

Datasets delivery getting started and troubleshooting guide

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Overview

Thank you for choosing Elsevier Datasets! This document serves as a comprehensive guide to help you generate SSH keys, use SFTP clients on different operating systems, and troubleshoot common connection issues. Whether you are using Windows, macOS, or Linux, we have included step-by-step instructions tailored for your needs. Additionally, you will find information on folder structures for data delivery and solutions for potential errors you may encounter during data downloads.

We appreciate your trust in us and are committed to providing you with the best possible support. Should you need further assistance, please do not hesitate to reach out to our technical team.

Before you start

- Confirm the SFTP hostname or endpoint provided by Elsevier.
- Confirm your username and the delivery scope you are licensed to access.
- Generate an SSH key pair if key-based authentication is required.
- Share only the public key when requested. Never share your private key.
- Ensure your network allows outbound connections on port 22 unless instructed otherwise.

SSH Key Generation – Windows PC, Mac OS, and Linux

1. Windows PC instructions

Using PuTTYgen:

Description: PuTTYgen is a key generator for creating SSH keys for use with PuTTY, a popular SSH client.

Steps:

1. **Download PuTTY:** If you haven't already, download and install PuTTY from the PuTTY Download Page.
2. **Open PuTTYgen:**
 - Launch PuTTYgen from the Start menu.
3. **Generate a New Key:**
 - Choose the type of key you want to generate (usually RSA).
 - Click on the "Generate" button.
 - Move your mouse around the blank area to generate randomness for the key.
4. **Save Your Key:**
 - Once the key is generated, enter a passphrase for additional security (optional but recommended).
 - Click on "Save private key" to save the private key (e.g., **mykey.ppk**).
 - Copy the public key from the text area above and save it in a file (e.g., **mykey.pub**).
5. **Add Your Public Key to the Server:**
 - You can use an SSH client to connect to your server and add the contents of **mykey.pub** to the `~/.ssh/authorized_keys` file.

2. Mac OS instructions

Using Terminal:

Description: macOS comes with OpenSSH pre-installed, allowing you to generate SSH keys using the Terminal.

Steps:

1. **Open Terminal:**
 - You can find Terminal in Applications > Utilities > Terminal.
2. **Generate a New Key:**
 - Enter the following command to generate a new RSA key pair:
`ssh-keygen -t rsa -b 2048`
 - You can also use ed25519 for a more secure key:
`ssh-keygen -t ed25519`
3. **Follow the Prompts:**
 - You will be prompted to choose a file location to save the key (default is `~/.ssh/id_rsa` or `~/.ssh/id_ed25519`).
 - Optionally, you can enter a passphrase for added security
4. **Locate Your Keys:**
 - Your private key will be saved at the specified location (e.g., `~/.ssh/id_rsa`), and the public key will be at `~/.ssh/id_rsa.pub`.
5. **Add Your Public Key to the Server:**
 - Use the following command to copy your public key to the server:
`ssh-copy-id username@hostname`
 - Alternatively, manually append the contents of `~/.ssh/id_rsa.pub` to the `~/.ssh/authorized_keys` file on the server.

3. Linux instructions

Using Terminal:

Description: Most Linux distributions come with OpenSSH pre-installed, allowing SSH key generation via the terminal.

Steps:

- **Open Terminal:**
 - Depending on your distribution, you can find Terminal in the applications menu or by using a keyboard shortcut (usually Ctrl + Alt + T).
- **Generate a New Key:**
 - Enter the following command to generate a new RSA key pair:
`ssh-keygen -t rsa -b 2048`
 - You can opt for ed25519 for better security:
`ssh-keygen -t ed25519`
- **Follow the Prompts:**
 - You will be asked where to save the key (default is `~/.ssh/id_rsa` or `~/.ssh/id_ed25519`).

- Optionally, enter a passphrase for added security.
- **Locate Your Keys:**
 - Your private key will be saved in the specified location (e.g., `~/.ssh/id_rsa`), and the public key will be in `~/.ssh/id_rsa.pub`.
- **Add Your Public Key to the Server:**
 - You can copy your public key to the server using:
`ssh-copy-id username@hostname`
 - Alternatively, manually append the contents of `~/.ssh/id_rsa.pub` to the `~/.ssh/authorized_keys` file on the server.

SFTP Clients for Windows PC, Mac OS, and Linux

1. Applications for Windows PC

FileZilla

Description: Free, open-source FTP client with SFTP support.

System Requirements: Windows 7 or later

Download: <https://filezilla-project.org/>

WinSCP

Description: Popular SFTP client with a simple interface and powerful scripting capabilities.

System Requirements: Windows 8.1 or later

Download: <https://winscp.net/>

Cyberduck

Description: Versatile SFTP client supporting various protocols and cloud storage services.

