

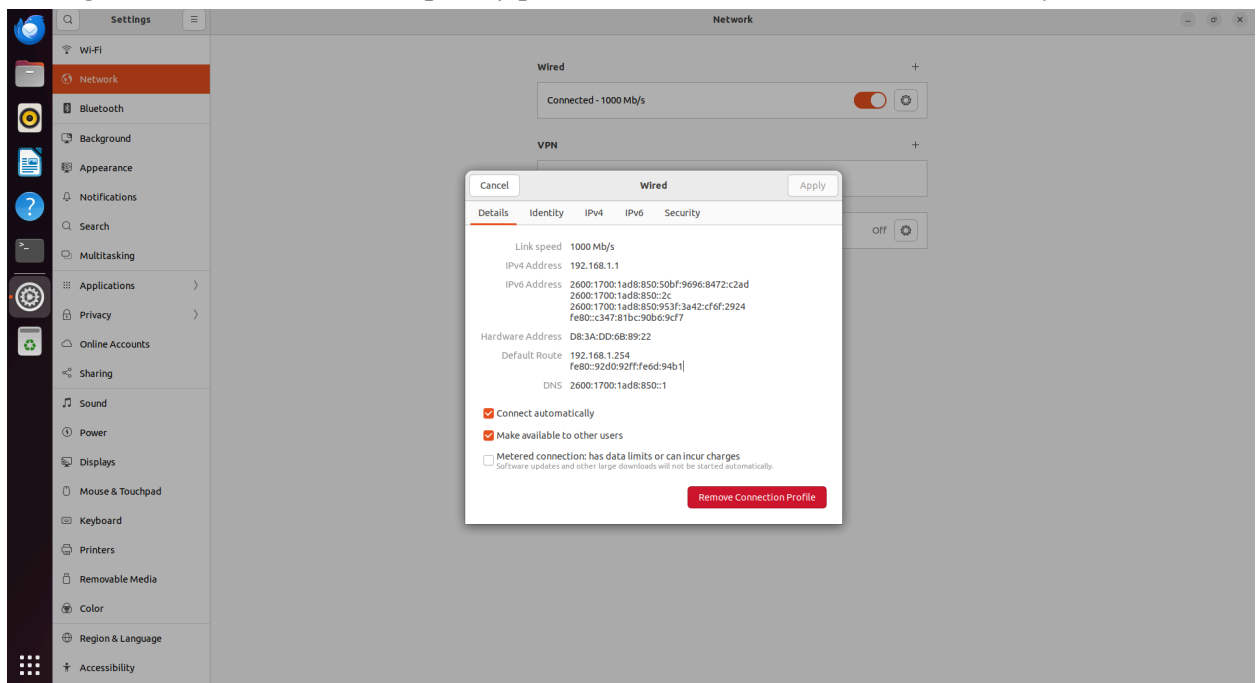
# Share-a-Samba

**Objective:** The goal of this project was to implement a centralized file-sharing solution across all home devices using Samba. By setting up a Samba server on a local Linux-based machine, shared directories were configured to allow secure and seamless access from multiple devices including Windows PCs and macOS laptops. The project aimed to provide a consistent, cross-platform file-sharing environment within the home network, improving accessibility and organization of media, documents, and backups without relying on cloud storage or external services. Access permissions and user authentication were configured to ensure proper security and control over shared resources.

