<u>Research Data Services (RDS)</u>

Using Stata on Linux server

Stata on the Linux server can be run with either graphical user interface or the command line interface.

- With the graphical interface, Stata looks and runs very similarly to how the program runs on a Windows PC.   The limitation of the graphical interface is that when the connection to the Linux server ends, Stata stops.
- With the command line interface, Stata can be run in batch mode. Stata can continue to run even after the connection to the Linux server ends.

The last page of these notes has the commands for invoking Stata on Linux.

Using the Linux server to run Stata requires three pieces of software: an SSH program, an SFTP program and an X11 program.   Windows PCs require additional software. Macintosh and Linux computers have built-in SSH, SFTP and X11.

- SSH (Secure SHell) is a protocol for making a connection to the Linux server.   SSH provides an encrypted terminal session on the server.   RDS recommends **PuTTY** to make SSH connections; PuTTY is freeware. PuTTY is available at: http://www.chiark.greenend.org.uk/~sgtatham/putty/
   An alternative to PuTTY is *SecureCRT*; SecureCRT is available through Penn. In the PuTTY window, you will invoke Stata.
- SFTP (SSH File Transfer Protocol) is a protocol for copy files between the desktop or laptop computer and the Linux server.   RDS recommends **WinSCP**; WinSCP is freeware and interacts with puTTY.   WinSCP is available at: http://winscp.net/eng/index.php
   An alternative is *FileZilla*; FileZilla is also freeware. In the WinSCP window, you can copy data files, do files and results files to and from the server.
- X11 is the protocol for rendering graphics on the Linux server. An X11 program is necessary in order to use the graphical user interface. RDS recommends **Xming**; Xming has a freeware version. Xming is available at: http://www.straightrunning.com/XmingNotes/
   An alternative is *Cygwin/X*; Cygwin/X is also freeware.   Commercial X11 programs may also be purchased.
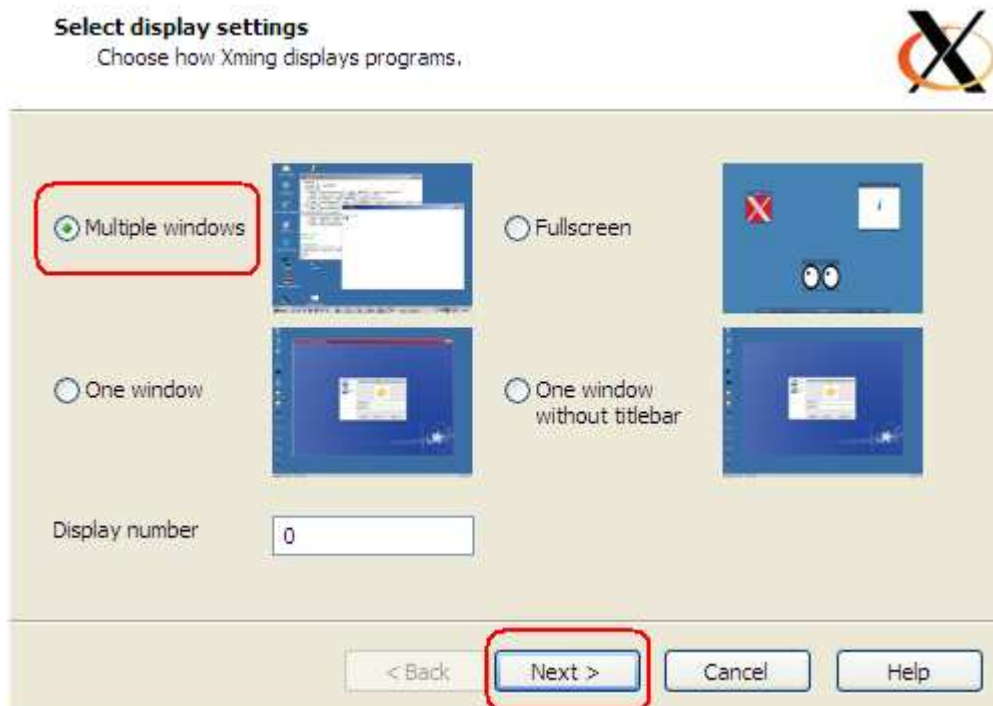
The server running Stata is: **pils.ssc.upenn.edu**

➢ **Configuring Xming and WinSCP**

❖ To configure Xming…Start *XLaunch*

…select "Multiple Windows" then click the Next> button

…Start no client then click the Next> button

Select how to start Xming
Choose session type and whether a client is started immediately.

