Practical No. 10

Aim: Install Samba to share folders or files between Windows and Linux.

Description:

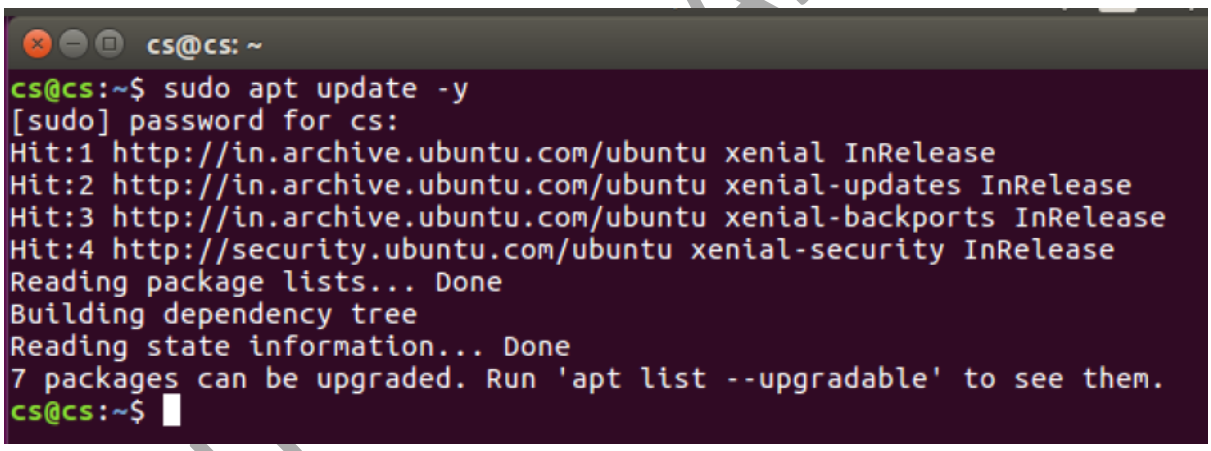
1. Explain: Samba

Steps:

A Samba file server enables file sharing across different operating systems over a network. It lets you access your desktop files from a laptop and share files with Windows and macOS users.

