

SFTP client guide

This page will provide you with information on how to upload and download your research data to and from the UNSW Data Archive using a SFTP Client. Researchers who upload or download **more** than 50 GB of data and/or **more** than 1000 files, at a time, should use a SFTP Client.

This page contains the following elements:

- Preparing to use the Data Archive
- Should I use the SFTP Client?
- System/setup requirements
 - Linux and SFTP
 - Setting up a FileZilla client
- Uploading and downloading data to the Data Archive
- Help and further information

Preparing to use the Data Archive

Before you start uploading your research data to the Data Archive, make sure it is organised and in alignment with UNSW recommendations and, that you know the <u>level of access</u> you have to the <u>Collections</u> inside the Data Archive. Read the <u>Preparing data for upload</u> and the <u>RDMP and the Data Archive</u> pages for more information. To access the data archive you will need:

- An active UNSW zID and zPass. To verify your zID/zPass visit the UNSW Identity management page.
- Access to the UNSW Network, either on a UNSW campus or by using the <u>UNSW VPN</u> <u>Service</u>
- An **approved** <u>Research Data Management Plan</u> (<u>RDMP</u>) (see the <u>RDMP and Data</u> <u>Archive</u> page for more information).
- Research data identified and prepared for upload into the Data Archive.

- Access levels appropriate to the tasks you wish to undertake within the Data Archive.
- If you are downloading data, you need to migrate that data online before you start the download, see <u>our guide</u> for how to do this.

Should I use the SFTP Client?

The UNSW Data Archive <u>Web application</u> provides access to an interface enabling you to **upload**, **download**, **locate**, and **review** your research data. The Data Archive <u>Web application</u> is suitable for researchers who wish to <u>search</u> the Data Archive and to either upload or download **less** than 50 gigabytes (GB) of data and/or **less** then 1000 files (during a single session).

Researchers who frequently upload or download data, and/or generate datasets, may wish to schedule a regular upload or download of data using the <u>Script</u> or use **SFTP** rather than manually uploading and downloading data via the <u>Web application</u>.

- Researchers who upload or download more than 50 GB of data and/or more than 1000 files, at a time, please use SFTP by following the steps set out below.
- Researchers who wish to schedule a regular upload or download of data, please see the <u>Command line Script guide</u>.

System/setup requirements

To upload and download research data with SFTP (Secure File Transfer Protocol) you will need to have a SFTP Client on your PC. Instructions are provided below for FileZilla, which is available for Mac OS, Windows and Linux. Please contact your local IT support or the <u>UNSW</u> <u>IT Service Centre</u> (**9385 1333**) to get this application installed, or download from the <u>FileZilla</u> <u>website</u> if you are able to install software on your PC.

Note: You can use any software that supports SFTP connections, the settings you need are below:

- Host: rds.unsw.edu.au
- **Port**: 8022
- Protocol: SFTP
- Username: UNSW_RDS:zID (e.g. UNSW_RDS:z1234567)
- **Password**: [your zPass]

To verify your UNSW zID/zPass visit the UNSW Identity management page.

The following clients have been verified as working. Clients not on this list should also work but have not been tested:

- OSX SFTP (Mac OSX Command Line Client)
- Transmit (Mac OSX Client)
- WindSCP (Windows Client)
- FileZilla (Mac OSX/Windows/Linux Client)
- Cyberduck (Mac OSX Client)

Linux and SFTP:

Important: If you are **downloading data**, you need to <u>migrate that data online</u> before you start the download, see our guide for how to do this.

To connect to the Data Archive from a SSH terminal over SFTP you can use the following commands.

