



## **TECHNICAL DOCUMENT**

POST TRADE DATA TECHNICAL SPECIFICATION  
(CAPITAL MARKETS)

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## INDEX

<b>CHAPTER</b>	<b>CONTENTS</b>	<b>PAGE No.</b>
1.	INTRODUCTION	4
2.	CONNECTION DETAILS	4
3.	PRODUCT DETAILS	5
4.	LIST OF FILES	5
5.	DIRECTORY STRUCTURE	6
6.	INSTALLATION AND CONFIGURATION DETAILS	6
7.	DOWNLOADING FILES	8
8.	DATA DETAILS	10
9.	CONTACT INFO	13

## CAPITAL MARKETS POST TRADE DATA

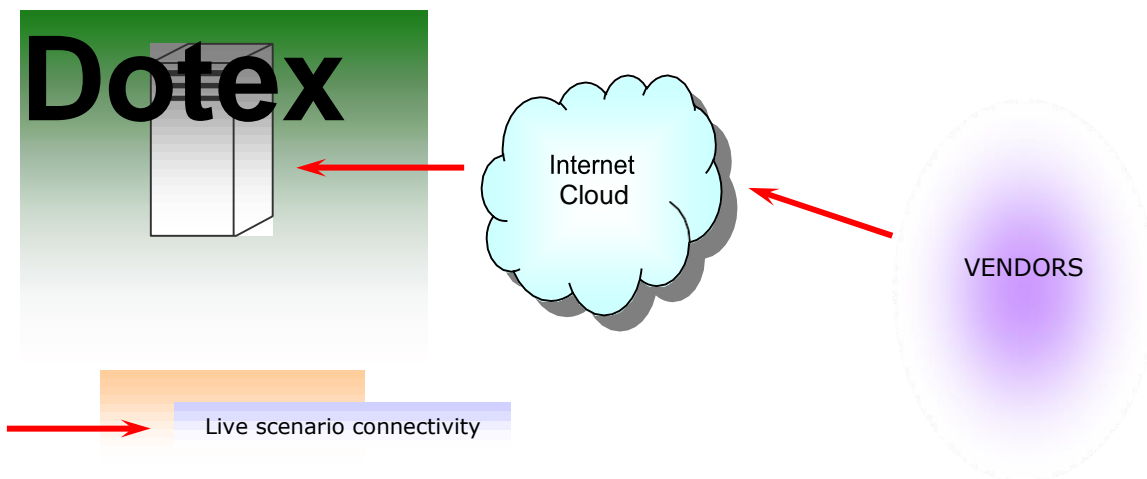
### 1. INTRODUCTION

The NSE Data & Analytics Ltd. (100% subsidiary of NSE) is the sole distributor of the various types of data such as real-time trade data, end of day data, corporate announcements, historical trade and order data etc. reported at NSE. In order to expand current product offerings and to facilitate the market participants, NSE Data & Analytics Ltd has introduced a new product 'Post Trade Data'. The product provides information such as daily delivery volumes, margin trading data, VAR margin rates etc. on an end of day basis. The clients connect to the NSE Data FS server that contains the EOD data files, through Internet and FTP to the server with a valid user name and password. The user name and password authentication provides the secured login to the server. There are number of files are populated on the server throughout the day. A detailed description of the product is mentioned below in the specifications.

### 2. CONNECTION DETAILS

All vendors need to connect internet and FTP to the NSE Data FS server with an IP address <59.160.38.110>. The FTP connection requires a User Name and Password for logging in and that is provided by NSE Data & Analytics Ltd after the vendors subscribes for it.

#### Structural Diagram



### 3. PRODUCT DETAILS

Post Trade Data is a data service which contains all the post trade data files of the capital markets, futures & options markets, Index Segment and Corporate Bonds settlement data which gives wide information about the markets.

These products eases the downloading of multiple files, by using it all the files specified in the configuration file will get downloaded at one go.

It also maintains repository directories which will store all the downloaded data in date-wise directories.

The product also features a data archival facility, which will help you in managing archival directories at your end. (Refer Configuration section for details)

This list of the generated files on the NSE Data FS along with their scheduled time of availability is listed below.

