

## ModernFi SFTP Configuration Guide

### Overview

This guide helps financial institutions securely establish Secure File Transfer Protocol (SFTP) connections with ModernFi to automate daily data exchanges as part of the ModernFi deposit network program. These exchanges include:

- Sending transaction data *to* ModernFi (**Outbound**), and
- Receiving account balances and withdrawal data *from* ModernFi (**Inbound**)

By following these steps, you'll streamline the data sharing process, eliminating the need for manual report generation and uploads through ModernFi's Admin Portal.

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## 1. Critical Setup Considerations

To help ensure your SFTP integration with ModernFi is seamless, we've compiled a short list of key details that are essential for the successful setup of ongoing file transfers.

- **File naming conventions and formats must be strictly followed; all column headers should be included as-is (including optional fields) and data formats should match template files provided.**
- **The /tests/ folder should be used for all testing of Transactions file transfers.** All other folders are linked to Production, so any files sent to them are assumed to be for live accounts and actual money movement requests.
- **Outbound SFTP files must be delivered to ModernFi by 1pm ET daily** to ensure ample time for the resolution of any file configuration and/or delivery issues with live partners prior to allocation. Money movement requested in Outbound SFTP files delivered and ingested into ModernFi's systems on non-allocation days will be incorporated into the next business day's network allocation. Transactions files delivered on business days will be allocated same day.
- ModernFi does not delete files it sends or receives through SFTP. While institutions can delete inbound files, ModernFi does not allow for the deletion of Transactions files, which can be delineated by the date included in the file name.

## 2. Getting Started

### What We Need from You

- **First, your institution's external IP address for firewall whitelisting.**
- Confirmation of your preferred automation process (i.e., whether Inbound files will be hosted on ModernFi's or your servers).
- Your SFTP server details if you want Inbound files pushed to your system.

### What ModernFi Will Provide

- SFTP connection details: host, port, and username.
- Private key for authentication, sent securely via SendSafely.
- SSH public key (for Inbound file delivery to your server).
- Standardized CSV file templates with required and optional fields.

## Security Best Practices

- Use key-based authentication exclusively.
  - Never share private keys via email or insecure channels.
  - Request and whitelist ModernFi's IP address for connections.
  - Use SendSafely for secure key delivery.
  - Monitor transfers and automate alerts for failures.
  - Ensure compliance with internal and regulatory data security policies.
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## 3. SFTP Outbound: Sending Data to ModernFi

### Use Cases

- Submitting daily transaction data for automated money movement into and out of the network (through the **/transactions/** file)

### Key Points

- Files are uploaded to ModernFi's SFTP server: [sftp.prod.modernfi.com](https://sftp.prod.modernfi.com).
  - Use key-based authentication with the private key provided via SendSafely.
  - Upload designated files to their respective folders:
    - **/tests/**
    - **/transactions/**
  - **Frequency:** ModernFi runs its SFTP workflow every day at 1pm ET.
  - **Timing:** Outbound SFTP files must be delivered to ModernFi by 1pm ET.
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## 4. SFTP Inbound: Receiving Data from ModernFi

### Use Cases:

- Streamlining the delivery of depositor funds back from the network to their primary operating account (through the **/withdrawals/** file)
- Ingesting data related to depositor funds allocated throughout the network for internal settlement and reporting purposes (through the **/balances/** file)

## Key Points

- **Option 1:** ModernFi pushes files to your SFTP server.
  - Provide your server host, username, and whitelist ModernFi's IP.
  - ModernFi sends files after processing:
    - Withdrawals after allocation (by 5pm ET, **/withdrawals/** folder).
    - Balances by 8pm ET daily (**/balances/** folder). In practice, this arrives by 5pm ET most days.
- **Option 2:** You pull files from ModernFi's SFTP server.
  - Access **/balances/** and **/withdrawals/** folders on ModernFi's server.
  - Download files after scheduled times.

