin/smbd --foreground --no-process-group
             ├─64154 /usr/sbin/smbd --foreground --no-process-group
             └─64155 /usr/sbin/smbd --foreground --no-process-group

Apr 02 21:52:39 server1 systemd[1]: Starting Samba SMB Daemon...
Apr 02 21:52:39 server1 smbd[64151]: [2025/04/02 21:52:39.243084,  0] ../../source3/smbd/server.c:1746(main)
Apr 02 21:52:39 server1 smbd[64151]:   smbd version 4.20.2 started.
Apr 02 21:52:39 server1 smbd[64151]:   Copyright Andrew Tridgell and the Samba Team 1992-2024
Apr 02 21:52:39 server1 systemd[1]: Started Samba SMB Daemon.
[root@server1 /]#
```

Test the SAMBA service from an Ubuntu client

Use your Ubuntu user account to complete this exercise on Ubuntu

Exercise 1.3: Tasks to Perform on Ubuntu:

1. Install the **SAMBA client** on **Ubuntu**.

   sudo apt install samba-client

```
mperez@client1:~/.ssh$ sudo apt install samba-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'smbclient' instead of 'samba-client'
The following additional packages will be installed:
  python3-gpg python3-samba python3-tdb samba-common samba-common-bin samba-dsdb-modules
Suggested packages:
  heimdal-clients python3-markdown python3-dnspython cifs-utils
The following NEW packages will be installed:
  python3-gpg python3-samba python3-tdb samba-common samba-common-bin samba-dsdb-modules smbclient
0 upgraded, 7 newly installed, 0 to remove and 14 not upgraded.
Need to get 4,827 kB of archives.
After this operation, 29.0 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ca.archive.ubuntu.com/ubuntu jammy-updates/main amd64 samba-common all 2:4.15.13+dfsg-0ubuntu1.6 [75.7 kB]
Get:2 http://ca.archive.ubuntu.com/ubuntu jammy-updates/main amd64 smbclient amd64 2:4.15.13+dfsg-0ubuntu1.6 [474 kB]
Get:3 http://ca.archive.ubuntu.com/ubuntu jammy-updates/main amd64 python3-gpg amd64 1.16.0-1.2ubuntu4.2 [214 kB]
Get:4 http://ca.archive.ubuntu.com/ubuntu jammy/main amd64 python3-tdb amd64 1.4.5-2build1 [15.5 kB]
Get:5 http://ca.archive.ubuntu.com/ubuntu jammy-updates/main amd64 python3-samba amd64 2:4.15.13+dfsg-0ubuntu1.6 [3,115 kB]
Get:6 http://ca.archive.ubuntu.com/ubuntu jammy-updates/main amd64 samba-common-bin amd64 2:4.15.13+dfsg-0ubuntu1.6 [620 kB]
Get:7 http://ca.archive.ubuntu.com/ubuntu jammy-updates/main amd64 samba-dsdb-modules amd64 2:4.15.13+dfsg-0ubuntu1.6 [313 kB]
Fetched 4,827 kB in 0s (11.5 MB/s)
Preconfiguring packages ...
Selecting previously unselected package samba-common.
(Reading database ... 204043 files and directories currently installed.)
Preparing to unpack .../0-samba-common_2%3a4.15.13+dfsg-0ubuntu1.6_all.deb
```

2. Use the SAMBA client to connect to the **General share** on the AlmaLinux server.

```
mperez@client1:~/.ssh$
mperez@client1:~/.ssh$
mperez@client1:~/.ssh$ smbclient '\\192.168.50.10\Public'
Password for [WORKGROUP\mperez]:
Try "help" to get a list of possible commands.
smb: \> ls
  .                                   D        0  Wed Apr  2 21:01:01 2025
  ..                                  D        0  Wed Apr  2 21:01:01 2025

                41877504 blocks of size 1024. 36365380 blocks available
smb: \> pwd
Current directory is \\192.168.50.10\Public\
smb: \> help
?              allinfo         altname         archive         backup
blocksize      cancel          case_sensitive  cd              chmod
chown          close           del             deltree         dir
du             echo            exit            get             getfacl
geteas         hardlink        help            history         iosize
lcd            link            lock            lowercase       ls
l              mask            md              mget            mkdir
more           mput            newer           notify          open
posix          posix_encrypt   posix_open      posix_mkdir     posix_rmdir
posix_unlink   posix_whoami    print           prompt          put
pwd            q               queue           quit            readlink
rd             recurse         reget           rename          reput
rm             rmdir           showacls        setea           setmode
scopy          stat            symlink         tar             tarmode
timeout        translate       unlock          volume          vuid
wdel           logon           listconnect     showconnect     tcon
tdis           tid             utimes          logoff          ..
!
smb: \>
```

3. Create a **test** subdirectory inside the General share.

   mkdir Test_dir_Samba

```
smb: \> mkdir Test_dir_Samba
smb: \>
```

4. Return to the **AlmaLinux** server and verify that the subdirectory **test** was created in **/Samba/General.**

