

1. SAMBA SHARE

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Experiment no. 1

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Aim: Installation and configuration of Samba share.

Description: SAMBA One of the most common ways to network Ubuntu and Windows computers is to configure Samba as a File Server. This section covers setting up a Samba server to share files with Windows clients. The server will be configured to share files with any client on the network without prompting for a password. If your environment requires stricter Access Controls see Share Access Control

Port No: 139

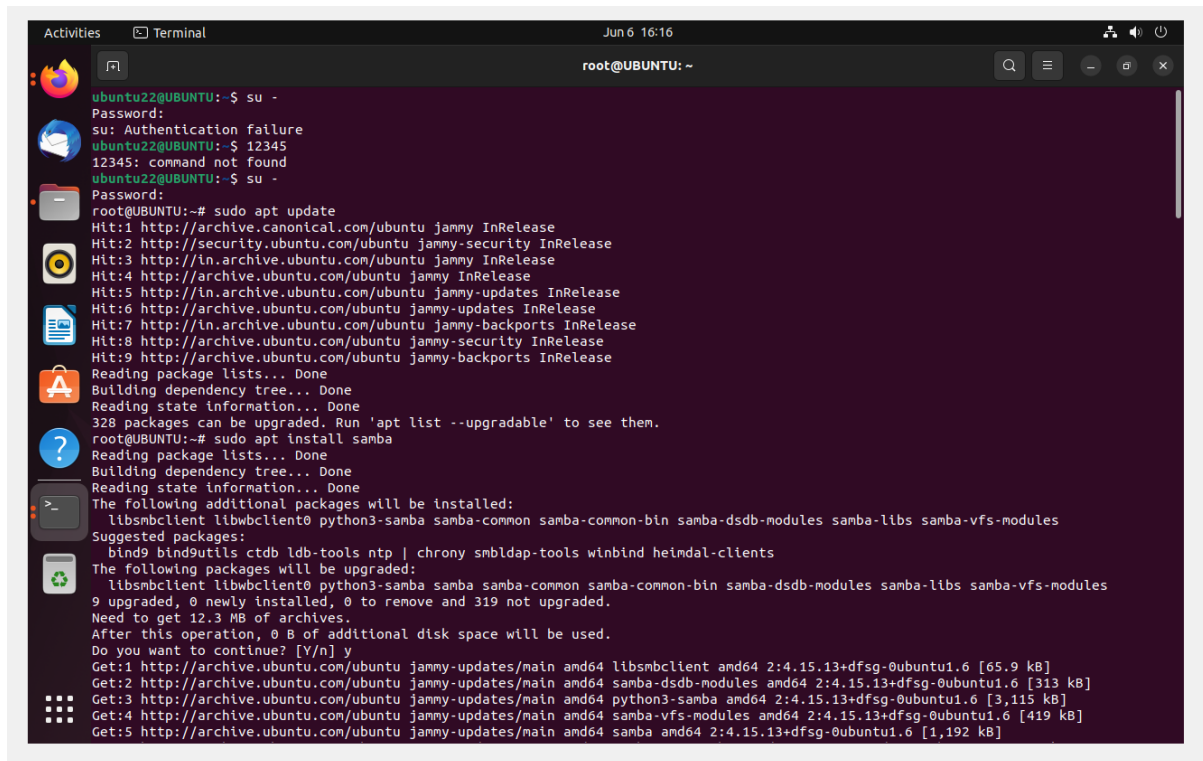
Package name: samba

Configuration file: /etc/samba/smb.conf.

Procedure: 1. To install Samba, we can run:

