

files.cgrb.oregonstate.edu

File access @ the CGRB

After months of processing on the CGRB infrastructure, you may wish to download the resulting files for access on your local machine. Or, perhaps you'd like the access to files and scripts to be transparent, so you can drag-and-drop or edit them on your local machine with your preferred text editor and have the changes reflected at the CGRB. Fortunately, both of these are possible!

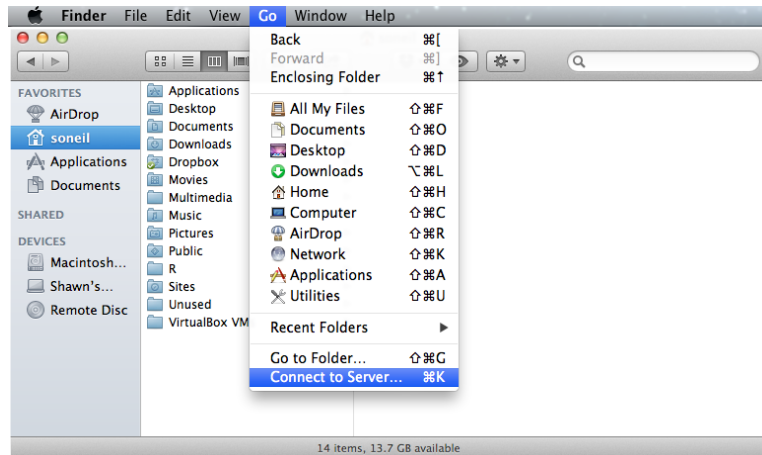
First, it should be noted that while there are many computers hosted by the CGRB, any given file is likely only stored on a single computer called a *file server*, and all other computers access those files over the network. This results in all of the CGRB computers having access to the same files (including all the processing nodes, and machines such as `needleman`). Thus, in theory, your local machine could connect to any CGRB computer to access your files. However, this would tax the network in unpredictable ways. To get around this, we've limited access to most computers in the CGRB, and set up a special computer specifically for file access outside the CGRB. Its name is:

`files.cgrb.oregonstate.edu`

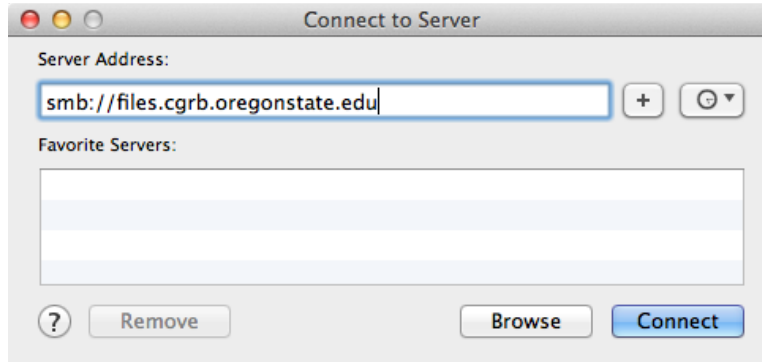
There are three primary ways to access your files through this machine: the *Samba* protocol (allowing you to network-map CGRB drives on your own computer for drag-and-drop and transparent access), *SFTP* (for upload/download type file access), and *SCP* (an alternative means for upload/download type file access, usually used from the command-line).

Samba From OSX:

On your OSX machine, Open the Finder and Select “Go → Connect to Server...” :

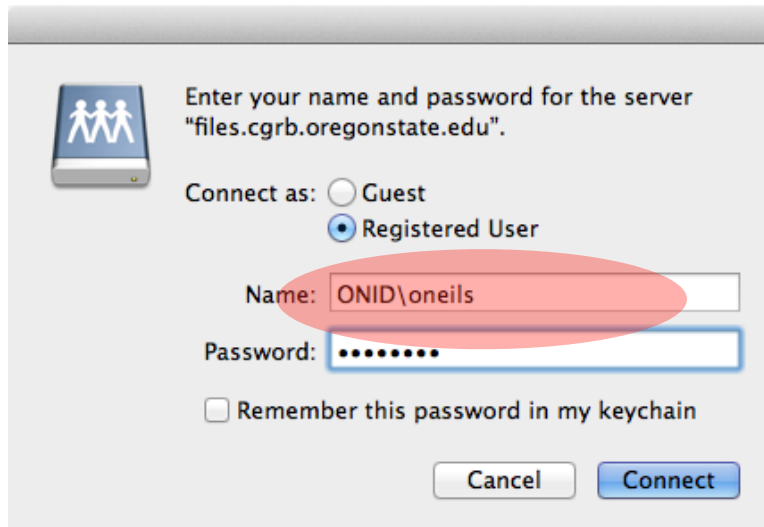


In the window that opens, type `smb://files.cgrb.oregonstate.edu` in the Server Address field and click “Connect.”