To find your SFTP version use this command:

sftp -V

For sftp version 7.7 onwards:

sftp -oPort=8022 -r sftp://UNSW_RDS:[zID]@rds.unsw.edu.au

Older linux systems may require a different command:

- sftp -oPort=8022 -r UNSW_RDS:[zID]@rds.unsw.edu.au or
- sftp -oPort=8022 UNSW_RDS:[zID]@rds.unsw.edu.au

If you are connecting from outside of the UNSW Network you will need to connect to the <u>UNSW VPN</u> first before connecting with SFTP. Alternatively, if you can SSH from the external computer with the data to a system on the UNSW Network (For example, from the NCI system to the Katana HPC cluster), you can use one of these commands to route your upload through the local system without needing the VPN:

sftp -oPort=8022 -J [zID]@kdm.restech.unsw.edu.au -r sftp://UNSW_RDS:[zID]@rds.unsw.edu.au

sftp -P 8022 -oProxyJump=[zID]@kdm.restech.unsw.edu.au:22 -r sftp://UNSW_RDS:[zID]@rds.unsw.edu.au

Note:

- You can use the **put** and **get** commands to transfer files.
- To send an entire folder depends on what version of SFTP is installed (version > 4.7).
- You can use **dir** or **Is** to list the files and folders in the current directory.
- For further information, see OpenBSD.

Setting up a FileZilla client:

- 1. Download FileZilla from the FileZilla website
- 2. Install the FileZilla application
- 3. Start/Open FileZilla
- 4. Click 'File', then 'Site Manager' or click the icon in the top right of FileZilla



5. Click 'New Site', then fill in the details as displayed in the image below, including "SFTP" next to "Protocol":

Site Manager					x
Select Entry:	General ,	dvanced Tra	Insfer Settings	Charset	
My Sites	Host:	rds.unsw.e	edu.au	Port: 802	2
	Protocol:	SFTP - SSH	l File Transfer Pro	tocol	•
	Logon Typ	e: Normal			-
	User:	UNSW_RDS	S:z1234567		
	Password:	•••••	•••		
	Account:				
	Comment	5:			_
New Site New Folder					*
New Bookmark Rename					
Delete Duplicate					-
		Connect	ОК	Canc	:el

6. Click 'Connect'. This will start the connection to the server. A popup may appear asking you to confirm the host key of the server. It is safe to add this key to your cache by ticking the box.



7. You will see the Data Archive Collections you have access to in the 'Remote Site' panel on the right side. Navigate to the location you need here. You can browse your local computer's files on the 'Local Site' panel on the left.\

8. Some additional settings that can help your uploads are found in the File menu in Settings (FileZilla menu on Mac). Click Connection and then set your 'Timeout in seconds' to 90

	Settings
Select page:	Timeout
Select page: Connection FTP Active mode Passive mode FTP Proxy SFTP Generic proxy Transfers FTP: File Types MIME Types S3: Providers File exists action Google Drive export Interface Passwords Themes Date/time format Filesize format File lists	Timeout Timeout in seconds: 90 (10-9999, 0 to disable) If no data is sent or received during an operation for longer than the specified time, the connection will be closed and FileZilla will try to reconnect. Reconnection settings Maximum number of retries: 2 (0-99) Delay between failed login attempts: 5 (0-999 seconds) Please note that some servers might ban you if you try to reconnect too often or in too short intervals. TLS options Minimum allowed TLS version: TLS 1.2 (C) Use system trust store to validate TLS certificates
Language ✓ File editing	
Filetype associations	
ОК	
Cancel	

9. Click 'Transfers' and change 'Maximum simultaneous transfers' to a higher number such as 10.

	Settings	
Select page:	Concurrent transfers	
 Connection FTP Active mode Passive mode FTP Proxy SFTP 	Maximum simultaneous transfers: 10 \$\circ\$ (1-10) Limit for concurrent downloads: 0 \$\circ\$ (0 for no limit) Limit for concurrent uploads: 0 \$\circ\$ (0 for no limit)	
Generic proxy	□ Enable speed limits Download limit: 1000 (in KiB/s) Upload limit: 100 (in KiB/s) Burst tolerance: Normal<	
	Filter invalid characters in filenames C Enable invalid character filtering When enabled, characters that are not supported by the local operating system in filenames are replaced if downloading such a file. Replace invalid characters with: The following character will be replaced: / Preallocation	
OK Cancel	Preallocate space before downloading	

Uploading and downloading data to the Data Archive

Note: you will need Lead Chief Investigator (LCI), Research Project Manager, or Contributor access rights to upload data to the Data Archive. See the <u>How do I know what</u> access level I have in the Data Archive? FAQ to find out your access rights for a project.