```
[root@server1 General]#
[root@server1 General]# ll
total 0
drwxr-xr-x. 2 nobody nobody 6 Apr  2 22:40 Test_dir_Samba
[root@server1 General]#
```

5. While still on **AlmaLinux**, list **open ports**. Is there an active connection between the **SAMBA** server and the **Ubuntu** client?

   Yes

```
[root@server1 General]#
[root@server1 General]# netstat -tunalp
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 0.0.0.0:20048           0.0.0.0:*               LISTEN      59002/rpc.mountd
tcp        0      0 0.0.0.0:44809           0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:55909           0.0.0.0:*               LISTEN      58998/rpc.statd
tcp        0      0 0.0.0.0:139             0.0.0.0:*               LISTEN      64151/smbd
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN      995/cupsd
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN      1/systemd
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      996/sshd: /usr/sbin
tcp        0      0 0.0.0.0:2049            0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:445             0.0.0.0:*               LISTEN      64151/smbd
tcp        0      0 192.168.50.10:445       192.168.50.20:37090     ESTABLISHED 64322/smbd
tcp        0    248 192.168.204.128:22      192.168.204.1:56572     ESTABLISHED 63972/sshd: root [p
tcp6       0      0 :::20048                :::*                    LISTEN      59002/rpc.mountd
tcp6       0      0 :::49985                :::*                    LISTEN      58998/rpc.statd
tcp6       0      0 ::1:631                 :::*                    LISTEN      995/cupsd
tcp6       0      0 :::139                  :::*                    LISTEN      64151/smbd
tcp6       0      0 :::111                  :::*                    LISTEN      1/systemd
tcp6       0      0 :::22                   :::*                    LISTEN      996/sshd: /usr/sbin
tcp6       0      0 :::2049                 :::*                    LISTEN      -
tcp6       0      0 :::45501                :::*                    LISTEN      -
tcp6       0      0 :::445                  :::*                    LISTEN      64151/smbd
udp        0      0 0.0.0.0:111             0.0.0.0:*                           1/systemd
udp        0      0 127.0.0.1:323           0.0.0.0:*                           787/chronyd
udp        0      0 127.0.0.1:700           0.0.0.0:*                           58998/rpc.statd
udp        0      0 0.0.0.0:51924           0.0.0.0:*                           766/avahi-daemon: r
udp        0      0 0.0.0.0:58484           0.0.0.0:*                           -
udp        0      0 0.0.0.0:5353            0.0.0.0:*                           766/avahi-daemon: r
udp        0      0 0.0.0.0:60967           0.0.0.0:*                           58998/rpc.statd
udp        0      0 0.0.0.0:20048           0.0.0.0:*                           59002/rpc.mountd
udp        0      0 192.168.204.128:68      192.168.204.254:67      ESTABLISHED 972/NetworkManager
udp6       0      0 :::111                  :::*                                1/systemd
udp6       0      0 :::39221                :::*                                58998/rpc.statd
udp6       0      0 ::1:323                 :::*                                787/chronyd
udp6       0      0 :::45789                :::*                                766/avahi-daemon: r
udp6       0      0 :::52147                :::*                                -
udp6       0      0 :::5353                 :::*                                766/avahi-daemon: r
udp6       0      0 :::20048                :::*                                59002/rpc.mountd
[root@server1 General]#
```

6. On the **Ubuntu** client, close the established SAMBA connection.

```
smb: \> exit
mperez@client1:~/.ssh$
```

Exercise 1.4: Tasks to Perform on AlmaLinux and Windows 11:

1. On the **AlmaLinux** Server, create the directory **/Samba/Secure.**

   mkdir -p /Samba/Secure

```
[root@server1 General]#
[root@server1 General]# mkdir -p /Samba/Secure
[root@server1 General]#
```

To securely create a shared directory, you need to create a Samba system group. All users with access to the secure share will be added to this group.

Then, use the usermod command to add users, for example, mperez, to the smbgrpgroup, and set a Samba password for the user (alma)

groupadd smbgrp
usermod mperez -aG smbgrp
smbpasswd -a mperez

```
[root@server1 General]#
[root@server1 General]#
[root@server1 General]# groupadd smbgrp
[root@server1 General]# usermod mperez -aG smbgrp
[root@server1 General]# smbpasswd -a mperez
New SMB password:
Retype new SMB password:
Added user mperez.
[root@server1 General]#
```

Set the appropriate ownership and permissions to restrict access.

Update the SELinux security context to allow Samba access to the directory.

chmod -R 770 /Samba/Secure/
chgrp smbgrp /Samba/Secure/
chcon -t samba_share_t /Samba/Secure/