⦿ Start no client

This will just start Xming. You will be able to start local clients later.

○ Start a program

This will start a local or remote program which will connect to Xming. You will be able to start local clients later too. Remote programs are started using PuTTY/SSH.

○ Open session via XDMCP

This will start a remote XDMCP session. Starting local clients later is limited. This option is not available with the "Multiple windows" mode.

< Back   Next >   Cancel   Help

…click the Next> button

Specify parameter settings
Enter clipboard, remote font server, and all other parameters.

☑ Clipboard   ☐ No Access Control
Start the integrated clipboard manager   Disable Server Access Control

Remote font server (if any)

Additional parameters for Xming

Additional parameters for PuTTY or SSH

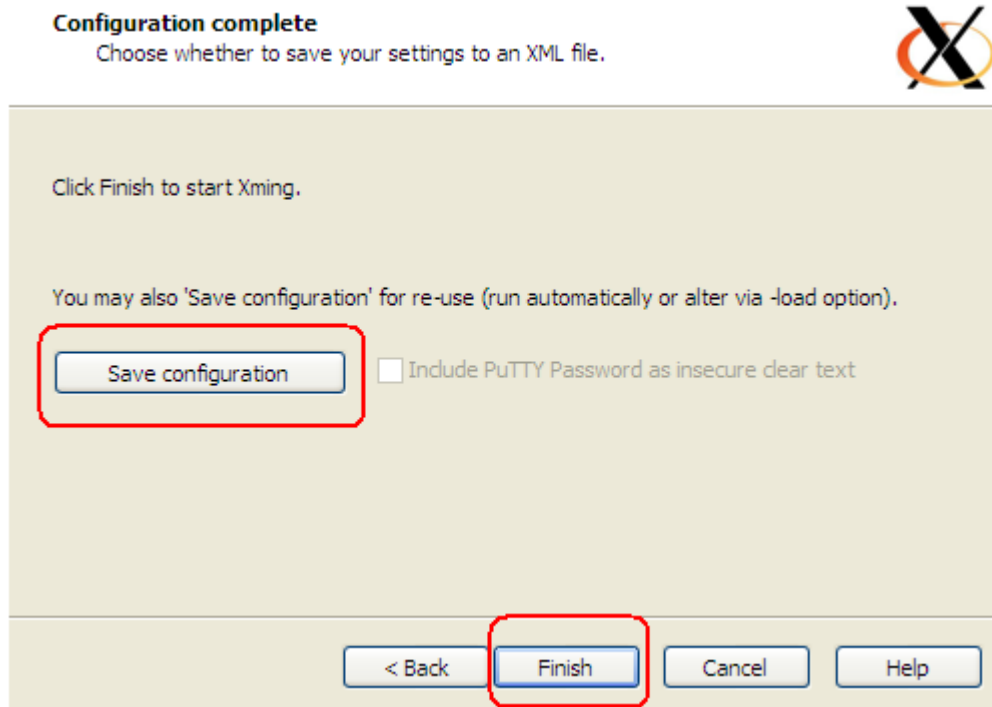< Back   Next >   Cancel   Help

…Save configuration to config.xlaunch on your desktop and then click the Finish button

If Windows asks…"Do you want to keep blocking this program?" Click the "Keep Blocking" button.

After you save, you will see this icon on your desktop:

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When Xming is running, you will see this icon in the tray section of the task bar

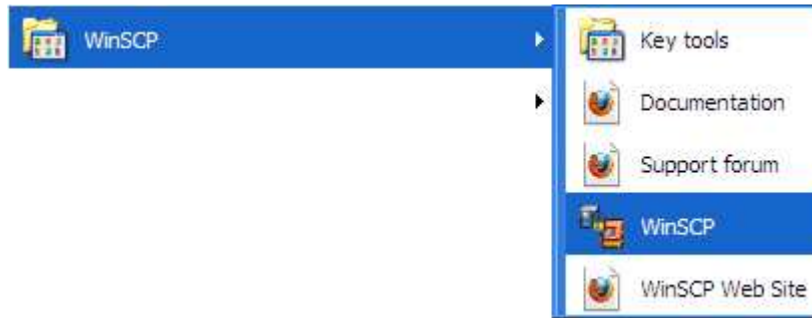You can now run Xming by clicking on the desktop icon.