**Equipment:** Raspberry Pi 4 and CAT 6 Ethernet

## Steps:

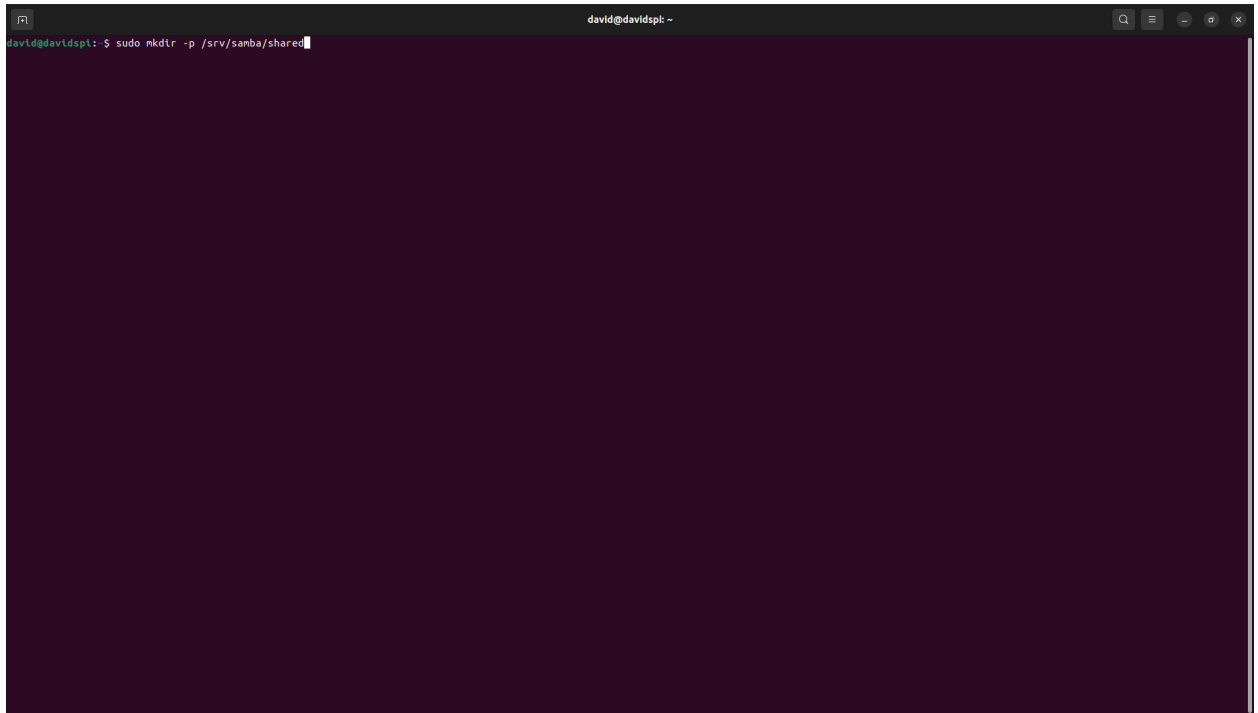
1. I used the command **sudo apt update && sudo apt upgrade -y** to make sure my Raspberry Pi is up to date
2. I configured a static IP for the raspberry pi so all other devices can connect seamlessly



