TICK HISTORY

FOR REFINITIV DATASCOPE SELECT

USER GUIDE

DOCUMENT VERSION 1.0

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REFINITIV™

Contents

About this Guide

In this Chapter:

Tick History is a historical market data service offering global recorded trade and quote messages. Providing extensive coverage of complete, timely and global microsecond tick data, this service offers access to global intraday time and sales, quotes and market depth content dating back to January 1996.

Tick History is sourced from the strategic Elektron Real Time feed to provide deep tick content and a wide range of content sets, including historical reference data, end of day pricing and corporate actions data. The product offers customizable reports, as well as bulk files containing the complete trading data on an exchange, both available through the user interface and REST API.

This document describes the Tick History user interface and takes you through the process of customizing data requests and retrieval. Through intuitive screens, you can build an instrument list, create a report template and select output fields, and then schedule the extraction to retrieve your results when you want them.

In addition to custom extractions, Tick History includes a bulk data offering via the Venue By Day Service. This service provides access to bulk files containing a day's complete trading data on 250+ venues and offers a convenient and consistent way for downloading venue data into your internal processes. An overview of the Venue By Day service is provided, along with instructions for viewing and downloading venue files through the user interface.

Tick History is a separate product offered through Refinitiv DataScope Select. Access to Tick History features and content through the user interface and REST API requires a separate subscription and login credentials. Please contact your local account manager or sales specialist for details.

How to Use this Guide

This guide is organized as follows:

- Getting Started
- Creating Instrument Lists
- Customizing Tick History Report Templates
- Scheduling Tick History Extractions
- Retrieving Tick History Extractions
- Venue by Day Service
- Tick History Overview
- Understanding XML File Formats

Service and Support

The Refinitiv Statement of Service is available on MyRefinitiv. MyRefinitiv is the Refinitiv portal that provides a single access point for timesaving support services, along with billing, user management, and information. For support using Tick History, please raise a query by accessing Help & Support at MyRefinitiv.

Tick History v2 service outages are addressed 24 hours a day, seven days a week. Other Tick History queries and concerns are addressed from 7:30 am to 10:30 pm GMT daily, Monday through Friday.

You are encouraged to subscribe to the following support channels to keep informed of changes to products and data, and to be notified of any service issues or changes:

- **Change Notifications**
  - **Product** change notifications detail new, enhanced, or changed functionality, which may require your action, in products that you use.
  - **Content** change notifications alert you to upcoming changes to real-time and historical data across all asset classes that are relevant to you.
  - **RIC** change notifications inform you of planned changes to RICs.
- **Service Alerts**
- You can subscribe to alerts about planned maintenance and unplanned service issues affecting your products and services, and be notified via SMS or email.

Feedback

We invite your comments, corrections, and suggestions about this document: access the Feedback option under Help & Support at MyRefinitiv. Your feedback helps us continue to improve our user assistance.

Your Personal Information

Refinitiv is committed to the responsible handling and protection of personal information. We invite you to review our Privacy Statement, which describes how we collect, use, disclose, transfer, and store personal information when needed to provide our services and for our operational and business purposes.

1 Getting Started

In this Chapter:

This chapter gets you started with Tick History and provides instructions on how to access the user interface and set your user preferences.

Descriptions of the related screens used to customize Tick History data requests and retrieval are provided, along with an overview of the Tick History workflow. Details on how to access a product demonstration are also provided. You are encouraged to review the video before getting started.

Tick History Product Demonstration

For an online demonstration of Tick History, please visit our on-demand training videos. Tick History training includes a product overview and introduction to Custom Extractions and the Venue by Day service, as well as to the Developers Portal. You are encouraged to review this video to familiarize yourself with the product and its capabilities. Please contact your local account manager or sales specialist if you are unable to access the demonstration site.

Accessing Tick History

Tick History is a separate product offered through the Refinitiv DataScope Select platform. Access to Tick History requires a separate subscription and login credentials. Please contact your local account manager or sales specialist for details.

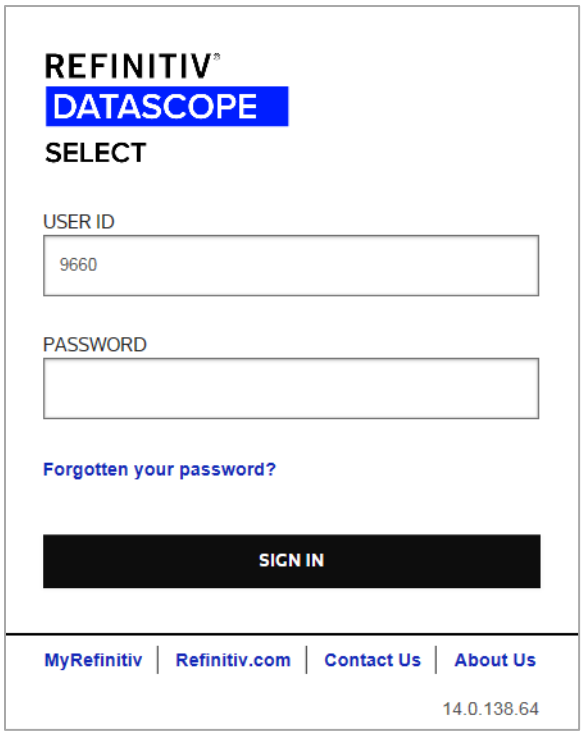
You are encouraged to access Tick History from a modern browser to protect against security risks and ensure optimal product performance and reliability. Tick History supports Internet Explorer 11, Mozilla Firefox and Google Chrome.

Access to Tick History is available via https://hosted.datascope.reuters.com.

NOTE: Using the hostname-based URL is the recommended best practice, as it requires no changes to your scripts or browser bookmarks in the event of a failover of the Production environment.

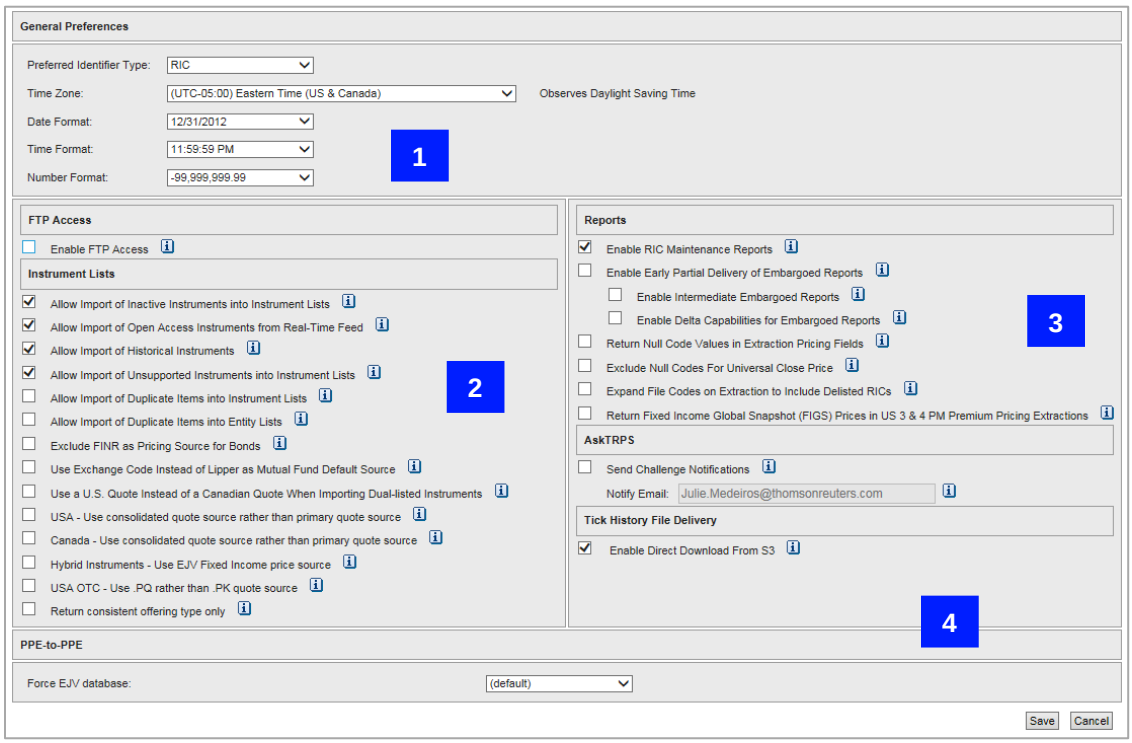
Signing In

Your user credentials are required to sign in.



Setting Your Preferences

When you login for the first time, the **Preference** screen appears automatically. Your preferences define the default settings for the display and behavior of the user interface, instrument lists and report templates. When you update your preferences, those changes apply immediately. Setting preferences is a one-time step. You can accept the default settings or update them as needed:



1 The default values displaying preferred identifiers, time zone, dates, time and numbers are set in the **General Preferences** section. The formats default to US values.

2 In the **Instrument Lists** section, make sure **Allow Import of Historical Instruments, Allow Import for Unsupported Instruments into Instrument Lists** and **Allow import of Open Access Instruments from Real-Time Feed** are selected. These key preferences are required to import historical instruments for use in extractions. All other settings are optional.