The tray icon will indicate if Xming is already running.

You do not need to restart Xming (Trying to start Xming when it is already running causes no harm.)
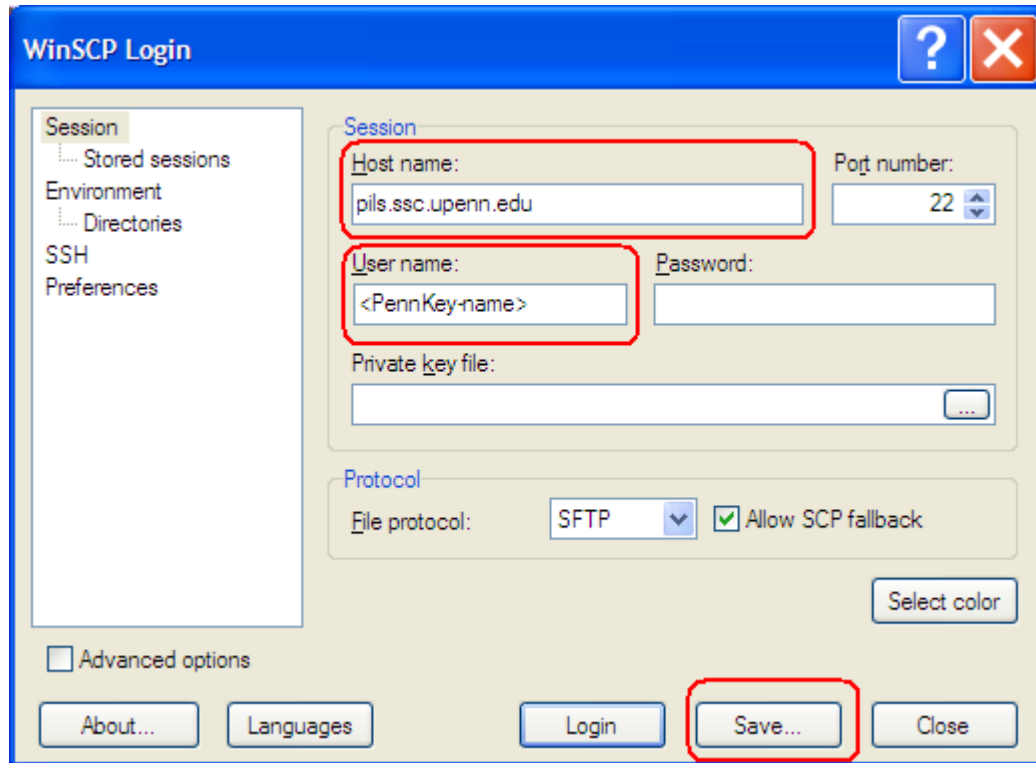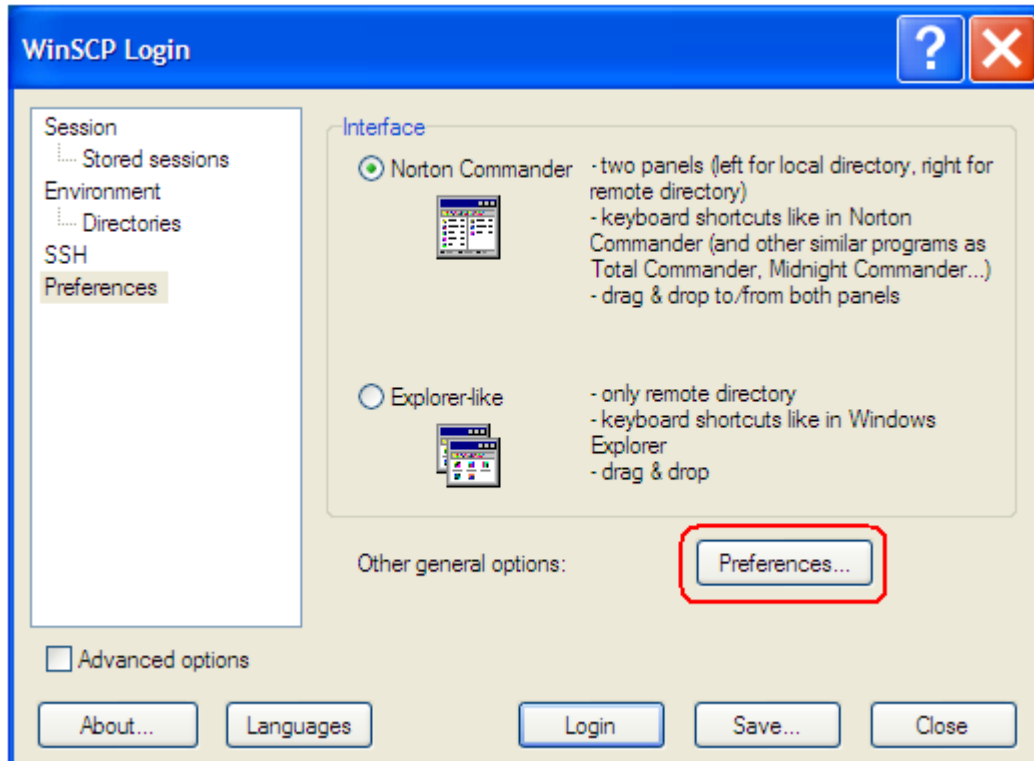
❖ To configure WinSCP, Start..WinSCP

