



Using SAS[®] Software to Retrieve Thomson Reuters Tick-History Data

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Introduction

"Thomson Reuters Tick History provides millisecond-time-stamped tick data going back over eleven years, covering 45 million OTC and exchange-traded instruments worldwide."¹

The current process for importing Thomson Reuters Tick History (TRTH) data into SAS[®] requires that you place a request using the TRTH Web interface. Then you wait for the query to finish before downloading the data onto a local drive. The data are then imported into a SAS interface by using a point-and-click wizard or by submitting SAS code. A SAS data set is created, which is then ready for analysis within the SAS system.

A program is available that uses the TRTH application programming interface to request and fetch tick-history data from within SAS. Several new dictionary macro definitions (%ASSIGNMENTS, %EXEC, %EXECFTP, %GET, %GETRESULTS) are also available, which provide supporting functionality to perform this task. This program removes a substantial amount of processing time that is required to request and fetch data using the TRTH Web interface. It does this by enabling you to request and fetch the data using SAS macro functions, which store the data locally in the form of a SAS data set. Furthermore, the code enables you to submit and monitor multiple FTP requests simultaneously for queries that fetch large amounts of data. This enables you to submit and track requests without having to wait for the query to finish processing on the server. User credentials are saved within the SAS session and are automatically resubmitted to avoid the issue of credentials timing out.

This paper shows you how to run the code and macros that enable you to request and fetch tick-history data from within SAS. This document is intended for programmers who understand the TRTH data source and the interface it provides. Information about each macro is provided in the Appendix of this paper. You can download the code and macros² from the SASTRTHAPI_v1.2.zip file.

Before you get started, read the important considerations that are explained in the next section. Then, follow the step-bystep instructions. Sample code is provided in the final section of this paper.

Important Considerations

In order to run the code and macros that enable you to request and fetch tick-history data from within SAS, the following software requirements apply:

Operating Systems: Windows 32-bit and 64-bit platforms

SAS System Software: SAS® 9.3

SAS Software: SAS Display Manager and SAS[®] Enterprise Guide[®] (No Profile Selected)

Third-Party Software: 7-Zip open-source file-compression software, which you can download from the 7Zip Web site

Additional Requirements: A valid TRTH user account

¹ Thomson Reuters, "Thomson Reuters Tick History." 2012. Available at thomsonreuters.com/products_services/financial/financial_products/a-z/tick_history/.

² The sample files and code examples are provided by SAS Institute Inc. "as is" without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Recipients acknowledge and agree that SAS Institute shall not be liable for any damages whatsoever arising out of their use of this material. In addition, SAS Institute will provide limited support for the materials contained herein.

Note the following:

- The password that is associated with the TRTH account should not include special characters, such as single quotation marks ('), double quotation marks ("), ampersands (&), or percent signs (%).
- Most fields are case sensitive. Therefore, ensure that the exact values of the parameters are passed to the %GET, %EXEC, and %EXECFTP macros.
- Ensure that there are no spaces in the macro variable TRTHdir and that the variable ends with a backslash (\). Otherwise, the macros will not run correctly.
- All FTP requests that are made via the %EXECFTP macro are recorded in the data set TRTH.FTPRequests. Once recorded in the data set, the requests can be tracked and then accessed via the %GETRESULTS macro. The requests made via %EXEC are not recorded because they are purged as soon as %GETRESULTS is submitted for the relevant request ID.
- Supported values for the REQTYPE, MSGTYPE, and FIELDLIST parameters in %EXEC and %EXECFTP are provided in the data sets TRTH.gettypes and TRTH.reqtypes. These data sets are created when you run the macro %ASSIGNMENTS.

Using Macros to Submit and Retrieve TRTH Requests

The following steps show you how to use the macros that you downloaded from the SASTRTHAPI_v1.2.zip file to submit and retrieve TRTH requests. The first section guides you through the initial setup. This setup only needs to be completed at the beginning of each SAS session. The next section guides you through submitting and retrieving requests. The last section provides an example.

Initial Setup

1. Extract the files from the SASTRTHAPI_v1.2.zip file to a directory of your choice. Ensure that there are no spaces in any of the folder names.

