

## **“Setting up the Macintosh as an NFS Client”**

Notes: The following guide is for setting up a BU Linux NFS share to a Macintosh running Leopard (10.5.x). The steps below need to be done as a privileged user or with an Administrator account.

Summary:

- Step 1: Create the Mount Point
- Step 2: Configure the NFS Maps
- Step 3: Configure Autofs
- Step 4: Configure UIDs and GIDs

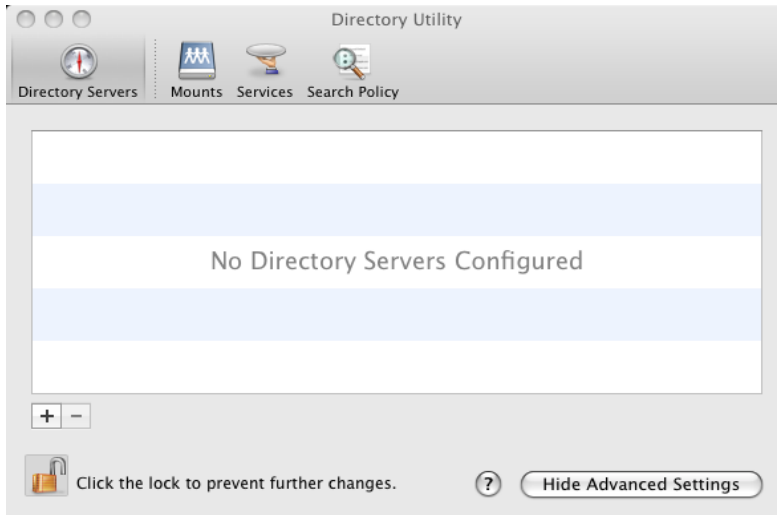
### **Step 1: Creating the Mount Point**

There are several ways to do this. Using the GUI interface, you can navigate through the Macintosh's hard drive and create a “folder” in the desired location or, using a terminal window, you can use the command line interface (CLI) to create a directory. In either case (GUI or command line), the folder or directory will need to be owned by root, and have appropriate group and user permissions.

The location of the Terminal application is : /Applications Folder/Utilities /

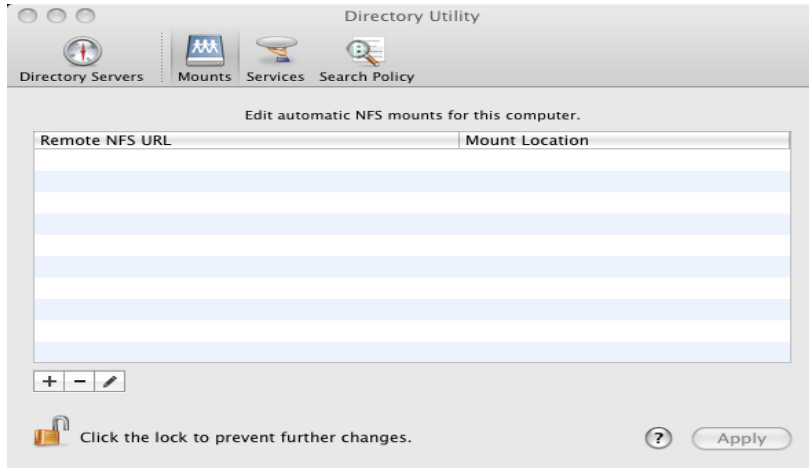
### **Step 2: Configuring the NFS Maps**

a. Open up the Directory Utility, in /Applications/Utilities/

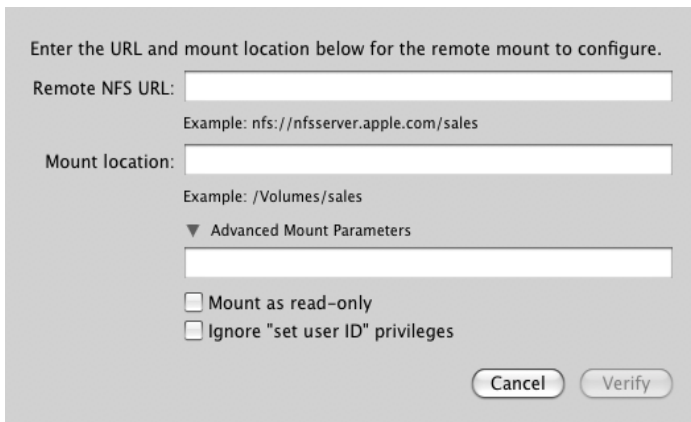


Notes: Make sure the “Advanced Settings” are listed, and that the padlock is opened.