\$sudo apt update

\$sudo apt install samba



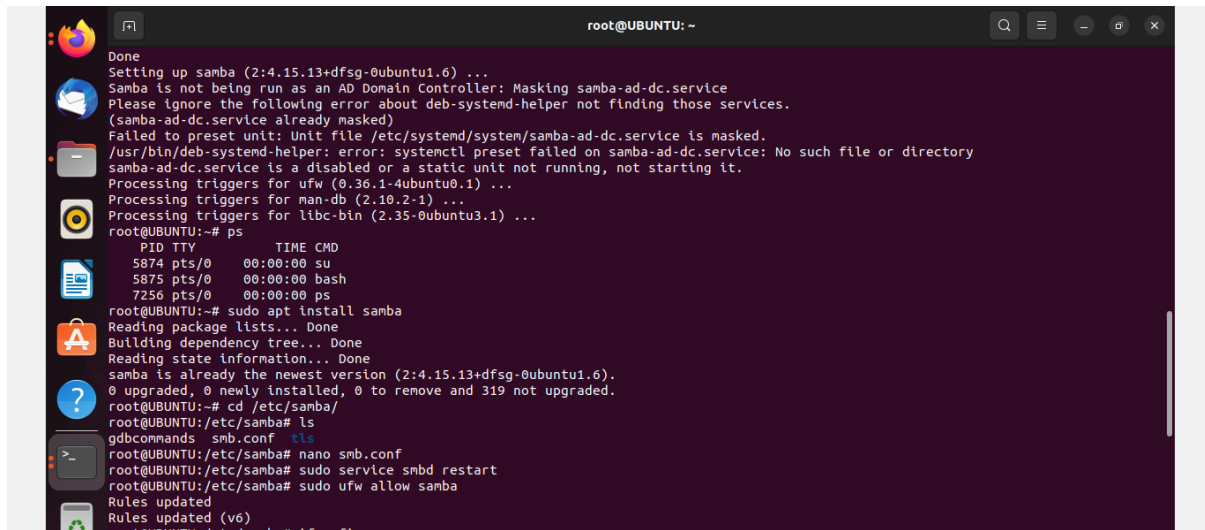
```
root@UBUNTU: ~  
ubuntu22@UBUNTU:~$ su -  
Password:  
su: Authentication failure  
ubuntu22@UBUNTU:~$ 12345  
12345: command not found  
ubuntu22@UBUNTU:~$ su -  
Password:  
root@UBUNTU:~# sudo apt update  
Hit:1 http://archive.canonical.com/ubuntu jammy InRelease  
Hit:2 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Hit:3 http://in.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu jammy InRelease  
Hit:5 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:6 http://archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:7 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Hit:8 http://archive.ubuntu.com/ubuntu jammy-security InRelease  
Hit:9 http://archive.ubuntu.com/ubuntu jammy-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
328 packages can be upgraded. Run 'apt list --upgradable' to see them.  
root@UBUNTU:~# sudo apt install samba  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  libsmclient libwbclient0 python3-samba samba-common samba-common-bin samba-dsdb-modules samba-libs samba-vfs-modules  
Suggested packages:  
  bind9 bind9utils ctdb ldb-tools ntp | chrony smbldap-tools winbind hetmdal-clients  
The following packages will be upgraded:  
  libsmclient libwbclient0 python3-samba samba samba-common samba-common-bin samba-dsdb-modules samba-libs samba-vfs-modules  
9 upgraded, 0 newly installed, 0 to remove and 319 not upgraded.  
Need to get 12.3 MB of archives.  
After this operation, 0 B of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libsmclient amd64 2:4.15.13+dfsg-0ubuntu1.6 [65.9 kB]  
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 samba-dsdb-modules amd64 2:4.15.13+dfsg-0ubuntu1.6 [313 kB]  
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 python3-samba amd64 2:4.15.13+dfsg-0ubuntu1.6 [3,115 kB]  
Get:4 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 samba-vfs-modules amd64 2:4.15.13+dfsg-0ubuntu1.6 [419 kB]  
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 samba amd64 2:4.15.13+dfsg-0ubuntu1.6 [1,192 kB]
```

2. We can check if the installation was successful by running:

\$whereis samba

3.Now that Samba is installed, we need to create a directory for it to share:

```
$mkdir /home/<username>/sambashare/
```