```
[root@server1 /]# chmod -R 770 /Samba/Secure/
[root@server1 /]# chgrp smbgrp /Samba/Secure/
[root@server1 /]# chcon -t samba_share_t /Samba/Secure/
[root@server1 /]#
```

2. Configure the **SAMBA service** to share **/Samba/Secure**, making it accessible from a **Windows 11** client using **your user credentials.**

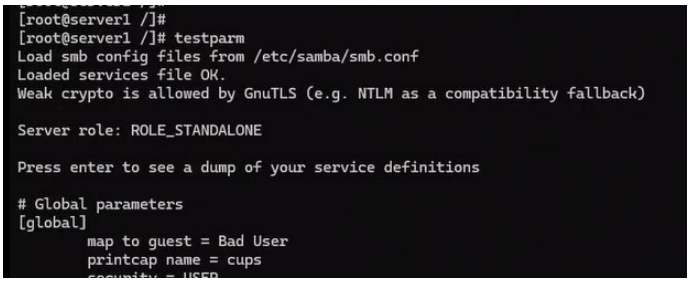
   vim /etc/samba/smb.conf

   [Secure]
   path = /Samba/Secure

browseable = yes
writable = yes
valid users = @smbgrp
read only = nd

3. Validate the SAMBA configuration file for correctness.

testparm



4. Restart the **smb service** to apply your configuration.

systemctl reload smb.service

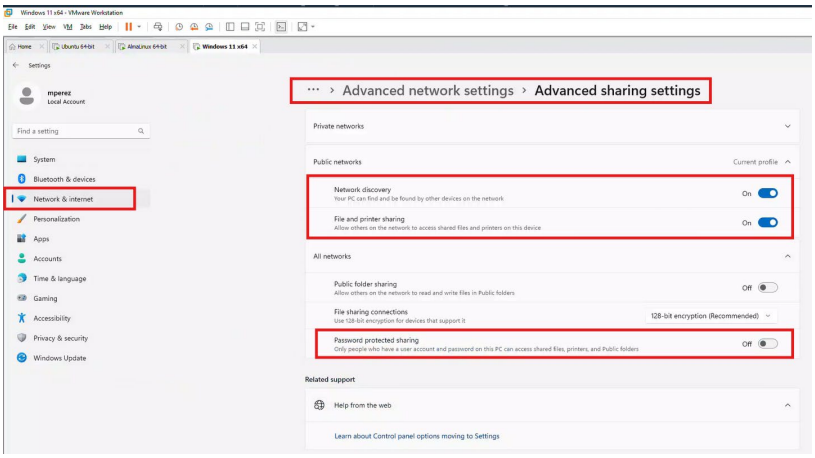
systemctl status smb.service

```
[root@server1 /]#
[root@server1 /]# systemctl reload smb.service
[root@server1 /]# systemctl status smb.service
● smb.service - Samba SMB Daemon
     Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
     Active: active (running) since Wed 2025-04-02 21:52:39 EDT; 1h 46min ago
       Docs: man:smbd(8)
             man:samba(7)
             man:smb.conf(5)
    Process: 64561 ExecReload=/bin/kill -HUP $MAINPID (code=exited, status=0/SUCCESS)
   Main PID: 64151 (smbd)
     Status: "smbd: ready to serve connections..."
      Tasks: 3 (limit: 22829)
     Memory: 8.3M
        CPU: 141ms
     CGroup: /system.slice/smb.service
             ├─64151 /usr/sbin/smbd --foreground --no-process-group
             ├─64154 /usr/sbin/smbd --foreground --no-process-group
             └─64155 /usr/sbin/smbd --foreground --no-process-group

