

## Connect to Department File Services on Linux

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*Our systems currently only support a single Unix user on a Linux desktop using SMB protocol. The user needs to have root access.*

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Our Department File Services shares are in the form:

- `\\files22.brown.edu\dfs` (departmental/personal shares)
  - `\\files22.brown.edu\research` (research shares)
  - `\\files22.brown.edu\{sharename}` (miscellaneous shares)
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### Quick Mounting

For a one-time quick mount of the shared folder

1. Open the file explorer
2. Click **File > Connect to Server...**
3. Depending on your Linux distribution, you will see different screens:
4.
  - Ubuntu
5.
  1.
    - You will plugin this address: **smb://files22.brown.edu**
    - Click **Connect**
    - Udate the fields to match what's listed below:
6.
  - Mint - change only the fields below, leave all others default
7.
  1.
    - Server: **files22.brown.edu**
    - Type: **Windows share**
    - Domain name: **ad**
    - Username: **<brown username>**
    - Password: **<brown password>**
8. Any department folders will be displayed.

9. Double-click on your department folder to modify it or its contents
10. You should now see the mounted network folder in the left column of your file explorer

## Permanent Mounting

### Prerequisite Software

You will need to install cifs-utils on your device to perform these steps.

- - - On Red Hat/CentOS
      - - yum install cifs-utils
    - On Debian Based (Ubuntu, Mint)
      - - apt-get install cifs-utils

### Single User

These steps are bit more technical, but should auto-mount your directory each time you boot. **However**, you will need to be connected to Brown (secure) WiFi or connected to a network using Brown VPN.

1.
  1. Create a mounting directory on the computer. The nomenclature of the directory does not matter; make it something easily identifiable.
  2.
    - **sudo mkdir /media/browndfs** --or-- sudo mkdir /mnt/depshare
  3. Next we need to edit a file to program the auto-mount. Use whatever editing program you want. This example uses nano. Backup the original file if you find it necessary.
  4.
    - **sudo nano /etc/fstab**
  5. You're going to add the line below to the bottom of text in this file. Keep in mind that you will have to modify this text to suit whatever network location you want to connect to and to where you want it mounted.
  6.
    - this example will mount the standard DFS location to a mount directory of browndfs
  7.
    1.
      - **//files22.brown.edu/DFS /media/browndfs cifs  
username=brownusername,password=brownpassword,d**

### **omain=ad**

- If you want to mount a specific folder within DFS, add the specific directory locations after //files22.brown.edu/DFS
  - You would also be changing brownusername to your Brown short-ID/username and brownpassword to your current Brown password. Leave the domain=ad as is.
8.
    - **!!** -- This file is accessible to all administrators on the device being used. If you are sharing the device, you will need to create a permission-restricted text file to provide your credentials.
  9. Write out, or save over, fstab.
  10. Either reboot or run **sudo mount -a** to show the new mounted drive.

## **Multiple Users**

If using a device that has multiple users, you can create a text file to supply your credentials. Do as follows

1.
  1. Login as root
  2.
    - **su**
    - Enter your admin password
  3. Create a file using your preferred text editor; nano used again here.
  4.
    - **nano /root/filename.txt**
  5. Add the information below to the text file
  6.
    - **username=<Brown username>**
    - **password=<Brown password>**
    - **domain=ad**
    - -- Make sure to use your correct Brown credentials instead of the placeholders above.
  7. Write our, or save the file.
  8. Update the permissions of this file:
  9.
    - **chmod og-rwx /etc/filename.txt**
  10. Proceed to updating the fstab file as mentioned previously, but modify the text as follows:
  11.
    - **//files22.brown.edu/DFS /media/browndfs cifs**  
**credentials=/root/filename.txt**

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## Tips

You can mount directories lower in the fileshare onto a mount point, just specify the sharename and the path in the mount command.

```
# mount -t cifs //files22.brown.edu/sharename/path1/path2 -o
"username=XXXX,password=YYYY,domain=ad" /mnt/ntserver
```

You can mount the same fileshare on different mount points.

```
# mkdir -p /mnt/ntserver/path1

# mkdir -p /mnt/ntserver/path2

# mount -t cifs //files22.brown.edu/sharename/path1 -o
"username=XXXX,password=YYYY,domain=ad" /mnt/ntserver/path1

# mount -t cifs //files22.brown.edu/sharename/path2 -o
"username=XXXX,password=YYYY,domain=ad" /mnt/ntserver/path2
```

```
# To connect via smbclient for a FTP-like interface
# (with <SHARENAME> = e.g. 'research', 'dfs', ...):
smbclient //files22.brown.edu/<SHARENAME> -U
<BROWNUSERNAME>@AD.brown.edu
```

```
# To (temporarily) mount it via the command line
# (choosing the <DIRNAME> as you wish):
sudo mkdir /mnt/<DIRNAME>
sudo mount -t cifs -o
username=<BROWNUSERNAME>,file_mode=0777,dir_mode=0777
//files22.brown.edu/<SHARENAME>/<SOME_OPTIONAL_PATH> /mnt/<DIRNAME>
```

```
# A typical rsync backup command to sync some
# (local or remote) directory <SOURCE>
sudo rsync -rltDP <SOURCE> /mnt/<DIRNAME>
# needs to be done with root permissions, otherwise no permission to set timestamps
```