A terminal window titled 'root@UBUNTU: ~' showing the installation and configuration of Samba. The output includes: 'Setting up samba (2:4.15.13+dfsg-0ubuntu1.6) ...', 'Samba is not being run as an AD Domain Controller: Masking samba-ad-dc.service', 'Please ignore the following error about deb-systemd-helper not finding those services. (samba-ad-dc.service already masked)', 'Failed to preset unit: Unit file /etc/systemd/system/samba-ad-dc.service is masked.', '/usr/bin/deb-systemd-helper: error: systemctl preset failed on samba-ad-dc.service: No such file or directory', 'samba-ad-dc.service is a disabled or a static unit not running, not starting it.', 'Processing triggers for ufw (0.36.1-4ubuntu0.1) ...', 'Processing triggers for man-db (2.10.2-1) ...', 'Processing triggers for libc-bin (2.35-0ubuntu3.1) ...'. Then, 'root@UBUNTU:~# ps' shows a table of processes. Next, 'root@UBUNTU:~# sudo apt install samba' shows the package is already installed. Then, 'root@UBUNTU:~# cd /etc/samba/' and 'root@UBUNTU:/etc/samba# ls' show the directory contents. Finally, 'root@UBUNTU:/etc/samba# nano smb.conf', 'root@UBUNTU:/etc/samba# sudo service smbd restart', and 'root@UBUNTU:/etc/samba# sudo ufw allow samba' are executed, followed by 'Rules updated' and 'Rules updated (v6)'.

The command above creates a new folder samba share in our home directory which we will share later. The configuration file for Samba is located at `/etc/samba/smb.conf`. To add the new directory as a share,we edit the file by running:

```
$sudo nano /etc/samba/smb.conf
```

At the bottom of the file, add the following lines:

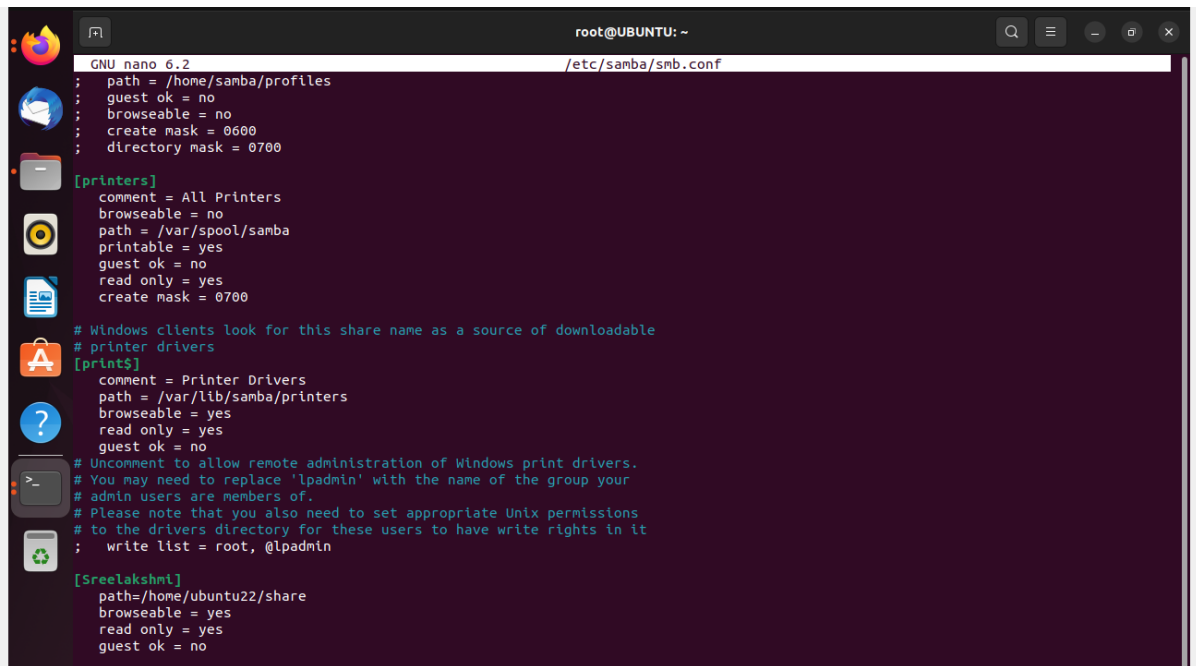
```
[sambashare]
```

```
comment = Samba on Ubuntu
```

```
path = /home/username/sambashare
```

```
read only = no
```

```
browsable = yes
```



```
GNU nano 6.2 /etc/samba/smb.conf
: path = /home/samba/profiles
: guest ok = no
: browseable = no
: create mask = 0600
: directory mask = 0700

[printers]
comment = All Printers
browseable = no
path = /var/spool/samba
printable = yes
guest ok = no
read only = yes
create mask = 0700

# Windows clients look for this share name as a source of downloadable
# printer drivers
[print$]
comment = Printer Drivers
path = /var/lib/samba/printers
browseable = yes
read only = yes
guest ok = no

# Uncomment to allow remote administration of Windows print drivers.
# You may need to replace 'lpadmin' with the name of the group your
# admin users are members of.
# Please note that you also need to set appropriate Unix permissions
# to the drivers directory for these users to have write rights in it
; write list = root, @lpadmin

[SreeLakshmi]
path=/home/ubuntu22/share
browseable = yes
read only = yes
guest ok = no
```