Installing Samba

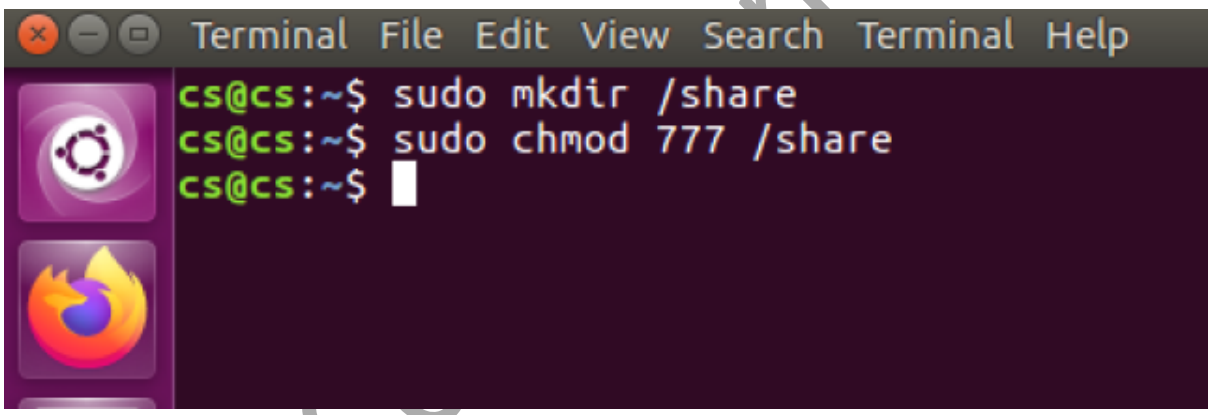
1. update all repository



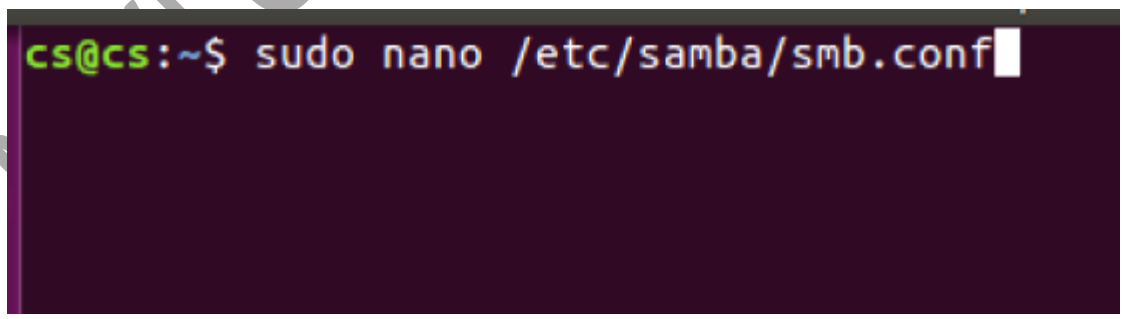
2. install samba

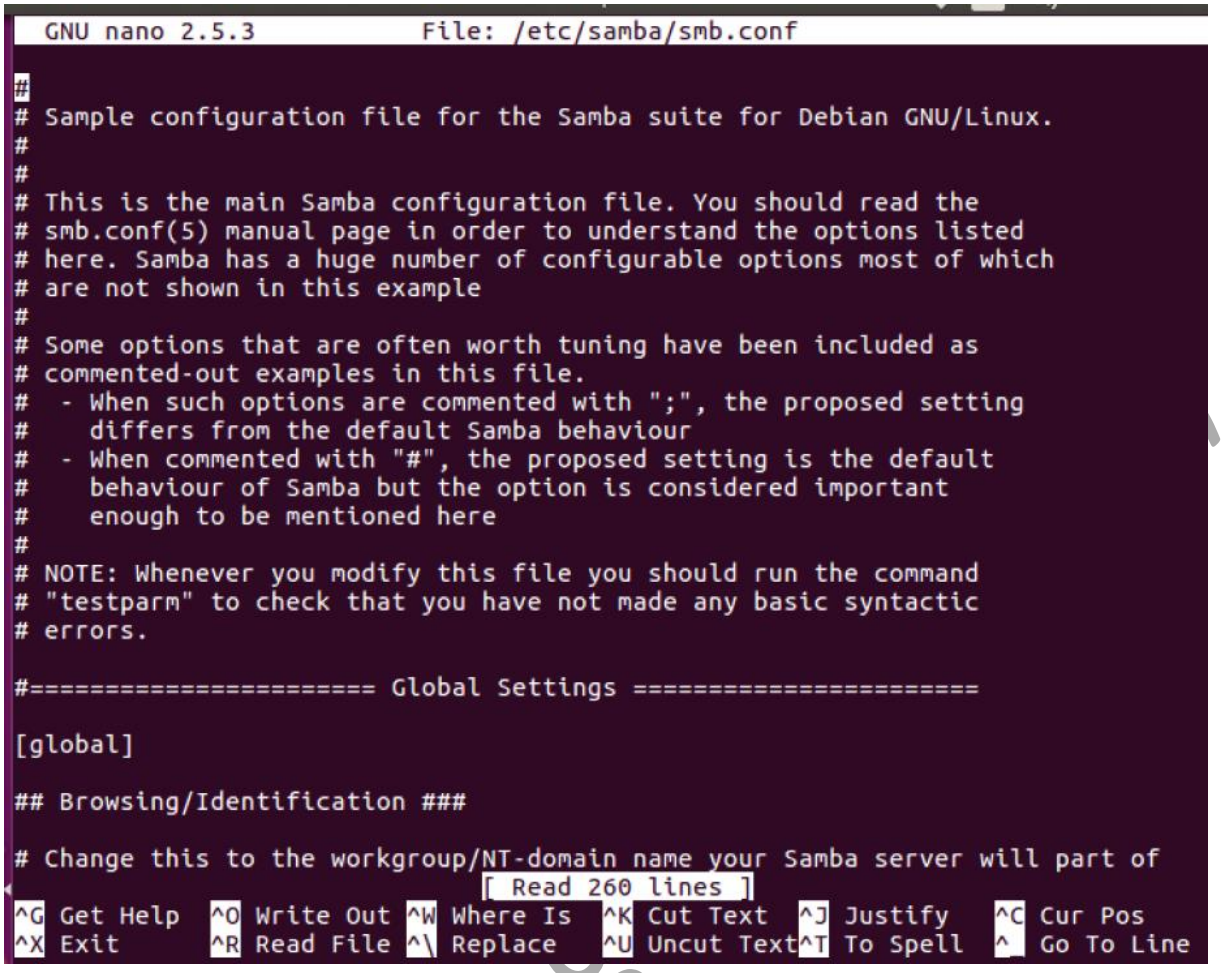
```
cs@cs:~$ sudo apt install samba -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libirs-export141 libisccfg-export140
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  attr python-crypto python-dnspython python-ldb python-samba python-tdb
  samba-common samba-common-bin samba-dsdb-modules samba-vfs-modules tdb-tools
Suggested packages:
  python-crypto-dbg python-crypto-doc ctdb ldb-tools ntp smbldap-tools winbind
  heimdal-clients
The following NEW packages will be installed:
  attr python-crypto python-dnspython python-ldb python-samba python-tdb samba
  samba-common samba-common-bin samba-dsdb-modules samba-vfs-modules tdb-tools
0 upgraded, 12 newly installed, 0 to remove and 7 not upgraded.
Need to get 3,444 kB of archives.
After this operation, 25.8 MB of additional disk space will be used.
```

3. we'll create a directory to share. So we'll create a directory under / and then change the permission to 777.



4. Now we have to edit the main configuration file of samba.





Press Ctrl+end to get to the end of file.

Then we'll write the shared definition

[my-samba-share] - share name

path = /share – directory which you want to share

public = no – this samba server is not public which means to access this file its requires authentication

valid users – tom jerry – users who can connect

read list = tom – user tom will have read access to this directory

write list = jerry – user jerry will have write access to this directory

browseable = yes – in the client system all the users will be able to access network share

comment = "My Samba File Server" - Any comment you can give

```
  GNU nano 2.5.3            File: /etc/samba/smb.conf                  Modified

   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

[my-samba-share]
  path = /share
  public = no
  valid users = tom, harry
  read list = tom
  write list = jerry
  browseable = yes
  comment = "My Samba File Server"

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text^T To Spell  ^_ Go To Line
```