### 4. LIST OF FILES

The list of the files provided as Post Trade Data for Capital Market is given below –

File Type	Segment	File Nomenclature	No of Files	Time (Approx)	Day
Daily Delivery volumes	CM	MTO_ddmmyyyy.DAT	1	4:29:00 PM	Same day
Daily volatility - Cash	CM	CMVOLT_ddmmyyyy.CSV	1	3:58:50 PM	Same day
Margin Trading Data	CM	Margintrdg_ddmmyy.zip	1	3:46:00 PM	Next day
Short Selling	CM	shortselling_ddmmyy.csv	1	5:48:00 AM	Next day
VAR margin groups/Security category & impact cost	CM	C_CATG_MONyyyy.T01	1	11:00:00 PM	Last day of the month
VaR margin rates	CM	C_VAR1_SLB_ddmmyyyy_1.DAT	1	5:14:16 PM	Previous day
Delivery Shortages	CM	CM_sett_stats_mmyyyy.csv	1	4:14:00 PM	1st Week of the next month

## 5. DIRECTORY STRUCTURE

The contents of the distributed directory are mentioned below.

Directory Name: autoFTP

Directory Contents:

FILE NAME	DESCRIPTION
autoFTP_APP.CFG	IP and download directory details of the FTP server
fetchFiles.sh	FTP script
manage_archival_dirs.sh	Script for handling daily archival directories
.wgetrc	Stores Client's user ID and Password provided by NSE Data & Analytics
FILES_LIST.CFG	Nomenclature details of files to be downloaded

## 6. INSTALLATION & CONFIGURATION DETAILS

### 6.1.1 Installation Details

1. Keep the distributed **autoFTP** directory in the desired path of your file system.
2. Install **wget** tool on your linux system.
3. Open the hidden file "**.wgetrc**" (Using vi `.wgetrc`)
4. Edit the **user** and **password** field with provided username and password  
File should look like this after editing,  
`user=provided_user_name`  
`password=provided_password`
5. Now move the file to the root folder of your linux file system.  
(Using `cp .wgetrc ~`)

### 6.1.2 CONFIGURATION DETAILS

There are two configuration files present in the distributed directory

1. autoFTP\_APP.CFG  
It should contain connection details to FTP server and other details briefly explained later.
2. FILES\_LIST.CFG  
It should contain the list of keywords (file nomenclature) of files which specifies the type of file that will be downloaded, brief details are described later

Edit both the provided configuration files as per the below details

### 6.1.3 CONFIGURATION DETAILS FOR autoFTP\_APP.CFG

This configuration file stores the technical details required by the FTP script.

If any of the required information is not set, then FTP script will stop its execution and throw appropriate error.

Below is the description of configuration fields:

FIELDS	DESCRIPTION
FTP_SERVER_IP	Remote FTP Server IP
LOCAL_FOLDER	Path for local download directory
ARCH_DIR_LIMIT	Limit value for archival directories

Format

FIELD\_1=VALUE\_1  
FIELD\_2=VALUE\_2

.

*Note: Each field detail should be written on a new line.*

Sample of autoFTP.CFG

FTP\_SERVER\_IP=172.20.6.98  
LOCAL\_FOLDER=Downloads  
ARCH\_DIR\_LIMIT=5

**6.1.4 FILES\_LIST.CFG**

This configuration file stores the nomenclature of files to be downloaded by the FTP script.

If file is empty no file will be downloaded.

*Note: Each nomenclature detail should be written on a new line.*

Nomenclature of post trade data files to be specified into the config file is as follows

File Type	Config File Name
Daily Delivery volumes	MTO
Daily volatility - Cash	CMVOL
Margin Trading Data	Margintrdg
Short Selling	shortselling
VAR margin groups/Security category & impact cost	C_CATG
VaR margin rates	C_VAR1_SLB
Delivery Shortages	CM_sett_stats

Format

Nomenclature\_file\_type1  
Nomenclature\_file\_type2  
Nomenclature\_file\_type3

.  
. .  
.

#### Sample of FILES\_LIST.CFG

MTO  
CMVOL  
Margintrdg  
shortselling  
C\_CATG  
C\_VAR1\_SLB  
CM\_sett\_stats

### 6.1.5 CONFIGURATION DETAILS FOR DATA ARCHIVAL FEATURE

For using this feature you will have to set the "ARCH\_DIR\_LIMIT" value in the autoFTP\_APP.CFG file to the desired number of days for which you want to retain the date-wise directories. Any directory older than that value set will get deleted from the file system.

For eg:

If you have set the ARCH\_DIR\_LIMIT value in autoFTP\_APP.CFG to 10, Viz. ARCH\_DIR\_LIMIT=10, then till 10 days under your local download directory (mentioned in the "LOCAL\_FOLDER" of the autoFTP\_APP.CFG) date-wise folder will get created each day which will contain all the files downloaded for that day.

No deletion of directories will happen until 10 days

On the 11th day, when you will run the fetchFiles.sh script for the first time, a new directory will get created which will store the 11th day files and the oldest directory will get deleted.