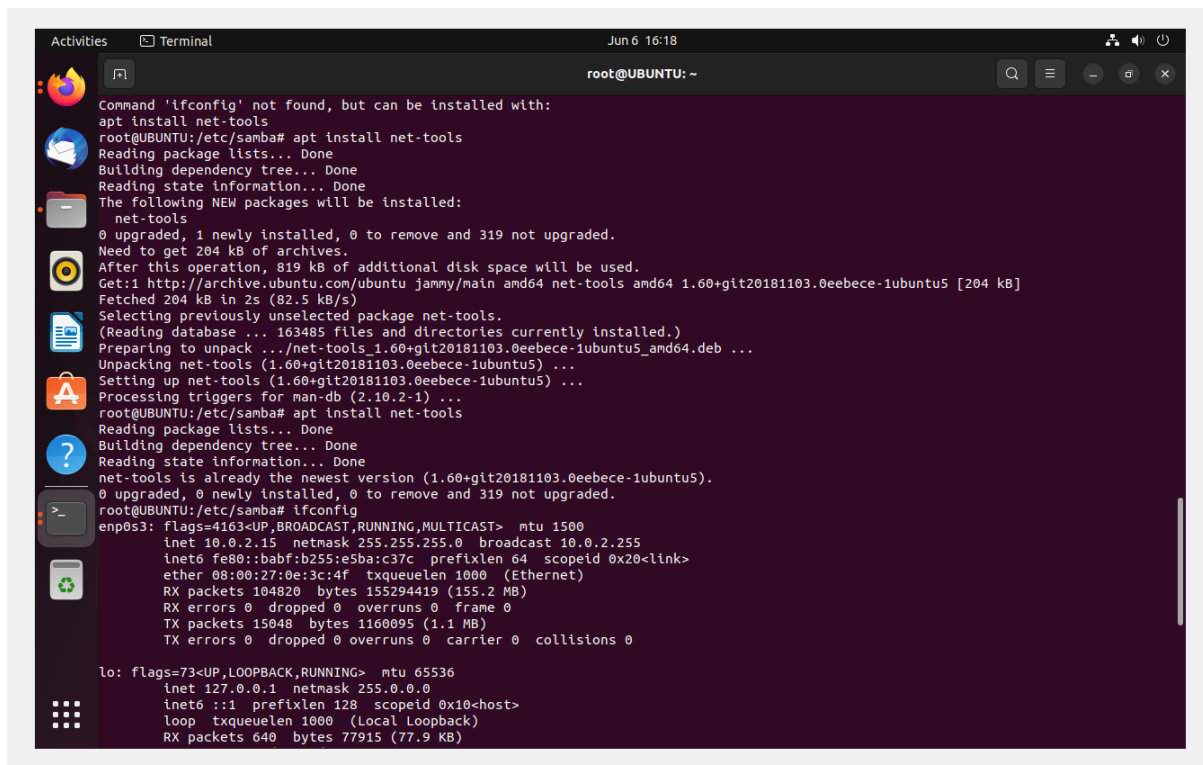
4. Then press Ctrl-O to save and Ctrl-X to exit from the nano text editor.