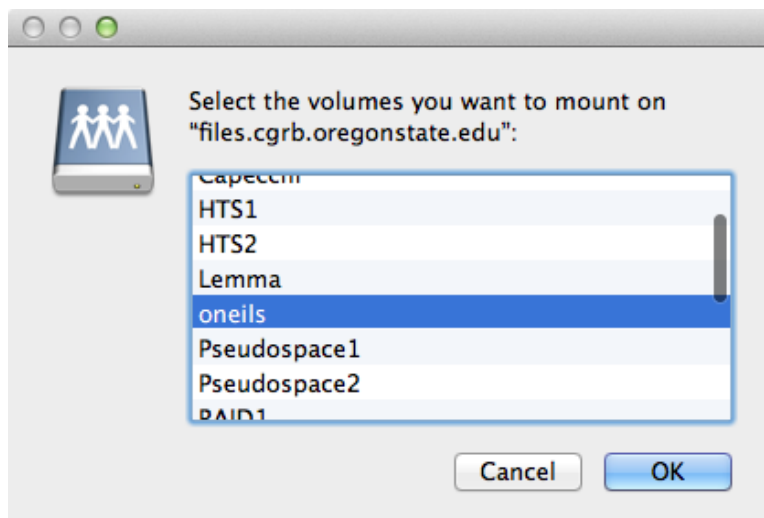
In the resulting window, enter your ONID username and password, and prepend your username with the ONID domain and a backslash:

In the next window (so many windows...), your home directory should be the default selection if your ONID username matches your CGRB username. Alternatively, if you



Don't forget the ONID\

have access to other CGRB locations (e.g. a colleague's home folder located somewhere in /raid1), you can select those instead.¹



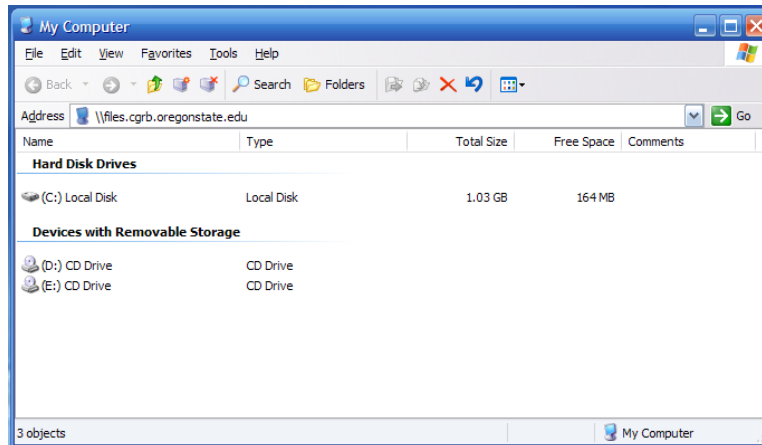
Once you are finished, you can eject the volume as usual in the OSX Finder.

¹ Also, when inputting the Server Address, you can use something like `smb://files.cgrb.oregonstate.edu:/raid1` to not be asked which volume to mount; this can be useful if you add the Server Address to a list of common addresses using the + button.

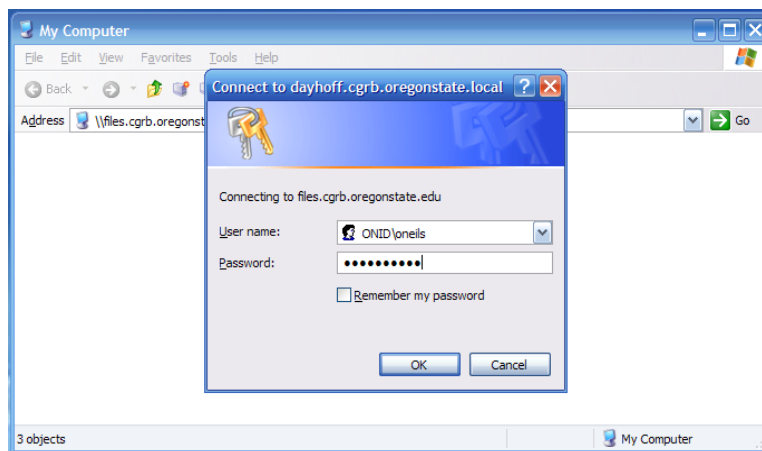
Samba from Windows (XP, Win 7 Very Similar)