Apr 02 21:52:39 server1 systemd[1]: Starting Samba SMB Daemon...
Apr 02 21:52:39 server1 smbd[64151]: [2025/04/02 21:52:39.243084,  0] ../../source3/smbd/server.c:1746(main)
Apr 02 21:52:39 server1 smbd[64151]:   smbd version 4.20.2 started.
Apr 02 21:52:39 server1 smbd[64151]:   Copyright Andrew Tridgell and the Samba Team 1992-2024
Apr 02 21:52:39 server1 systemd[1]: Started Samba SMB Daemon.
Apr 02 23:38:40 server1 systemd[1]: Reloading Samba SMB Daemon...
Apr 02 23:38:40 server1 systemd[1]: Reloaded Samba SMB Daemon.
[root@server1 /]#
```

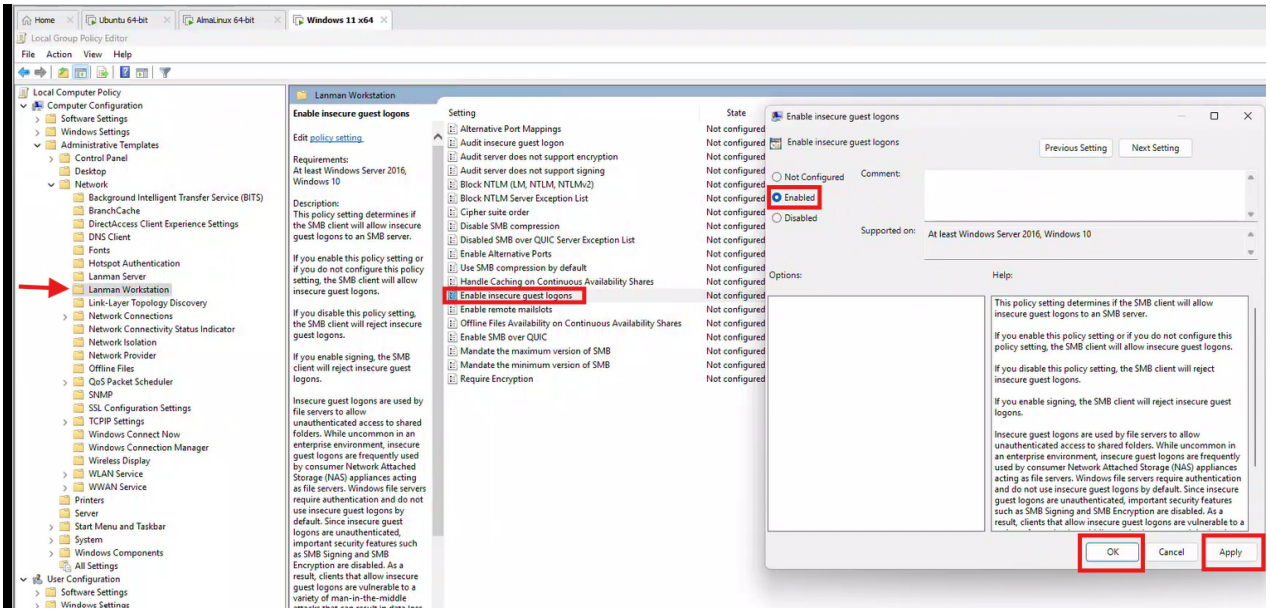
5. Test the SAMBA share from a **Windows 11** client by attempting to access the **Secure share.**

Windows 11 Change sharing settings

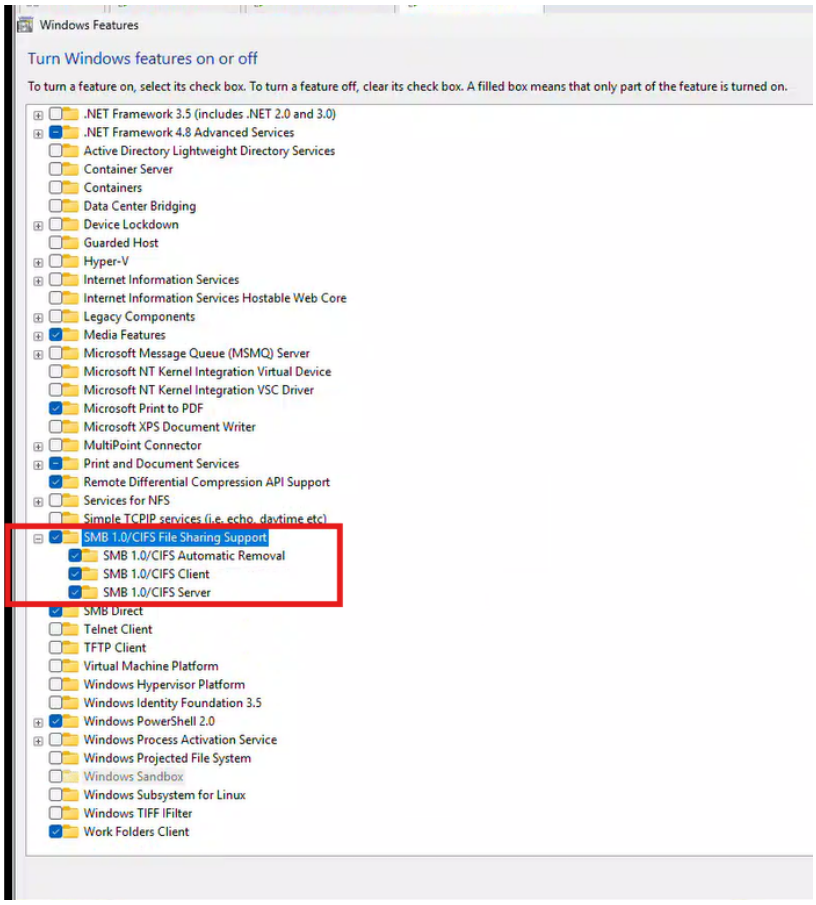


Enable insecure guest logons

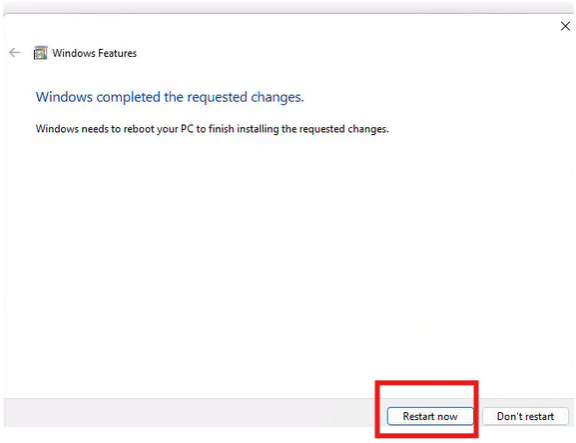
Lab 7 - Installation and Configuration of SAMBA



Turn windows features on or off



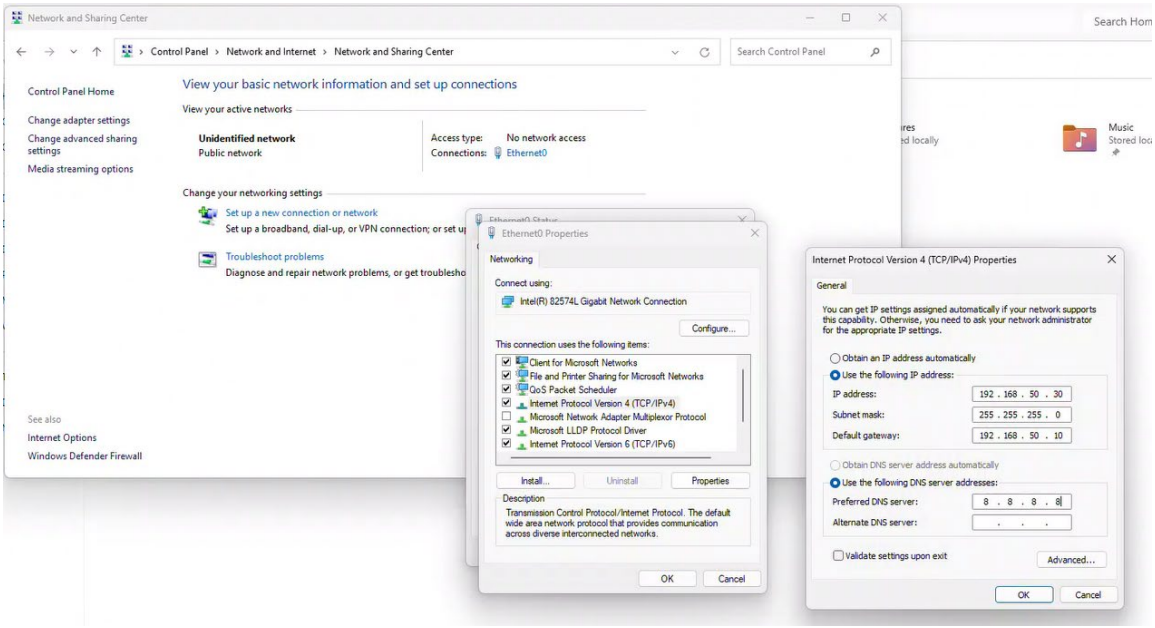
Restart windows



Change IP to static IP in Windows 11

Using Control Panel