…Under Session…

…Type "pils.ssc.upenn.edu" in the Host name field and your PennKey-name in the User name field and then click the Save button.

RDS recommends that you do NOT save your password.
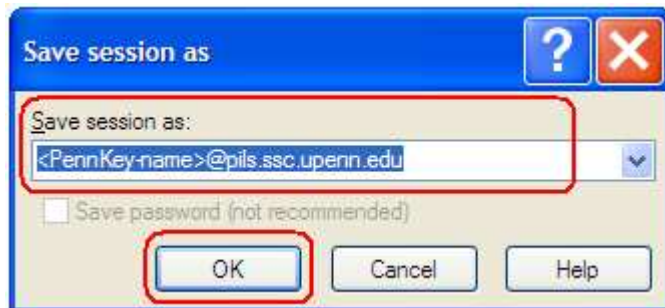
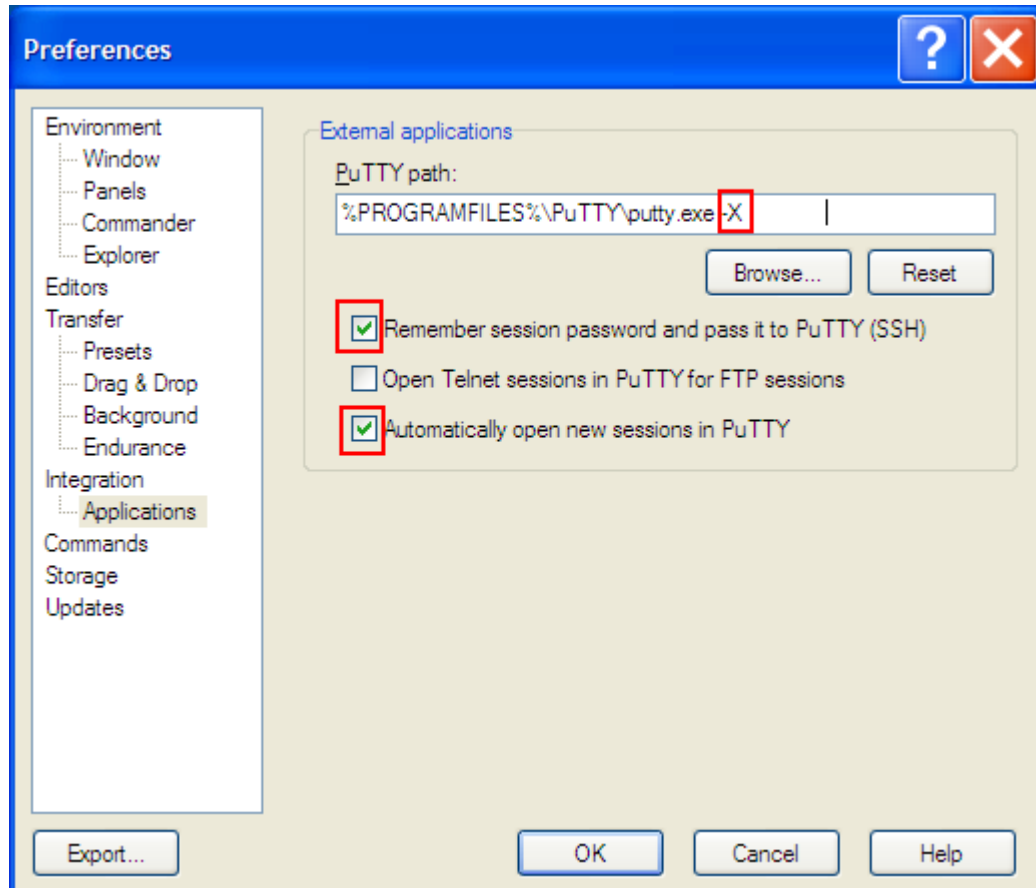...configure WinSCP to interact with puTTY..click Preferences and then the Preferences button