Access the CGRB filesystems for drag-and-drop from Windows is similar to that for OSX. First, open an Explorer window, and in the address bar, type:

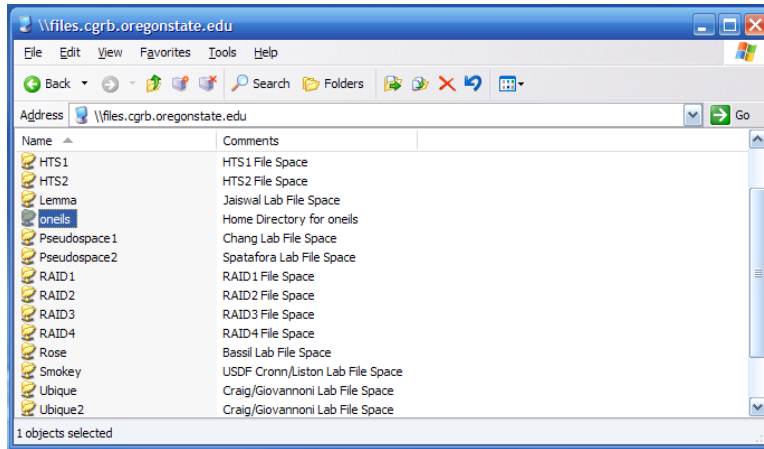
```
\\files.cgrb.oregonstate.edu
```



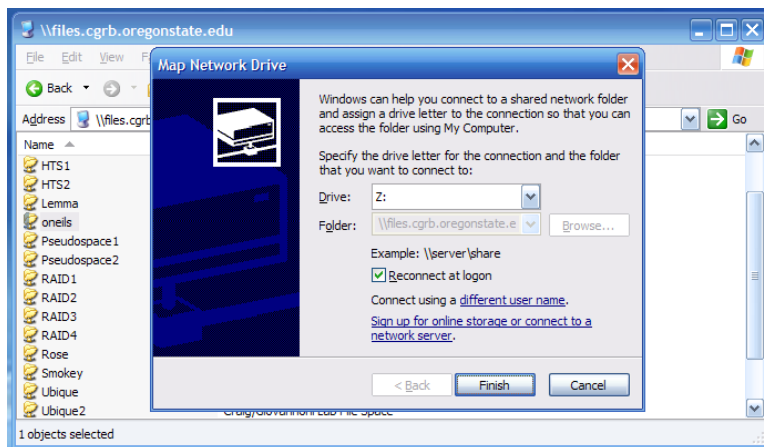
When you hit enter, you will be prompted for your *ONID* username and password. Prepend your ONID password with the ONID\ domain identifier:



From there, you can browse around the files, including your home directory (if it has the same name as your ONID username):



You can also map one of these remote volumes as a network drive, by selecting on, right-clicking, and selecting “Map Network Drive...” In the options window that appears, you can select a drive letter for it, and determine whether it is mapped by default at logon.



To remove the map, find the drive in the Explorer, right click on it, and select “Disconnect.”

SFTP - Secure File Transfer Protocol

The CGRB also support SFTP (secure file transfer protocol) for moving files between the infrastructure and your local desktop. As with drag-and-drop Samba access, the machine to connect to is:

```
files.cgrb.oregonstate.edu
```