1. Open Control Panel: Search for "Control Panel" in the Start menu and open it.
2. Go to Network and Sharing Center: Click on "Network and Sharing Center."
3. Select Your Connection: Click on your active network connection.
4. Open Properties:
   - Click "Properties" in the connection window.
   - Select "Internet Protocol Version 4 (TCP/IPv4)" and click "Properties."
5. Set a Manual IP:
   - Check "Use the following IP address."
   - Enter your desired IP address, Subnet Mask, Gateway, and DNS settings.
6. Apply Changes: Click "OK" to save.

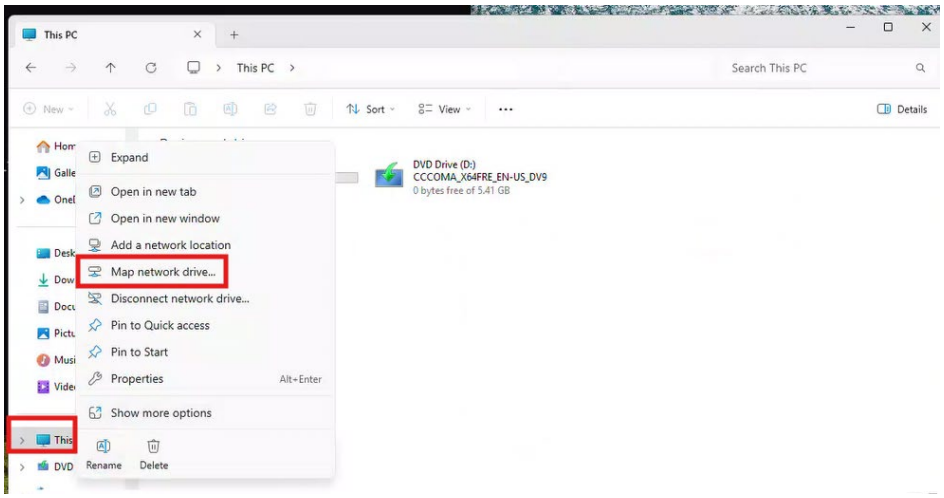


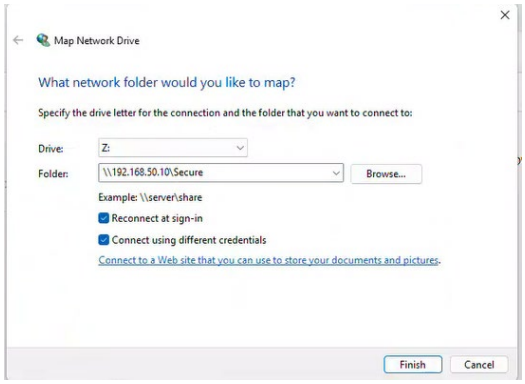
Access the Secure share

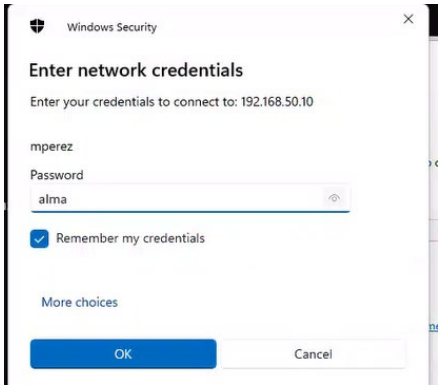
[\\192.168.50.10\Secure](\\192.168.50.10\Secure)

Lab 7 - Installation and Configuration of SAMBA

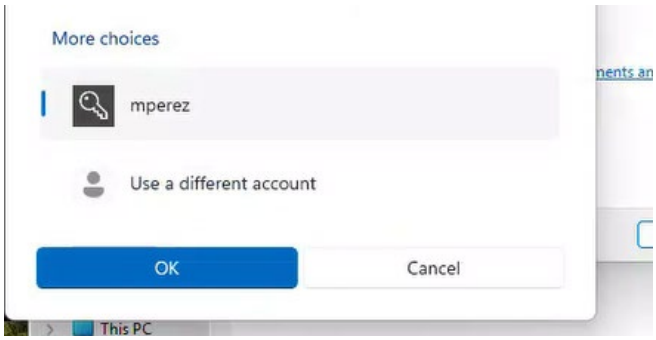
a. Go to My PC/Map Network Drive
b. Open File Explorer: Press `Windows + E` or click the folder icon on your taskbar.
c. Go to "This PC": In the left-hand menu, click "This PC."
