How to use an SSH and SFTP Client

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Introduction

This article will go over the steps to use an SSH and SFTP client. In this example we are using WinSCP and PuTTY.

Objectives

- Download WinSCP
- Open a session in WinSCP
 - o How to transfer a file/navigate the filesystem
- Download PuTTY
- Open a session in PuTTY

1 - WinSCP

This section will go over the steps to download and use WinSCP.

1.1 - Download WinSCP from their website

- 1) Open a browser and navigate to https://winscp.net/eng/download.php
- 2) As seen in figure 1.1-1, click the download button.

WinSCP
Free SPTR SQP, 93 and FTP client for Windows

WinSCP 5.17 Download

WinSCP 5.17 is a major application update. New features and enhancements include:

Improvements to sessions and workspace management, so that WinSCP can now easily restore tabs that were open when it was last closed.

Hardware-accelerated AES.

Extension Archive and Download to archive remote files and download the archive.

Improvements to Synchronization checklist window.

Allowed sorting of find results.

SSH core upgraded to Puttry 0.73.

The binaries are signed with new EV certificate valid until February 2023.

List of all changes.

OMNLOAD WINSCP 5.17.2 (19.6 MB)

Microsoft

Mat is this?

Figure 3.1-3 – WinSCP download

3) Run the executable downloaded.

1.2 - Logging in and transferring files using WinSCP

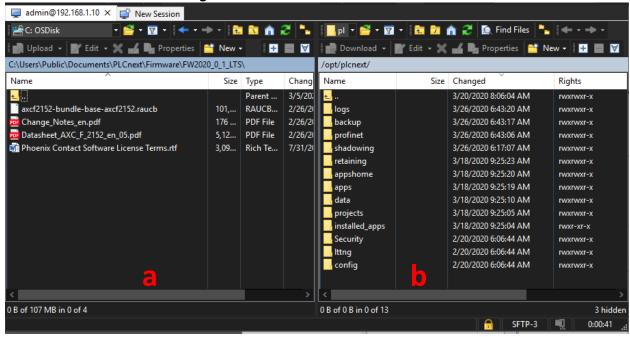
This section goes over the basics of logging into the AXC F 2152 as well as navigating and transferring files.

- 1) Open up WinSCP.
- 2) Once open make sure file protocol (a) is set to SFTP as shown in Figure 1.2-1.

Figure 1.2-1 WinSCP settings 🌆 Login × Session Mew Site File protocol: SFTP Host name: Port number: 22 🖨 User name: Save Advanced... Login 🔻 Tools • Manage Close Help

- 3) Once these settings are correct, in the host name (b) type the IP address (192.168.1.10 is default), and the admin login credentials of your AXC F 2152 (c).
- 4) Click Login (d).
- 5) Once connected, the left side (a) is your local PC files, and the right side (b) is the AXC F 2152's files as shown in figure 1.2-2.

Figure 1.2-2 Files on WinSCP connection



- 6) On the left side (a), is your PC's local file system. On the right side (b) is the AXC F 2152's filesystem.
- 7) To transfer a file from your PC to the AXC F 2152, drag and drop a file from the left to right (in empty space!), and a pop-up will show that the file is transferring as shown in figure 1.2-3.

■ admin@192.168.1.10 × 🙀 New Session 쯜 マ 🗑 マ 🛹 マ → マ 🛅 🛅 🦍 🧬 🏣 📗 🖂 🖺 🙀 マ → 🥫 📆 🛣 🏠 🧶 Find Files 🦜 🦛 マ → 🦠 🚣 C: OSDisk 🛨 🔚 🗸 🏥 Download 🔻 🌃 Edit 🕶 🗶 🕍 📭 Properties 🎽 New 🔻 👫 📙 💟 💼 Upload 🔻 📝 Edit 🕶 💢 🚅 📭 Properties 📑 New 🕶 C:\Users\Public\Documents\PLCnext\Firmware\FW2020_0_1_LTS\ /opt/plcnext/ Name Size Type Changed Name Size Changed Rights 17% Uploading 3/20/2020 8:06:04 AM axcf2152-bundle-base-axcf2152.raucb 3/26/2020 10:59:59 PM C:\...\axcf2152-bundle-base-axcf2152.raucb File: d Change_Notes_en.pdf 3/26/2020 6:43:17 AM /opt/plcnext/ Target: Datasheet_AXC_F_2152_en_05.pdf 3/26/2020 6:43:06 AM Phoenix Contact Software License Terms. 3/26/2020 6:17:07 AM 3.09. 0:00:22 Time elapsed: 0:00:04 Time left: 3/18/2020 9:25:23 AM Bytes transferred: 3.66 MB/s 3/18/2020 9:25:20 AM 3/18/2020 9:25:19 AM 3/18/2020 9:25:10 AM Unlimited 3/18/2020 9:25:05 AM 3/18/2020 9:25:04 AM 2/20/2020 6:06:44 AM 2/20/2020 6:06:44 AM config 2/20/2020 6:06:44 AM 99.4 MB of 107 MB in 1 of 4 0 B of 0 B in 0 of 13 SFTP-3