5. Now that we have our new share configured, save it and restart Samba for it to take effect:

\$sudo service smbd restart

6.Update the firewall rules to allow Samba traffic:

\$sudo ufw allow samba



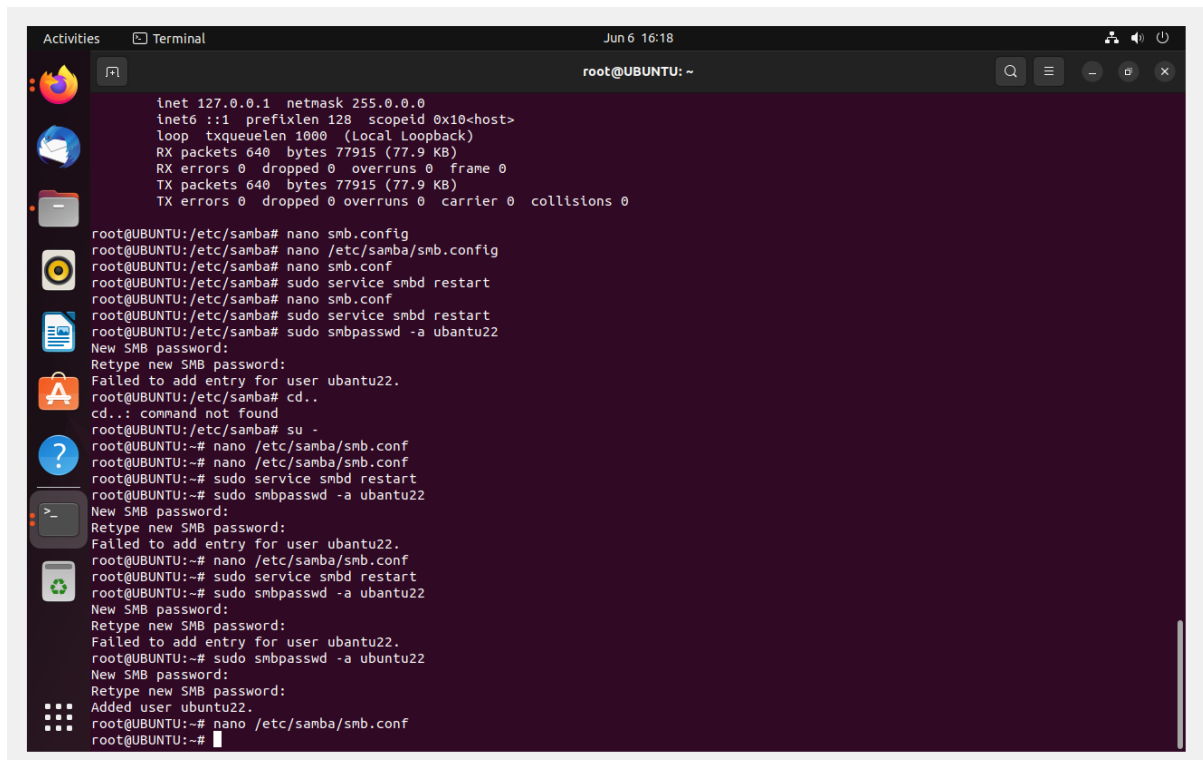
```
Activities Terminal Jun 6 16:18
root@UBUNTU: ~
Command 'ifconfig' not found, but can be installed with:
apt install net-tools
root@UBUNTU:/etc/samba# apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
net-tools
0 upgraded, 1 newly installed, 0 to remove and 319 not upgraded.
Need to get 204 kB of archives.
After this operation, 819 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 net-tools amd64 1.60+git20181103.0eebece-1ubuntu5 [204 kB]
Fetched 204 kB in 2s (82.5 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 163485 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20181103.0eebece-1ubuntu5_amd64.deb ...
Unpacking net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Setting up net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Processing triggers for man-db (2.10.2-1) ...
root@UBUNTU:/etc/samba# apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
net-tools is already the newest version (1.60+git20181103.0eebece-1ubuntu5).
0 upgraded, 0 newly installed, 0 to remove and 319 not upgraded.
root@UBUNTU:/etc/samba# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::babf:b255:e5ba:c37c prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:0e:3c:4f txqueuelen 1000 (Ethernet)
    RX packets 104820 bytes 155294419 (155.2 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 15048 bytes 1160095 (1.1 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 640 bytes 77915 (77.9 KB)
```

SETTING UP USER ACCOUNTS AND CONNECTING TO SHARE

7. Since Samba doesn't use the system account password, we need to set up a Samba password for our user account:

\$sudo smbpasswd -a username

A terminal window titled 'Terminal' with a dark background and light text. The window shows the execution of various commands to set up Samba. It starts with displaying network configuration, then editing and restarting the Samba service. The key part of the screenshot is the repeated execution of 'sudo smbpasswd -a ubuntu22', which prompts for a new password and its retype. The first attempt fails with 'Failed to add entry for user ubuntu22.', but after several more attempts, it finally succeeds with 'Added user ubuntu22.'. The terminal ends with the user being back in the root shell.