Organize 🔻	Include in library 💌	Share with 💌 🛛 Burn	New folder	8== -	
Name	^	Date modified	Туре	Size	
TRTHFiles		28/12/2011 2:26 PM	File folder		
TRTHOut		23/12/2011 3:54 PM	File folder		

2. Start a SAS session in either SAS Enterprise Guide or SAS Display Manager.



3. Assign a global macro variable TRTHdir to the directory that you specified in Step 1. Make sure that there are no spaces in any of the folder names and that the path ends in a backslash (\). The directory path must also be recognized by the server from which the code is executed as a fully qualified path. An example is shown in the following displays.

For example, submit the following: %let TRTHdir=C:\TRTH\ThisFolderNameHasNoSpacesInIt\;



Using SAS[®] Software to Retrieve Thomson Reuters Tick-History Data

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	1	;*';*";*/;quit;run;	
	2	OPTIONS PAGENO=MIN;	1
	3	<pre>%LET _CLIENTTASKLABEL='Program';</pre>	
	4	%LET CLIENTPROJECTPATH='';	
	5	<pre>%LET CLIENTPROJECTNAME='';</pre>	
	6	%LET SASPROGRAMFILE=;	
	7		
	8	ODS ALL CLOSE;	
	9	OPTIONS DEV=ACTIVEX;	
	10	GOPTIONS XPIXELS=0 YPIXELS=0;	
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ierver List	12	ODS tagsets.sasreport12(ID=EGSR) FILE=EGSR STYLE=Analysis	
ALLA	12	! STYLESHEET=(URL="file:///C:/Program%20Files/SASHome/x86/SASEnterpriseGuid	de/4.3/Styl
	- 12	<pre>! GPATH=&sasworklocation ENCODING=UTF% options(rolap="on");</pre>	1973. d 1993 - 1997 - 19
53 Befresh Disconnect III Stop	NOTE: W	riting TAGSETS.SASREPORT12(EGSR) Body file: EGSR	
Servers Servers Bervers	13		
	14	GOPTIONS ACCESSIBLE;	
	15	<pre>%let TRTHdir=C:\TRTH\ThisFolderNameHasNoSpacesInIt\;</pre>	
	16		
	17	GOPTIONS NOACCESSIBLE;	
	18	<pre>%LET CLIENTTASKLABEL=;</pre>	
	19	<pre>%LET CLIENTPROJECTPATH=;</pre>	
	20	%LET CLIENTPROJECTNAME=;	
	21	%LET SASPROGRAMFILE=;	
	22		
	23	;*';*";*/;quit;run;	

4. Submit the code: %include "&TRTHdir.TRTHFiles\TRTHMacros.sas";



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Server Lett • ×	<pre>15 %include "&TRTHdir.TRTHFiles\TRTHMacros.sas"; NOTE: SAS TRTH API v1.00 761 762 GOPTIONS NOACCESSIBLE; 763 %LET_CLIENTTASKLABEL=; 764 %LET_CLIENTTROJECTPATH=; 766 %LET_CLIENTPROJECTNAME=; 766 %LET_SASPROGRAMFILE=; 767 767 ;*';*'';/;quit;run; 769 ODS_ALL_CLOSE; 770 771 772 QUIT; RUN; 773</pre>

5. Navigate to the directory and executable 7z.exe. Note that the .exe extension might not appear depending on your folder settings. In this case, select the file called 7z for 7-Zip.

C:\Program Files\7-Zip	•	Search 7-Zip	
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Name	Date modified	Туре	Size
🕌 Lang	8/11/2011 11:48 PM	File folder	
🗞 7z.dll	18/11/2010 9:24 PM	Application extens	1,389 KB
7z.exe	18/11/2010 9:08 PM	Application	278 KB
7z.sfx	18/11/2010 9:27 PM	SFX File	159 KB
7zCon.sfx	18/11/2010 9:27 PM	SFX File	149 KB
2 7zFM.exe	18/11/2010 9:10 PM	Application	723 KB
7zG.exe	18/11/2010 9:11 PM	Application	378 KB
😵 7-zip.chm	18/11/2010 9:08 PM	Compiled HTML	89 KB
🚳 7-zip.dll	18/11/2010 9:08 PM	Application extens	84 KB
descript.ion	10/09/2010 10:41	ION File	1 KB
History.txt	18/11/2010 9:11 PM	Text Document	32 KB
License.txt	2/01/2010 3:18 PM	Text Document	2 KB
readme.txt	18/11/2010 9:12 PM	Text Document	2 KB