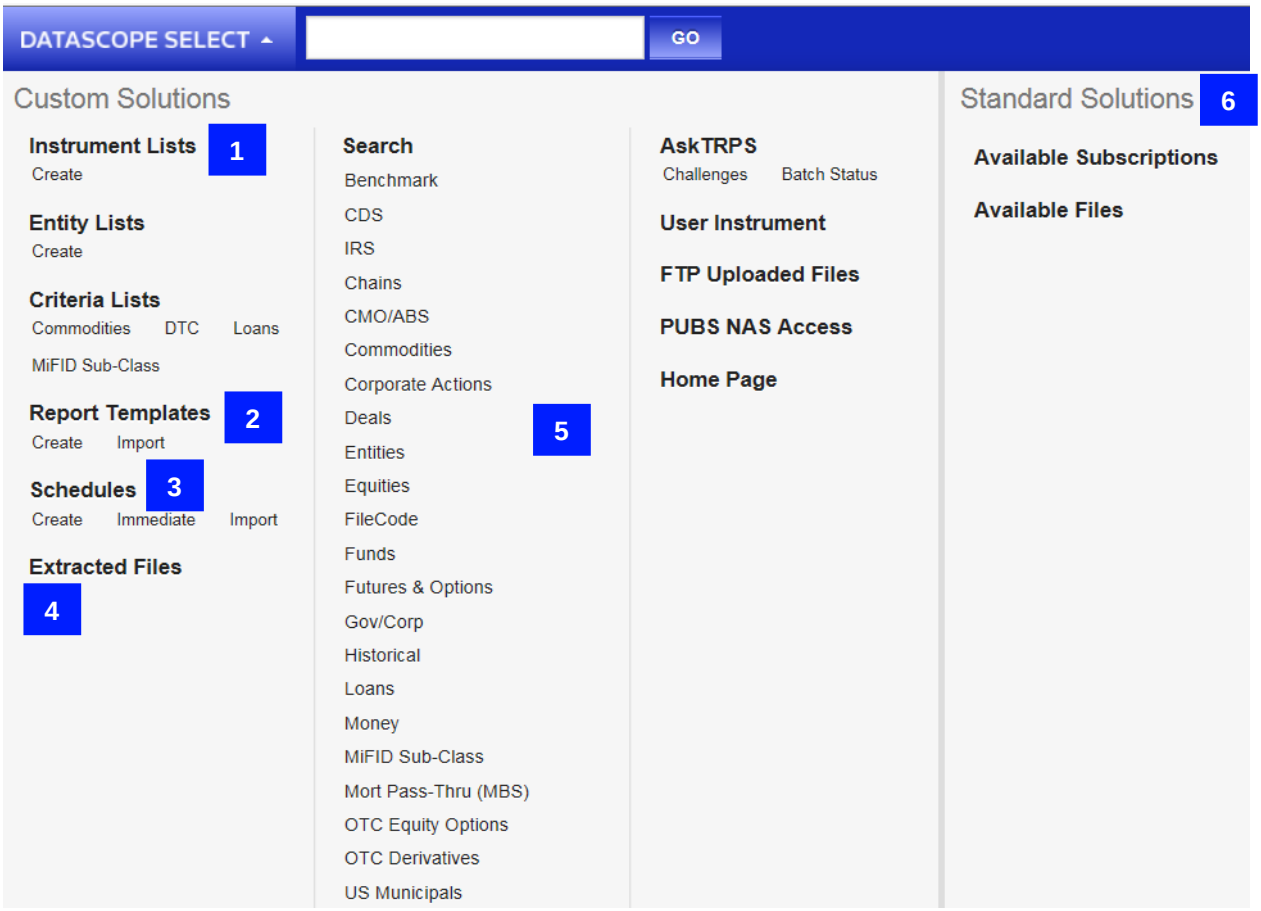
3 In the **Reports** section, check these options, if desired:

Enable RIC Maintenance Reports - This optional report lets you view descriptive and reference data fact changes to the equity-related RIC identifiers in your instrument lists that have occurred over the past ten days, including deletions, renames, currency conversions, delists, relists, and file code updates, as well as stock split adjustment factors. When you select this option, the report is generated with your extraction and delivered to the **Actions** column in the **Extracted Files** screen.

Return Null Code Values in Extraction Pricing Fields - Select this option to retrieve the appropriate null code value when the instrument's price is not available due to exchange events (e.g., Public Holiday). Null code values are available in **Elektron Timeseries** extraction for Fixed Income, Equity, Derivatives, Money and Fund instruments. When this option is cleared, a blank field appears when the instrument's price is not available. The following null codes are supported: • -9999401 - No trade, including suspended; no activity for money data • -9999402 - Market holiday.

Tick History Screens

All tasks associated with creating Tick History extractions are accessible from the DataScope Select menu:



1 **Instrument Lists** define the instruments to use in the extraction. Click **Create** to create a new list. Click **Instrument Lists** to view and manage your existing lists.

2 **Report Templates** define the type of extraction to create and the data fields to extract. Click **Create** to create a new report template from the user interface or **Import** to import a report template from an XML file. Click **Report Templates** to view and manage your existing report templates.

3 **Schedules** define the details of the extraction initiation. Click **Immediate** to create a schedule that initiates the extraction immediately. Click **Create** to create a new schedule that initiates the extraction on a future date. Click **Import** to import the schedule from an XML file. Click **Schedules** to view and manage your existing schedules.

4 **Extracted Files** contain the resulting extraction file for specified instrument list and report template defined in your schedule. Click this link to retrieve your completed extractions and view your pending ones.

5 Use **Historical Search** to build your instrument lists. Search supports both identifier and criteria based searches, as well as bulk searches for uploading instruments simultaneously.

6 The screens for viewing Venue by Day subscriptions and bulk data feed files appear under **Standard Solutions**.

Tick History Workflow Overview

The workflow for creating Tick History extractions is identified below with links to instructions for performing each step.

1. **Create the Instrument List.**

   You can create a new instrument list and then add instruments from Historical Search. Historical Search supports both identifier and criteria based searches. Bulk searches are also supported for uploading instruments simultaneously. Instructions for updating instrument lists and instruments are also provided.

   - Creating an Instrument List
   - Adding Instruments from Historical Search
   - Identifier Searches
   - Criteria Searches
   - Bulk Searches
   - Updating Instrument Lists
   - Updating Instruments

2. **Customize the Report Template.**

   Your report template defines the type of data to retrieve and the time frame for retrieving that data. You can create a report template and select your data output fields. As an alternative, you can import a report template via an XML formatted file. Instructions for updating report templates are also provided.

   - Creating a Report Template
   - Defining Report Options
   - Selecting Fields for Extraction
   - Importing Report Templates
   - Updating Report Templates
   - Updating an Existing Report Template

3. **Schedule the Extraction Initiation.**

   The schedule identifies when and how often your extraction executes. You can create a new schedule to initiate the extraction execution immediately or on a future date, once or on a recurring basis. As an alternative, you can import a schedule via an XML formatted file. Instructions for updating a schedule are also provided.

   - Scheduling Immediate Extractions
   - Scheduling Future Extractions
   - Importing Schedules
   - Tracking Extractions
   - Viewing Schedule Details
   - Updating Schedules

4. **Retrieve Your Extraction.**

   You can view an HTML preview of the completed extraction, and then download it for integration into your internal processes. A corresponding notes file that details the extraction processing is also provided. Instructions for troubleshooting and managing extractions are also provided.

   - Viewing Extractions
   - Previewing & Downloading Extraction Files
   - Troubleshooting Extractions
   - Managing Extraction Files

2 Creating Instrument Lists

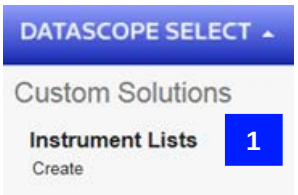
In this Chapter:

This chapter takes you through the process of creating instrument lists for use in Tick History extractions. It consists of creating an instrument list, and then adding instruments from Historical Search. Historical Search supports identifier and criteria based searches, as well as bulk searches for uploading multiple instruments simultaneously.

Instructions for updating instrument lists and instruments are also provided.

Creating an Instrument List

1. Click **DataScope Select**, and under **Instrument Lists**, click **Create**:

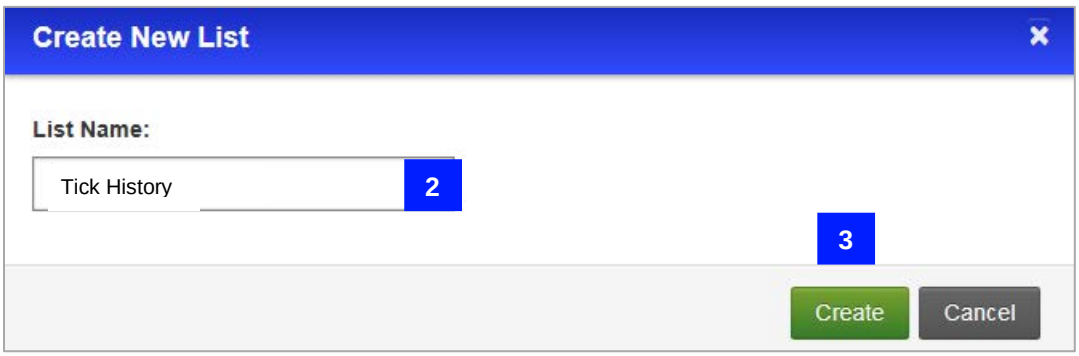


The screen updates to show the **Create New List** wizard.

2. Enter a list name in the corresponding box.

An error message appears when an invalid character is entered. Note that double-byte character sets are not supported.

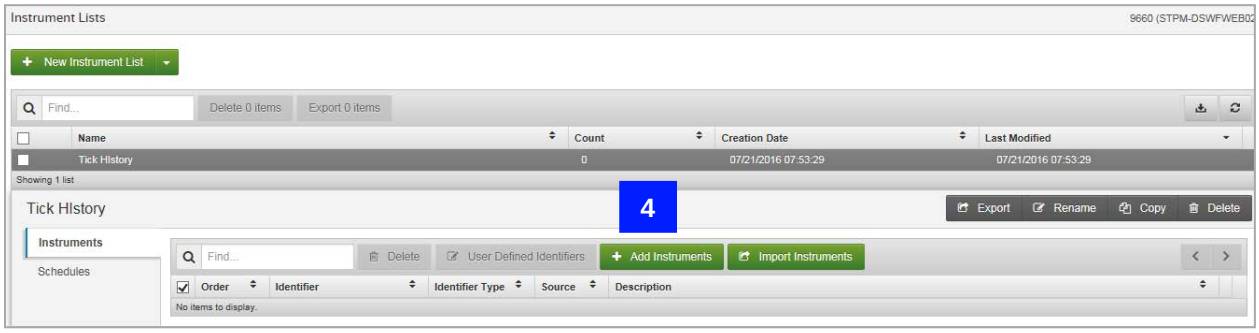
3. Click **Create**.