b. Click on the Advanced Setting: Mounts



c. Click on the “+” located on the lower left of the window. This will open another window:



d. Make sure the “Advanced Mount Parameters” is open.

e. Fill in the three areas:

1. Remote NFS URL: Type in: `nfs://hostname.bu.edu/nfs-share`

hostname.bu.edu = The NFS server  
nfs-share = The name of the directory that is being shared out

2. Mount location: Type in: The path to the mount point created in step one

3. Advanced Mount Parameters: Type in: `-P resvport`

*Note: Each desired mount point needs to be entered separately.*

*Note: The data that is entered is stored in a “property list” file (\*.plist). These property list files are stored in the following area: /var/db/dslocal/nodes/Default/mounts/ Once these files are created, they can be copied over to additional Macs and one wouldn't need to launch the Directory Utility again to configure in the mount points.*

f. Click the Verify button. This should connect the NFS mount point and let you know that things are functional. Click the OK button.

*Note: If there is a problem with the NFS server, it will ask you to create the mount point without verifying. If this happens, then click the “Don't Verify” button and seek the help of the system administrator who manages the NFS server.*

g. The process should return you to the main Directory Utility window. Click the “Apply” button.

h. Close the Directory Utility window.

i. Verify the mount point works by opening the terminal window and navigating to the mount point created in Step 1 of this document.

### **Step 3:            Configuring Autofs**

To set up autofs, there are a bunch of files located in the /etc/ directory that need to be modified. These files can be edited with the 'vi' application located in /Applications/Utilities/. (You will need to use a privileged account and become root to edit these files.)

- a. /etc/hostconfig
- b. /etc/autofs.conf
- c. /etc/auto\_master

a. hostconfig:

The following entry needs to say:    AUTOMOUNT=-YES-

b. autofs.conf:

The following entries need to be uncommented and/or modified:

```
AUTOMOUNT_TIMEOUT=3600
AUTOMOUNT_VERBOSE=TRUE
AUTOMOUNTD_VERBOSE=TRUE
```

c. auto\_master:

You should modify this file with the area where the mounts are located

Example:                /fs                auto\_fs

*Note: In the example above the mount points will be located in the /fs directory.*

The entries for the auto\_fs file would be as follows:

Example:                local-mountpoint        servername:/mountpoint-to-be-shared-out

**Step 4:                Configuring UIDs and GIDs**

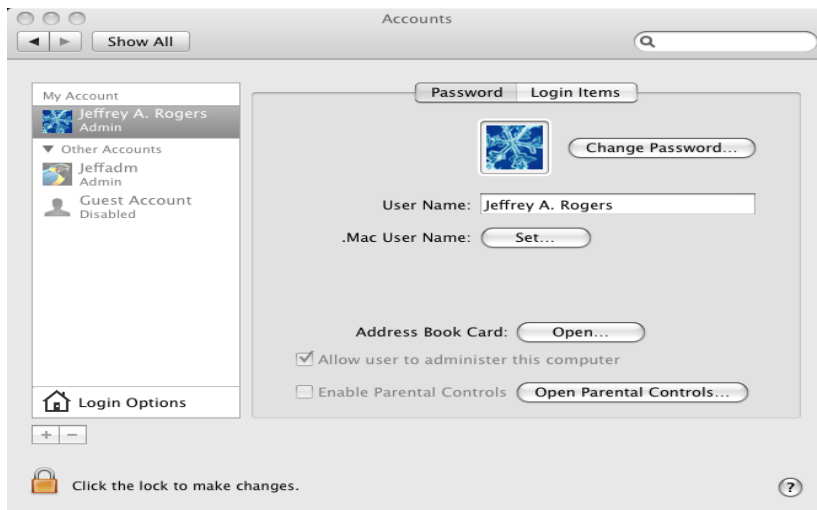
The NFS mounted share needs to be accessed by the user accounts on the Macintosh. To ensure that the user accounts can access the NFS shares, you'll need to make sure that the UID and GID of each of the users is correct.

The first thing to verify is that the user's ID (UID) matches that of our Boston University PH directory.

