

Editing files

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There are a number of options for editing files at TACC. These fall into three categories:

- Linux text editors installed at TACC (**nano**, **vi**, **emacs**). These run in your terminal window. **vi** and **emacs** are extremely powerful but also quite complex, so **nano** may be the best choice as a first local text editor.
- Text editors or IDEs that run on your local computer but have an SFTP (secure FTP) interface that lets you connect to a remote computer (**Notepad++** or **Komodo Edit**). Once you connect to the remote host, you can navigate its directory structure and edit files. When you open a file, its contents are brought over the network into the text editor's edit window, then saved back when you save the file.
- Software that will allow you to mount your home directory on TACC as if it were a normal disk e.g. MacFUSE/MacFusion for Mac, or ExpanDrive for Windows or Mac (\$\$, but free trial). Then, you can use any text editor to open files and copy them to your computer with the usual drag-drop.

We'll go over `nano` together in class, but you may find these other options more useful for your day-to-day work.

nano on Lonestar via ssh

nano is a very simple editor available on most Linux systems. If you are able to use ssh, you can use nano.

To invoke it, just type:

How to start the nano text editor

```
nano
```

You'll see a short menu of operations at the bottom of the terminal window. The most important are:

- **ctl-o** - write out the file
- **ctl-x** - exit **nano**
You can just type in text, and navigate around using arrow keys. A couple of other navigation shortcuts:
- **ctl-a** - go to start of line
- **ctl-e** - go to end of line



Be careful with long lines – sometimes **nano** will split long lines into more than one line, which can cause problems in our commands files, as you will see.

Komodo Edit for Mac and Windows

Komodo Edit is another free, full-featured text editor with syntax coloring for many programming languages and a remote file editing interface. It has versions for both Macintosh and Windows. [Download the appropriate install image here.](#)

Once installed, start Komodo Edit and follow these steps to configure it:

- Configure the default line separator for Unix
 - On the **Edit** menu select **Preferences**
 - Select the **New Files** Category
 - For **Specify the end-of-line (EOL) indicator for newly created files** select **UNIX (\n)**
 - Select OK
- Configure a connection to TACC
 - On the **Edit** menu select **Preferences**
 - Select the **Servers** Category
 - For **Server type** select **SFTP**
 - Give this profile the **Name** of **Lonestar**
 - For **Hostname** enter **lonestar.tacc.utexas.edu**
 - Enter your TACC user ID for **Username**
 - Leave **Port** and **Default path** blank
 - Select OK

When you want to open an existing file at Lonestar, do the following:

- Select the **File** menu -> **Open** -> **Remote File**
 - Select your **Lonestar** profile from the top **Server** drop-down menu
 - Once you log in, it should show you all the files and directories in your Lonestar \$HOME directory
- Navigate to the file you want and open it
 - Often you will use the **work** or **scratch** directory links to help you here

To create and save a new file, do the following:

- From the Komodo Edit **Start Page**, select **New File**

- Select the file type (Text is good for commands files)
- Edit the contents
- Select the **File** menu -> **Save As Other** -> **Remote File**
 - Select your **Lonestar** profile from the **Server** drop-down menu
 - Once you log in, it should show you all the files and directories in your lonestar \$HOME directory
- Navigate to where you want to put the file and save it
 - Often you will use the **work** or **scratch** directory links to help you here

Notepad++ for Windows

Notepad++ is an open source, full-featured text editor for Windows PCs (not Macs). It has syntax coloring for many programming languages (Python, Perl, shell), and a remote file editing interface.

If you're on a Windows PC [download the installer here](#).