The list is added to the table at the bottom of the screen. The **Count** column displays 0 to indicate that there are no instruments in the list.

4. Click **Add Instruments**.

This action launches the **Historical Search** screen. This screen supports identifier and criteria based searches, as well as bulk searches for uploading instruments simultaneously.

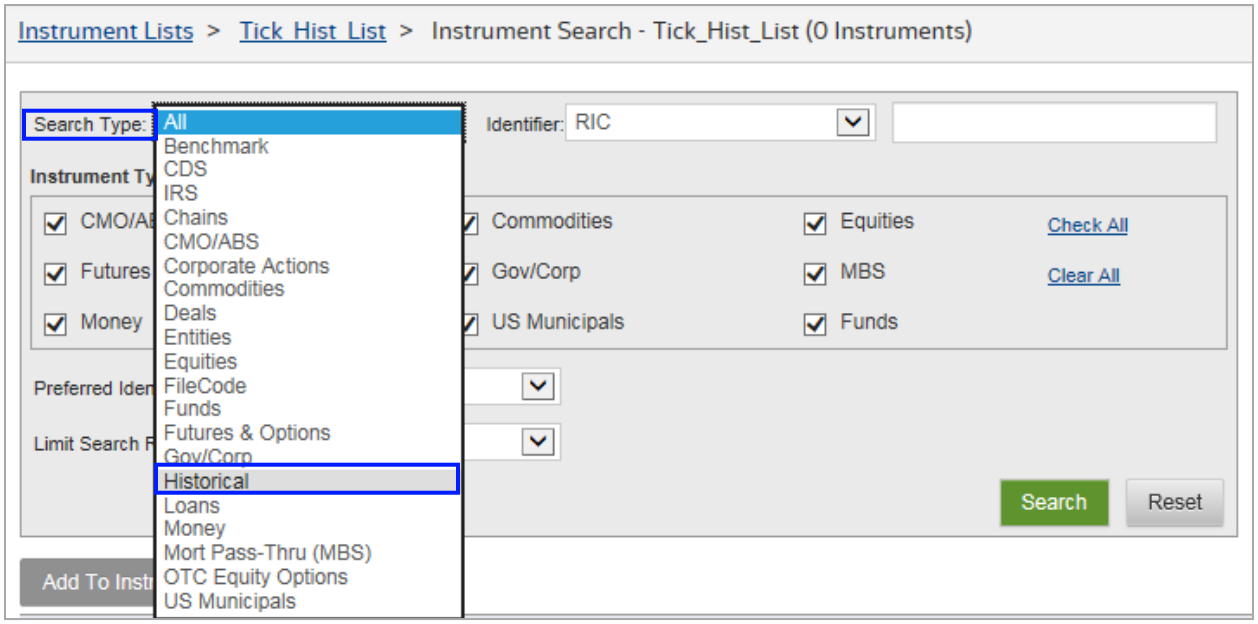


NOTE: Tick History does not recommend using **Import Instruments** on this screen to add instruments to your instrument list.

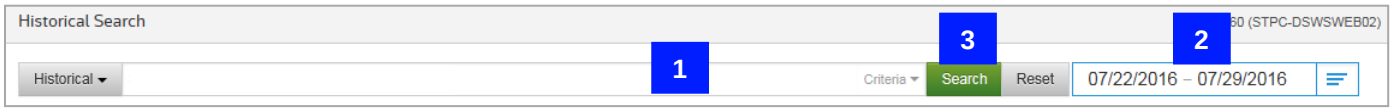
Adding Instruments from Historical Search

Use the Historical Search screen to discover active RICs for a specified historical date range, and then add them to an instrument list. You can search by identifier or perform a criteria-based search. Bulk searches of historical instrument are also provided.

The **Instrument Search** screen appears automatically when you click **Add Instruments**, as described in the previous section. To access the **Historical** search, select **Historical** from the **Search Type** dropdown.



The **Historical Search** screen appears and defaults to an identifier-based search.



Use this mode when you know the identifier of the instruments that you want to add. Supported identifiers are RIC, Chain RIC or Tile. Permissioned clients can also search by CUSIP, ISIN or Sedol.

Identifier Searches

1. Enter the identifier code in the search box.

   Identifiers are case sensitive and you must enter the identifier exactly as it is defined. For example:

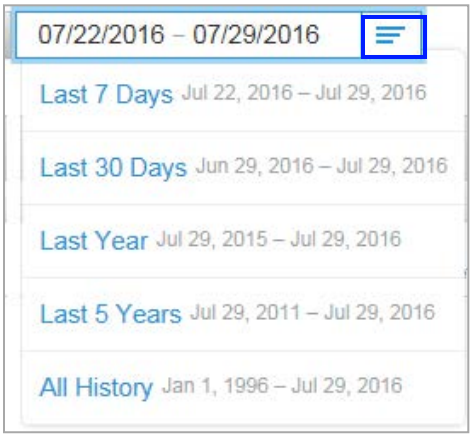
   - US10YT=RR
   - IBM.N
   - 0#CL:
   - 459200101

2. Select the date range for the retrieving data for the indicated instrument.

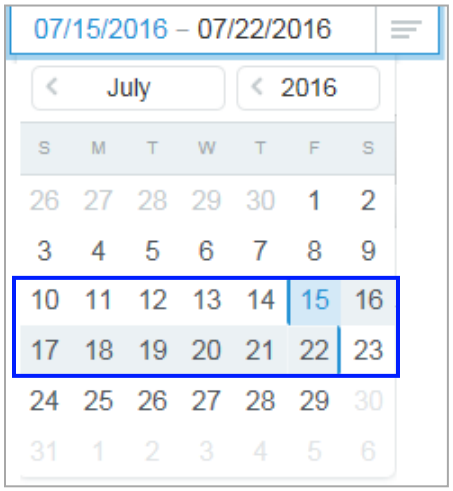
   Search will return only instruments that were active during the date range specified.

This value defaults to the past seven days, starting at 00:00:00:00 yesterday, plus the previous six calendar days. Time is based on the time zone set in your user preferences. The end date cannot be greater than today's date.

Use the dropdown to specify a different date range (**Last 30 Days**, **Last Year** or **Last 5 Years**) or select **All History** to retrieve all historical content available.



To change the date range, click on the start or end date. In the calendar that appears, drag the mouse over the new dates.



3. Click **Search**.

   Your search results appear in the table at the bottom of the screen with identifying information about each item returned.

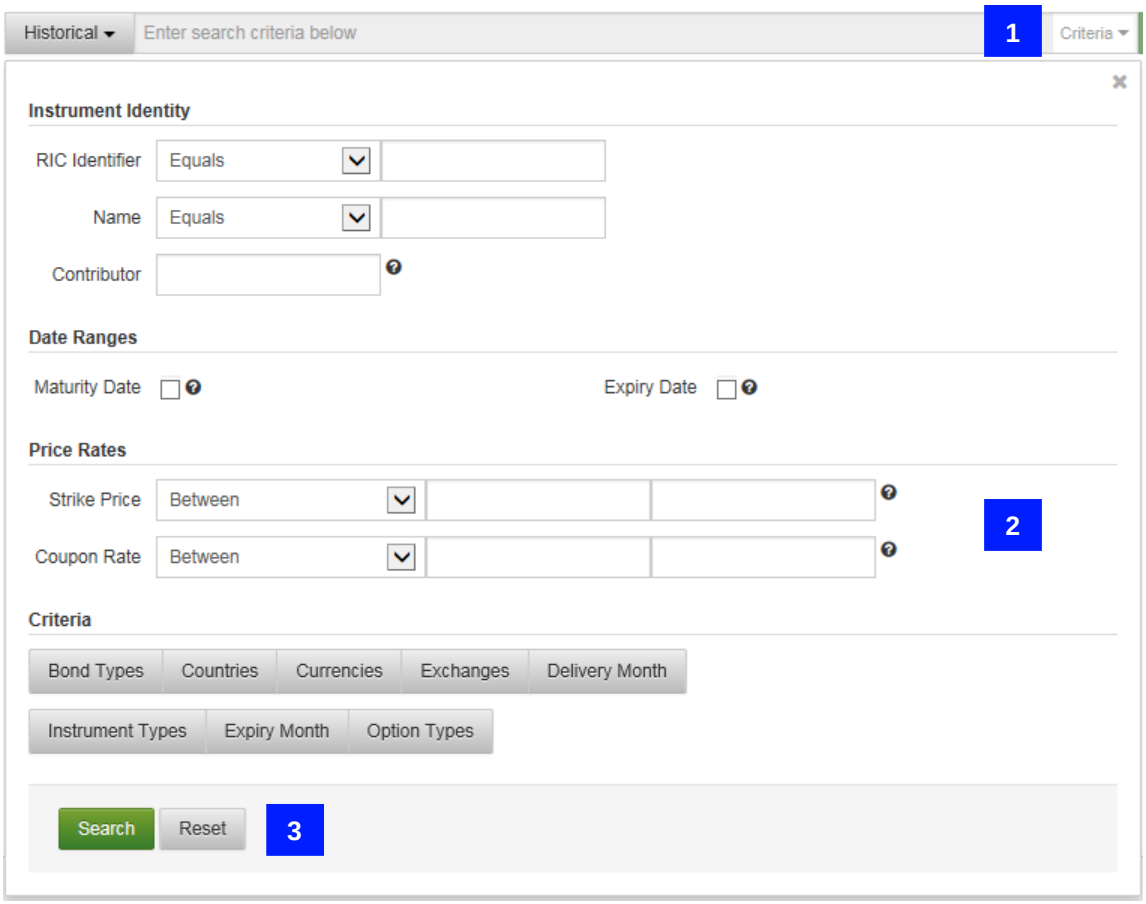
   Note that the Search will timeout after 10 minutes.