The PH database can be reached via the web at: <http://www.bu.edu/phpbin/webph/>

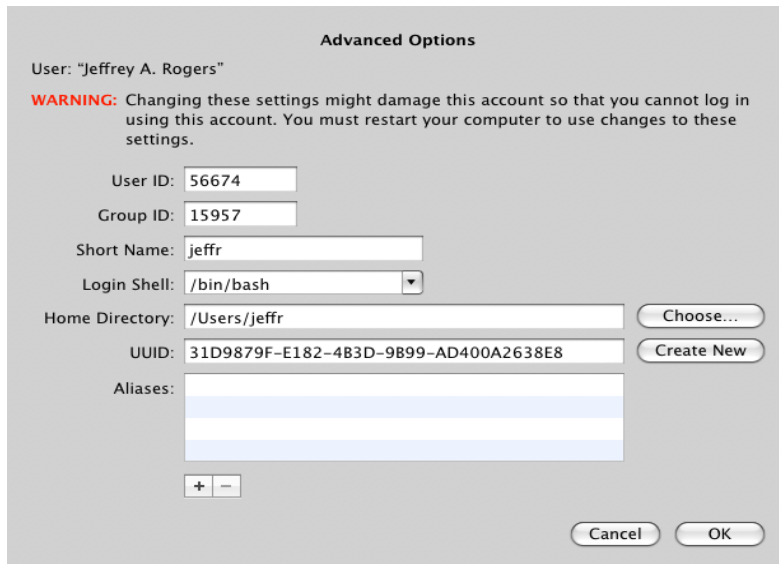
When you connect to the site, you are prompted to type in a users name. When found, the user's information is displayed. Within the information posted there is a field called "Index ID" -- a number preceded by an "X". The number that comes after the "X" is the users ID or UID. This UID number then needs to be set on the Macintosh.

To set this, you'll need to open the System Preferences Utility found in the Applications folder. Once that is opened, locate the Accounts icon and click on that. The following window will appear:



Make sure that the padlock on the bottom left is unlocked. Once that is open, "right click" the user

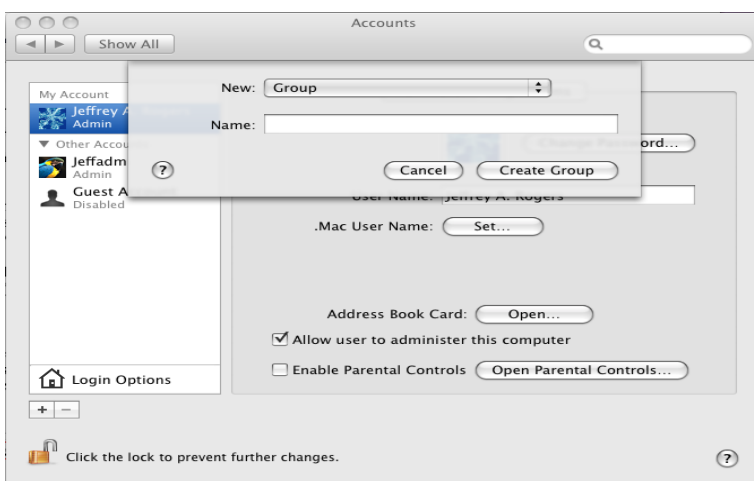
account, which should pop up a bubble with the words “Advanced Options...” Click on that bubble to display a new area:



The User ID is the first field. The second field is the users Group ID (GID). In the example above, the account for jeffr had the UID changed to 56674 and the GID changed to 15957

The group “15957” happens to match that of the group ID of the NFS share that is now mounted on the Mac.

If the Group 15957 doesn't exist on the Mac, you'll need to create the group. You can find the name of that group from the NFS server that is exporting the NFS share. To create a group, open System Preferences (located in /Applications/). Click on “Accounts”. Make sure that the padlock on the bottom left is unlocked. Click on the “+” symbol (to add an account). A new window will pop up asking for data on the new account. The first entry is named “New Account”. Click the arrow button to scroll down and select “Group”. Type in the name of the desired group and click “Create Group”



Note: If you are making these changes after the user account has been in use, you will need to change

the permissions of all of the user files. To accomplish this, use the terminal application. Become root via the sudo command and follow the example below:

Type: `cd /Users/`

Type: `sudo chown -R jeffr jeffr`

*(jeffr = user account jeffr = directory name)*

`sudo chgrp -R modis jeffr` *(modis = group account jeffr = directory name)*