Press ctrl+O to write to the file

5. to validate the configuration which we just did type the command **testparm**

```
cs@cs:~$ sudo testparm
Load smb config files from /etc/samba/smb.conf
rlimit_max: increasing rlimit_max (1024) to minimum Windows limit (16384)
WARNING: The "syslog" option is deprecated
Processing section "[printers]"
Processing section "[print$]"
Processing section "[my-samba-share]"
Loaded services file OK.
WARNING: You have some share names that are longer than 12 characters.
These may not be accessible to some older clients.
(Eg. Windows9x, WindowsMe, and smbclient prior to Samba 3.0.)
Server role: ROLE_STANDALONE

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

```
cs@cs:~$ sudo testparm
Load smb config files from /etc/samba/smb.conf
rlimit_max: increasing rlimit_max (1024) to minimum Windows limit (16384)
WARNING: The "syslog" option is deprecated
Processing section "[printers]"
Processing section "[print$]"
Processing section "[my-samba-share]"
Loaded services file OK.
WARNING: You have some share names that are longer than 12 characters.
These may not be accessible to some older clients.
(Eg. Windows9x, WindowsMe, and smbclient prior to Samba 3.0.)
Server role: ROLE_STANDALONE
```

```
        passwd program = /usr/bin/passwd %u
        passwd chat = *Enter\snew\s*\spassword:* %n\n *Retype\snew\s*\spassword:
* %n\n *password\supdated\ssuccessfully* .
        unix password sync = Yes
        syslog = 0
        log file = /var/log/samba/log.%m
        max log size = 1000
        dns proxy = No
        usershare allow guests = Yes
        panic action = /usr/share/samba/panic-action %d
        idmap config * : backend = tdb


[printers]
        comment = All Printers
        path = /var/spool/samba
        create mask = 0700
        printable = Yes
        browseable = No


[print$]
        comment = Printer Drivers
        path = /var/lib/samba/printers


[my-samba-share]
        comment = "My Samba File Server"
        path = /share
        valid users = tom harry
        read list = tom
        write list = jerry
cs@cs:~$
```

6. Now we'll create the users to samba access. [Note: users create here are not system users only for samba authentication]

```
cs@cs:~$ sudo useradd tom -s /sbin/nologin
cs@cs:~$ sudo useradd jerry -s /sbin/nologin
cs@cs:~$
```

7. Set the samba password for the users we create above.

```
cs@cs:~$ sudo smbpasswd -a tom
New SMB password:
Retype new SMB password:
Added user tom.
cs@cs:~$ sudo smbpasswd -a jerry
New SMB password:
Retype new SMB password:
Added user jerry.
cs@cs:~$
```

8. Now we have to start the services of samba.

sudo systemctl start smbd

sudo systemctl start nmbd [net bios service – to perform network discovery]

also enable both services