Figure 1.2-3 Transferring files from your PC to the AXC F 2152

8) To transfer a file from the AXC F 2152 to your PC, drag and drop a file from the AXC F 2152 as shown in figure 1.2-4. A popup may show stating that it is copying as shown in figure 1.2-3, depending on the file size.

Mogs - admin@192.168.1.10 - WinSCP Local Mark Files Commands Session Options Remote Help · 8 -👫 💒 👼 Synchronize 😾 🧗 🏚 👔 Queue 🕶 Transfer Settings Default ■ admin@192.168.1.10 × 🙀 New Session ▼ 🚰 ▼ 🔞 ▼ 🔷 ▼ 🐎 ▼ 🛅 📆 🖍 🧷 🏞 📗 🖪 🕟 ▼ 🚰 ▼ 🗑 ▼ 🛅 🏚 🚰 🏂 🍇 Find Files 🦜 🔷 ▼ → ▼ 🕍 🚮 Upload 🔻 📷 Edit 🕶 💥 🚅 📭 Properties 📑 New 🕶 + **= V** 📸 Download 🔻 🃝 Edit 🕶 🗙 🎿 🕞 Properties 🎽 New 🕶 🔣 🥅 $C:\label{local-prop} C:\label{local-plc-next-firmware-fw2020_0_1_LTS} C:\label{local-prop} C:\label{local-plc-next-firmware-fw2020_0_1_LTS} C:\label{local-plc-next-firmware-fw2020_0_$ /opt/plcnext/logs/ Name Size Type Changed Name Size Changed Rights 3/27/2020 8:17:12 AM axcf2152-bundle-base-axcf2152.raucb 101,... RAUCB... 2/26/2020 10:45:16 watchdogDae... 3/18/2020 9:24:59 AM rwxr-xr-x Change_Notes_en.pdf
Datasheet_AXC_F_2152_en_05.pdf 176 ... PDF File 2/26/2020 2:45:54 Output.log 622 KB 3/26/2020 10:59:59 PM 5,12... PDF File 2/26/2020 10:48:10 default.sqlite 622 ... Text Do... 2/20/2020 10:59:59 autrace.log 120 KB 3/26/2020 10:59:59 PM rw-r--r--Output.log 1 KB 3/26/2020 6:43:20 AM rw-rw-r--3,09... Rich re... 7/31/2018 9:00:30 / Phoenix Contact Software License Terms.rtf plcnextapp.log 2 KB 3/26/2020 6:42:57 AM 1 KB 3/26/2020 6:41:28 AM uatrace_1.log 0 B of 108 MB in 0 of 5 0 B of 744 KB in 0 of 6 SFTP-3 0:14:25

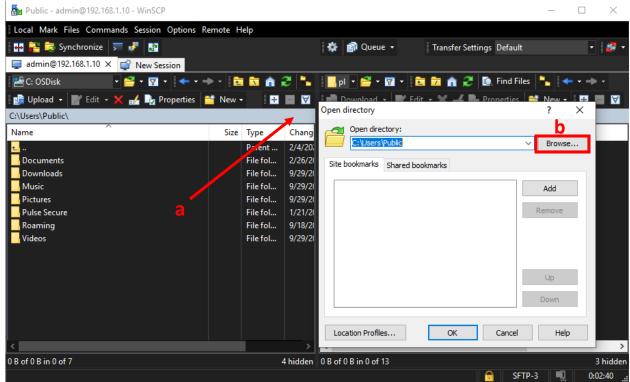
Figure 1.2-4 Transferring files from the AXC F 2152 to your PC

1.3 - Navigating the filesystems in WinSCP

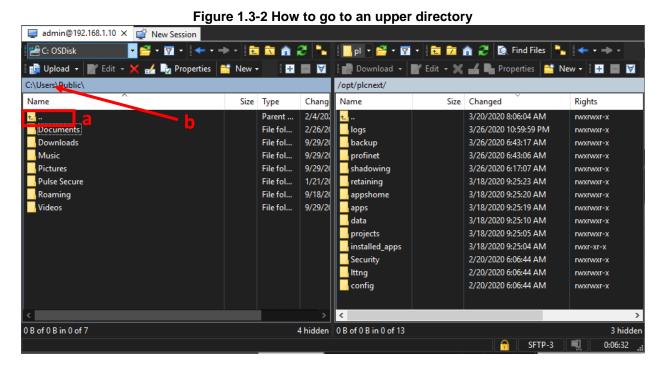
This section goes over navigating the filesystems in WinSCP

1) To browse your local file system for a location, double click the blue bar(a) (not on the text!) then click browse (b) shown in figure 1.3-1.