### 3. I installed Samba with the command `sudo apt install samba`

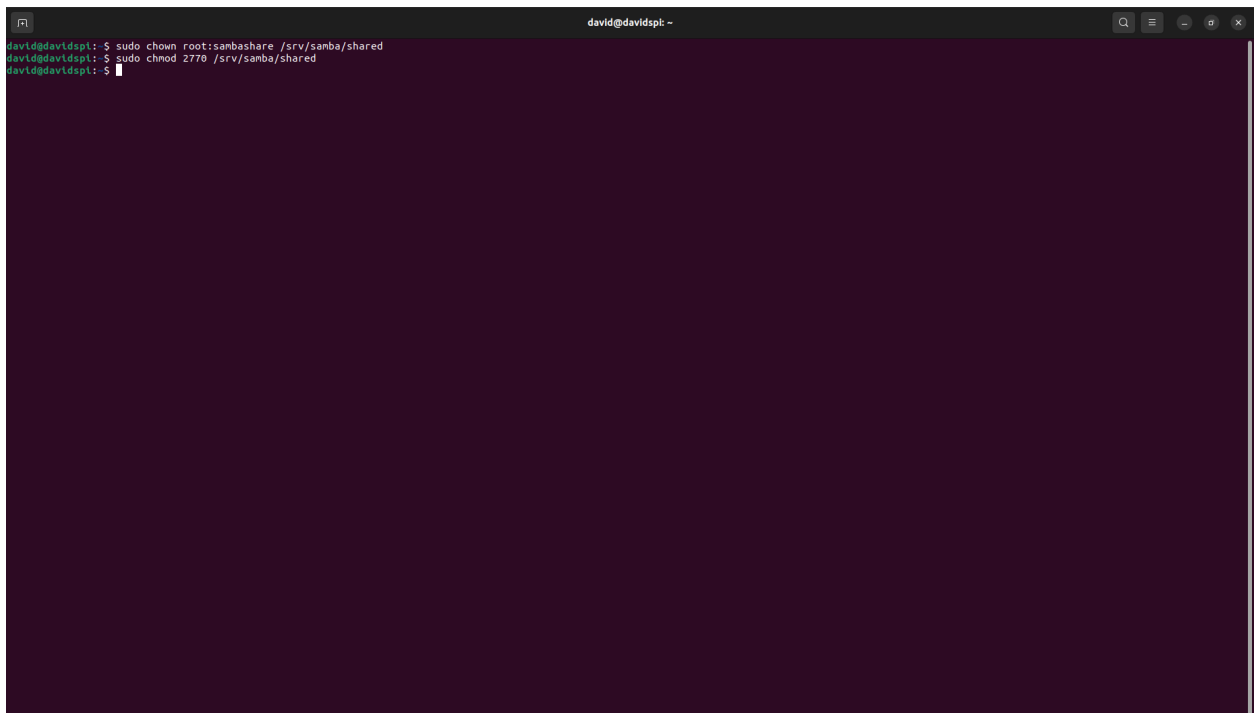
```
david@davidspt: ~$ sudo apt install samba
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  attr libcephfs2 python3-dnspython python3-gpg python3-markdown python3-pygments python3-requests-toolbelt python3-samba python3-tdb samba-common samba-common-bin samba-dsdb-modules samba-vfs-modules
  tdb-tools
Suggested packages:
  python3-sniffio python3-trio python-markdown-doc python-pygments-doc ttf-bitstream-vera bind9 bind9utils ctdb ldb-tools ntp | chrony smbldap-tools winbind heimdal-clients
The following NEW packages will be installed:
  attr libcephfs2 python3-dnspython python3-gpg python3-markdown python3-pygments python3-requests-toolbelt python3-samba python3-tdb samba samba-common samba-common-bin samba-dsdb-modules
  samba-vfs-modules tdb-tools
0 upgraded, 15 newly installed, 0 to remove and 0 not upgraded.
Need to get 7,516 kB of archives.
After this operation, 53.5 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 python3-dnspython all 2.1.0-1ubuntu1 [123 kB]
Get:2 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 python3-tdb arm64 1.4.5-2build1 [15.2 kB]
Get:3 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 python3-samba arm64 2:4.15.13+dfsg-0ubuntu1.6 [2,973 kB]
Get:4 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 samba-common all 2:4.15.13+dfsg-0ubuntu1.6 [75.7 kB]
Get:5 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 samba-common-bin arm64 2:4.15.13+dfsg-0ubuntu1.6 [616 kB]
Get:6 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 tdb-tools arm64 1.4.5-2build1 [25.9 kB]
Get:7 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 samba arm64 2:4.15.13+dfsg-0ubuntu1.6 [1,183 kB]
Get:8 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 attr arm64 1:2.5.1-1build1 [22.6 kB]
Get:9 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 libcephfs2 arm64 17.2.7-0ubuntu0.22.04.2 [695 kB]
Get:10 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 python3-gpg arm64 1:16.0-1.2ubuntu4.2 [210 kB]