```
cs@cs:~$ sudo systemctl start smbd
cs@cs:~$ sudo systemctl start nmbd
cs@cs:~$ sudo systemctl enable smbd nmbd
smbd.service is not a native service, redirecting to systemd-sysv-install
Executing /lib/systemd/systemd-sysv-install enable smbd
nmbd.service is not a native service, redirecting to systemd-sysv-install
Executing /lib/systemd/systemd-sysv-install enable nmbd
cs@cs:~$
```

9. check ip address of server machine

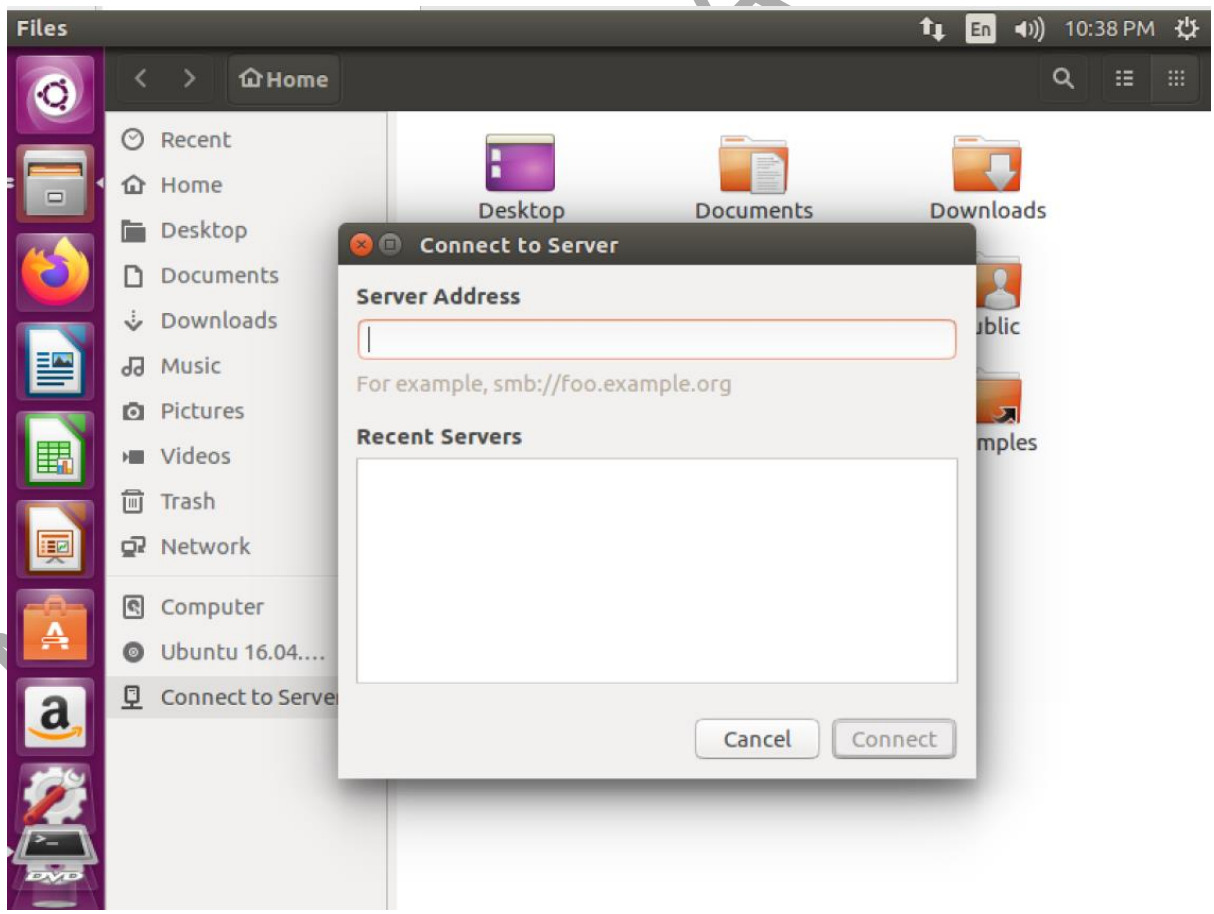
```
cs@cs:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defaul
t qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP g
roup default qlen 1000
    link/ether 00:0c:29:1c:f5:7d brd ff:ff:ff:ff:ff:ff
