

## Guide to the Configuration and Use of SFTP Clients for Uploading Digital Treatment Planning Data to QARC

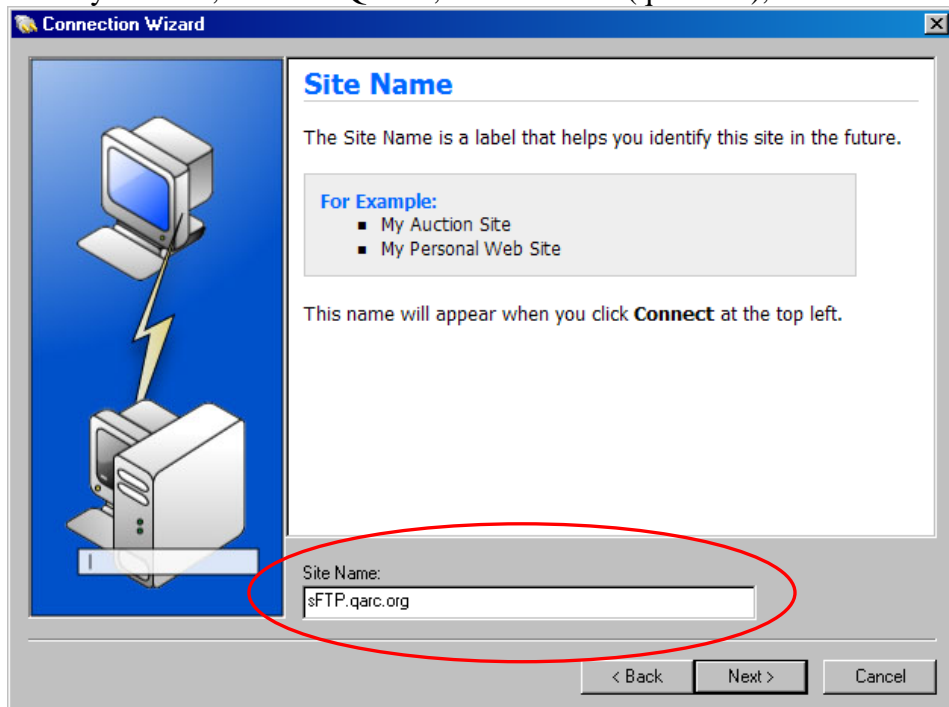
The Quality Assurance Review Center has tested several SFTP client programs for submitting digital data to QARC. These include one commercial package (Ipswitch WS FTP Pro) and two free, open-source SFTP clients programs (FileZilla and WinSCP) for the Windows PC platform, as well as the command-line sftp program (OpenSSH) in Linux. Procedures for configuring these programs to submit data are outlined below.

Other client programs may also support upload of data to QARC as long as they are capable of connecting to the SFTP/SSH2 server (**sFTP.qarc.org**, current IP address **174.67.111.241**) using network port 22. Configuration of these programs will likely be similar to those shown below.

### WS FTP Professional (Windows PC)

WS FTP Professional is a commercial FTP client software package, available from Ipswitch, Inc. ([http://www.ipswitchft.com/Individual/Products/Ws\\_Ftp\\_Pro/Evaluation.aspx](http://www.ipswitchft.com/Individual/Products/Ws_Ftp_Pro/Evaluation.aspx)). Versions of WS FTP Pro as early as 8.02 are known to support SFTP/SSH2 connections. The example shown below is for WS\_FTP 12 Professional 2009.