d. Select "Map Network Drive":
    - In the top toolbar, click on "Map network drive."
    - If you don't see it, expand the ribbon menu by clicking the small arrow in the top-right corner.
e. Choose a Drive Letter:
    - Select an available drive letter from the dropdown menu.
    - This will act as the label for your network drive.
f. Enter the Network Path:
    - In the "Folder" field, type the path to the shared folder **\\192.168.50.10\Secure**
    - Alternatively, click "Browse" to locate the shared folder on your network.
g. Set Preferences:
    - Check "Reconnect at sign-in" if you want the drive to reconnect automatically.
    - If needed, check "Connect using different credentials" to log in with a specific username and password.
h. Finish: Click "Finish" to complete the process. The network drive will now appear under "This PC."



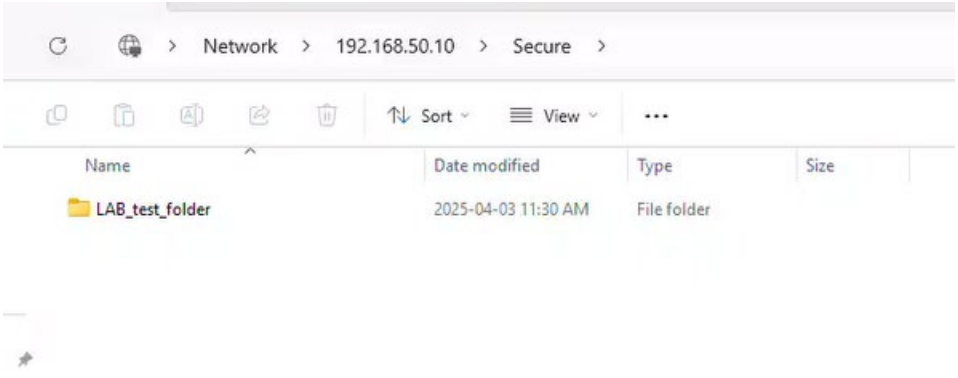




If more choices you can select a user



Create a folder called LAB_test_folder



On alma Linux we can see the file is there

See the creator is mperez