Get:11 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 python3-markdown all 3.3.6-1 [68.5 kB]
Get:12 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 python3-pygments all 2.11.2+dfsg-2ubuntu0.1 [750 kB]
Get:13 http://ports.ubuntu.com/ubuntu-ports jammy/main arm64 python3-requests-toolbelt all 0.9.1-1 [38.0 kB]
Get:14 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 samba-dsdb-modules arm64 2:4.15.13+dfsg-0ubuntu1.6 [309 kB]
Get:15 http://ports.ubuntu.com/ubuntu-ports jammy-updates/main arm64 samba-vfs-modules arm64 2:4.15.13+dfsg-0ubuntu1.6 [411 kB]
Fetched 7,516 kB in 1s (8,882 kB/s)
Preconfiguring packages ...
Selecting previously unselected package python3-dnspython.
(Reading database ... 181660 files and directories currently installed.)
Preparing to unpack .../00-python3-dnspython_2.1.0-1ubuntu1_all.deb ...
Unpacking python3-dnspython (2.1.0-1ubuntu1) ...
Selecting previously unselected package python3-tdb.
Preparing to unpack .../01-python3-tdb_1.4.5-2build1_arm64.deb ...
Unpacking python3-tdb (1.4.5-2build1) ...
Selecting previously unselected package python3-samba.
Preparing to unpack .../02-python3-samba_2k3a4.15.13+dfsg-0ubuntu1.6_arm64.deb ...
Unpacking python3-samba (2:4.15.13+dfsg-0ubuntu1.6) ...
Selecting previously unselected package samba-common.
Preparing to unpack .../03-samba-common_2k3a4.15.13+dfsg-0ubuntu1.6_all.deb ...
Unpacking samba-common (2:4.15.13+dfsg-0ubuntu1.6) ...
Selecting previously unselected package samba-common-bin.
Preparing to unpack .../04-samba-common-bin_2k3a4.15.13+dfsg-0ubuntu1.6_arm64.deb ...
Unpacking samba-common-bin (2:4.15.13+dfsg-0ubuntu1.6) ...
Selecting previously unselected package tdb-tools.
Preparing to unpack .../05-tdb-tools_1.4.5-2build1_arm64.deb ...
Unpacking tdb-tools (1.4.5-2build1) ...
Selecting previously unselected package samba.
Preparing to unpack .../06-samba_2k3a4.15.13+dfsg-0ubuntu1.6_arm64.deb ...
Unpacking samba (2:4.15.13+dfsg-0ubuntu1.6) ...
Selecting previously unselected package attr.
```