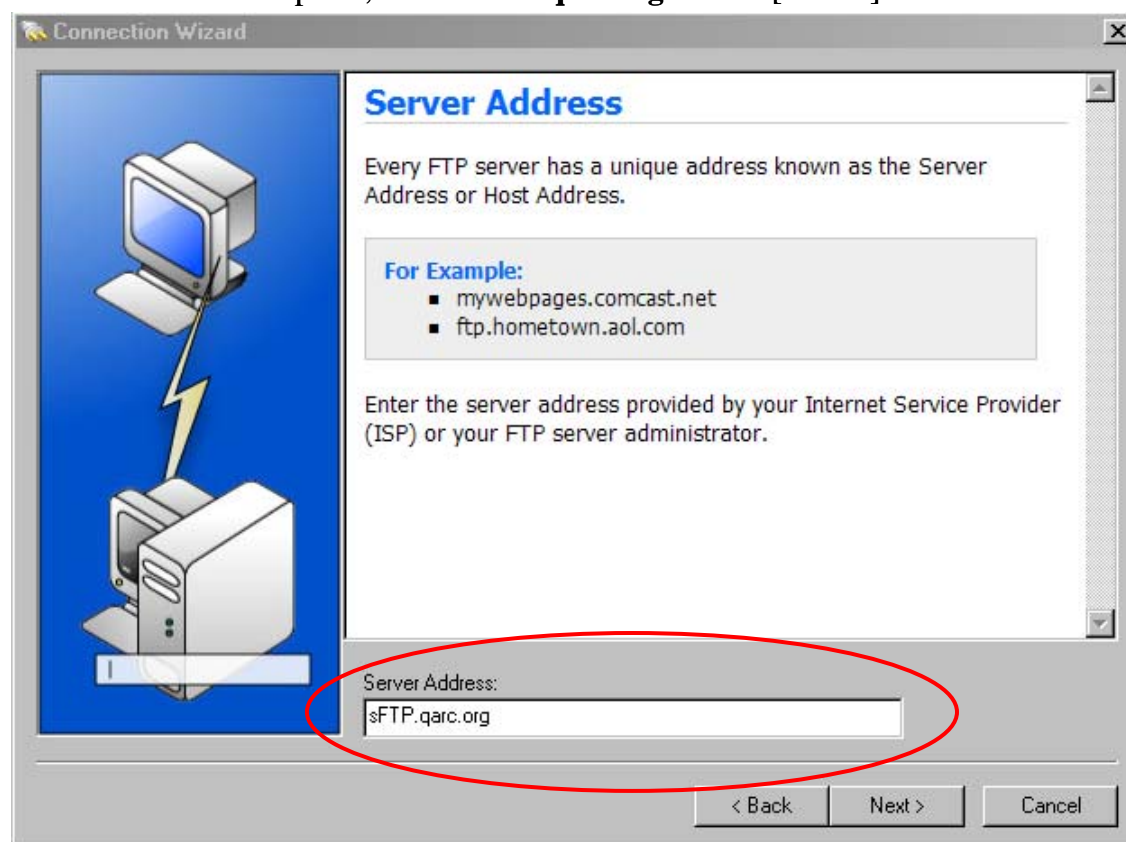
Once it is installed, start up WS FTP Pro and click on “Connect” to open the Remote Host menu. Click on “Create Site...”, enter a Site Name, and click [Next >]. The Site Name is how to identify the Site, it can be QARC, the username (qarc-xxx), etc.



In the Connection Type dialog, select “SFTP/SSH”. Click [Next>].



In the Server Address panel, enter “sFTP.qarc.org”. Click [Next >].