   See Viewing Search Results for details.

Criteria Searches

1. Click **Criteria** in the search box.

   The screen expands to show the available search fields. Not all criteria apply to all asset types. Click ? to view supported asset types for the corresponding criteria.



2. Specify input in at least one field in the **Instrument Identify**, **Data Ranges**, **Price Rates** and **Criteria** as follows:

Instrument Identity

- **RIC & Name -** Select an operator from the drop-down list, and then enter all or part of the security identifier and/or name in the corresponding boxes.

  Supported operators are:

  - **Equals** – Return instruments that are an exact match.
  - **Contains** – Return instruments that include the search string, but can also include other information. This operator is not case-sensitive.
  - **Starts With/Ends With** – Return instruments that start/end with the specified value.

- **Contributor –** Enter the contributor of the OTC instrument.

Date Ranges

- **Maturity Date & Expiry Date –** Select either box to define the maturity date (for Fixed Income instruments) or Expiry Date (for Options).

Price Rates

- **Strike Price -** Enter the options strike price or strike price interval for the desired options.
- **Coupon Rate -** Enter the coupon rate or interval for the desired fixed income instruments.

  Supported operators are:

  - **Between** – Return instruments that are greater than or equal to the minimum value and less than the maximum value.
  - **Equals** – Return instruments that are an exact match.
  - **<=Less than or equal** – Return instruments that match or exceed the value.
  - **>=Greater than or equal** – Return instruments that match or are less than the value.

Criteria

- **Bond Types -** Select one or more fixed income instrument types.
- **Countries -** Select one or more country codes for the desired fixed income instruments.
- **Currencies -** Select one or more currencies in which the desired instruments are priced. This selection is applicable to all asset types.
- **Exchanges -** Select one or more exchanges in which the desired instruments trade.
- **Delivery Month -** Select one or more delivery months in which the desired futures and options instruments are traded.
- **Instrument Types -** Select one or more asset types for the desired instruments. This selection is applicable to all asset types.
- **Expiry Month -** Select one or more expiry months in which the desired options are traded.
- **Option Types -** Select one or more option types in which the desired options are traded.

3. Click **Search**.

   Your search results appear in the table at the bottom of the screen with identifying information about each item returned.

   See Viewing Search Results for details.

Bulk Searches

Use the **Bulk Search** capability to upload instruments simultaneously. All matching instruments for the historical date range specified on the Historical Search screen appear in your search results.

The bulk file requirements are as follows:

- The file must be comma delimited (*.csv) formatted.
- Each instrument in the file must appear on a separate row/line.
- The first column is reserved for a RIC code, including Chain RICs. RICs are case-sensitive and must be entered exactly as they are defined. If a RIC is not defined (column is blank) or is defined as N/A, then the next column is used as the key.
- The second column is reserved for an ISIN code. ISINs are case-insensitive. If an ISIN is not defined (column is blank) or is defined as N/A, then the next column is used as the key. All instruments that match the ISIN will be returned in your search results.
- The third column is reserved for a CUSIP code. If a CUSIP is not defined (column is blank) or is defined as N/A, then the next column is used as the key. All instruments that match the CUSIP will be returned in your search results.
- The fourth column is reserved for a SEDOL code. If a SEDOL is not defined (column is blank) or is defined as N/A. then the row will be ignored. All instruments that match the SEDOL will be returned in your search results.
- The fifth and sixth columns are reserved for Exchange and Currency, respectively. These values are optional and are identified using the corresponding three-character code.
- Column headers are optional.
- Use # to enter comments in any row. The comment row is ignored during the import.
- There is no limit on the number of rows that you can include in the import file. However, only the first 30,000 instruments will be imported.
- If your file contains more than 30,000 identifiers, a warning message will be displayed, and the search will continue. The extra identifiers will be ignored, even if any of the first 30,000 identifiers are invalid. The last instrument uploaded prior to truncation is identified in the warning.
- Returned instruments will be listed in the order in which they are processed. Therefore, the order of the instruments in your search results may not reflect the order of the instruments in the import file. Please see the next section for logic details.
- Instruments that are not found, for example, the identifier is entered incorrectly, are ignored and are not included in your search results.
- Tick History best practice recommends that you apply exchange and currency filtering consistently for a single secondary identifier (ISIN, CUSIP or SEDOL) in your bulk file.

  For example, if your bulk file has ISIN 12345 with exchange NYQ in row 1 and the same ISIN with exchange LSE in row 2, your search results will render both current and historical NYQ and LSE RICs based on the search date.

  However, if your bulk file has ISIN 12345 without an exchange in row 1 and the same ISIN with exchange NYQ in row 2, your search results will render current and historical NYQ RICs only based on the search date. Search will not return current and historical RICs for all exchanges based on the search date.

Example File:

	A	B	C	D	E	F
1	RIC	ISIN	CUSIP	SEDOL	Exchange	Currency
2	TRI.N					
3		MHY621961033			FRA	EUR
4				B3FDYW4	DEU	EUR
5		N/A	37833100		GSB	USD
6			US0378331005			
7	#Comment - This row will be ignored during the upload					
8	0#.DJI					
9	VOD.L					

To help you understand the bulk search process, the client-side and server-side logic is described below:

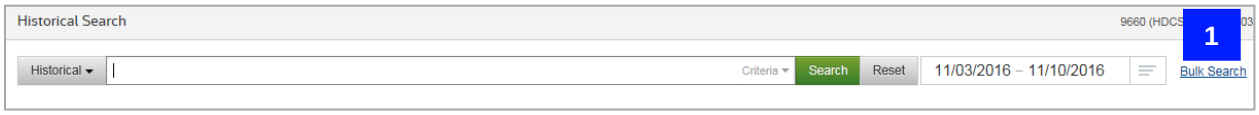
Client-Side Logic

1. The file must be comma delimited (*.csv); otherwise, an error message is returned.
2. Any comments lines in the file are removed. If no data remains, or if the file cannot be read, an error message is displayed and execution is halted.
3. All lines are simplified to an instrument identifier and the corresponding identifier type, removing excess identifier length (anything over 40 characters) and invalid data structures.
4. Any header is removed, and removal is noted in a screen message.
5. Any empty items (items that could not be cleaned and parsed) are removed.
6. All instruments after the first 30,000 are removed, and any removal is noted on screen.
7. If the remaining data in the file exceeds the maximum number of JSON bytes that can be posted to our web server (currently 2,097,152), an error message appears on screen and the upload is halted.
8. The data in the file is posted to the server in JSON format to begin the search process.

Server-Side Logic

1. The submitted identifiers are compared against cached data. If cached data for those identifiers is found, that data is returned and the execution is halted.
2. Duplicate identifiers are reduced to one instance each.
3. RIC identifiers are searched first, in the order in which they appear in the file.
4. Issue-level identifiers (CUSIP, ISIN and SEDOL) are searched in the order in which they appear in the file. All found and expanded identifiers are added to the existing RIC list.
5. Duplicate RICs are removed from the list.
6. The chain RICs in the list are expanded.
7. The list, with all chains expanded, is reviewed again for duplicate RICs, and all duplicates are removed.
8. The list is truncated after 30,000 instruments. If the list was truncated, a screen message displays the last instrument uploaded prior to truncation.

1. In the **Historical Search** screen, click **Bulk Search**.



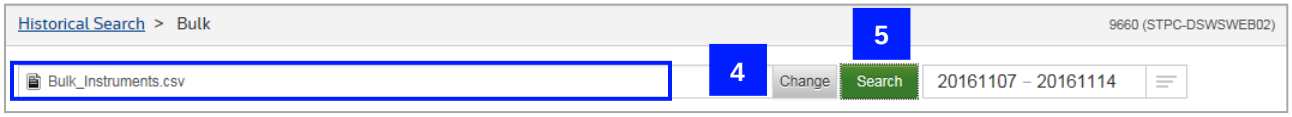
The screen updates to show a **Browse** button for selecting your import file.

2. Update the date range if needed in the date range field.

3. Click **Browse**, and then locate and select the file on your computer.

The file must be comma delimited (*.csv) formatted. All other formats will return an error.

4. The name of the file appears in the file selection box. If you want to select a different file, click **Change**.



5. Click **Search**.

Your search results appear in the table at the bottom of the screen with identifying information about each item returned.

See Viewing Search Results for details.

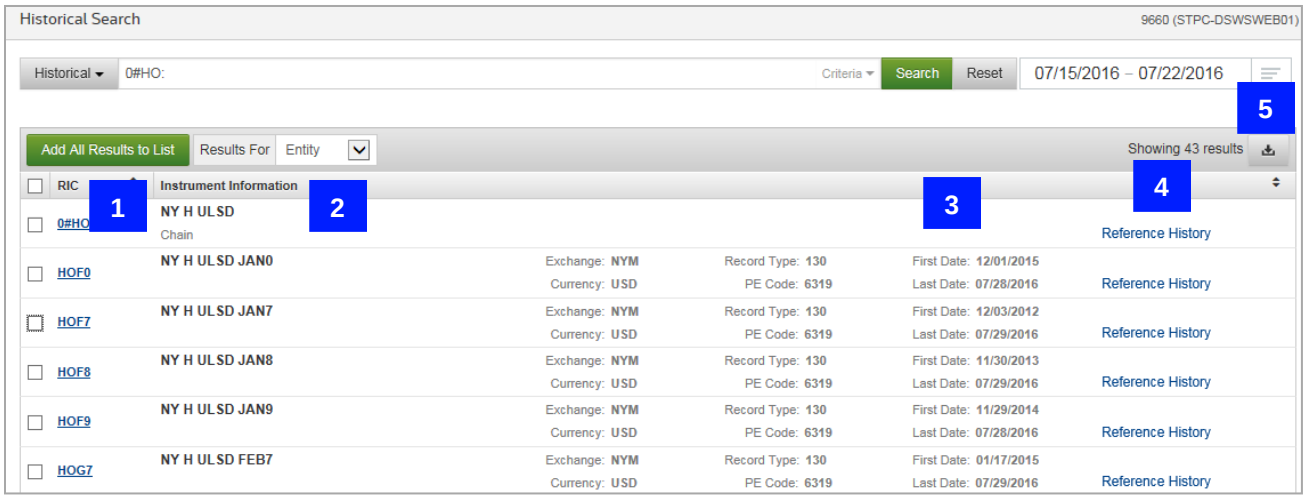
Viewing Search Results

The results of your identifier, criteria or bulk search appear in the table at the bottom of the screen as follows. These results are intended to show the data returned if the RIC was used in an extraction.