    inet 192.168.173.132/24 brd 192.168.173.255 scope global dynamic ens33
       valid_lft 1298sec preferred_lft 1298sec
    inet6 fe80::c8fa:acec:af2:c62d/64 scope link
       valid_lft forever preferred_lft forever
cs@cs:~$
```

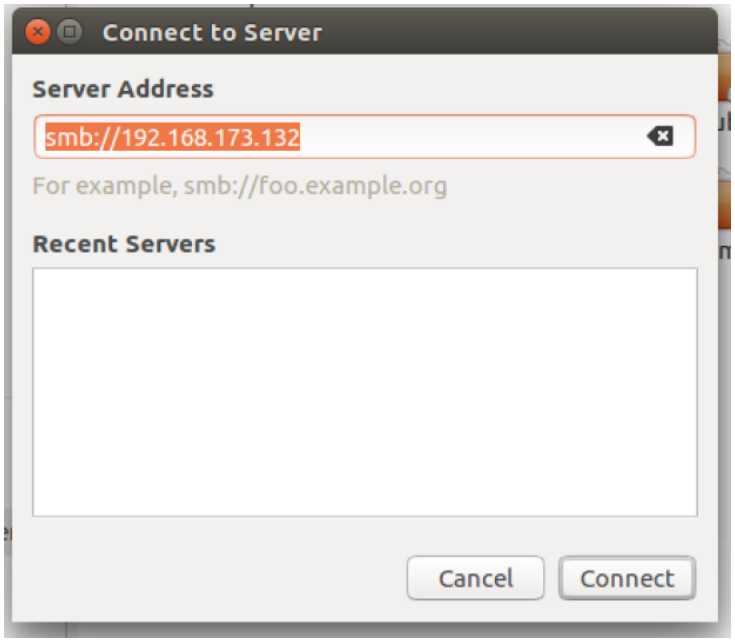
Client Side:

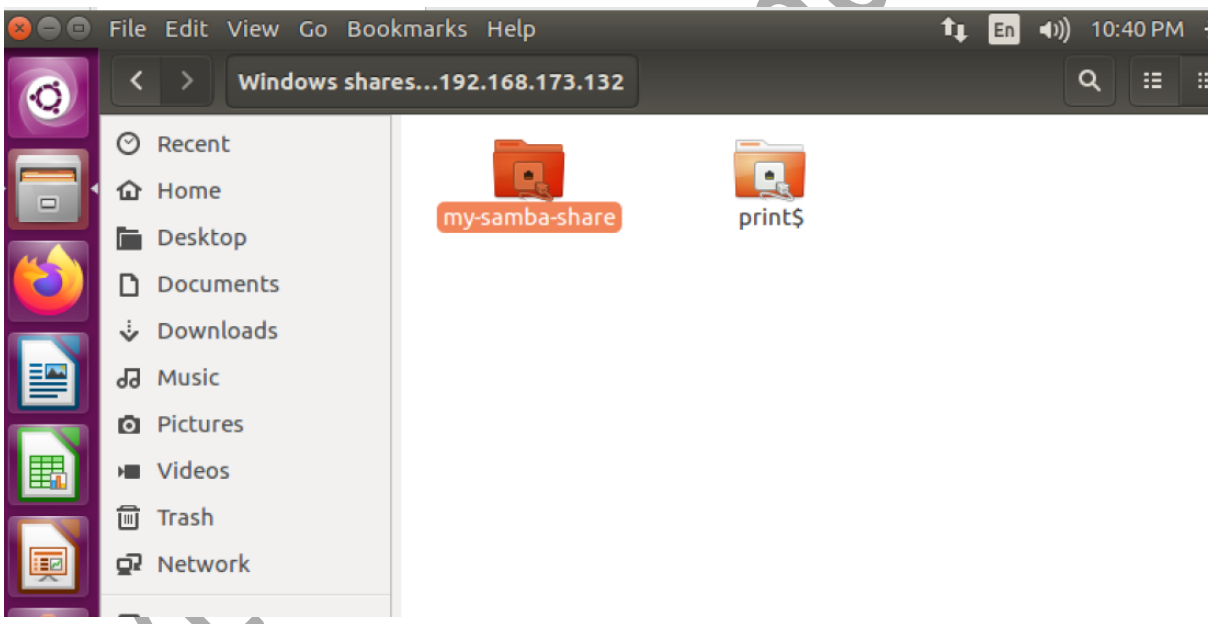
1. open terminal and ping the server ip. If you are able to ping the server that means you are in network with the server

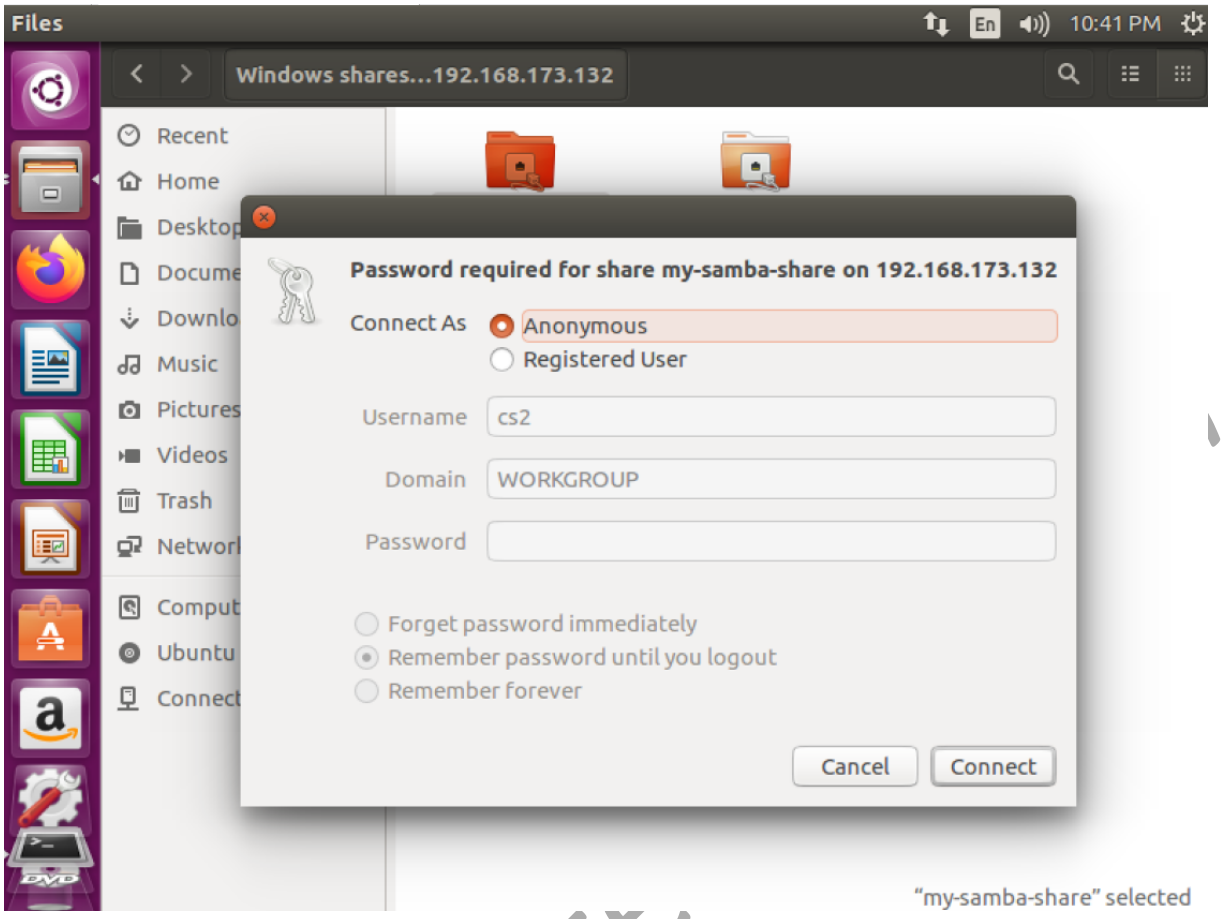
```
cs2@cs2:~$ ping 192.168.173.132
PING 192.168.173.132 (192.168.173.132) 56(84) bytes of data.
64 bytes from 192.168.173.132: icmp_seq=1 ttl=64 time=0.436 ms
64 bytes from 192.168.173.132: icmp_seq=2 ttl=64 time=0.468 ms