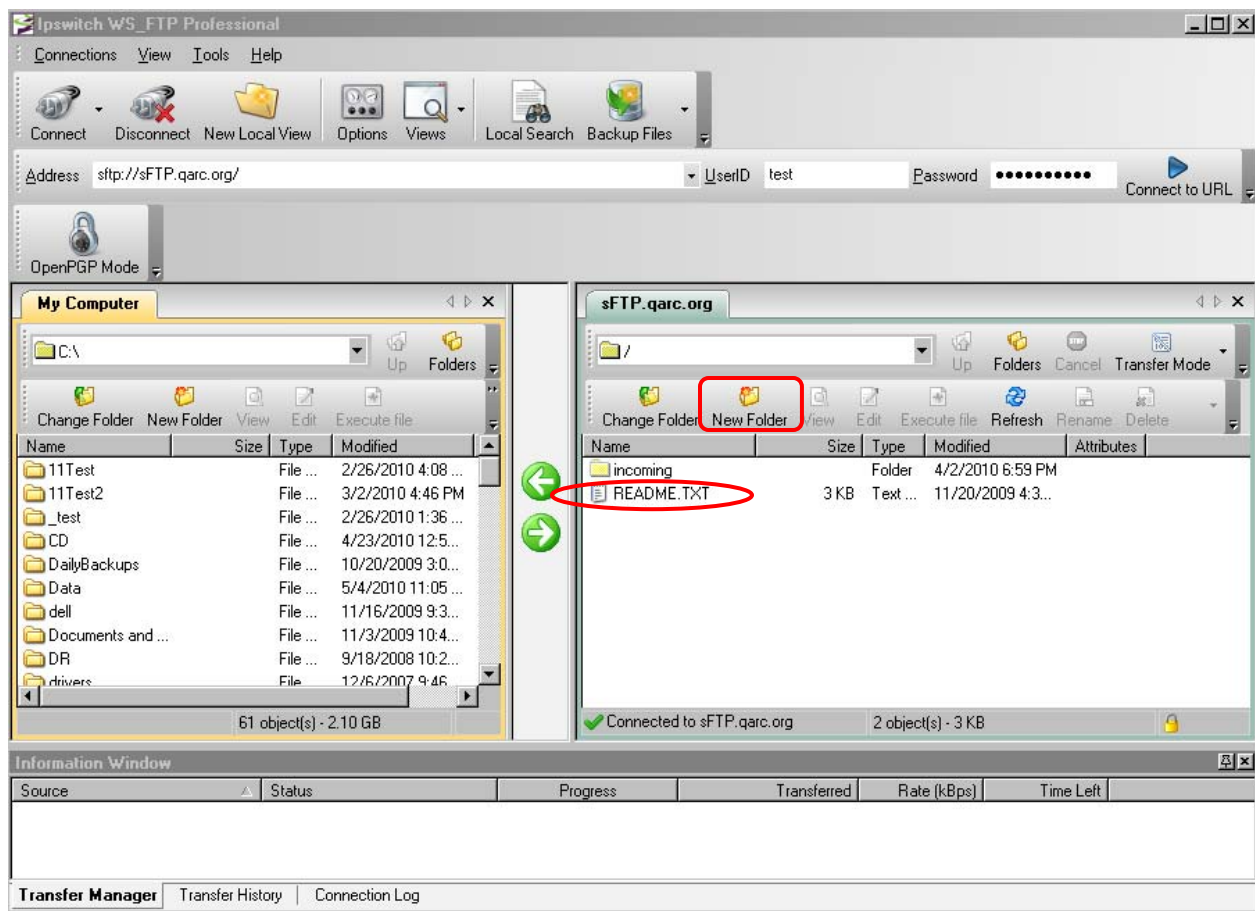
Enter your login credentials, including your User ID (begins with “qarc-“) and assigned password. Click [Next >].



You should now be able to login to the SFTP server using the profile you have just configured. When you connect to the server for the first time, you will be asked whether you wish to accept the server’s host key. Click “Trust this key” and [OK] to accept the QARC ftpatc server host key.



You should see window similar to the one below with your local file system on the left side and the remote (QARC SFTP server) directory on the right. Note that you are logged in to your private home directory (/) on the SFTP server. You will only be able to modify files within your own **incoming** directory.



Double-click on the **incoming** directory icon to enter the /incoming directory. Click on the “**New Folder**” icon on the right-hand side and enter a directory name to create a new directory in which to upload data; enter a descriptive name for this directory. (Please use only alphanumeric characters, “\_”, and “-” and avoid using spaces in the directory name.) Click OK to create the directory. Double-click the newly-created directory icon to enter this directory.

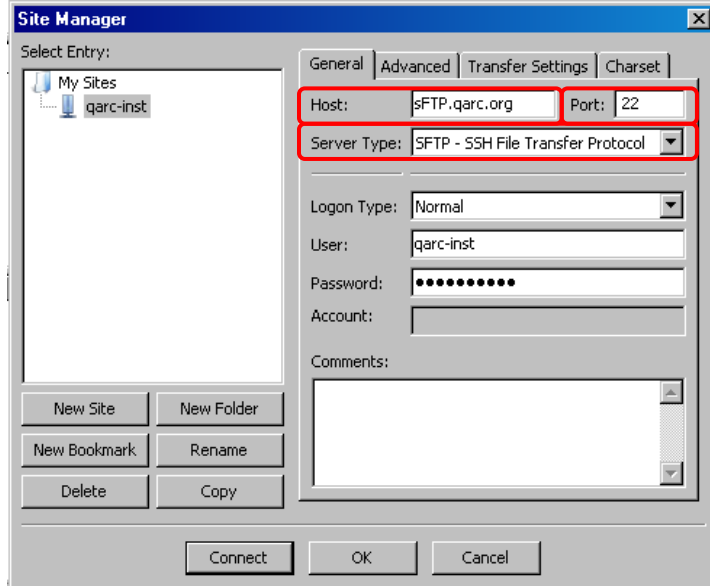
Navigate to the local directory containing the data files to be uploaded on the left-hand “Local Site:” window. Use the right arrow in the middle to upload selected files from the local directory (left side) to the QARC server (right side) Check the status window (bottom) to note the status of file transfers. Select File → Disconnect to logout.