6. Submit the macro %ASSIGNMENTS with the appropriate parameters.

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Project Tree - ×	Program •
Process Row Programs Program	Program Dig 20 Odput Data 22 Sque · b Bun · II Stop Selected Server Local (Connected) · W Analyze Program · Export · Send To · Draste · Properties Flet TRTHdir=C:\TRTH\ThisFolderNameHasNoSpacesInIt\; Finclude "aTRTHdir.TRTHFiles\TRTHMacros.sas"; Bassignments(TRTHUSerName,TRTHPassword,C:\Program Files\7-Zip\7z.exe)
Server List	

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	14 GOPTIONS ACCESSIBLE;						
	15 %assignments(TRTHUserName,TRTHPassword,C:\Program Files\7-Zip\7z.exe) NOTE: PROCEDURE SOL used (Total process time):						
	real time 0.00 seconds						
	cpu time 0.00 seconds						
	NOTE: Libref TRTH was successfully assigned as follows: Engine: V9 Physical Name: C:\TRTH\ThisFolderNameHasNoSpacesInIt\TRTHOut						
Server List •	NOTE: Table TRTH.GETTYPES created, with 0 rows and 1 columns.						
	NOTE: 12 rows were inserted into TRTH.GETTYPES.						
Stresh Disconnect Stop IF Servers Image: Servers Image: Servers Image: Servers Image: Servers	NOTE: PROCEDURE SQL used (Total process time): real time 0.02 seconds cpu time 0.01 seconds						
	NOTE: Table TRTH.REQTYPES created, with 0 rows and 1 columns. NOTE: 8 rows were inserted into TRTH.REQTYPES.						
	NOTE: PROCEDURE SQL used (Total process time): real time 0.01 seconds						
	cpu time 0.01 seconds						

Two tables are created: TRTH.gettypes and TRTH.reqtypes

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Submission Request and Retrieval

Server List

Refresh Disconnect Stop
 P-II Servers
 Private OLAP Servers

 To send a request for a single security for a single day, submit the macro %EXEC with the appropriate parameters. To send a request for a single security for more than one day, submit the macro %EXECFTP with the appropriate parameters. The parameters REQTYPE (request type), MSGTYPE (message type), and FIELDLIST (list of fields to display), which are used in both macros, are discussed in Step 2.

Example for Requesting Tick-History Data for a Single Security for a Single Day

The following code requests "Price" and "Volume" data for "Trades" of type "Time and Sales" for security BHP.AX on the date 2011-12-15 between the hours of 00:00:00 and 23:59:59.999.

%exec(BHP.AX,2011-12-15,00:00:00,23:59:59.999,TimeAndSales,Trade,%bquote(Price,Volume))

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Fig Process Row	<pre>M Program Disp log Spet + Bun + Disp Sejected Server Local(Connected) + M Analyze Program + Egott + Sepd To + Create + Properties % let TRTHdir=C:\TRTH\ThisFolderNameHasNoSpacesInIt\; % include "&TRTHdir.TRTHFiles\TRTHMacros.sas"; % assignments(TRTHUserName, TRTHPassword, C:\Program Files\7-Zip\7z.exe) % exec(BHP.AX, 2011-12-15, 00:00:00, 23:59:59.999, TimeAndSales, Trade, % bquote(Price, Volume)))</pre>
ServerList • > >	

If the security exists, a data set TRTH.VerifyRIC is included in the output that shows details of the security.



 If you are unsure of the combination of supported values that are available for the REQTYPE, MSGTYPE, and FIELDLIST parameters, submit the macro %GET. Give the first parameter the value MessageTypes and give the second parameter a value of RequestType from the list of supported request types. This list was created in Step 6 in the "Initial Setup" section and stored in the data set TRTH.reqtypes. For example, you want to request "TimeAndSales" data but do not know which values are supported for the parameters MSGTYPE and FIELDLIST. Submitting the following code provides the list of supported values for REQTYPE "TimeAndSales":

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	<pre>%let TRTHdir=C:\TRTH\ThisFolderNameHasNoSpacesInIt\;</pre>	
	<pre>%include "&TRTHdir.TRTHFiles\TRTHMacros.sas";</pre>	
	<pre>%assignments(TRTHUserName,TRTHPassword,C:\Program Files\7-Zip\7z.exe)</pre>	
	<pre>%exec(BHP.AX, 2011-12-15, 00:00:00, 23:59:59.999, TimeAndSales, Trade, %bguote(Price, Volume)</pre>)
	<pre>%get(MessageTypes,TimeAndSales)</pre>	
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B- Servers		
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%get(MessageTypes,TimeAndSales)