Important: If you are **downloading data**, you need to <u>migrate that data online</u> before you start the download, see <u>our guide</u> for how to do this.

1. Start/Open FileZilla

2. Click 'File' and select 'Data Archive' (or the name you chose when setting up the connection)



3. With the SFTP Client now open, drag the files and folders you want to transfer to the destination you require:

- for uploading files or folders, you will drag from Local Site to Remote Site
- for downloading files or folders, you drag from Remote Site to Local Site.

E LTRDS - sftp://UNSW_TST_RDS:z9902354@infplfs009:8022 - FileZilla					n to		
File Edit View Transfer Server Bookmarks Help					ht olio		
				IL-CIICI			
Host:	Username:	Password:	Por	t: Quickcor	nnect		
Response: New directory is: "/Home/Projects 1/Example/Templates" Command: Is Status: Listing directory /Home/Projects 1/Example/Templates Status: Directory listing successful				- - -			
Local site: D:\		-	Remote site:	/Home/Projects 1/Exan	nple/Templates	-	
temp ⊕]} temp ⊎]} Users ⊕]} VirtualStor ⊕]} win32_11gi ⊕]] ⊕]] E:	e R2_client			Uantitation	tSettings.sdb Methods		
Filename	Filesize Filetype	Last modified 🔺	Filename	*	Filesize Filetype	Last modified	
🌗 System Volume	File folder	18/03/2015 3:18:10)				
iemp Users	File folder File folder	8/05/2015 2:47:18 6/05/2015 11:12:49		Empty	y directory listing		
VirtualStore	File folder	6/05/2015 11.14.10	•			•	
Selected 1 directory.			Empty direct	ory.			
Server/Local file				C	Direction Remote file	<u>^</u>	
D:\temp\Projects 1\API Instrument\Data\Instrument Optimization\2008-8-8_14.34\LIT 250 Optimization for 1 <							
Queued files (1635) Failed transfers Successful transfers (442)							
	-				Queue: 3:	32.0 MIB	

Note: when the 'Target file already exists' dialog box appears, where you are uploading a file already present in the Data Archive, and using FileZilla, select the following parameters:

• O Targe	Target file already exists		
The target file already exists. Please choose an action. Source file: /Volumes/Data/RDS/Aardvark.jpg 9527 bytes 11/09/15 16:52:16 Target file: /Home/D0003344/Aardwolf/Aardvark.jpg 9527 bytes 11/16/15 11:47:31	Action: Overwrite Overwrite if source newer Overwrite if different size Overwrite if different size or source newer Resume Rename Skip		
	 Always use this action Apply to current queue only Apply only to uploads Cancel 		

Help and further information:

- For help and support when using the Data Archive, see
 - all <u>Help Topics</u>
 - all Frequently Asked Questions (FAQs)
 - browse through the carousel on the homepage to view all available videos
- For information on the types of data to add to the Data Archive, see Preparing data for upload
- For more information on the access levels in the Data archive, see <u>Roles and access</u> inside the Data Archive
- For information on using the Data Archive Web application, see the <u>Web application</u> guide
- For information on finding data in the Data Archive, see <u>Search, filters, view and</u> <u>favourites</u>
- For information on metadata (descriptive data) automatically and manually added to your research data, see the Metadata guide
- For information on the relationship between a Research Data Management Plan (RDMP) and the Data Archive, see <u>RDMP</u> and the Data Archive
- For information on submitting a RDMP, see
 - What is a research data management plan and why do I need one?
 - The UNSW Research Data Management Plan (RDMP)
 - Create RDMP or Create HDR plan
- To create, or update, a Research Data Management Plan (RDMP) go to the <u>ResToolkit</u> service
- For information on data management at UNSW, see the <u>Research Data Management</u> <u>Toolkit</u>
- To access the Data Archive Web application, use this <u>link</u>, or, go to the <u>Home</u> page for other access options