64 bytes from 192.168.173.132: icmp_seq=3 ttl=64 time=0.478 ms
64 bytes from 192.168.173.132: icmp_seq=4 ttl=64 time=0.534 ms
64 bytes from 192.168.173.132: icmp_seq=5 ttl=64 time=0.484 ms
64 bytes from 192.168.173.132: icmp_seq=6 ttl=64 time=0.473 ms
64 bytes from 192.168.173.132: icmp_seq=7 ttl=64 time=0.536 ms
64 bytes from 192.168.173.132: icmp_seq=8 ttl=64 time=0.489 ms
```

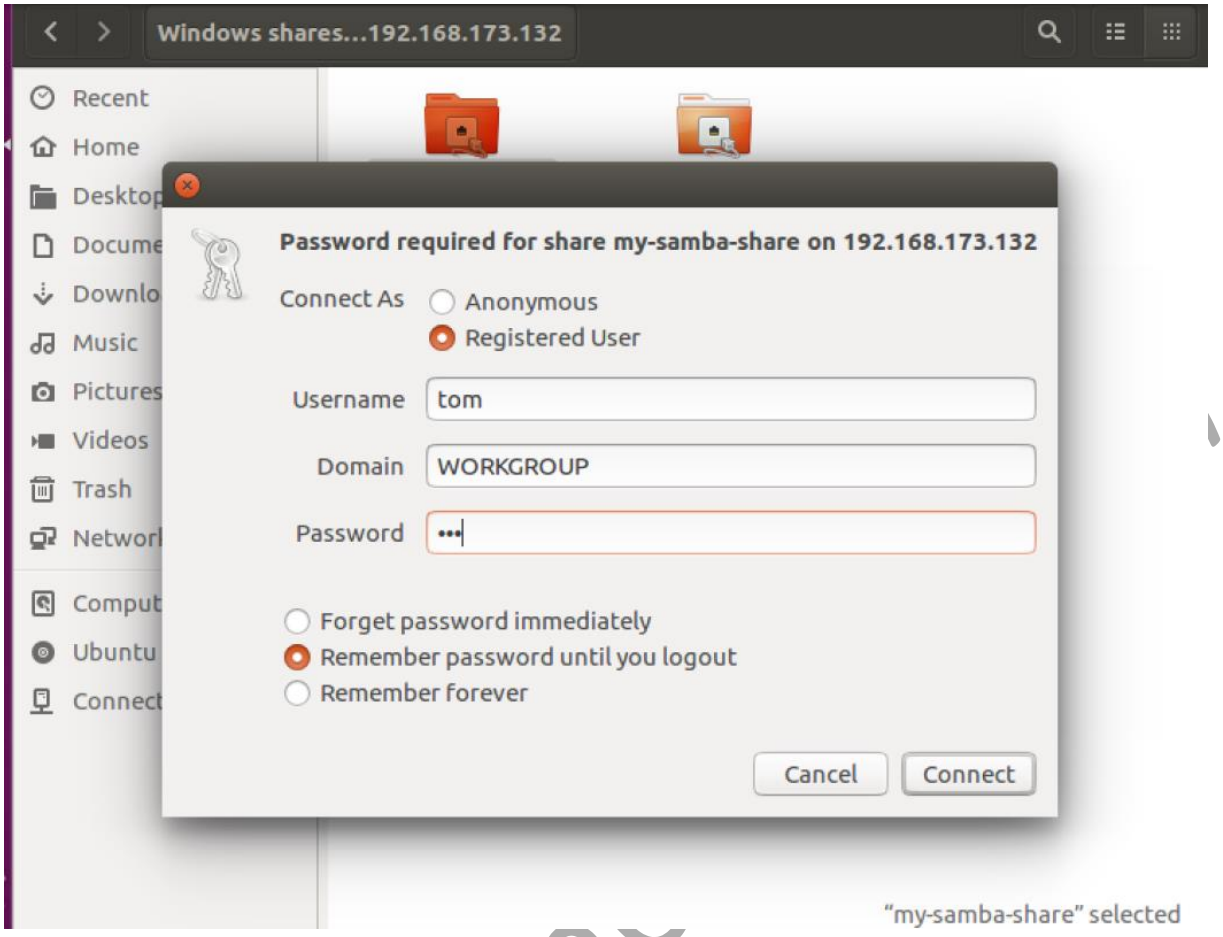
2. Then open File Manager -> Other Locations -> connect to server -> smb://192.168.173.132

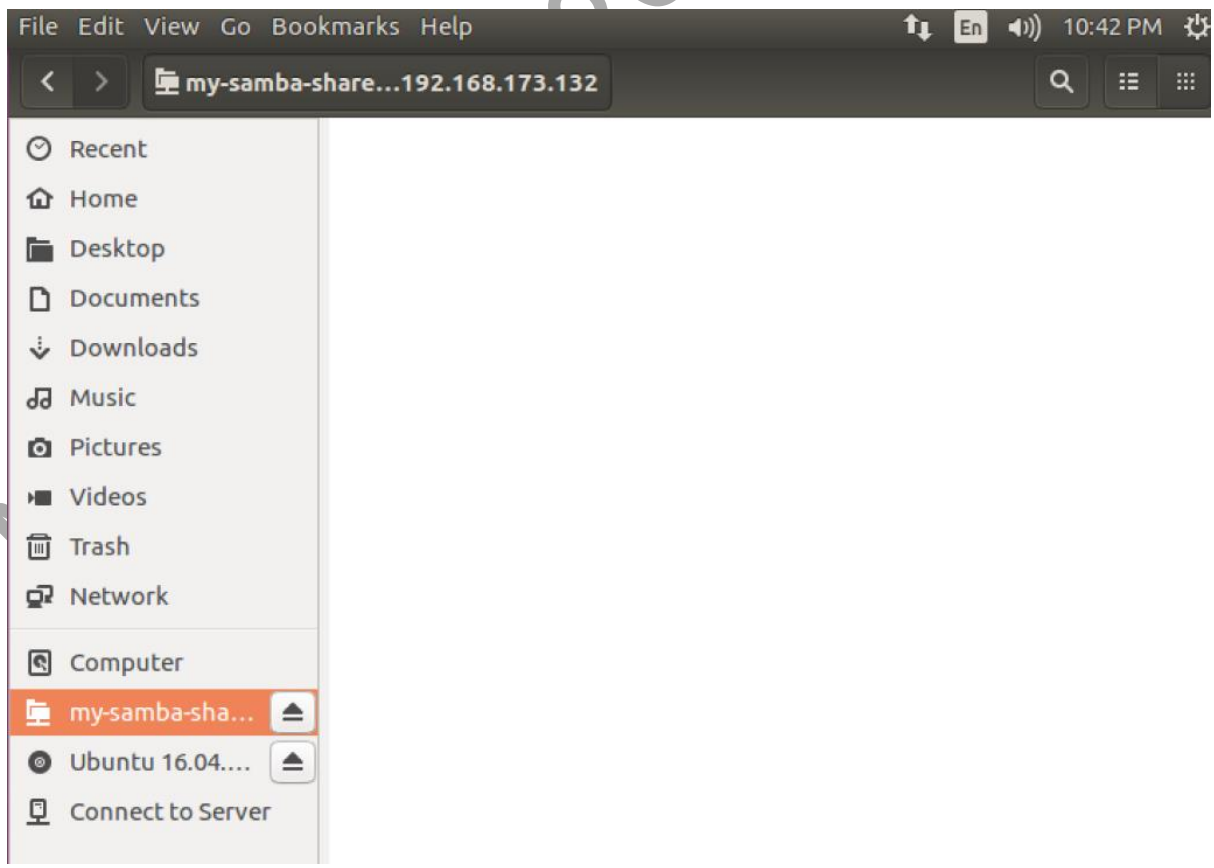



Connect to Server
Server Address
smb://192.168.173.132
For example, smb://foo.example.org