- When you enter RIC that is active during the date range specified, the corresponding RIC is returned in your search results.
- A warning will appear if a valid RIC identifier cannot be verified for the specified date range. For example, if you enter RTR.L for the date range 13-April-2016 (From) - 16-May-2016 (To), RTR.L was delisted in April 2008.
- When you enter a CUSIP, ISIN or Sedol, multiple RICs can be returned when the instrument has traded on multiple exchanges over the requested range.
- When you enter a Chain RIC or Tile, the Chain RIC or Tile is returned, along with the instrument's constituents. Constituents are shown only if they were a member of the chain or tile during the date range specified.
- Delayed RICs are not included in the search results.
- Use the **Results For** drop-down to display results by **Entity** or **RIC**:
  - **Entity** (default) shows the company that was active on or nearest to the end date specified in your search. Any RIC renames for that company during the specified date range are identified under **Instrument Information.**
  - **RIC** shows all of the companies assigned to that RIC during the date range specified.

    Note that multiple instruments can be returned when searching an issue-level identifier (CUSIP, ISIN or Sedol), depending on the date range specified. This is due to the search logic that maps the identifier to a list of RICs based on the date range specified. If more than one RIC was assigned to the entity for the specified date range, those entities will be returned in your search results.

This example shows the results for Chain RIC <0#HO:> - NYMEX that was active during a seven-day period. The resulting chain has been expanded to show the constituents that were active during that period.



For each item return, the following information is provided:

1 **RIC** identifies the corresponding RIC for the returned instrument. You can click on the RIC to view additional details about that instrument.

2 **Instrument Information** provides descriptive information about each returned instrument, including the instrument's name, corresponding CUSIP, ISIN and Sedol, the currency in which the instrument is denominated and the exchange on which it trades and the record type and permission entity code. Note that CUSIP and ISIN are hidden if you are not entitled to these instruments.

3 **First Date** and **Last Date** identify the full range of data available for the RIC. Note that these dates do not correspond to the date range that you specified to search active instruments.

4 **Reference History** shows all changes to a RIC since January 1996 via the **Details** screen.

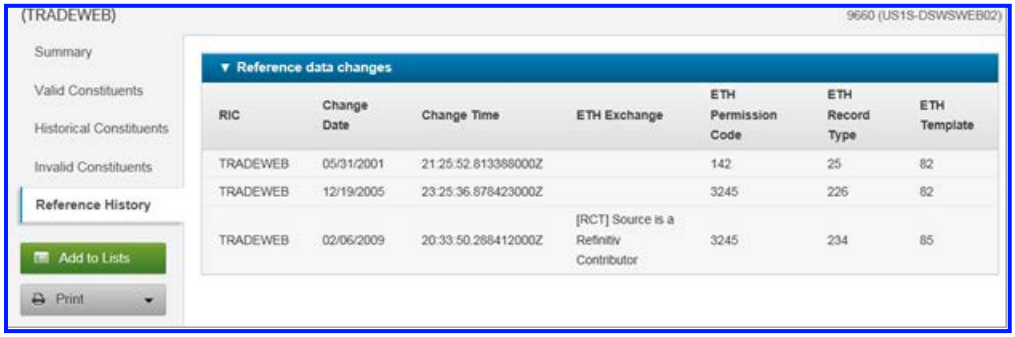
View Page shows page-based data details for the selected item.

5 To export the search results, click . This action launches a separate window from where you can open or save the results to a comma delimited (*.csv) file. The entire contents of the grid are exported.

Reference History

Click **Reference History** to view all reference data changes to the selected RIC. Changes for the entire historical period (since January 1996) are shown in chronological order, with the type of change and new value resulting from the change identified.

The following example shows the entire reference history for the Chain RIC, TRADEWEB:



RIC	Change Date	Change Time	ETH Exchange	ETH Permission Code	ETH Record Type	ETH Template
TRADEWEB	05/31/2001	21:25:52.813388000Z		142	25	82
TRADEWEB	12/19/2005	23:25:36.878423000Z		3245	226	82
TRADEWEB	02/06/2009	20:33:50.288412000Z	[RCT] Source is a Refinitiv Contributor	3245	234	85

Note that if you are not permissioned for the selected instrument, only the RIC is shown. All other details will be hidden.

View Page

Click **View Page** to view page-based data details for the selected item. These pages provide easy access to codes for different asset types, markets and countries available in any Refinitiv data feed. Pages are presented in a tree structure, enabling you to move down the hierarchy logically to find the data you need. The data shown is current as of the end date specified in the search's date range field. Use the calendar to select another date.

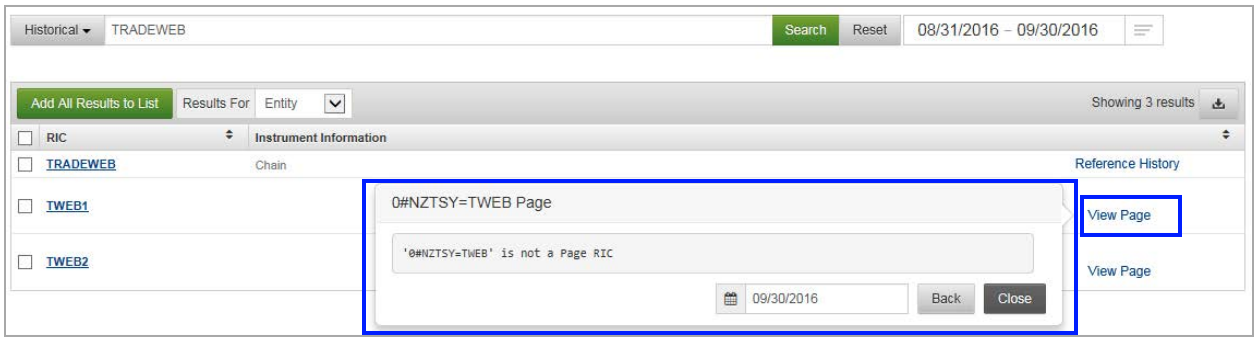
When you search TRADEWEB, two pages are returned (TWEB1 and TWEB2). The following example shows the TWEB1 Page.

The TWEB1 page defaults to the top-level, displaying all of the available asset types, services and contact details for TRADEWEB. Specific asset types and services are enclosed in < > brackets. Click a link to expand that page to its data content. The current page will be replaced with the content of the linked page.

For example, to view data details on TRADEWEB New Zealand Treasuries, click <TWEBNZD>. This action launches the TRADEWEB Government Debt page from where you can view TRADEWEB New Zealand Government Bond and Interest Rate Swap data.

You can continue navigating the page hierarchy until you find the data you need.

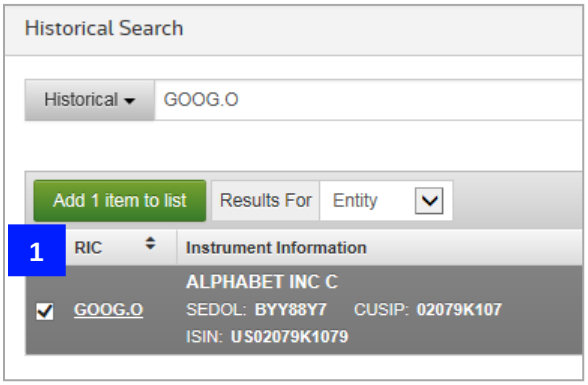
A message will appear if data cannot be retrieved, for example, if you select an item for which no page data is available or for which you are not permissioned:



Adding Search Results

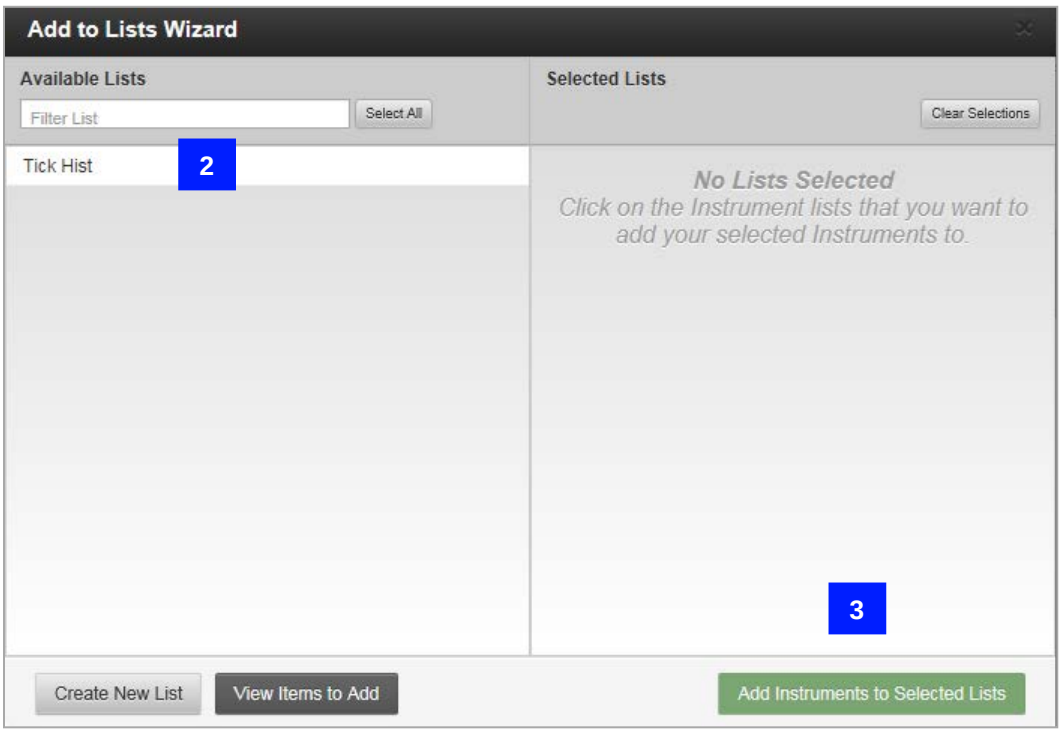
1. Click **Add All Results to List** to add all instruments returned by search.