```
10.164.1.4   192.168.204.128   Desktop   Documents   Downloads   Music   Pi
[mperez@server1 ~]$ su -
Password:
[root@server1 ~]#
[root@server1 ~]#
[root@server1 ~]# cd /Samba/Secure/
[root@server1 Secure]# ls -ltrqha
total 0
drwxr-xr-x. 4 root   root   35 Apr  2 22:50 ..
drwxr-xr-x. 2 mperez mperez  6 Apr  3 11:30 LAB_test_folder
drwxrwx---. 3 root   smbgrp 29 Apr  3 11:30 .
[root@server1 Secure]#
```

Verify connection between alma linux and windows 11 is established

```
[root@server1 ~]# netstat -tunalp
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 0.0.0.0:445             0.0.0.0:*               LISTEN      1293/smbd
tcp        0      0 0.0.0.0:2049            0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      1037/sshd: /usr/sbi
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN      1/systemd
tcp        0      0 0.0.0.0:55427           0.0.0.0:*               LISTEN      1284/rpc.statd
tcp        0      0 0.0.0.0:139             0.0.0.0:*               LISTEN      1293/smbd
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN      1030/cupsd
tcp        0      0 0.0.0.0:20048           0.0.0.0:*               LISTEN      1307/rpc.mountd
tcp        0      0 0.0.0.0:46731           0.0.0.0:*               LISTEN      -
tcp        0      0 192.168.50.10:445       192.168.50.30:56886     ESTABLISHED 6344/smbd
tcp        0      0 192.168.204.128:22      192.168.204.1:50422     ESTABLISHED 6671/sshd: root [pr
tcp6       0      0 :::445                  :::*                    LISTEN      1293/smbd
tcp6       0      0 :::2049                 :::*                    LISTEN      -
tcp6       0      0 :::22                   :::*                    LISTEN      1037/sshd: /usr/sbi
tcp6       0      0 :::111                  :::*                    LISTEN      1/systemd
tcp6       0      0 :::139                  :::*                    LISTEN      1293/smbd
tcp6       0      0 :::9090                 :::*                    LISTEN      1/systemd
tcp6       0      0 :::38149                :::*                    LISTEN      -
tcp6       0      0 :::58851                :::*                    LISTEN      1284/rpc.statd
tcp6       0      0 ::1:631                 :::*                    LISTEN      1030/cupsd
tcp6       0      0 :::20048                :::*                    LISTEN      1307/rpc.mountd
udp        0      0 0.0.0.0:20048           0.0.0.0:*                           1307/rpc.mountd
udp        0      0 192.168.204.128:68      192.168.204.254:67      ESTABLISHED 1002/NetworkManager
udp        0      0 0.0.0.0:111             0.0.0.0:*                           1/systemd
udp        0      0 127.0.0.1:323           0.0.0.0:*                           827/chronyd
udp        0      0 0.0.0.0:53715           0.0.0.0:*                           1284/rpc.statd
udp        0      0 127.0.0.1:659           0.0.0.0:*                           1284/rpc.statd
udp        0      0 0.0.0.0:45746           0.0.0.0:*                           802/avahi-daemon: r
udp        0      0 0.0.0.0:50183           0.0.0.0:*                           -
udp        0      0 0.0.0.0:5353            0.0.0.0:*                           802/avahi-daemon: r
udp6       0      0 :::20048                :::*                                1307/rpc.mountd
udp6       0      0 :::111                  :::*                                1/systemd
udp6       0      0 ::1:323                 :::*                                827/chronyd
udp6       0      0 :::43611                :::*                                802/avahi-daemon: r
udp6       0      0 :::58214                :::*                                1284/rpc.statd
udp6       0      0 :::5353                 :::*                                802/avahi-daemon: r
udp6       0      0 :::36155                :::*                                -
[root@server1 ~]#
```

Exercise 1.5: Tasks to Perform on AlmaLinux and Windows 11:

1. On the **AlmaLinux** Server, configure the **SAMBA service** to allow your **AlmaLinux user** to access their **home directory** from a **Windows 11 client.**

   a. **Modify samba configuration**