Recent Servers
Cancel
Connect


File Edit View Go Bookmarks Help
En
10:40 PM
Windows shares...192.168.173.132
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
Network
my-samba-share
print$

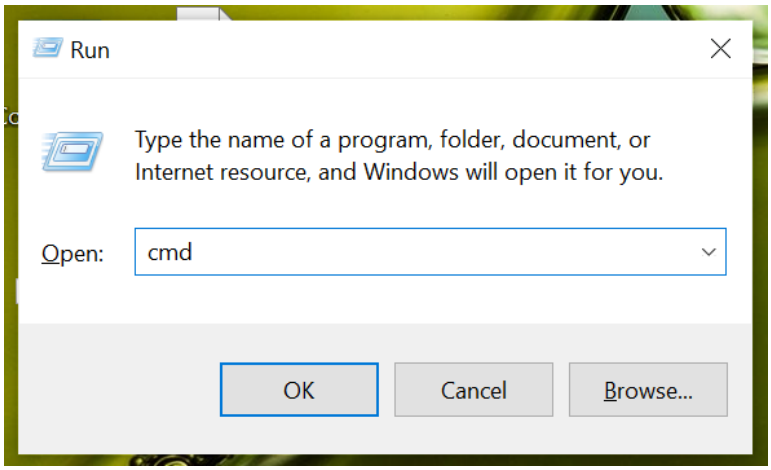


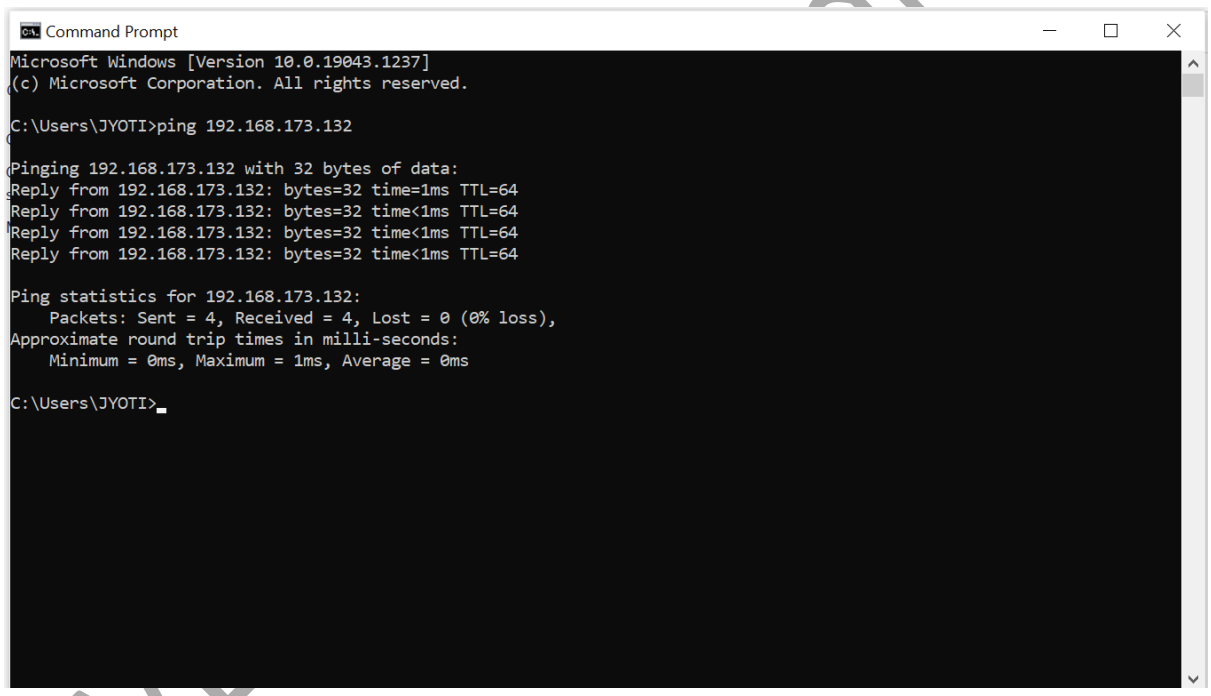

Windows shares...192.168.173.132
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
Network
Computer
Ubuntu
Connect
Password required for share my-samba-share on 192.168.173.132
Connect As
Anonymous
Registered User
Username
tom
Domain
WORKGROUP
Password
Forget password immediately
Remember password until you logout
Remember forever
Cancel
Connect
"my-samba-share" selected