Please remember to send an email to [ATCDicomRT@qarc.org](mailto:ATCDicomRT@qarc.org) announcing your upload when your transfer is complete.

## FileZilla (Windows PC)

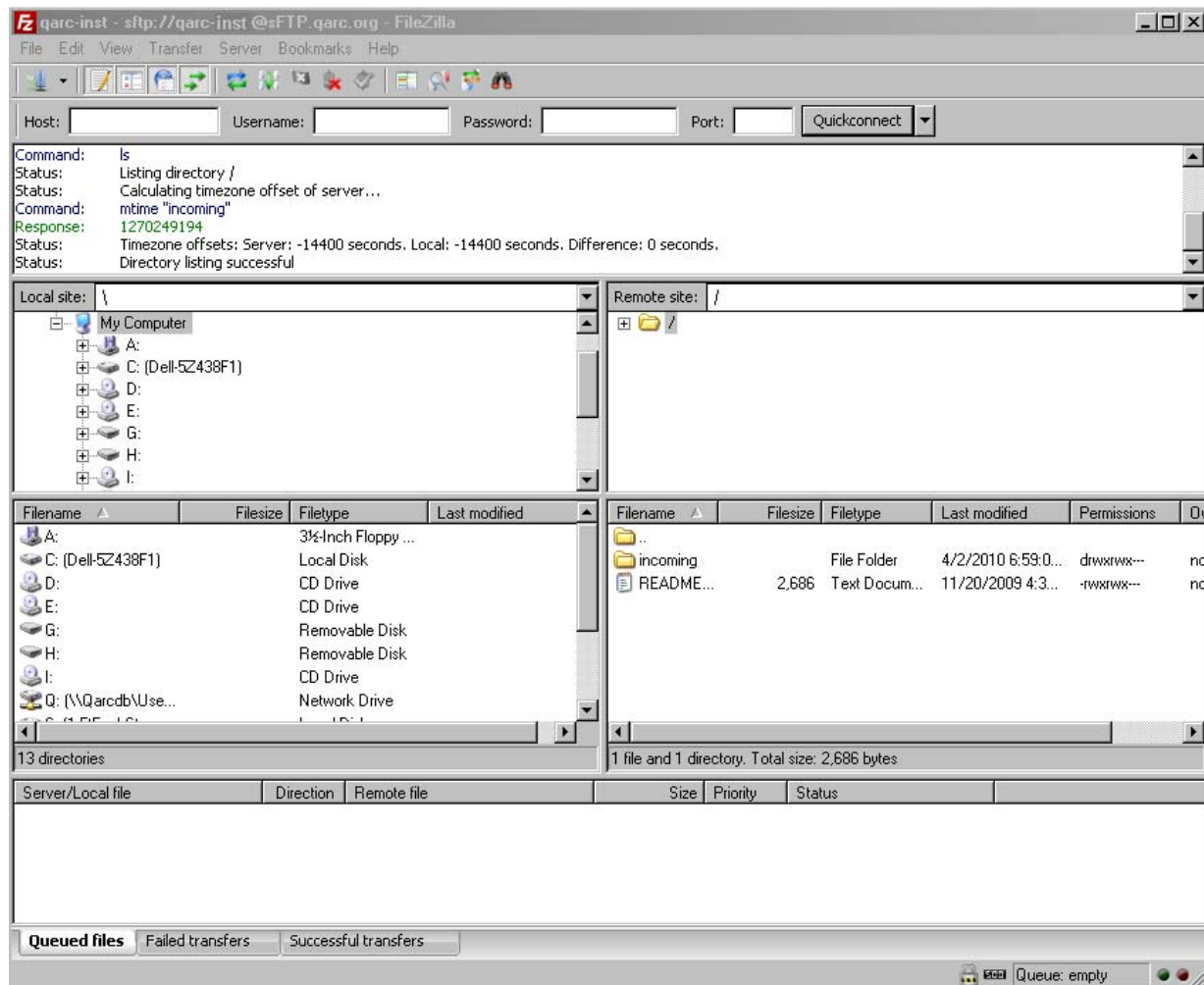
FileZilla can be downloaded from SourceForge.net (<http://sourceforge.net/projects/filezilla/>), Click on “Download FileZilla” and select the FileZilla executable for download (current version, as of 05/06/10, is [FileZilla 3.3.2.1 win32-setup.exe](#)). Save and run this setup program on your Windows PC.