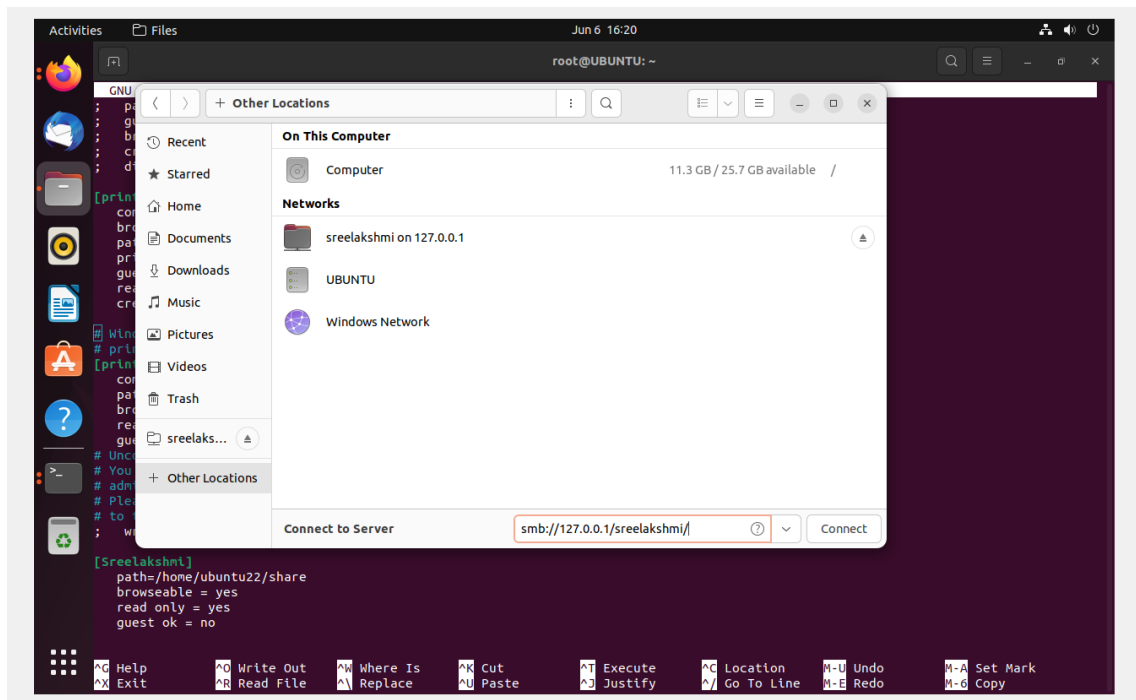
```
root@UBUNTU: ~  
inet 127.0.0.1 netmask 255.0.0.0  
inet6 ::1 prefixlen 128 scopeid 0x10<host>  
loop txqueuelen 1000 (Local Loopback)  
RX packets 640 bytes 77915 (77.9 KB)  
RX errors 0 dropped 0 overruns 0 frame 0  
TX packets 640 bytes 77915 (77.9 KB)  
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
root@UBUNTU:/etc/samba# nano smb.conf  
root@UBUNTU:/etc/samba# nano /etc/samba/smb.conf  
root@UBUNTU:/etc/samba# nano smb.conf  
root@UBUNTU:/etc/samba# sudo service smbd restart  
root@UBUNTU:/etc/samba# nano smb.conf  
root@UBUNTU:/etc/samba# sudo service smbd restart  
root@UBUNTU:/etc/samba# sudo smbpasswd -a ubuntu22  
New SMB password:  
Retype new SMB password:  
Failed to add entry for user ubuntu22.  
root@UBUNTU:/etc/samba# cd..  
cd..: command not found  
root@UBUNTU:/etc/samba# su -  
root@UBUNTU:~# nano /etc/samba/smb.conf  
root@UBUNTU:~# nano /etc/samba/smb.conf  
root@UBUNTU:~# sudo service smbd restart  
root@UBUNTU:~# sudo smbpasswd -a ubuntu22  
New SMB password:  
Retype new SMB password:  
Failed to add entry for user ubuntu22.  
root@UBUNTU:~# nano /etc/samba/smb.conf  
root@UBUNTU:~# sudo service smbd restart  
root@UBUNTU:~# sudo smbpasswd -a ubuntu22  
New SMB password:  
Retype new SMB password:  
Failed to add entry for user ubuntu22.  
root@UBUNTU:~# sudo smbpasswd -a ubuntu22  
New SMB password:  
Retype new SMB password:  
Added user ubuntu22.  
root@UBUNTU:~# nano /etc/samba/smb.conf  
root@UBUNTU:~#
```