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	Obs regtype	MsgType	Fields	
	1 TimeAndSales	C&E Quote	Contributor ID	
	2 TimeAndSales	C&E Quote	Bench Price	
	3 TimeAndSales	C&E Quote	Mid Price	-
	4 TimeAndSales	C&E Quote	Bid Price	-
	5 TimeAndSales	C&E Quote	Ask Price	
	6 TimeAndSales	C&E Quote	Qualifiers	
	7 TimeAndSales	C&E Quote	Contrib. Time	
	8 TimeAndSales	C&E Quote	Primary Activity Price	
	9 TimeAndSales	C&E Quote	Secondary Activity Price	
	10 TimeAndSales	C&E Quote	General Value1	
	11 TimeAndSales	C&E Quote	General Value2	
	12 TimeAndSales	C&E Quote	General Value3	
	13 TimeAndSales	C&E Quote	General Value4	
ar Liet	14 TimeAndSales	C&E Quote	General Value5	
Hrust • A	15 TimeAndSales	C&E Quote	Grack	
	16 TimeAndSales	C&E Quote	Тор	
	17 TimeAndSales	C&E Quote	Freight	
Sefresh Disconnect Stop	18 TimeAndSales	Short Sale	Short Price	
Servers	19 TimeAndSales	Short Sale	Short Volume	
iiii Local	20 TimeAndSales	Short Sale	Short Traded Volume	
Libraries	21 TimeAndSales	Short Sale	Short Turnover	
MAPS MAPS	22 TimeAndSales	Short Sale	Short Weighting	
B- 1 MAPSGFK	23 TimeAndSales	Short Sale	Short Limit	
MAPSSAS	24 TimeAndSales	Short Sale	Loan Ask Volume	
B-B SASHELP	25 TimeAndSales	Short Sale	Loan Ask Amount Trading Price	
G C TOTU	26 TimeAndSales	Short Sale	Percentage Short Volume vs Traded Volume	
	27 TimeAndSales	Short Sale	Percentage Short Price vs Traded Price	
REGTYPES	28 TimeAndSales	Short Sale	Qualifiers	
R-O WORK	29 TimeAndSales	Indices and Market Statistics	Exchange Identification	
R-C Fles	30 TimeAndSales	Indices and Market Statistics	Description	
- Private OLAP Servers	31 TimeAndSales	Indices and Market Statistics	Currency Code	_
-	32 TimeAndSales	Indices and Market Statistics	Trading Status	
	33 TimeAndSales	Indices and Market Statistics	Ticker Symbol	
	34 TimeAndSales	Indices and Market Statistics	Issue Long Name	_
dy				No profile selected

The TRTH.MessageTypes data set is created, which includes the list of supported values.

3. Fetch the results from the preceding request by submitting the macro %GETRESULTS. For example, submit the following:



%getresults(&reqID)