Once it is installed, start up FileZilla and open File→Site Manager... (or type Ctrl-S). Click on “New Site” and enter a name for this connection, e.g., *qarc-inst*. Fill in Site details as follows:  
Host: **sFTP.qarc.org** Port: **22** Server type: **SFTP – SSH File Transfer Protocol** Logontype: **Normal** User: (enter the user name of your regular FTP account (begins with “qarc-”)  
Password: (enter the assigned password for this account). Click [Connect].



You should now be able to login to the SFTP server using the profile you have just configured. When you connect to the server for the first time, you will be asked whether you wish to accept the server’s host key (ex: “**81:0e:26:07:2c:c2:20:9c:21:b6:5d:c9:80:b1:5e:e2**”). Click “Yes” to accept the QARC ftpatc server host key.

You should see window similar to the one below with your local file system on the left side and the remote (QARC SFTP server) directory on the right. Note that you are logged in to your private home directory (/) on the SFTP server. You will only be able to modify files within your own **incoming** directory.



Double-click on the **incoming** directory icon to enter the /incoming directory. Right-click on the right-hand side and select “Create Directory” to create a new directory in which to upload data; enter a descriptive name for this directory. (Please use only alphanumeric characters, “\_”, and “-” and avoid using spaces in the directory name.) Click OK to create the directory. Double-click the newly-created directory icon to enter this directory.

Navigate to the local directory containing the data files to be uploaded on the left-hand “Local Site:” window. Click-drag-and-drop files from the local site to the remote site to upload them to the QARC ftpatc server. Check the status window (bottom) to note the status of file transfers. Select File → Disconnect to logout.

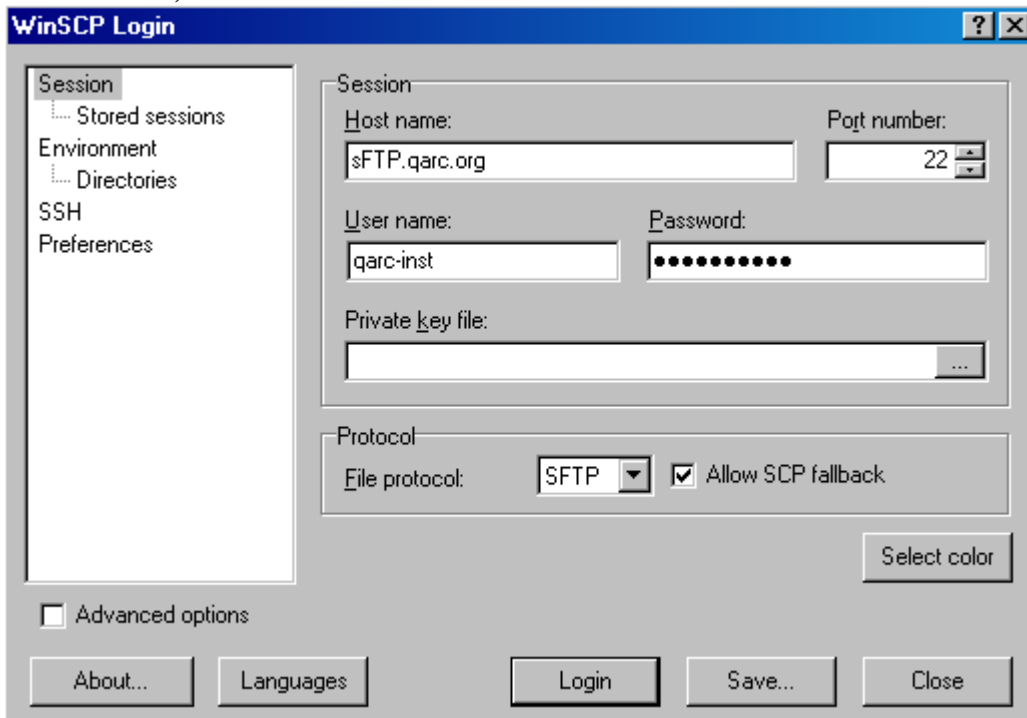
Please remember to send an email to [ATCDicomRT@qarc.org](mailto:ATCDicomRT@qarc.org) announcing your upload when your transfer is complete.