4. I used the command **sudo mkdir -p /srv/samba/shared** to make a directory on my Raspberry Pi where every device can upload and access it easily



```
david@davidspt: ~  
david@davidspt:~$ sudo mkdir -p /srv/samba/shared
```

5. In order for the root of my Raspberry Pi to be the owner and sambashare is the group I used the command **sudo chown root:sambashare /srv/samba/shared**, I also changed the permission to allow owner and sambashare group full permission for everything



```
david@davidspt: ~  
david@davidspt:~$ sudo chown root:sambashare /srv/samba/shared  
david@davidspt:~$ sudo chmod 777 /srv/samba/shared  
david@davidspt:~$
```

6. **I created separate users for my Mac and Windows machine that can access the samba shared folder**

```
david@davidsp:~$ sudo adduser davidsnac
Adding user 'davidsnac' ...
Adding new group 'davidsnac' (1002) ...
Adding new user 'davidsnac' (1001) with group 'davidsnac' ...
Creating home directory '/home/davidsnac' ...
Copying files from '/etc/skel' ...
New password:
sudo PASSWORD: the password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for davidsnac
Enter the new value, or press ENTER for the default
    Full Name []: David Mac
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:

Is the information correct? [Y/n] y
david@davidsp:~$ sudo usermod -ac sambashare davidsnac
david@davidsp:~$ sudo smbpasswd -a davidsnac
New SMB password:
Retype new SMB password:
Added user davidsnac.
david@davidsp:~$ sudo adduser davidswindow
Adding user 'davidswindow' ...
Adding new group 'davidswindow' (1003) ...
Adding new user 'davidswindow' (1002) with group 'davidswindow' ...
Creating home directory '/home/davidswindow' ...
Copying files from '/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for davidswindow
Enter the new value, or press ENTER for the default
    Full Name []: David Window
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:

Is the information correct? [Y/n] y
david@davidsp:~$ sudo usermod -ac sambashare davidswindow
david@davidsp:~$ sudo smbpasswd -a davidswindow
New SMB password:
Retype new SMB password:
Added user davidswindow.
david@davidsp:~$
```

