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| **Cornell High Energy Synchrotron Source** |
| **Doc#:** SOP-COMP-002 | **Procedure:** Remote Access and File Transfer | **Prepared by:** ZB |
| **Rev.:** 1 | **Revision Date:** 06/02/12 | **Date Effective:**06/02/12 | **Date Expires:**06/02/13 | **Approved by:** ZB |

**Purpose**

To establish remote access to a CHESS Linux terminal and transfer files.

**Materials and Equipment Needed**

1. CHESS Private Network Control Computer (remote)
2. CHESS Public Network Computer (local)
3. SSH Client (Windows)
4. SFTP Client (Windows)

**Safety**

1. Safety Issues: none

**Procedure**

1. **Remote Access**
	1. Windows:
		1. Double-click icon for ssh client to open (ex: *SSH Secure Shell*, *putty*).
		2. Click **[Quick Connect]** to open connection dialog. (**Fig. 1**)
		3. Type the hostname of the remote computer (ex: a1, ops1, roll) in Host Name entry box. (**Fig. 2**)
		4. Type the username in User Name box.
		5. Click **[Connect]** to connect to remote host username@remotehost.
		6. Enter password when prompted.
		7. Client terminal window is now an active terminal on the remote host.
		8. Click **[Disconnect]** when finished to close the connection.
	2. Linux:
		1. Open new terminal.
		2. Type <ssh username@remotehost.chess.cornell.edu>, where remotehost is the name of the remote computer (ex: a1, ops1, roll).
		3. New line in terminal window should now show the remote host information.
		4. Type <exit> when finished to close the connection.
2. **File Transfer**
	1. Windows
		1. Double-click icon for ssh client to open (ex: *SSH Secure File Transfer*).
		2. Click **[Quick Connect]** to open connection dialog. (**Fig. 3**)
		3. Type the hostname of the remote computer (ex: a1, ops1, roll) in Host Name entry box. (**Fig. 2**)
		4. Type the username in User Name box.
		5. Click **[Connect]** to connect to remote host username@remotehost.
		6. Enter password when prompted.
		7. File Browser on left shows local directory. File Browser on right shows remote directory.
		8. Drag files between browsers to transfer files.
		9. Click **[Disconnect]** when finished to close the connection.
		10. New folders can be created on remote or local host by clicking the New Folder button located above respective File Browser.
		11. Directories can be refreshed by clicking the Refresh button.
		12. Return to the home directory by clicking the Home button.
	2. Linux
		1. Open a new terminal.
		2. Type <sftp username@remotehost.chess.cornell.edu>, where remotehost is the name of the remote computer (ex: a1, ops1, roll).

**WARNING: File transfer from command line does NOT prompt before overwriting files.**

* + 1. Type <get remote\_file local\_file> to transfer a source file from the remote computer to the destination file on the local computer.
			1. remote/local\_file can either be the file name in the working directory, or /path/filename if file is located outside of working directory.
			2. Type <pwd> to print working directory.
			3. Type <ls> to show which files are available in working directory.
		2. Type <put local\_file remote\_file> to transfer a source file from the local computer to the destination file on the remote computer.
			1. remote/local\_file can either be the file name in the working directory, or /path/filename if file is located outside of working directory.
			2. Type <pwd> to print working directory.
			3. Type <ls> to show which files are available in working directory.
		3. NOTE: if second argument is left out of get/put commands, the file name will be the same.
		4. Type <exit> when finished to close the connection.

**Figures**

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**Figure 1 – SSH Secure Shell window**

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**Figure 2 – Hostname/username Window**

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**Figure3 – SSH Secure File Transfer window (with Directory controls highlighted)**

**References**

None.

**Revision History**

Rev. 1 – Initial document (06/02/12 - ZB)