```
# SMB3 are no longer able to connect to smbd (by default).

[global]
        workgroup = SAMBA
        security = user

        passdb backend = tdbsam
        map to guest = Bad User
        printing = cups
        printcap name = cups
        load printers = yes
        cups options = raw

[homes]
        comment = Home Directories
        valid users = %S, %D%w%S
        browseable = Yes
        read only = No
        inherit acls = Yes

[printers]
        comment = All Printers
        path = /var/tmp
        printable = Yes
        create mask = 0600
        browseable = No

[print$]
        comment = Printer Drivers
        path = /var/lib/samba/drivers
        write list = @printadmin root
        force group = @printadmin
        create mask = 0664
        directory mask = 0775

[Public]
        comment = Public Share
        path = /Samba/General
        browsable = yes
        writable = yes
        guest ok = yes
        read only = no
        force user = nobody

[Secure]
   path = /Samba/Secure
   browseable = yes
   writable = yes
   valid users = @smbgrp
   read only = no
-- INSERT --
```

b. Restart smb after config changed

```
[root@server1 ~]#
[root@server1 ~]# cat /etc/samba/smb.conf  | grep 'Home Directories' -A 7 -B 2

[homes]
        comment = Home Directories
        valid users = %S, %D%w%S
        browseable = Yes
        read only = No
        inherit acls = Yes

[printers]
        comment = All Printers
[root@server1 ~]# systemctl restart smb
[root@server1 ~]# systemctl status smb
● smb.service - Samba SMB Daemon
     Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
     Active: active (running) since Thu 2025-04-03 13:02:39 EDT; 9s ago
       Docs: man:smbd(8)
             man:samba(7)
             man:smb.conf(5)
```

c. Authorise SElinux to authorise the access to the /home directory

```
[root@server1 ~]# ls -lZ /home/
total 4
drwx------.  4 antoine  antoine  unconfined_u:object_r:user_home_dir_t:s0  113 Mar 27 21:44 antoine
drwx------. 16 mperez   mperez   unconfined_u:object_r:user_home_dir_t:s0 4096 Apr  3 10:42 mperez
drwx------.  3 teacher1 teachers unconfined_u:object_r:user_home_dir_t:s0   78 Apr  1 17:48 teacher1
[root@server1 ~]# chcon -R -t samba_share_t /home/*
[root@server1 ~]# ls -lZ /home/
total 4
drwx------.  4 antoine  antoine  unconfined_u:object_r:samba_share_t:s0  113 Mar 27 21:44 antoine
drwx------. 16 mperez   mperez   unconfined_u:object_r:samba_share_t:s0 4096 Apr  3 10:42 mperez
drwx------.  3 teacher1 teachers unconfined_u:object_r:samba_share_t:s0   78 Apr  1 17:48 teacher1
[root@server1 ~]#
```

2. Test this configuration by accessing the user's home directory from a **Windows 11** machine using **valid credentials.**

a. Open File Explorer: Press `Windows + E` or click the folder icon on your taskbar.

b. Go to "This PC": In the left-hand menu, click "This PC."

c. Select "Map Network Drive":

- In the top toolbar, click on "Map network drive."
- If you don't see it, expand the ribbon menu by clicking the small arrow in the top-right corner.

d. Choose a Drive Letter:

- Select an available drive letter from the dropdown menu.
- This will act as the label for your network drive.

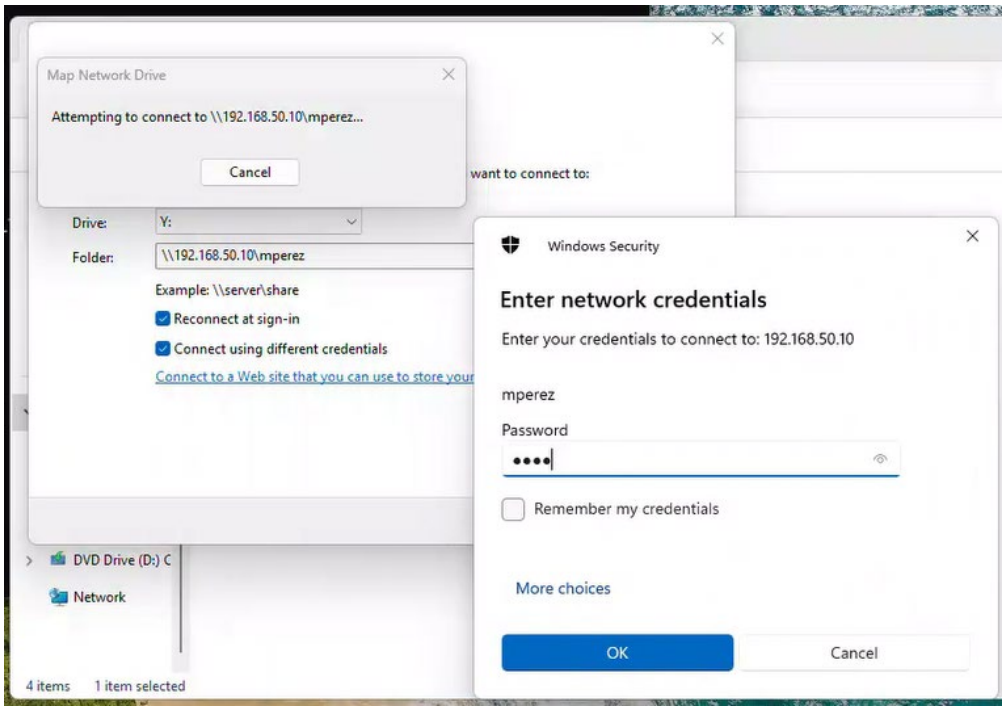
e. Enter the Network Path:

- In the "Folder" field, type the path to the shared folder **\\192.168.50.10\mperez**
- Alternatively, click "Browse" to locate the shared folder on your network.

f. Set Preferences:

- Check "Reconnect at sign-in" if you want the drive to reconnect automatically.
- If needed, check "Connect using different credentials" to log in with a specific username and password.

g. Finish: Click "Finish" to complete the process. The network drive will now appear under "This PC."



Lab 7 - Installation and Configuration of SAMBA