…Integration…Applications

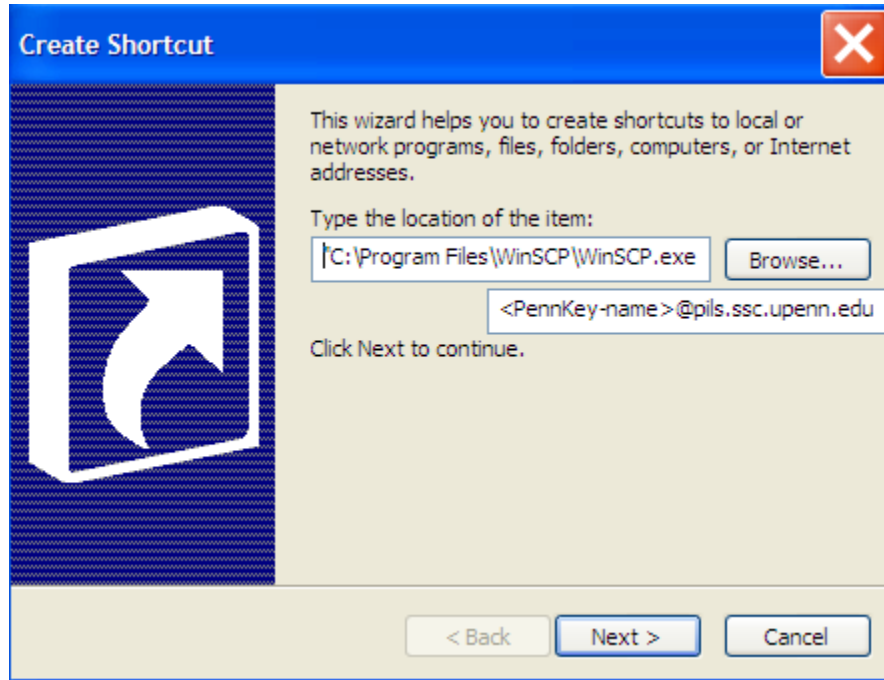Add -X to the PuTTY path.   (The "X" must be the capital letter)