Figure 1.3-1 How to browse local files



- 2) To navigate into a folder, double click the folder name.
- 3) To navigate back one folder, click the ..(a) or click the previous folder name in the blue bar (b) in figure 1.3-2.



2 - PuTTY

This section will go over how to download and use PuTTY for an SSH session.

2.1 - Install PuTTY

- 1) To install PuTTY go to https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html
- 2) Click link a circled in red for a 32-bit system, and link b circled in red for a 64-bit system shown in figure 2.1-1.
 - a. If you do not know what bit system you are running, follow the instructions here on how to check: https://support.microsoft.com/en-us/help/13443/windows-which-version-am-i-running

Figure 2.1-1 PuTTY installation website

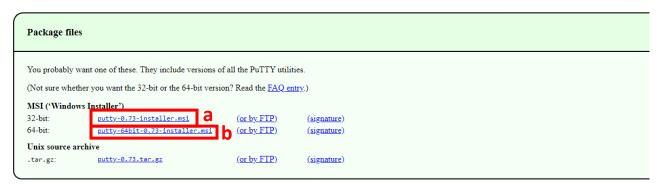
Download PuTTY: latest release (0.73)

 $\frac{Home \mid FAQ \mid Feedback \mid Licence \mid Updates \mid Mirrors \mid Keys \mid Links \mid Team}{Download: Stable \cdot Snapshot \mid Docs \mid Changes \mid Wishlist}$

This page contains download links for the latest released version of PuTTY. Currently this is 0.73, released on 2019-09-29.

When new releases come out, this page will update to contain the latest, so this is a good page to bookmark or link to. Alternatively, here is a permanent link to the 0.73 release.

Release versions of PuTTY are versions we think are reasonably likely to work well. However, they are often not the most up-to-date version of the code available. If you have a problem wit already been fixed in those versions.



3) Run the .msi installer and follow the steps.

2.2 - Opening a session in PuTTY

In this section, we will go over how to open a session in PuTTY.

- 1) Open PuTTY on your PC.
- 2) Check and make sure the settings circled in figure 2.2-1 match.

RuTTY Configuration × Category: — Session Basic options for your PuTTY session ··· Logging Specify the destination you want to connect to Host Name (or IP address) Keyboard 22 Bell **Features** Connection type: Raw Telnet Rlogin SSH O Serial . Window - Appearance Load, save or delete a stored session Behaviour Saved Sessions Translation ··· Colours Default Settings Load WinSCP temporary session Data Save Proxy Telnet Delete Rlogin . SSH Serial Close window on exit: ○ Always ○ Never Only on clean exit About Help Open Cancel

Figure 2.2-1 PuTTY configuration for connecting to AXC F 2152

3) Enter the IP address of the AXC F 2152 (a) (192.168.1.10 default), and open (b) as shown in figure 2.2-2.

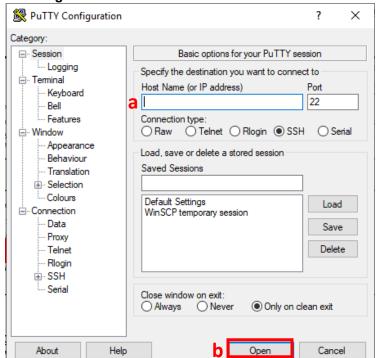


Figure 2.2-2 PuTTY information for connection

4) Once opened, enter the user "admin" then enter in the command line as shown in figure 2.2-3

Figure 2.2-3 Entering username in PuTTY



5) Enter the admin password (default is printed on housing) then hit enter.

NOTE: The password will not show and the cursor will not move!

6) If your screen matches figure 2.2-4 you are now logged into the AXC F 2152 via SSH.

Figure 2.2-4 Logged into AXC F 2152

```
login as: admin admin admin@192.168.1.10's password:
admin@axcf2152:~$
```

To create a root user, refer to Appendix 4.

To learn basic commands in SSH, refer to Appendix 5.