## WinSCP (Windows PC)

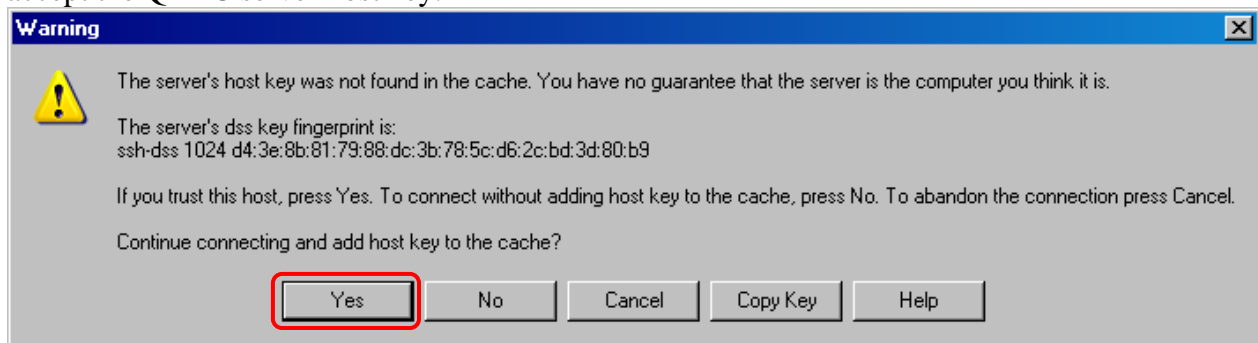
WinSCP can be downloaded from SourceForge.net (<http://sourceforge.net/projects/winscp/>), Click on “Download WinSCP” and select the WinSCP executable for download (current version, as of 05/06/10, is [winscp427setup.exe](#)). Save and run this setup program on your Windows PC.

Once it is installed, start the WinSCP3 program. You should see the WinSCP Login window. Enter Session details as follows: Host name: **sFTP.qarc.org** Port number: **22** User name: (enter the user name of your regular FTP account (begins with “qarc-”) Password: (enter the

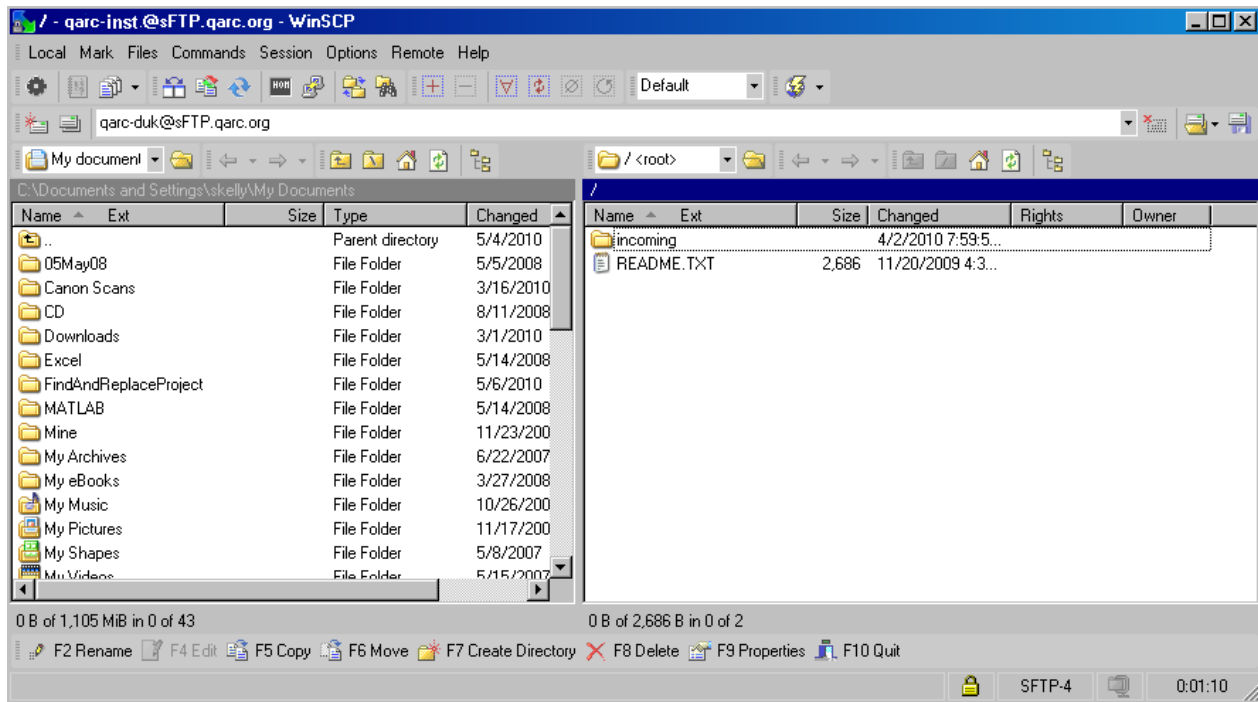
assigned password for this account). Private key file. (leave blank) Protocol: **SFTP (allow SCP fallback)** Click “Save...”.