Check the box "Remember session password and pass it to PuTTY

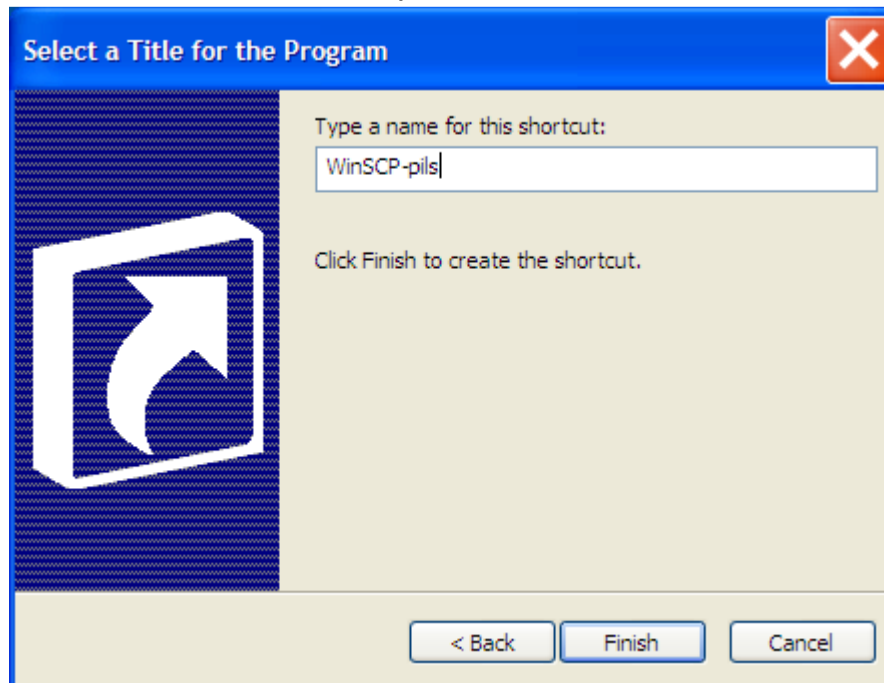Check the box…"Automatically open new session in PuTTY

Click OK button

…Create a desktop shortcut to start WinSCP and connect to pils.ssc.upenn.edu
"C:\Program Files\WinSCP\WinSCP.exe" <PennKey-name>@pils.ssc.upenn.edu

Name the shortcut WinSCP-pils and click the Finish button

You should now have two icons on your desktop:

You are now ready to run Stata on the Linux server.

➢ **Connecting to the server and running Stata**

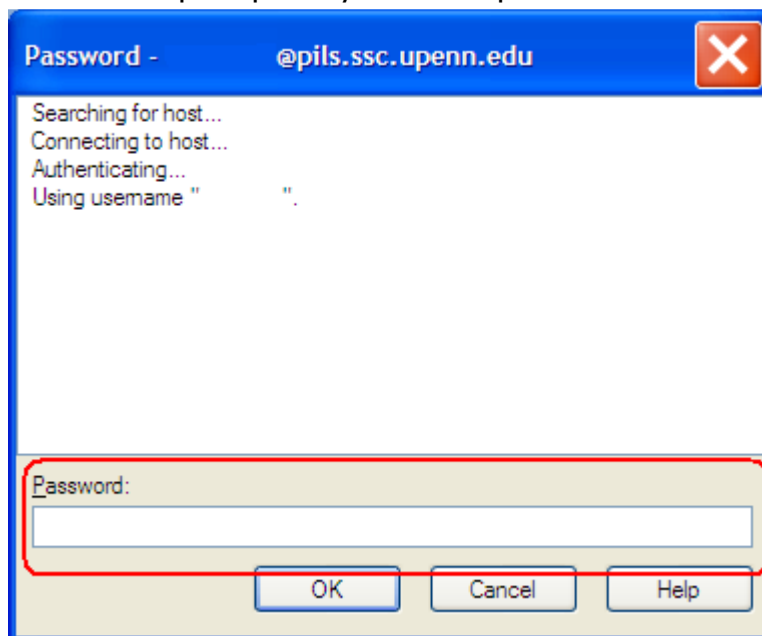(1) If Xming is not already running, click on the desktop icon:

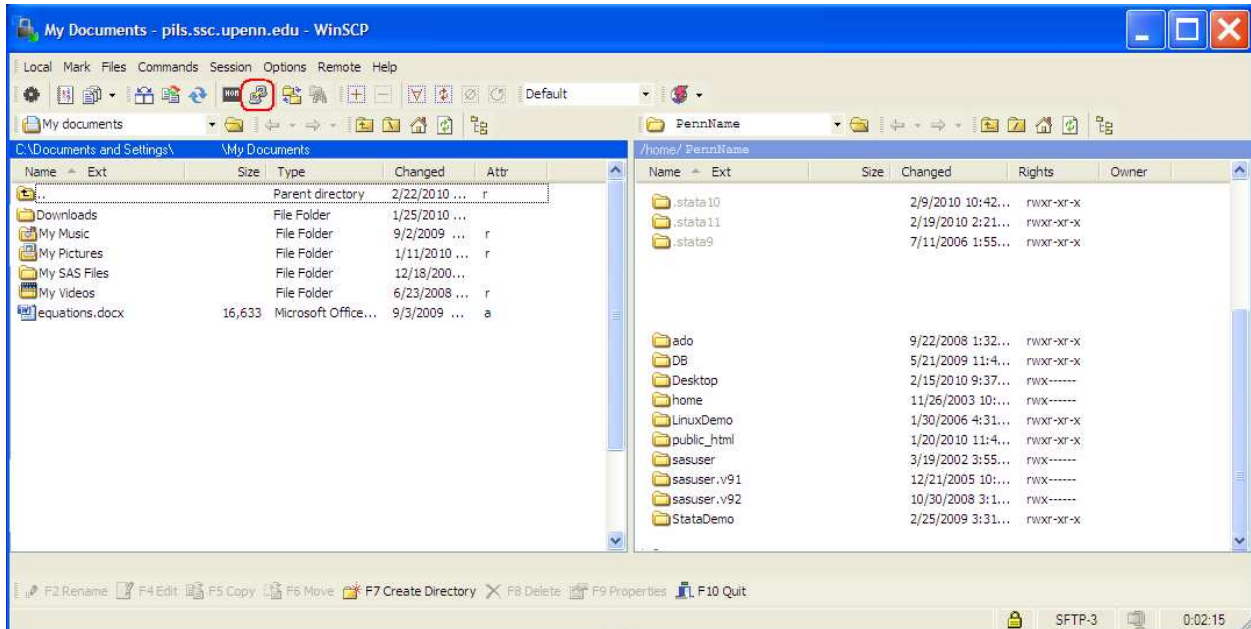(2) Click on the icon to connect to pils.ssc.upenn.edu with WinSCP

This icon will start both WinSCP and PuTTY

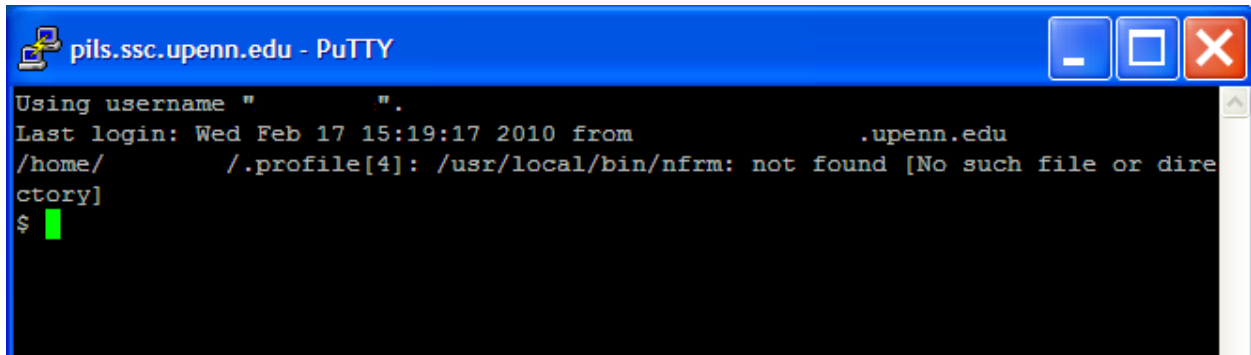WinSCP will prompt for your Linux password.

WinSCP opens a Window:

Files on the desktop computer are in the left pane while files on the Linux server are in the right pane.   Files may be dragged between the two panes.

If PuTTY does not open automatically click on the PuTTY button in toolbar:

The PuTTY terminal window is:

At the "$" prompt…
To invoke the graphical interface version of Stata: **xstata &**
(Linux commands are case sensitive, so type this command in all lower case.
The ampersand (&) is part of the command.

To invoke Stata Special Edition: **xstata-se &**
To invoke Stata Parallel Edition: **xstata-mp &**

Closing the terminal session will end the graphical sessions.

To run a Stata job and be able to disconnect from the server, use the nohup
(nohup stands for nohangup) command:
nohup stata -b do stata-do-filename &
or

nohup stata-se -b do stata-do-filename &

or

nohup stata-mp -b do stata-do-filename &

Substitute your do file name for stata-do-filename. Stata commands are read
from that file. Results will written to the file: **nohup.out**

With nohup, you can start a Stata job, logout and log back in later to check
results.   You can start jobs and check results from different locations.

You can copy results from the server with WinSCP

The command to logout of Linux is: **exit**