## 5. File Format Specifications

### Outbound Files (To ModernFi)

File Type	Folder	Naming Convention (case sensitive)	Frequency	Description
Transactions	<b>/transactions/</b>	TRANSACTIONS_YYYY-MM-DD.csv	Daily (24-hour)	Transaction records

### Transactions File Fields

Field Name	Required	Data Type / Length	Description
institution_sweep_account_id	Yes	Varchar (64)	Internal institution account ID on the core for the depositor's sweep account
amount	Yes	Decimal (15,2)	Positive for deposits, negative for withdrawals, numeric values only (no commas or symbols)
transacted_at	Yes	Datetime (UTC ISO 8601) (e.g., 2025-01-27T14:30:00Z)	Transaction timestamp for when it posted at the FI
institution_transaction_id	Yes	Varchar (128)	Unique transaction ID in the FI's systems
description	No	Varchar (256)	Optional free-text transaction details

## Inbound Files (From ModernFi)

File Type	Folder	Naming Convention (case sensitive)	Frequency	Description
Balances	/balances/	BALANCES_YYYY-MM-DD.csv	Daily at 8:00pm ET	Account balances
Withdrawals	/withdrawals/	WITHDRAWALS_YYYY-MM-DD.csv	Daily ~5pm ET	Withdrawal transactions

## Balances File Fields

Field Name	Required	Date Type / Length	Description
institution_sweep_account_id	Yes	Varchar (64)	Internal institution account ID on the core for the depositor's sweep account
balance	Yes	Decimal (15,2)	Current account balance, numeric values only (no commas or symbols)
timestamp	Yes	Datetime (UTC ISO 8601) (e.g., 2025-01-27T14:30:00Z)	Timestamp for transaction processing at the FI
description	Yes	Varchar (256)	Description of balance entry
mtd_balance	Yes	Decimal (15,2)	Month-to-date average daily balance, numeric values only (no commas or symbols)
interest_accrued_today	Yes	Decimal (15,2)	Interest accrued today, numeric values only (no commas or symbols)
interest_accrued_mtd	Yes	Decimal (15,2)	Interest accrued month-to-date, numeric values only (no commas or symbols)
agg_monthly_apy	Yes	Decimal (5,4)	Aggregate monthly APY (decimal, e.g. 0.04 is 4%)

## Withdrawals File Fields

Field Name	Required	Date Type / Length	Description
institution_sweep_account_id	Yes	Varchar (64)	Internal institution account ID on the core for the depositor's sweep account
institution_return_account_id	Yes	Varchar (64)	ID for the account to which the depositor wants to return funds withdrawn from the network (i.e., the ID on your core for their primary operating account)
amount	Yes	Decimal (15,2)	Positive for deposits, negative for withdrawals, numeric values only (no commas or symbols)
transacted_at	Yes	Datetime (UTC ISO 8601) (e.g., 2025-01-27T14:30:00Z)	UTC ISO 8601 timestamp for when the transaction posted in the network allocation
modernfi_transaction_id	Yes	Varchar (36)	ModernFi-generated unique transaction ID
description	No	Varchar (256)	Optional free-text withdrawal details

## 6. Setup and Configuration

### Receiving Credentials and Keys

- Private keys for SFTP authentication will be sent securely via SendSafely.
- You will receive your username and the SFTP host address (sftp.prod.modernfi.com).

### Configuring Your SFTP Client

- Use your preferred SFTP client (FileZilla, WinSCP, command-line).
- Configure connection with:
  - Host: sftp.prod.modernfi.com
  - Port: 22
  - Username: Provided by ModernFi
  - Authentication: Use the private key from SendSafely

## Testing and Automation

- Test connectivity by uploading/downloading test files to and from the `/tests/` folder across transfer types.
  - Automate daily file generation and transfer according to the specified schedules and naming conventions.
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## 7. Troubleshooting

- Ensure private key permissions are set correctly:

```
1. bash
2. chmod 600 private_key.pem
```

- Command-line connection example:

```
1. bash
2. sftp -i {{YourInstitutionName}}_private_key.pem sftp-user-
{{YourInstitutionName}}@sftp.prod.modernfi.com
```

- For connection or file issues, verify IP whitelisting and firewall settings.
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## 8. Support

If you encounter any issues during the setup process or have questions, please contact ModernFi's support team ([support@modernfi.com](mailto:support@modernfi.com)) or your dedicated Account Manager for assistance.