When you connect to the server for the first time, you will be asked whether you wish to accept the server’s host key (“81:0e:26:07:2c:c2:20:9c:21:b6:5d:c9:80:b1:5e:e2”). Click “Yes” to accept the QARC server host key.



Double-click on the **incoming** directory icon to enter the /incoming directory. Right-click on the right-hand side and select “New → Directory” to create a new directory in which to upload data; enter a descriptive name for this directory. (Please use only alphanumeric characters, “\_”, and “-“ and avoid using spaces in the directory name.) Click OK to create the directory. Double-click the newly-created directory icon to enter this directory.



Navigate to the local directory containing the data files to be uploaded on the left-hand “Local Site:” window. Click-drag-and-drop files from the local site to the remote site. Click on “Copy” to upload them to the QARC server.

Copy status is displayed in a popup window:

Use Session→Disconnect to logout

Please remember to send an email to [ATCDicomRT@qarc.org](mailto:ATCDicomRT@qarc.org) announcing your upload when your transfer is complete.

### Command-line sftp (Linux)

A command-line sftp program (OpenSSH) is included with most Linux distributions. An example of uploading all \*.dcm files from a directory named data is shown below.

1. The `cd data` command is used to enter the user’s local data directory.
2. A connection to the SFTP server is opened using `sftp qarc-inst@sFTP.qarc.org` (where `qarc-inst` is the user name of your regular FTP account. (The password of your regular FTP account is entered at the next prompt.)
3. The `cd incoming` command is used to enter the user’s writable upload directory on the SFTP server.
4. A new upload directory is created using the `mkdir` command, and `cd` is used to enter the newly created directory.
5. Finally, the `put *.dcm` command is used to start the upload. (Note that, unlike the FTP `put` command, wildcards may be used for `put` in sftp.)
6. The connection is closed using the `quit` command.

```
% cd data
% sftp qarc-inst@sFTP.qarc.org
```

Connecting to sFTP.qarc.org...

```
The authenticity of host 'sFTP.qarc.org (174.67.111.241)'
can't be established.RSA key fingerprint is
81:0e:26:07:2c:c2:20:9c:21:b6:5d:c9:80:b1:5e:e2.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'sFTP.qarc.org' (RSA) to the
list of known hosts.
qarc-inst@sFTP.qarc.org's password:
sftp> cd incoming
sftp> mkdir TEST_Feb_22_2007
sftp> cd TEST_Feb_22_2007
sftp> put *.dcm
Uploading CT020001.dcm to
/incoming/TEST_Feb_06_2006/CT020001.dcm
CT020001.dcm
CT020001.dcm
100% 513KB 843.2KB/s 00:00
Uploading CT20002.dcm to /incoming/TEST_Feb_06_2006/CT20002.dcm
CT020002.dcm
CT020002.dcm
100% 513KB 753.9KB/s 00:00
sftp> ls
.
..
CT020001.dcm
CT020002.dcm
sftp> quit
%
```

More complete instructions for using this program are found in the Linux sftp manual page.  
Please remember to send an email to [ATCDicomRT@qarc.org](mailto:ATCDicomRT@qarc.org) announcing your upload when  
your transfer is complete.