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	-	_RIC	Date_G_	Time_G_	GMT_Offset	Туре	9	Price 19	Volume		
	1	LEHP AX	20111215	0.00.07.535	11 1	ade	-	35.08	238		1.00
	2	BHP AV	20111210	0.00.07.535	11 7	ace		30.08	20		
	3	DHP AV	20111215	0.00.07.535	11 7	ade	-	35.06	75		
	1	DHP AY	20111215	0.00.07.552	11 7	ada	-	35.00	20		
	6	BHP AY	20111215	0.00.07.558	11 7	ada	-	35.00	6		
	7	BHP AY	20111215	0.00.07.552	11 7	ade		35.08	9		
		RHP AY	20111215	0.00.07.577	11 7.	ade	-	35.02	5		
	9	RHP AX	20111215	0.00.07 577	11 Te	ade	-	35.08	2		
	10	BHPAX	20111215	0.00.07.577	11 Te	ade	-	35.00	87		
	11	DHP AX	20111215	0.00.07.587	11 7	ade	_	35.00	22		
	12	BHPAX	20111215	0.00.07.587	11 Te	ade	-	35.08	1		
	13	BHP AX	20111215	0.00.07.587	11 Te	ade		35.08	149		
	14	BHPAX	20111215	0.00.08.537	11 Tr	ade		35.08	82		
Casuar List v V	15	BHP.AX	20111215	0.00.10.666	11 Tr	ade		35.08	7		
	16	BHPAX	20111215	0.00.10.681	11 Te	ade		35.08	107		
🗟 📑 🔳 🥹	17	BHP.AX	20111215	0.00.10.681	11 Tr	ade		35.08	810		
Contrat I Discussion of Con-	18	BHP AX	20111215	0.00.10.681	11 Te	ade		35.08	3056		
Serresh Disconnect III Stop	19	BHP AX	20111215	0.00.10.681	11 Te	ade		35.08	333		
E- Servers A	20	BHP.AX	20111215	0.00.10.681	11 Tr	ade		35.08	47		
E-1 Loca	21	BHP.AX	20111215	0:00:13.103	11 Te	ade		35.08	640		
E- 1 Lbraries	22	BHP.AX	20111215	0.00.13.103	11 Tr	ade		35.08	139		
I MAPS	23	BHP AX	20111215	0:00:13.103	11 Te	ade		35.08	2		
I MAPSGFK	24	BHP AX	20111215	0:00:13.326	11 Tr	ade		35.08	1603		
e grand and a chever a	25	BHP.AX	20111215	0:00:13.326	11 Tr	ade		35.08	34		
B B SASHELP	26	BHP.AX	20111215	0:00:15.389	11 Tr	ade		35.08	776		
	27	BHP.AX	20111215	0.00.15.591	11 Tr	ade		35.08	27		
BHPAX20111228T1	28	BHP AX	20111215	0.00.15.872	11 Te	ade		35.08	206		
GETTYPES	29	BHP AX	20111215	0:00:20.857	11 Tr	ade		35.08	27		
MESSAGETYPES	30	BHP.AX	20111215	0:00:21.061	11 Tr	ade		35.08	391		
REQTYPES	31	BHP.AX	20111215	0:00:21.339	11 Te	ade		35.08	8		
VERIFYRIC	32	BHP.AX	20111215	0.00.28.244	11 Tr	ade		35.08	574		
B D WORK	33	BHP AX	20111215	0.00.28.244	11 Te	ade		35.08	82		
😥 🧰 Files 🛛 💌	34	BHP.AX	20111215	0:00:28.271	11 Tr	ade		35.08	13		
	35	BHP.AX	20111215	0:00:28.276	11 Tr	ade		35.07	1		-
Ready										X No pro	file selected

The results are stored in the TRTH library with a data set name of the security and submission date.

Example

This example summarizes the preceding step-by-step instructions and provides some additional examples.

The following code provides the required initial setup:

```
%let TRTHdir=C:\TRTH\ThisFolderNameHasNoSpacesInIt\;
%include "&TRTHdir.TRTHFiles\TRTHMacros.sas";
%assignments(TRTHUserName,TRTHPassword,C:\Program Files\7-Zip\7z.exe)
```

You might be interested in data of type "Time and Sales" but might not be aware of the parameter values that are supported for message type and field list returned, which are the fifth and sixth parameters in the macro %EXEC. The following code retrieves a list of supported values for these fields.

%get(MessageTypes,TimeAndSales)

The following code requests "Price" and "Volume" data for "Trades" of type "Time and Sales" for security BHP.AX on the date 2011-12-15 between the hours of 00:00:00 and 23:59:59.999.

```
%exec(BHP.AX,2011-12-
15,00:00:00,23:59:59.999,TimeAndSales,Trade,%bquote(Price,Volume))
%getresults(&reqID)
```

The additional %EXECFTP macro requests "Price" data for "Trades" of type "Time and Sales" for security BHP.AX for the period 2011-12-15 00:00:00 to 2011-12-31 23:59:59.999.

%execftp(BHP.AX,2011-12-15,00:00:00,2011-12-31,23:59:59.999,TimeAndSales,Trade,Price)

Because the amount of data requested is much larger than the %EXEC request, additional parameters can be specified to indicate how many attempts should be made to request the result from the server and how long to wait between each attempt. In the following example, 10 attempts will be made, with a wait time of 60 seconds between each attempt.

```
%getresults(&reqID,10,6)
```

Appendix: Macro Definitions

%ASSIGNMENTS

Description

The %ASSIGNMENTS macro creates most of the global macro variables that are used by the other macro definitions. It also sets some global options and creates up to three SAS data sets—TRTH.Gettypes, TRTH.Reqtypes, and TRTH.FTPRequests. The data set TRTH.Gettypes provides a list of valid values that can be passed to the parameter GETTYPE in the macro %GET. The data set TRTH.Reqtypes provides a list of valid values that can be passed to the parameter REQTYPE in the macros %GET, %EXEC, and %EXECFTP. The data set TRTH.FTPRequests is also created if it does not already exist. This data set records all of the FTP requests that are submitted.