   Alternatively, you can check the boxes next to individual instruments, and then click **Add *n* items to list**, where *n* identifies the number of instruments selected.



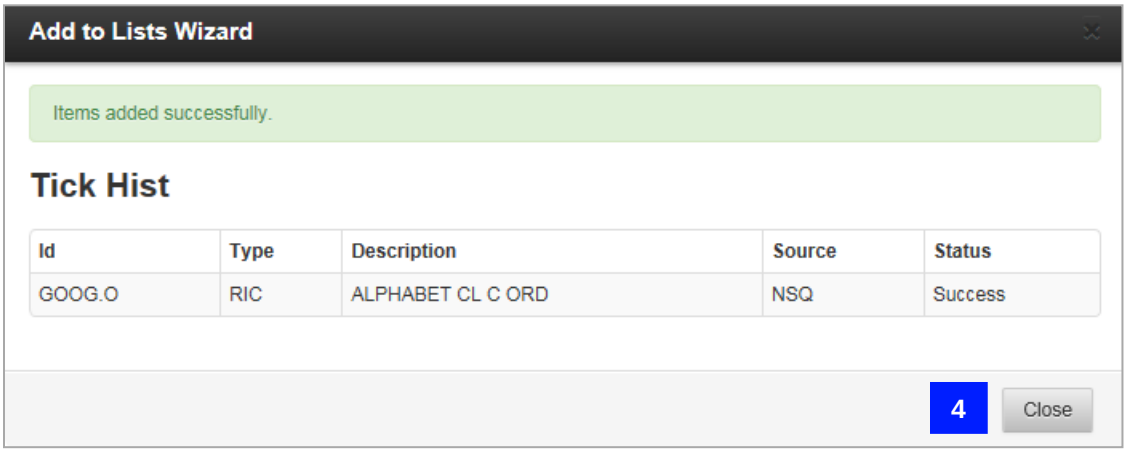
   The screen updates to show the **Add to List Wizard** with the new list appearing in the **Available Lists** screen.

2. Click on the list to move it to the **Selected Lists**.



3. Click **Add Instruments to Selected Lists**.

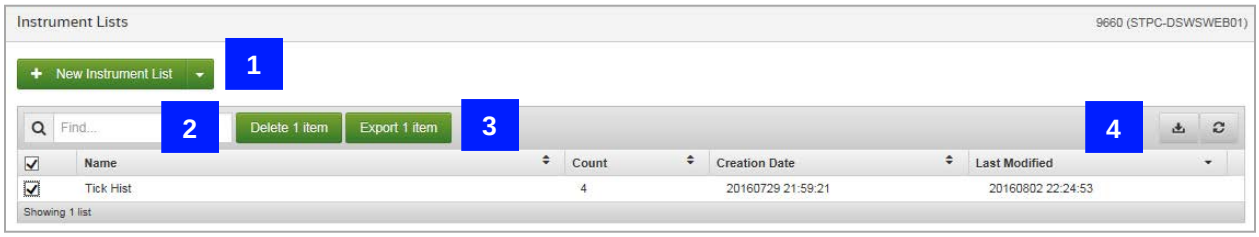
   A confirmation appears to indicate that the instruments were added to the list.



4. Click **Close**.

Updating Instrument Lists

You can manage your existing instrument lists by clicking **DataScope Select**, and then selecting **Instrument Lists**. All of your existing instrument lists appear in a scrolling list. For each list, the number of instruments the list are identified, along with the list creation and last modified dates.



You can manage your instrument lists as follows:

1 To initiate a new list, click **New Instrument List**.

2 Use the **Find** box to search for an instrument list. When you enter a text string, only the lists matching that text appear.

3 To enable the **Delete *x* Items** and **Export *x* Items** buttons, click on one or more check boxes. The buttons update to show the number of lists selected.

To delete one or more selected lists, click **Delete *x* Items**. Note that deleted input lists cannot be restored. Therefore, try to export the instruments before you delete the list. If you delete a list that is part of a recurring extraction, you must remove or update the extraction schedule. Otherwise, the scheduler will continue to attempt to execute the extraction and the extraction will fail.

To export one or more selected lists, click **Export *x* Items**. You can export a maximum of up to 100 input lists simultaneously to a CSV or XML formatted file. Multiple files are saved to a zipped file with a default name of **InstrumentLists.zip**.

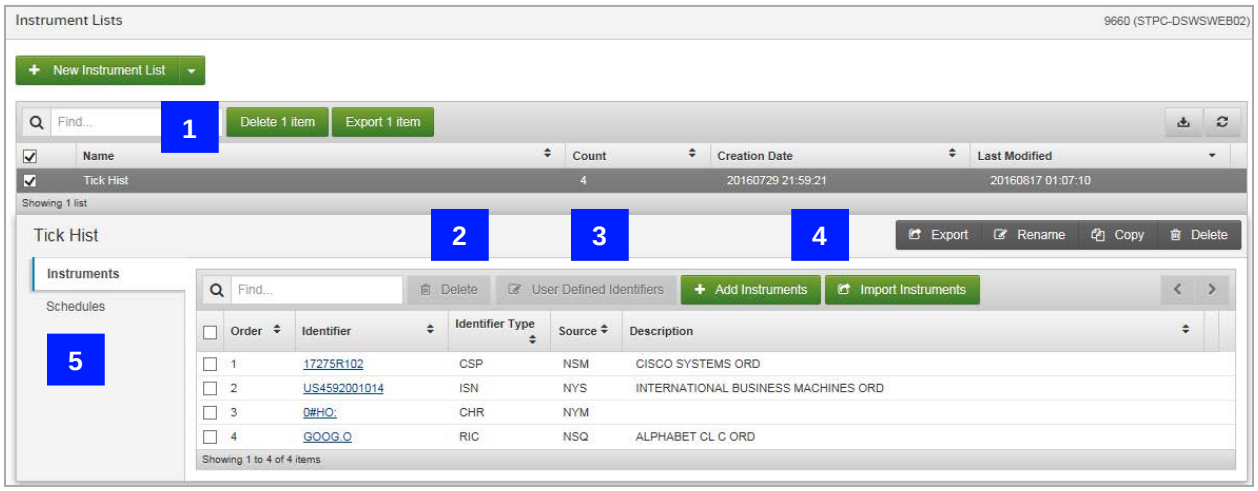
4 To export the **Instrument List** table, click . This action launches a separate window from where you can open or save the grid to a comma delimited (*.csv) file.

For example, exporting this screen will result in a file named Tick Hist.csv that identifies your instrument lists under the following columns: **Name**, **Count**, **CreatedDateTime** and **ModifiedDateTime**.

Updating Instruments

To view the instruments in an instrument list, click on the list. The window expands to show the items in that list.

Note that the instrument descriptions reflect the most recent information available for that RIC and not necessarily the intended RIC. This is because the validation process does not factor the date range parameters as the search does. For a better representation of the instruments in your extraction results, please use the Preview feature available in the **Report Template** screen.



You can manage the instruments in your input lists as follows:

1 Use the **Find** box to search the list for an instrument. When you enter a text string, only the items matching that text appear.

2 To enable the **Delete** and **Export** buttons, click on the check box next to one or more instruments in the list.

3 To assign an identifier to use for internal auditing and tracking purposes, click on an item, and then select **User Defined Identifiers** (this button is disabled when multiple items are selected).

In the **Edit User Defined Identifier** screen, enter up to six identifiers for a selected instrument. When you click **Save**, the screen updates to show the identifier(s) that you entered.

4 To add more instruments to the list, click the **Add Instruments** or use the Bulk Search feature.

5 To create a new schedule with the selected list, click the **Schedules** tab, and then click **New Schedule**. See Scheduling Immediate Extractions for instructions.

Any existing schedules already tied to the selected instrument appear in the **Schedules** tab. The screen shows the schedule name, extraction recurrence, report tied to the extraction and report template type. You can click on the schedule or report template name to view the details of that items and/or edit it.

3 Customizing Tick History Report Templates

In this Chapter:

This chapter takes you through the process of customizing Tick History report templates.

An overview is provided, followed by detailed instructions for performing each step in the report customization process. Instructions for importing report templates are also provided, along with instructions for updating report templates.

Customizing Report Templates Overview

See the remaining sections of this chapter for details on performing any of the steps below.

1. **Create a new report template.**

   From the **DataScope Select** menu, select **Create** under **Report Templates**, and then select the report type:

   - **Tick History** report templates appear under **Tick History**.
   - **Elektron Timeseries** report templates appear under **Pricing Data**.
   - **Corporate Actions - Standard Events** report templates appear under **Corporate Actions**.
   - **Terms and Conditions** and **Historical Reference** report templates appear under **Reference Data**

   The screen updates to show the inputs for customizing the selected report template. The inputs are organized across two tabs **Report Options** and **Fields**. The screen defaults to the **Report Options** tab.