CONNECTING TO SHARE

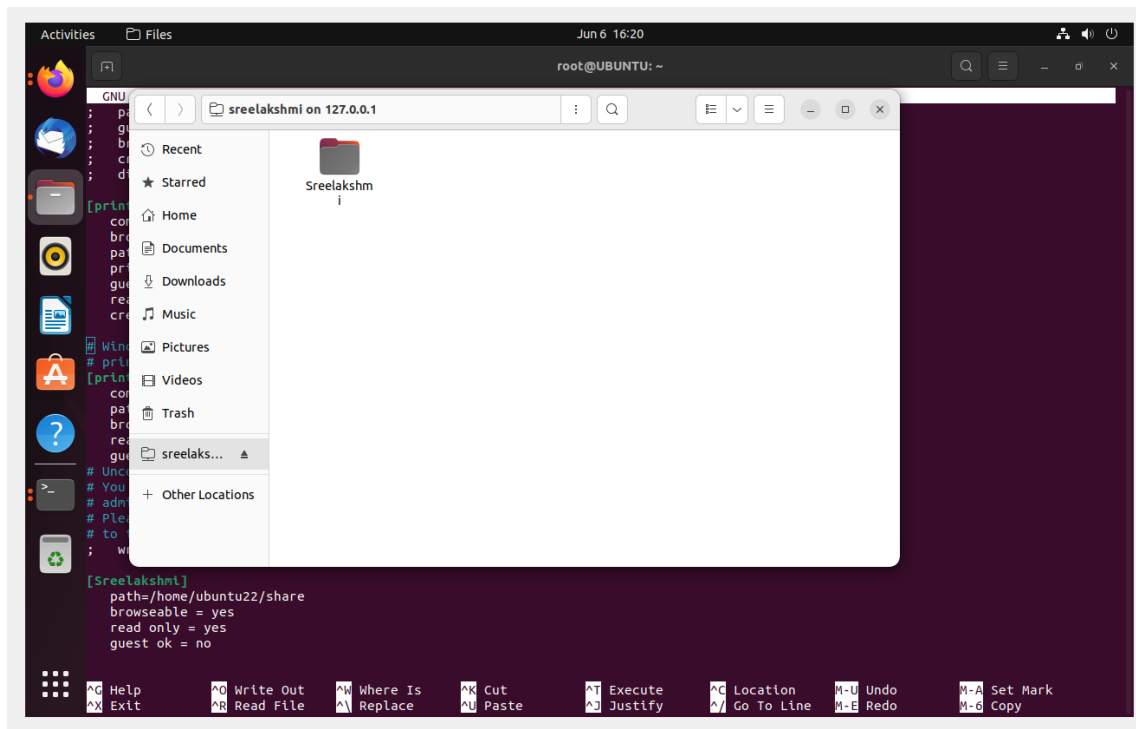
8. On Ubuntu: Open up the default file manager and click Connect to Server then enter:
Connecting to samba via smb://127.0.0.1/sambashare

Note: ip-address is the Samba server IP address and sambashare is the name of the share.
You'll be prompted for your credentials. Enter them to connect!

- Click "Connect."



The folder is now accessible via the network



Conclusion: The samba share server installed and configured successfully.