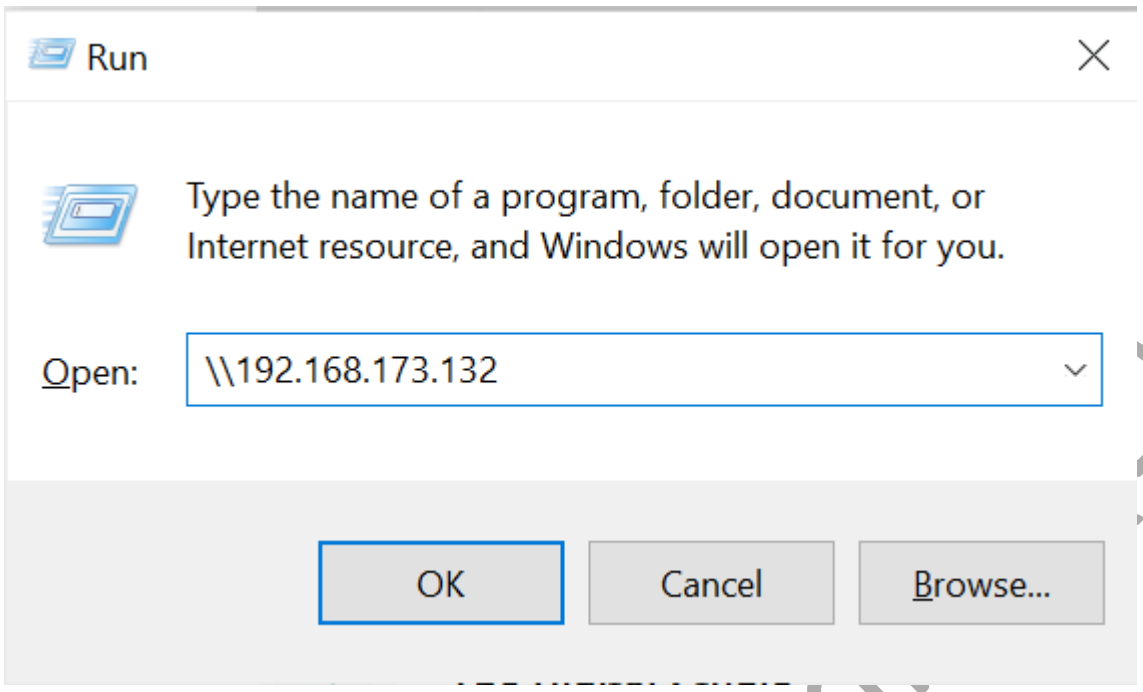

File Edit View Go Bookmarks Help
En
10:42 PM
my-samba-share...192.168.173.132
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
Network
Computer
my-samba-sha...
Ubuntu 16.04....
Connect to Server

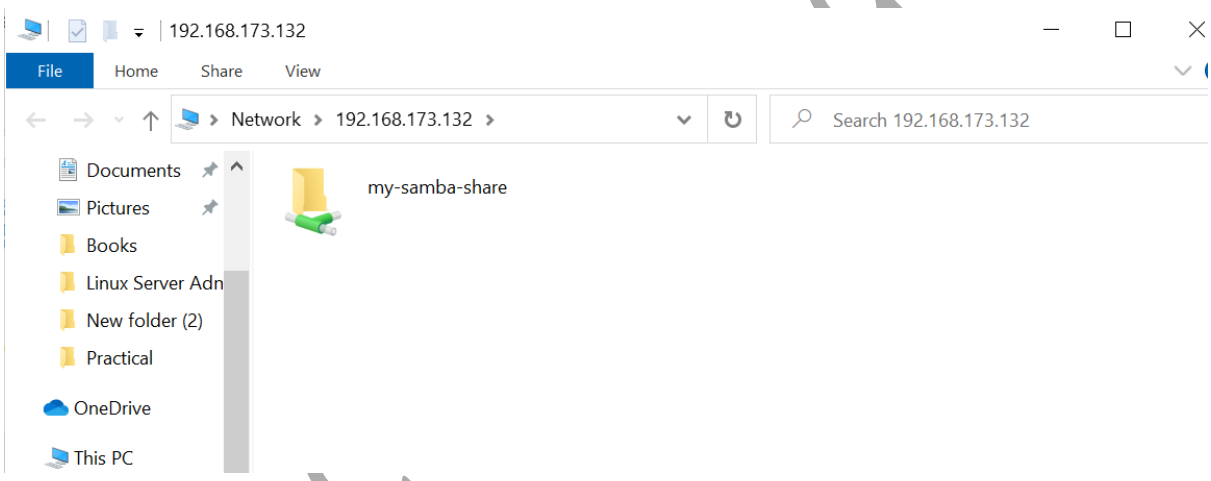
Windows Client Side:

1. Press window + R then enter cmd. And then ping the server to check whether we are in the network or not.






Run
Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:
\\192.168.173.132
OK
Cancel
Browse...


192.168.173.132
File
Home
Share
View
Network
192.168.173.132
Search 192.168.173.132
Documents
Pictures
Books
Linux Server Adn
New folder (2)
Practical
OneDrive
This PC
my-samba-share