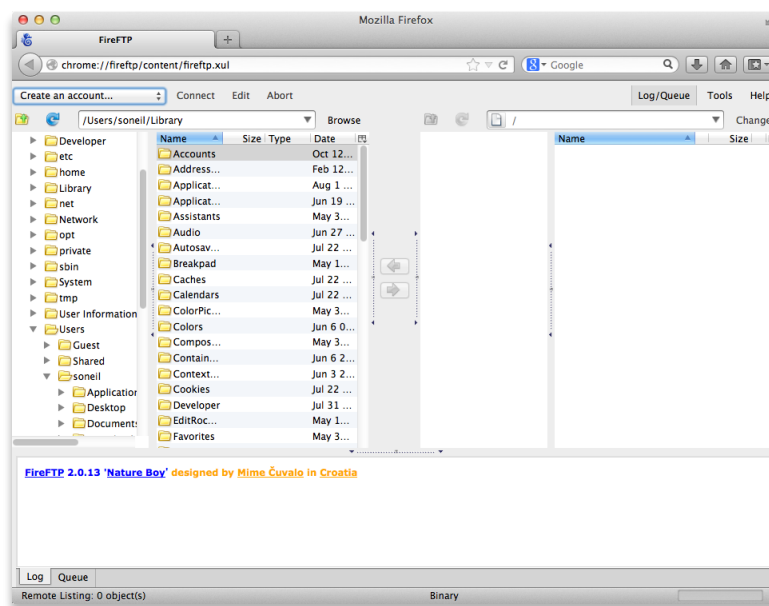
To connect to the CGRB using SFTP, you will need an SFTP client. There are many clients for most operating systems; here we describe the detailed use of one of the few cross-platform clients that will work with OS X, Windows, and Linux called “FireFTP.” If you want to download and use a platform specific client, you could look into the following:

OSX - CyberDuck

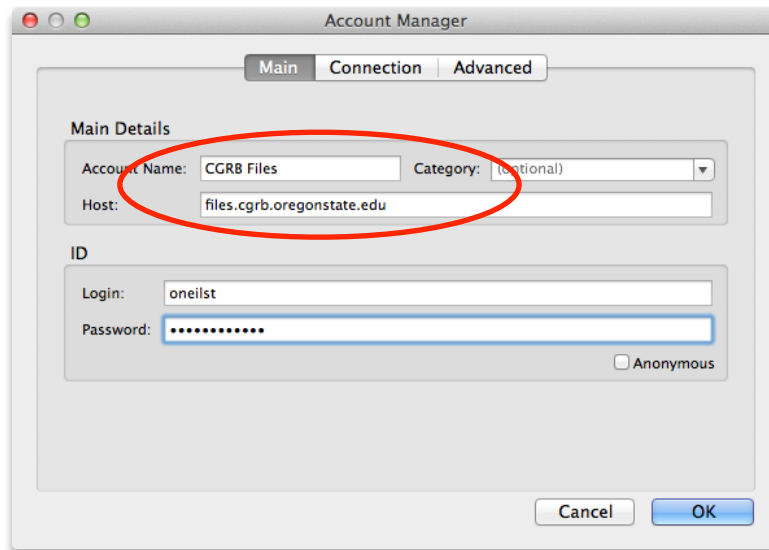
Windows - WinSCP

The FireFTP client actually operates as a browser extension for Firefox. Thus, you may need to first install Firefox from www.mozilla.org. Inside Firefox, search for and install “FireFTP” (you may need to restart Firefox).

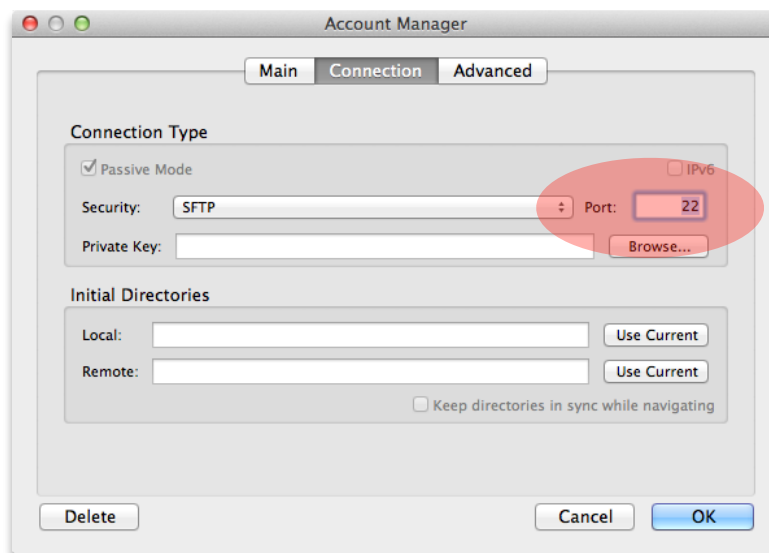
Once you have it installed, you can start it up by opening firefox and selecting the menu sequence “Tools → Web Developer → FireFTP.” (If you’d like to put a button on the firefox toolbar, you can right click the toolbar and select “customize.”)