System Requirements: Windows 7 or later

Download: <https://cyberduck.io/>

CuteFTP

Description: Reliable FTP client with SFTP support and secure file transfer features.

System Requirements: Windows 7 or later

Download: <https://www.globalscape.com/products/cuteftp>

2. Applications for Mac OS

FileZilla

Description: Free, open-source FTP client with SFTP support.

System Requirements: macOS 10.13 or later

Download: <https://filezilla-project.org/>

Cyberduck

Description: Versatile SFTP client supporting various protocols and cloud storage services.

System Requirements: macOS 10.12 or later

Download: <https://cyberduck.io/>

Transmit

Description: Powerful and user-friendly SFTP client known for speed and reliability.

System Requirements: macOS 10.15 or later

Download: <https://panic.com/transmit/>

ForkLift

Description: Dual-pane file manager and SFTP client with advanced features.

System Requirements: macOS 10.11 or later

Download: <https://binarynight.com/>

3. Applications for Linux

‘ssh’ command

Description: The ssh command is a standard tool for secure shell access. You can initiate an SFTP session from an SSH connection.

System Requirements: Any Linux distribution with OpenSSH installed.

FileZilla

Description: FileZilla is a dual-pane file manager and SFTP client with a user-friendly interface, supporting FTP, SFTP, and FTPS protocols.

System Requirements: Any Linux distribution.

Download: <https://filezilla-project.org/>

‘lftp’ command

Description: lftp is a sophisticated command-line FTP/HTTP client that supports SFTP and provides advanced features like mirroring and resuming interrupted transfers.

System Requirements: Any Linux distribution.

Download: Available in the default package repositories.

‘rsync’ command

Description: rsync is a command-line tool for synchronizing files and directories between local and remote systems using SSH/SFTP.

System Requirements: Any Linux distribution with rsync installed.

Download: Available in the default package repositories.

Server Directory Structure

The directory structure is split into several parts:

- **Base directory/:** The root of all content, this is based on the DaaS product, i.e., Embase or Science Direct, e.g. **/prod01-cm-ftd-us-east-2-science-direct/**
- **Source dataset/:** The DaaS product dataset that was used in the delivery, e.g., **xocs/**
 - **Collection/:** The subset of data subscribed to, e.g., **corporate-edition/**, **life-sciences-neuroscience/**
 - **Output Dataset/:** The format of the data being delivered, e.g., **xocs/**, **json/**, **images/**
 - **Data Feed/:** The type of feed being delivered, e.g., **backfile/**, **backfile-2006/**, **updates/**, **deletions/**
 - **Dataset Id/:** Identifier for the instance of the data being delivered, e.g. **ftd-science-direct-xocs-backfile-2023-12-16-00-05-44-110/**,
ftd-science-direct-xocs-updates-2024-01-03-00-00-00-000/
science-direct-xocs-backfile-20100101-20250916

The format of the dataset ID includes a time component. For xocs and json metadata collections this is a single date time, for images it is a start and end range.

NOTE - Backfile-2006 is a subset of the complete backfile, containing only data from 2006 onwards. Customers should choose this option if they are primarily interested in more recent articles, which are typically fully marked up in XML. Those who require the full historical coverage should instead use the complete backfile folder.

You will only see content you are entitled to, for example images require an add-on subscription.

- xocs and json metadata: Single date time that represents the time at which the collection was started. Backfiles contain all works up until the time of the backfile and updates contain works received from the time of the update up until the time of the next update.
- Images: A date range, i.e. start and end date, that is the time range of publication dates of the referencing works. The start date is inclusive and the end date is exclusive.

These time components can be used to ensure that data is processed in chronological order.

Examples:

```
/prod01-cm-ftd-us-east-2-science-direct/xocs/corporate-edition/xocs/backfile/ftd-science-direct-backfile-xocs-2023-12-16-00-05-44-110/*.zip
```

```
/prod01-cm-ftd-us-east-2-science-direct/xocs/life-sciences-neuroscience/json/updates/ftd-science-direct-updates-json-2023-12-16-00-05-44-110/*.zip
```

```
/prod01-cm-ftd-us-east-2-science-direct/xocs/corporate-edition/images/backfile/science-direct-xocs-backfile-20100101-20250916/*.zip
```

Backfile and Update contents

Data inside the backfile and updates folders are zip archives. The format of the filename is:

<sequence>_<collection>-<output-dataset>.zip

e.g., 00000001_corporate-edition-backfile-xocs.zip
00000001_life-sciences-neuroscience-updates-json.zip
00000001_corporate-edition-backfile-images.zip

Each xocs and json archive contains up to 1000 documents. For images, there are images for up to 1000 works. This means that each zip can contain anywhere from 0 to multiple thousands of images.