2. **Define your report options:**

   - Time and Sales
   - Market Depth
   - Intraday Summaries
   - Raw
   - Elektron Timeseries & Historical Reference
   - Corporate Actions – Standard Events
   - Terms and Conditions

3. **Enter a name for the report template in the Report Name box.**

   It is recommended that you enter a name that describes the report and the fields, for example, TAS_Quotes. This will enable you to track the extraction easily. An error will appear if you enter invalid characters. Note that double-byte character sets are not supported.

   No settings are applicable. All Tick History extractions are generated as comma delimited (*.csv) files and delivered in compressed (gzip) format.

4. **Select the fields to include in your report template.**

   Click the **Fields** tab. The screen updates to show the available fields for the selected report template. Note that field selections are not applicable to **Raw** reports.

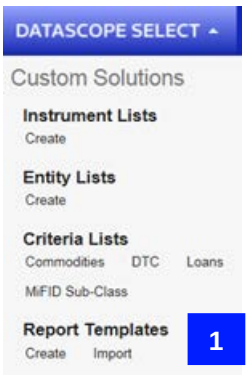
5. **Previewing the Extraction, if desired.**

   This optional step lets you preview the extraction with a specified RIC.

6. **Click Save to save the report template.**

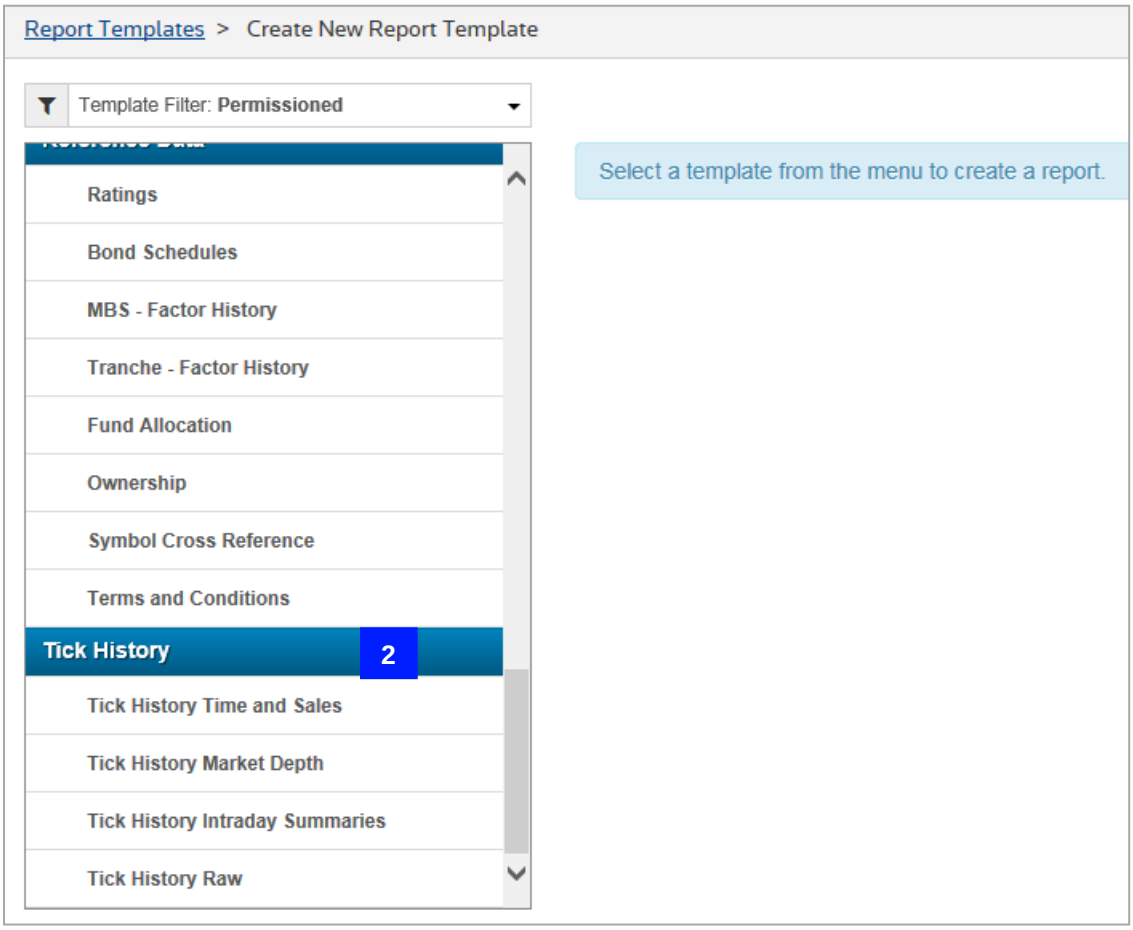
Creating a Report Template

1. From the **DataScope Select** menu, select **Create** under **Report Templates**.



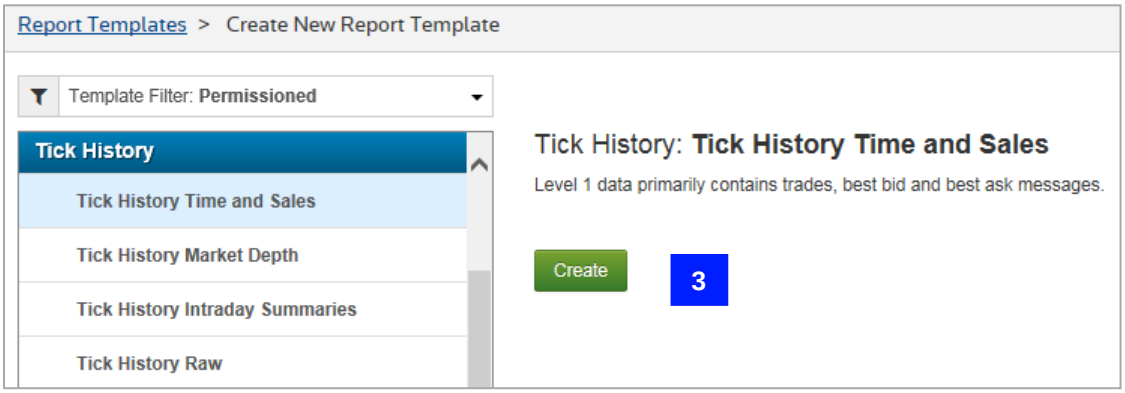
The **Create New Report Template** screen appears.

2. Select a report from the scrolling list.

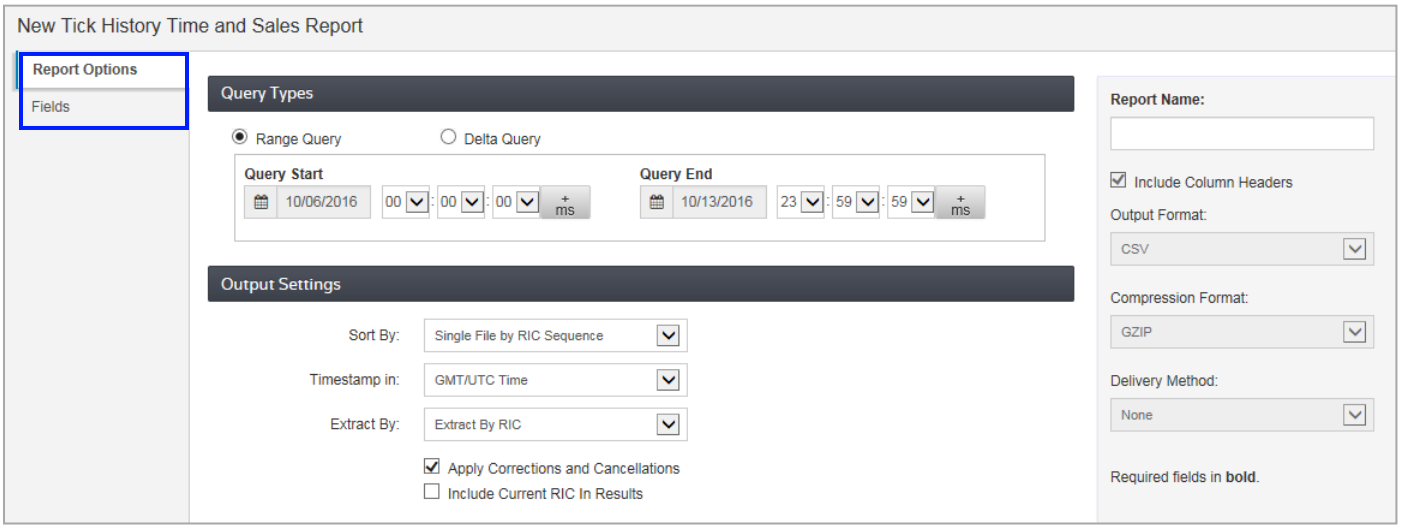


The screen updates to show a description of the report template.