7. To add the final touches for the samba setup I had to edit a .conf file with the command **sudo nano /etc/samba/smb.conf** to allow all the configuration I had done previously to be enforced

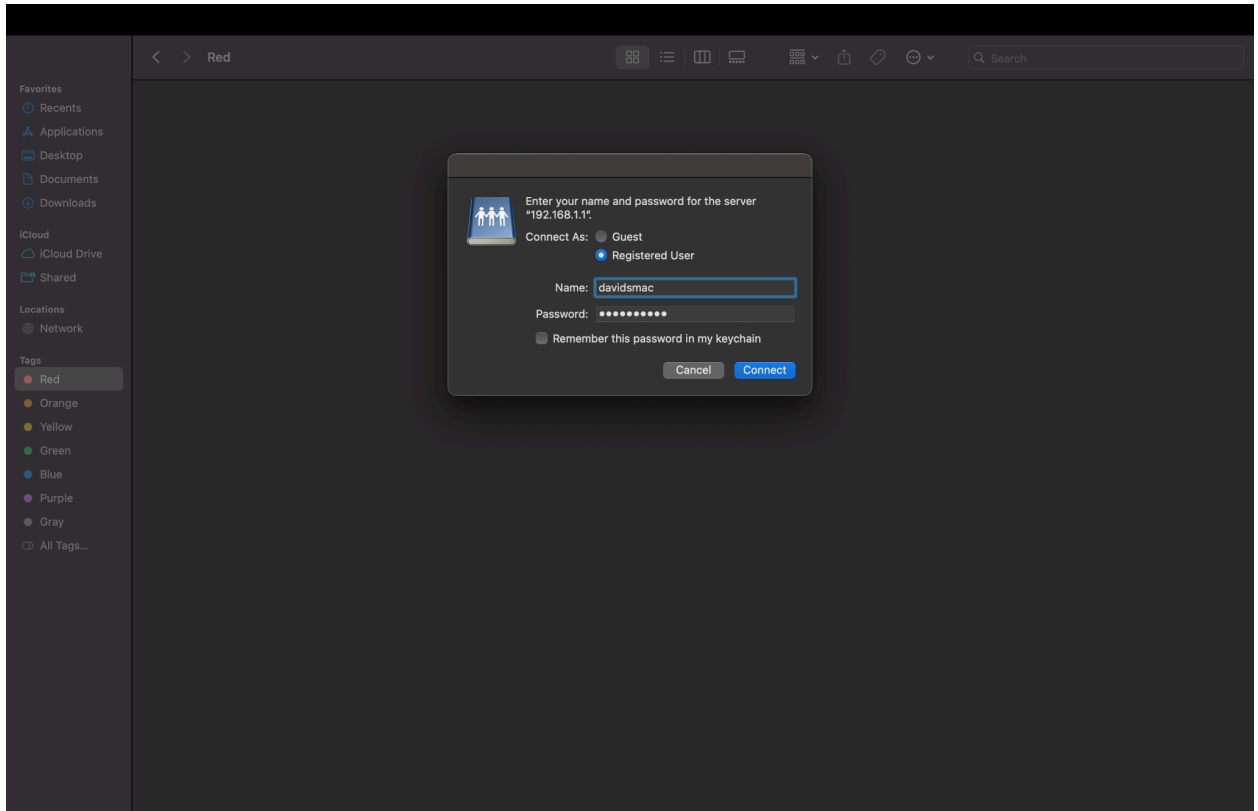
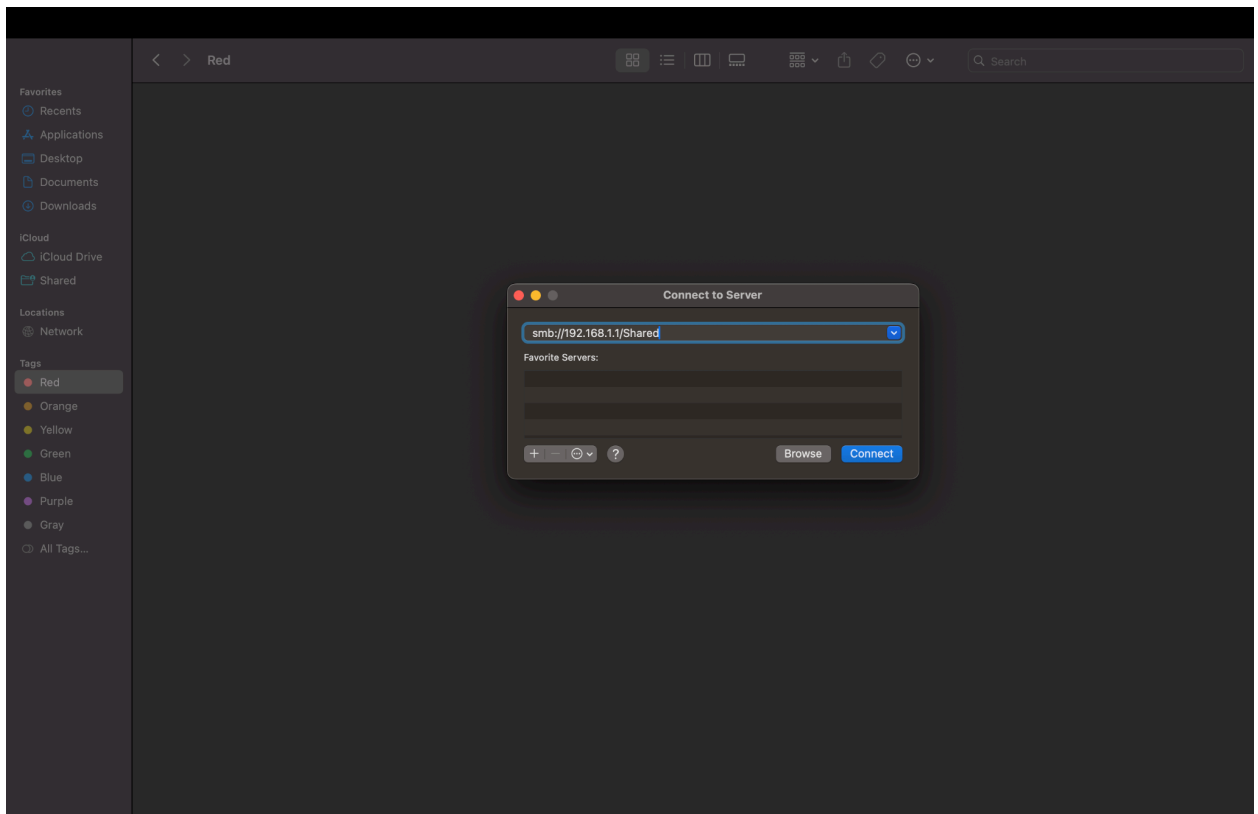
```
GNU nano 6.2 /etc/samba/smb.conf *
# comment = Network Logon Service
# path = /home/samba/netlogon
# guest ok = yes
# read only = yes

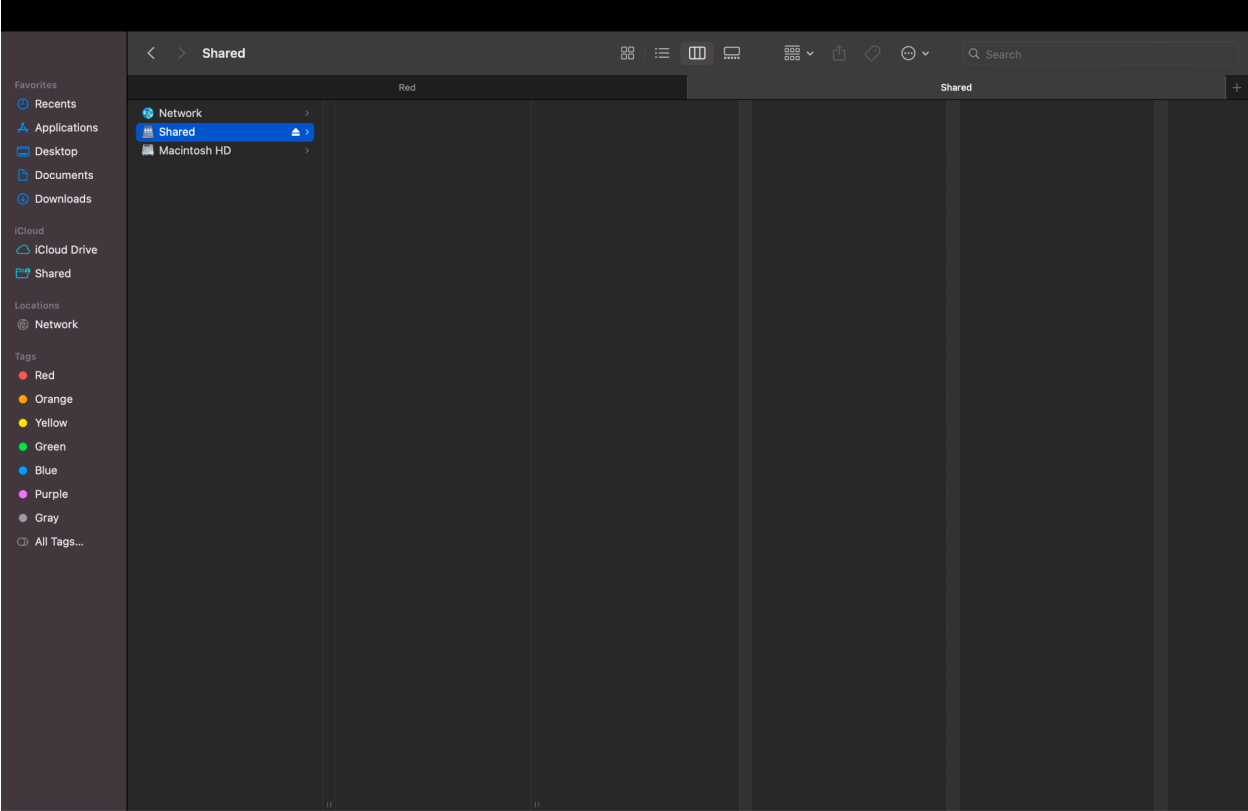
# Un-comment the following and create the profiles directory to store
# users' profiles (see the "logon path" option above)
# (you need to configure samba to act as a domain controller too.)
# The path below should be writable by all users so that their
# profile directory may be created the first time they log on
[profiles]
# comment = Users profiles
# path = /home/samba/profiles
# guest ok = no
# browsable = no
# create mask = 0600
# directory mask = 0700

[printers]
# comment = All Printers
# browsable = 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
# browsable = 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 you
# 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
[shared]
# path = /srv/samba/shared
# valid users = @sambashare
# guest ok = no
# writable = yes
# browsable = yes
# create mask = 0660
# directory mask = 2770
```

8. Now I verified that I can access the samba shared folder with my Mac





9. After verifying that my Mac connection works I uploaded some screenshots that I'm using for this documentation and also used the `mv` command on my raspberry pi to move my screenshots I took