When the window opens, select “Create new account...” from the drop-down in the upper-left. A window will pop up allowing you to enter a name for the account, the hostname to connect to (in our case `files.cgrb.oregonstate.edu`) and a username and password to connect with. In the username and password fields, use your *CGRB* username and password.

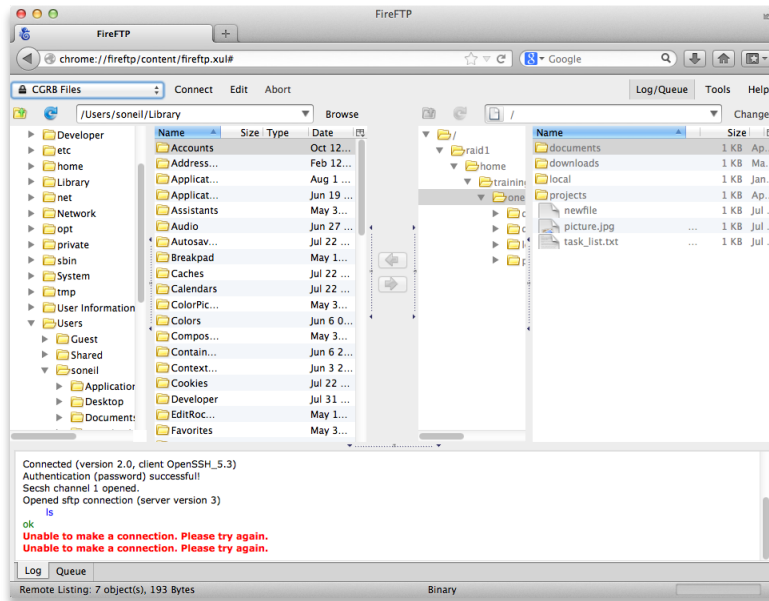


On the “Connection” tab, you will have to select “SFTP” as the connection method:



Don't forget to change the port to the number specified in the “account request” email

After you click “Ok” you can click “Connect” in the upper-left of the main window, and the interface will show you your local files on the left, and your remote files on the right. You can copy files back and forth with the arrows in the middle:



SCP - Secure Copy (Command-Line)

The `scp` secure-copy program is a powerful way to copy files to and from remote machines on the command-line. (As always, we'll be connecting to `files.cgrb.oregonstate.edu`). The syntax is very similar to the `cp` command:

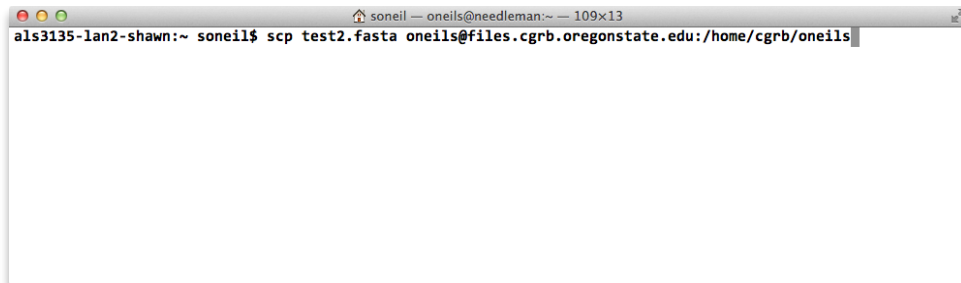
```
scp -r <source> <destination>
```

where the `-r` is only needed when copying a directory and all its contents (recursively), and the `<source>` and `<destination>` are paths; however, with `scp`, we can specify that these paths exist on a remote machine. For example, suppose at the CGRB I have a file in my home directory `/home/cgrb/oneils` called `test.fasta`. On my local OSX machine, if I am working on the command line (Applications → Utilities → Terminal), I can copy that file to my present working directory (`.`). Note that I also specify my CGRB username (`oneils`) when specifying the host to connect to:



```
als3135-lan2-shawn:~ soneil$ scp oneils@files.cgrb.oregonstate.edu:/home/cgrb/oneils/test.fasta .
```

When I press Enter, it will ask for my CGRB username and copy the file. The opposite can also be done: to copy a file in my present working directory called `test2.fasta` up to my home directory at the CGRB:



```
als3135-lan2-shawn:~ soneil$ scp test2.fasta oneils@files.cgrb.oregonstate.edu:/home/cgrb/oneils
```

Note that much like the `cp` command, `scp` also works with wildcards such as `*` and `?`, making it a powerful choice for remote file access.