The content of the zip files is:

- xocs - XML files containing XOCS data
- json - JSON files containing metadata
- images – Images related to works

See product documentation for further detail on the file formats.

Retractions

Retractions are marked in the document with the 'ret' (retracted) document subtype.

Access Control

Access control is applied at the Collection level or the specific output format level, i.e. you will only be able to access data subsets and output formats that you have a corresponding license agreement with Elsevier for.

Access at the Collection level will entitle you to all datasets delivered under that collection. If you are provided access to a specific dataset (e.g. images), you will only be able to access the images datasets under the collection.

Common SFTP Connection Issues and Solutions

1. Connection Timeout

Symptoms:

- Unable to connect to the SFTP server.
- Connection attempt takes too long and eventually fails.

Possible Causes:

- Network issues or firewall settings block the connection.
- Incorrect SFTP endpoint URL.

Solutions:

- Check your internet connection and ensure it's stable.
- Verify that the SFTP endpoint URL is correct.

- If you're using a firewall, ensure that it allows outbound connections on port 22 (default for SFTP).

When to Contact Us:

- If the issue persists after checking your network and firewall settings

2. Authentication Failure

Symptoms:

- Error message indicating invalid username or password.

Possible Causes:

- Incorrect login credentials.
- Account may be locked or disabled.

Solutions:

- Double-check your username and password for accuracy.
- If you use SSH keys, ensure they are correctly configured and not expired.

When to Contact Us:

- If you are confident your credentials are correct but still cannot log in.

3. Permission Denied

Symptoms:

- Error message indicating you don't have permission to access the directory or file.

Possible Causes:

- Incorrect directory permissions set by the server.
- Attempting to access a restricted directory.

Solutions:

- Verify that you are trying to access the correct directory.
- Check with your administrator if you need access permissions.

When to Contact Us:

- If you believe you should have access but are still receiving this error.

4. File Transfer Errors

Symptoms:

- Transfer fails midway or results in an incomplete file.

Possible Causes:

- Network instability during the transfer.
- File size exceeds allowed limits.

Solutions:

- Check your internet connection stability and try transferring the file again.
- Ensure that the file size does not exceed any limits set by the server

When to Contact Us:

- If you continue to experience transfer errors after ensuring a stable connection. Host Key Verification Failed

5. Authentication Failure

Symptoms:

- Error message about host key verification failure.

Possible Causes:

- The server's host key has changed.
- First-time connection with an unrecognized server.

Solutions:

- Verify the host key with your administrator to ensure it's legitimate.
- If you trust the connection, you may need to update your known_hosts file.

When to Contact Us:

- If you are unsure about the server's authenticity or cannot resolve the issue.

Data Download from SFTP Error Troubleshooting

Common Errors and Solutions

1. File Not Found

Symptoms:

- Error message indicating that the specified file does not exist on the server.

Possible Causes:

- Incorrect file path or filename.
- The file may have been moved or deleted.

Solutions:

- Double-check the file path and name for any typos.
- Verify whether the file is still available on the server or has been relocated.

When to Contact Us:

- If you have confirmed the file should exist but still receive this error.

2. Insufficient Permissions

Symptoms:

- Error message indicating permission denied when attempting to download a file.

Possible Causes:

- The user account may not have the necessary access rights to download the file.

When to Contact Us:

- If you believe you should have access and are still receiving this error.

3. Network Connection Issues

Symptoms:

- Download process fails or hangs, leading to incomplete files.

Possible Causes:

- Unstable internet connection.
- Firewall or network configuration blocking the SFTP connection.

Solutions:

- Check your internet connection for stability.
- Ensure that firewalls or security software are not blocking the SFTP protocol.

When to Contact Us:

- If you continue to experience issues after confirming network stability.

4. Timeout Errors

Symptoms:

- Error message indicating that the connection has timed out.

Possible Causes:

- The server may be down or experiencing heavy load.
- Long periods of inactivity during the download process.

Solutions:

- Try reconnecting after a few minutes to see if the server is available.
- If the issue persists, consider adjusting your SFTP client settings to keep the connection alive.

When to Contact Us:

- If the timeout errors continue despite attempts to reconnect.

5. Corrupted Files

Symptoms:

- Downloaded files are incomplete or unusable.

Possible Causes:

- Interruption during the download process.
- Issues with the SFTP server itself.

Solutions:

- Reattempt the download to see if the issue resolves.
- If the problem persists, consider using a different SFTP client to rule out software issues.

When to Contact Us:

- If downloaded files continue to be corrupted after multiple attempts.

Contact information

If you encounter issues that you cannot resolve using the above troubleshooting steps, please contact our technical support team:

Email: datasupportRD@elsevier.com and ELSSProfessionalServices@elsevier.com

Please provide any error messages you received and the steps you have taken when reaching out for assistance. This will help us resolve your issue more efficiently.