**Note: For switching off this feature assign a very high value to the "ARCH\_DIR\_LIMIT" field (Value should be greater than the total number of archived directories present in the LOCAL\_FOLDER)**

## 7. DOWNLOADING FILES

For downloading files use the following steps

#### Pre-requisites:

Make sure details are filled in the configuration files.

- A. autoFTP\_APP.CFG
- B. FILES\_LIST.CFG

#### Using the FTP script to download daily files

- A. Navigate to autoFTP directory
- B. Execute "**fetchFiles.sh**" script by typing the script name and pressing enter.
- C. Wait for complete execution of the script.
- D. If "**Downloaded all the files successfully!!**" message occurs, then all the files are downloaded successfully, check your local download directory.



- E. If **“File is missing error”** occurs, then try again later. This error will usually occur if any requested file is unavailable in the remote repository directory.

Using the FTP script to download archived data

- A. Navigate to autoFTP directory
- B. Execute **“fetchFiles.sh 1”** script by typing the script name and pressing enter.
- C. Wait for complete execution of the script.
- D. If **“Downloaded all the files successfully!!”** message occurs, then all the files are downloaded successfully, check your local download directory.
- E. If **“File file\_name not yet available,”** occurs, then try again later. This error will usually occur if any requested file is unavailable in the remote repository directory.

*Note: All the downloaded archived files would be compressed and packed using “tgz” i.e. (tar + gz).*

*To extract the files use the following command on your Linux terminal.*

**tar -xzf filename.tgz**

## 8. DATA DETAILS

### 8.1 Margin Trading Data

Nomenclature: Margintrdg\_ddmmyy.zip

Field Names
Header
Sr.No.
Particulars
Rs. In Lakhs
Data
Symbol
Name
Qty Fin by all the members(No.of Shares)
Amt Fin by all the members(Rs. In Lakhs)

### 8.2 Short Selling

Nomenclature: shortselling\_ddmmyyyy.csv

Field Names
Security Name
Security Symbol
Trade Date
Quantity

### 8.3 Delivery Shortages

Nomenclature: CM\_sett\_stats\_mmyyyy.csv

Field Names
Month
Sett nos
No of Trades
Quantity of Shares Traded (lakh)
Quantity of Shares Deliverable (lakhs)
% of Shares Deliverable to Total Shares Traded
Value of Shares Traded (Rs. Cr)
Value of Shares Deliverable (Rs. Cr)

% of Delivery to Value of Shares Traded
Short Delivery (Auctioned)
% of Short Delivery to Delivery
Value of Short Delivery (in Crores) (Val. Pr.)
% of Short Delivery to Delivery (in value)
Funds-Pay In (Rs. Cr)

#### 8.4 VAR margin rates

Nomenclature: C\_VAR1\_SLB\_ddmmyyyy\_1.DAT

Field Names
HEADER
rec Type
date
index var
no. of securities
DATA
rec type
symbol
series
isin code
sec var
index var
var margin
elm
adhoc margin
total margin

#### 8.5 VAR margin groups/Security category & impact cost

Nomenclature: C\_CATG\_MONyyyy.T01

Field Names
HEADER
Record Type(10)
Month
Year
Total Number of detail records
DATA
Record Type(20)
Security_Symbol(Unique

Identifier)
Security Series
ISIN
Security Category
Security Impact Cost

### 8.6 Daily Delivery volumes

Nomenclature: MTO\_ddmmyyyy.DAT

Field Names
HEADER<1>
Record Type(10)
File Type(MTO)
Curr Application Date (ddmmyyyy)
Total Qty
No. of Records
HEADER<1>
Trade Dt<DD-MON-YYYY>
Settlement Type <N>
Settlement No <xyz>
Settlement Date <DD-MON-YYYY>
DATA
Record Type
Sr No
Name of Security
Quantity Traded
Deliverable Quantity(gross across client level)
% of Deliverable Quantity to Traded Quantity

### 8.7 Daily volatility - Cash

Nomenclature: CMVOLT\_ddmmyyyy.CSV

Field Names
Date
Symbol
Underlying Close Price (A)
Underlying Previous Day Close Price (B)
Underlying Log Returns (C) = LN(A/B)
Previous Day Underlying Volatility (D)
Current Day Underlying Daily Volatility (E) = Sqrt(0.94*D*D +

0.06*C*C)
Underlying Annualised Volatility (F) = E* $\sqrt{365}$

## 9. CONTACT INFO

Following are the contact details for business assistance:

<b>Name</b>	<b>Email Address</b>	<b>Contact Numbers</b>
NSE Data & Analytics Ltd	<a href="mailto:marketdata@nse.co.in">marketdata@nse.co.in</a>	91-22-26598385

For technical assistance email us on [iisl\\_it@nse.co.in](mailto:iisl_it@nse.co.in).