Once it has been installed, start **Notepad++** and follow these steps to configure it:

- Configure the default line separator for Unix
 - In the **Settings** menu, select **Preferences**
 - In the **Preferences** dialog, select the **New Document/Default Directory** tab.
 - Select **Unix** in the **Format** section
 - **Close**
- Configure a connection to TACC
 - In the **Plugins** menu, select **NppFTP**, then select **Focus NppFTP Window**. The top bar of the **NppFTP** panel should become blue.
 - Click the **Settings** icon (looks like a gear), then select **Profile Settings**
 - In the **Profile settings** dialog click **Add new**
 - Call the new profile **lonestar**
 - Fill in **Hostname** (lonestar.tacc.utexas.edu) and your TACC user ID
 - **Connection type** must be SFTP
 - Close

To open the connection, click the blue **(Dis)connect** icon then select **lonestar** connection. It should prompt for your password. Once you've authenticated, a directory tree ending in your home directory will be visible in the **NppFTP** window. You can click the the **(Dis)connect** icon again to Disconnect when you're done.

Since much of the editing we'll do will be in your SCRATCH area at TACC, rather than having to navigate around TACC's complex file system tree, it helps to create symbolic links to your WORK and SCRATCH directory in your home directory. Then you'll be able to get there just by clicking on the **scratch** or **work** folder in the **Notepad++** Remote directory tree. See below for how to do this.

MacFuse/MacFusion/TextWrangler for Mac

Want your Lonestar files to appear like any other place on your hard drive? You can do this using MacFuse/MacFusion on a Mac.

Want to edit files on TACC without having to use nano? You might want to use TextWrangler, a text editor that can edit files over ssh.

Editing Text Files on TACC: TextWrangler

TextWrangler is a recommended FreeWare text editor for MacOS X. (It even keeps with the theme TACC has going with naming its clusters!) You can use it to directly edit text files on Lonestar with OSXFuse/MacFusion using a nice GUI. It is a much more powerful text editor than TextEdit, and won't trip you up by wrapping lines etc., if you learn to use it.

Even if you cannot install OSXFuse/MacFusion, TextWrangler allows you to edit a remote file via SSH. To do this:

1. Select ***File > Open from FTP/SFTP Server...**
2. Type `lonestar.tacc.utexas.edu`, your username, and your password into the appropriate boxes.
3. Check the **You need to check the SFTP box**.
4. Click **connect**.
5. You will now have a file browser window. You can create new files and edit existing files on lonestar, but won't be able to drag-and-drop copy files.

Tip: Files beginning in a dot (.) like `(.profile_user)` are "hidden" and won't show up when you are navigating in Finder (if using OSXFuse/MacFusion). There is a way to turn on showing these files in finder, but it can get annoying because they will show up everywhere. If you use the TextWrangler "open" command to open a file, there is a box that you can check to show these files.

Connecting to TACC Like a Hard Drive: MacFuse/MacFusion

Here are the steps for an installation:

1. Download and install [FUSE for OS X](#).
 - Check the option to install the "compatibility layer"
2. Download [MacFusion](#).
 - Move the app that gets downloaded to your Applications folder
3. Restart your computer.
4. Open the MacFusion application.
5. Click the + menu in the window and select SSHFS. Enter your login information for lonestar. Choose connect. The remote file system will appear in Finder (depending on your settings it may be on the desktop or inside the computer shortcut in the side of a Finder window). You can also click on the mounted volume within MacFusion and choose "Reveal" from the gear menu.

Copying Files To and From TACC: SFTP Clients

If you can't get OSXFuse/MacFusion to work, you can still copy files back and forth between your computer and TACC using a secure FTP (SFTP) client. Some examples of free programs for Mac are:

- [Cyberduck](#)
- [Fetch](#)

Now let's [wrap up this brief linux tutorial](#).

In order to make navigating to the different file systems on lonestar easier (\$SCRATCH and \$WORK), you can set up some shortcuts with these commands that create folders that "link" to those locations. Run the commands when logged into Lonestar with a terminal, from your home directory.

Creating a shortcut to the main Lonestar working directories

```
cdh
ln -s $SCRATCH scratch
ln -s $WORK work
ln -s $BI BioITeam
```

Now let's move on to [some final explanations](#).