Syntax

%assignments(_uid,_pw,_compexe)

_uid	The TRTH user name.
_pw	The TRTH password.
_compexe	The complete file path including the executable to 7z.exe.

%EXEC

Description

The %EXEC macro definition submits a tick-history request to the Thomson Reuters server using the credentials that are supplied in %ASSIGNMENT for a single security for a single day and time range. A successful submission assigns a request ID into the macro variable reqID that is associated with this request. This request ID can then be used to fetch the underlying data by submitting %getresults(&reqID).

Syntax

%exec(sec,date,starttime,endtime,reqtype,msgtype,%bquote(fieldlist))

SEC	The name of the security.
DATE	The date of inquiry in the format 'yyyy-mm-dd'.
STARTTIME	The start time for the above date in the format 'hh:mm:ss.sss'.
ENDTIME	The end time for the above date in the format 'hh:mm:ss.sss'.
REQTYPE	The request type. See TRTH.Reqtypes for a list of acceptable values.
MSGTYPE	Message type—For a list of acceptable values, submit %get(MessageTypes,reqtype), where reqtype is the request type specified above.
FIELDLIST	The list of fields to be returned—Ensure that the fields are separated by commas and contained within %bquote(). The valid values can be ascertained by submitting %get(MessageTypes,reqtype), where reqtype is the request type specified above.

%EXECFTP

Description

The %EXECFTP macro definition submits a tick history request to the Thomson Reuters server for a single security for a user-specified date-time period. A successful submission assigns a request ID into the macro variable reqID, which is associated to this request. This request ID can then be used to fetch the underlying data by calling the macro %getresults(&reqID). Because FTP requests can take time to process on the Thomson Reuters server, all FTP requests, including the request ID are recorded in TRTH.FTPRequests. This enables the user to refer back to a particular request in order to retrieve the results by submitting %getresults(&reqID).

Syntax

%execftp(sec,startdate,starttime,enddate,endtime,reqtype,msgtype,fieldlist)

SEC	The name of the security.
STARTDATE	The start date of inquiry in the format 'yyyy-mm-dd'.
STARTTIME	The start time for the start date in the format 'hh:mm:ss.sss'.
ENDDATE	The end date of inquiry in the format 'yyyy-mm-dd'.
ENDTIME	The end time for the end date in the format 'hh:mm:ss.sss'.
REQTYPE	The request type. See TRTH.Reqtypes for a list of acceptable values.
MSGTYPE	Message type—For a list of acceptable values, submit %get (MessageTypes, reqtype), where reqtype is the request type specified above.
FIELDLIST	The list of fields to be returned—Ensure that the fields are separated by commas and contained within %bquote(). The valid values can be ascertained by submitting %get(MessageTypes,reqtype), where reqtype is the request type specified above.

%GET

Description

The %GET macro fetches the list of possible values for the value of GETTYPE. The parameter REQTYPE is required only when GETTYPE equals "MessageTypes." It can be left as blank or not included for all other cases, for example, **%get(Currencies)**.

This macro is useful in finding the supported values of REQTYPE, GETTYPE, and FIELDLIST parameters used in %EXEC and %EXECFTP.

Syntax

%get(gettype,reqtype)

GETTYPE	The supported values for GETTYPE are provided in the data set TRTH.Gettypes which is created when the macro %ASSIGNMENTS is submitted.
REQTYPE	The supported values for REQTYPE are provided in the data set TRTH.Reqtypes, which is created when the macro %ASSIGNMENTS is submitted and needs to be provided only when GETTYPE is equal to "MessageTypes".

%GETRESULTS

Description

The %GETRESULTS macro fetches the results from the server that is associated with REQID. These results are saved locally as a file with the extension csv.gz and stored in the file location specified by TRTHdir in the directory TRTHOut. If the compressed file is successfully extracted, then the delimited file is also stored in the same location. A successful import stores a data set in the library TRTH that contains the name of the security (with special characters stripped out) for the specified date-time period.

Syntax

%getresults(reqID,attempts,wait)

REQID	The request ID generated from %EXEC or %EXECFTP.
ATTEMPTS	The number of times to resubmit the retrieval of results.
WAIT	The amount of time, in seconds, to wait between resubmissions.

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