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# SftpClient Setup and Usage Guide - macOS

This guide explains how to prepare, configure, and run SftpClient.jar on macOS. It also includes instructions for scheduling the application to run daily at 05:00 AM and for removing the scheduled task.

**Note:** *SftpClient is a Java-based application that connects to an SFTP server and uploads files to a specified directory.*

## Prerequisites

1. **Java Runtime Environment (JRE)**  
   Ensure the jre folder is included in the same directory as the SftpClient.jar.
2. **Environment Variables**  
   The run\_macos.sh script requires several environment variables to be set. Update these to match your environment before execution.
3. **Required Folders**  
   The following folders in the root directory of the application (created during the zip packaging) are used by default for file uploads:
   * user\_indicator: for stock-related indicator files.
   * macro\_indicator: for macro indicator files.
   * portfolio: for portfolio files.

You may create your own folders and update the environment variables in run\_macos.sh accordingly.

## Environment Variables

Below are key environment variables, their purposes, and usage examples:

#### SFTP\_PORTFOLIO\_FILE\_MAPPER

* **Purpose**: Maps external IDs to substrings in file names for portfolios, enabling automatic renaming before upload.
* **Example**: *PortfolioExternalId1-Portfolio1*, *PortfolioExternalId2-Portfolio2*
* **Mock File Name**: Portfolio1\_Report.csv renamed to PortfolioExternalId1-[timestamp]-[operation].csv  
  (The substring Portfolio1 in the file name matches the mapping PortfolioExternalId1-Portfolio1. The file is renamed to PortfolioExternalId1-[timestamp]-[operation].csv before being uploaded)

#### SFTP\_PORTFOLIO\_FILE\_MAPPER\_DEFAULT\_OPERATION

* **Purpose**: Specifies the default operation for portfolio files.
  + F = replace file and delete history
  + M = modify file
* **Example:** M  
  Files will be uploaded with the “modify” (update) operation unless specified otherwise.

#### SFTP\_USER\_INDICATOR\_FILE\_MAPPER

* **Purpose**: Same logic as for portfolios, but applies to user indicator files.
* **Example**: *UserExternalId1-UserIndicator1*, *UserExternalId2-UserIndicator2*
* **Mock File Name**: UserIndicator1\_Data.csv renamed to UserExternalId1-[timestamp]-[operation].csv and zipped before upload

#### SFTP\_USER\_INDICATOR\_FILE\_MAPPER\_DEFAULT\_OPERATION

* **Purpose**: Default operation for user indicator files.
* **Example**: M  
  Files will be uploaded with the “modify” operation unless specified otherwise.

#### SFTP\_MACRO\_INDICATOR\_FILE\_MAPPER

* **Purpose**: Same mapping logic, applied to macro indicator files.
* **Example**: *MacroExternalId1-MacroIndicator1*, *MacroExternalId2-MacroIndicator2*
* **Mock File Name**: MacroIndicator1\_Stats.csv 🡺 renamed to MacroExternalId1-[timestamp]-[operation].csv

#### SFTP\_MACRO\_INDICATOR\_FILE\_MAPPER\_DEFAULT\_OPERATION

* **Purpose**: Default operation for macro indicator files. F means replace the file, and M means modify the file.
* **Example**: F  
  Files will be uploaded with the “replace” operation unless specified otherwise.

✅ *Ensure all environment variables are correctly set in run\_macos.bat before running the application.* If you encounter issues, check the log file (log.txt) in the application’s directory for details.

## **Manual Execution Steps**

1. **Edit the Script**

* ⚠️️ Open run\_macos.sh in a text editor (through right click menu) and update environment variables with values specific to your setup.

1. **Make the File Executable**:
   * Open the terminal and navigate to the directory containing run\_macos.command.
   * Run the following command to ensure it is executable:

* chmod +x run\_macos.command

1. **Run the Script**  
   Double-click the run\_macos.command file in Finder or run command in the terminal:

* chmod +x run\_macos.command  
  ```bash  
   ./run\_macos.command

1. **Verify Execution**  
   The script checks for the Java runtime and executes SftpClient.jar.
2. **Check Logs**:
   * The script writes logs to /tmp/sftpclient\_debug.log.
   * Open the log file to verify the execution or debug any issues:

* cat /tmp/sftpclient\_debug.log

## Steps to Run SftpClient.jar Manually using Terminal

1. **Adjust Environment Variables:**
   * Open run\_macos.sh in a text editor.
   * Update the environment variables with the correct values for your environment.
2. **Run the Script:**
   * Make the script executable:

* chmod +x run\_macos.sh
  + Execute the script:
* ./run\_macos.sh

1. **Verify Execution:**
   * The script will check for the presence of the Java runtime and execute SftpClient.jar.

## Schedule SftpClient.jar to Run Daily at 05:00 AM

1. **Prepare the Script:**
   * Ensure schedule\_macos.sh is in the same directory as run\_macos.sh.
2. **Run the Scheduler Script:**
   * Execute schedule\_macos.sh to create a launchd task:
   * ./schedule\_macos.sh
3. **Verify the Task:**
   * Check if the task is loaded:
   * launchctl list | grep com.user.sftpclient

## Remove the Scheduled Task

1. **Run the Removal Script:**
   * Execute remove\_schedule\_macos.sh to remove the launchd task:
   * ./remove\_schedule\_macos.sh
2. **Verify Removal:**
   * Check if the task is unloaded:
   * launchctl list | grep com.user.sftpclient

## **Important Notes**

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* All .sh scripts (run\_macos.sh, schedule\_macos.sh, remove\_schedule\_macos.sh) must be in the same directory as SftpClient.jar and the jre folder.
* The folders user\_indicator, macro\_indicator, and portfolio are created during packaging. You may use custom folders by updating run\_macos.sh.
* If you encounter errors, check logs in the Task Scheduler or in log.txt.

## File Structure

The directory should have the following structure:

/your-directory  
├── run\_macos.sh  
├── schedule\_macos.sh  
├── remove\_schedule\_macos.sh  
├── SftpClient.jar  
├── README\_MACOS.md  
├── README\_MACOS.pdf  
├── jre/  
├── user\_indicator/  
├── macro\_indicator/  
├── portfolio/

## Troubleshooting

* **Java Runtime Not Found**  
  Ensure the jre folder is present and correctly populated.
* **Task Scheduler Errors**  
  Confirm you have the required permissions. Check the History tab for details.
* **Incorrect Environment Variables**  
  Double-check the variables in run\_macos.sh for typos or invalid values.