3. Click **Create** to launch the **New Report** screen for the selected report type.



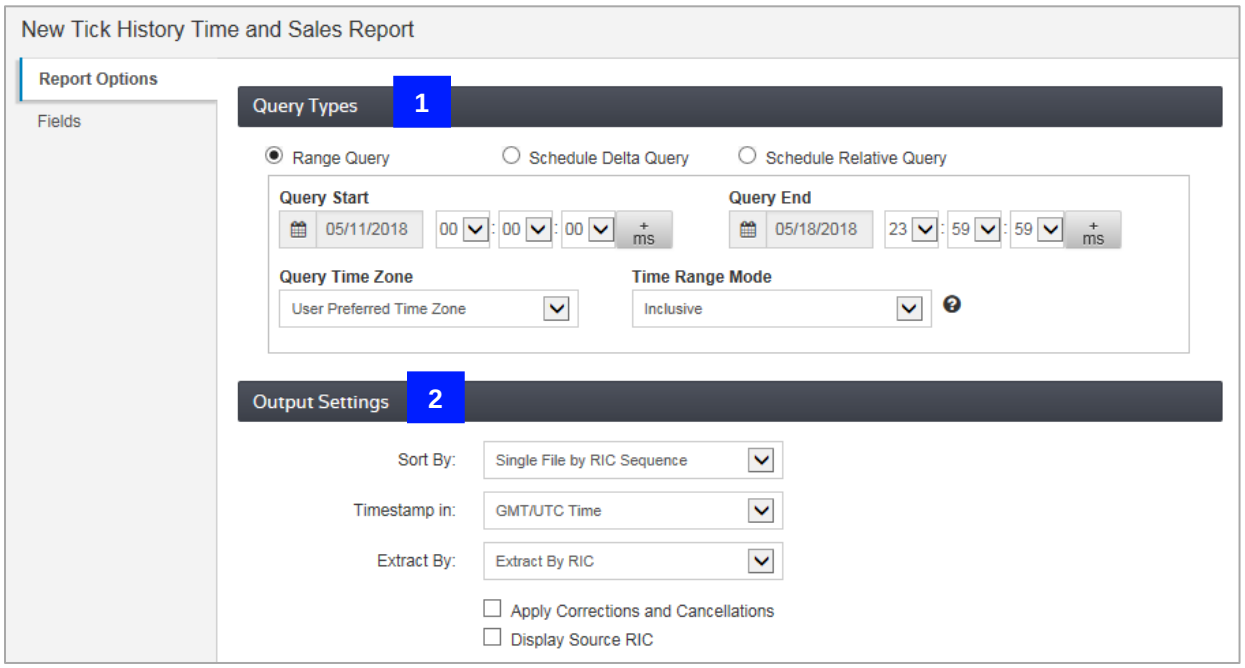
The screen updates to show the inputs for customizing the selected report template. The inputs are organized across two tabs **Report Options** and **Fields**.



Defining Report Options

Time and Sales

Specify your preferences for retrieving **Time and Sales** data in the following sections: **Query Types** and **Output Settings**.



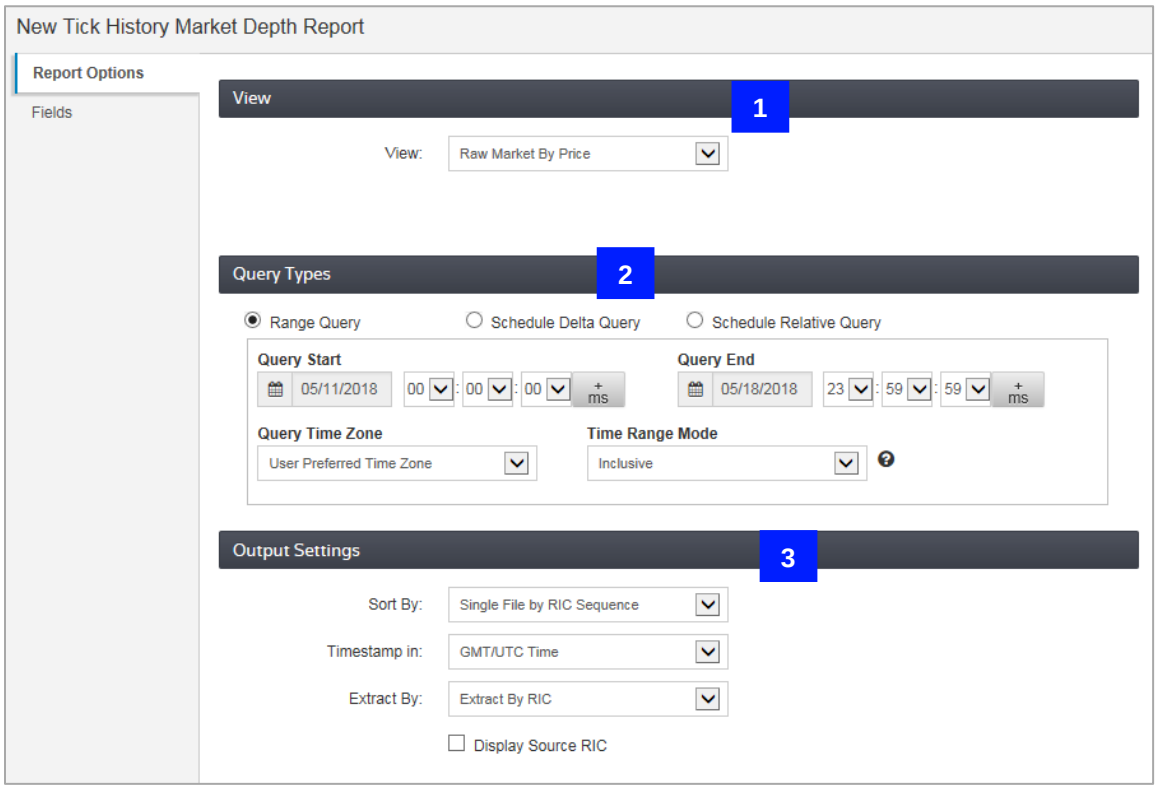
1. Select the Query Type.

   For **Range** and **Relative** queries, specify the Query Time Zone and Time Range Mode.

2. Specify the Output Settings.

Market Depth

Specify your preferences for retrieving **Market Depth** data in the following sections: **View**, **Query Types** and **Output Settings**.

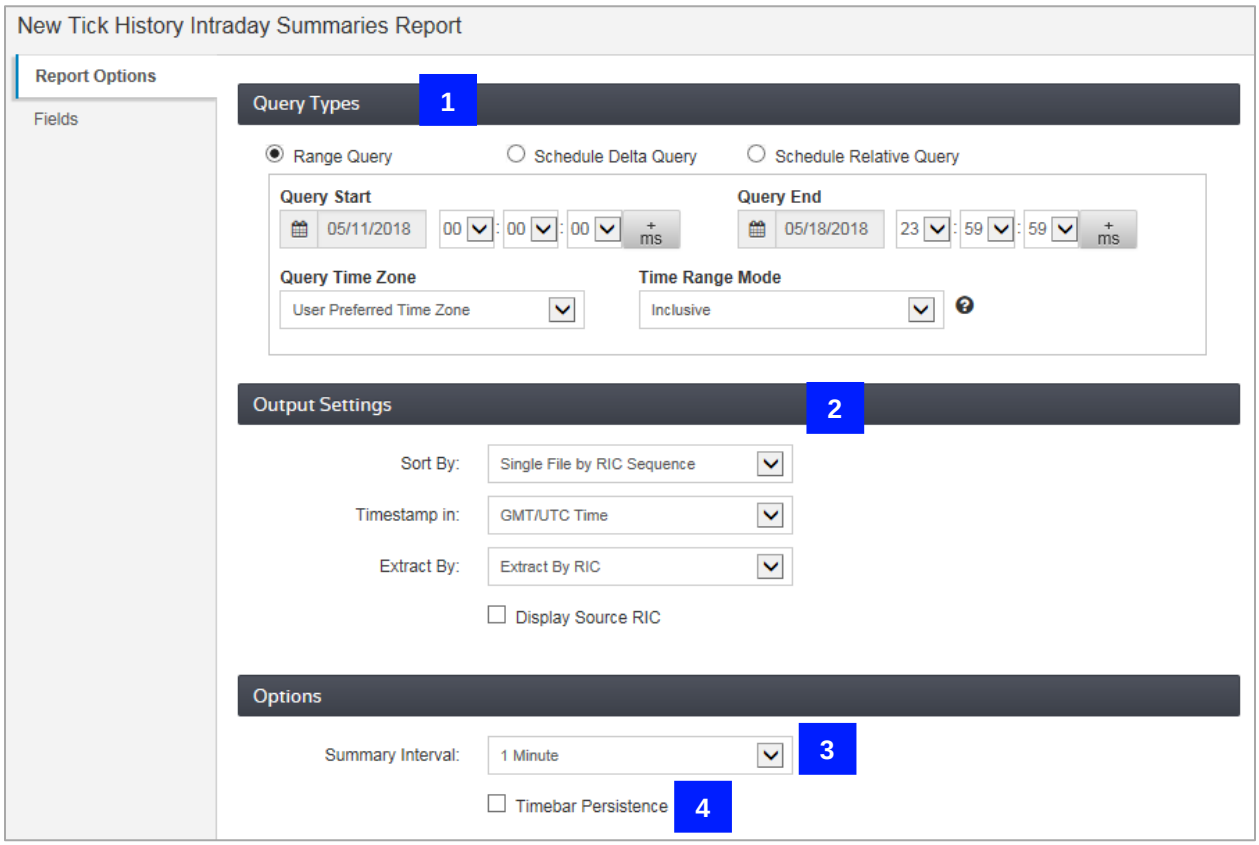


1. Select a view for extracting market depth data from the **View** dropdown. Raw data is presented its original transmitted form and time stamped to the nearest nanosecond, representing the time that the message was transmitted across the real-time network:
   - **Raw Legacy Market Depth -** Provides raw aggregated market by price level quotes.
   - **Legacy Market Depth** Provides aggregated market by price level quotes. The depth of data is based on the level selected in the **Levels** drop-down (1-25). This value represents the depth of the market (Level II) by price at each price level. Each price level represents an aggregation of orders at that price from best (Level 1) to worst quotes for the market at the time of the update, as dictated by market forces. Pricing levels are not applicable to **Raw Market By Price**, **Raw Market By Order** and **Raw Legacy Market Depth**.
   - **Raw Market By Price (Default) -** Provides a summary of the order book, with orders aggregated at each price point/side.
   - **Raw Market By Order -** Provides a full unaggregated order book that includes every quote on the instruments in the extraction's instrument list.
   - **Raw Market Maker -** Provides the best quote (bid and offer with size) from each market maker in the market.
2. Select the Query Type.

   For **Range** and **Relative** queries, specify the Query Time Zone and Time Range Mode.
3. Specify the Output Settings.

Intraday Summaries

Specify your preferences for retrieving **Intraday Summaries** data in the following sections: **Query Types, Output Settings** and **Options**.



1. Select the Query Type.

   For **Range** and **Relative** queries, specify the Query Time Zone and Time Range Mode.

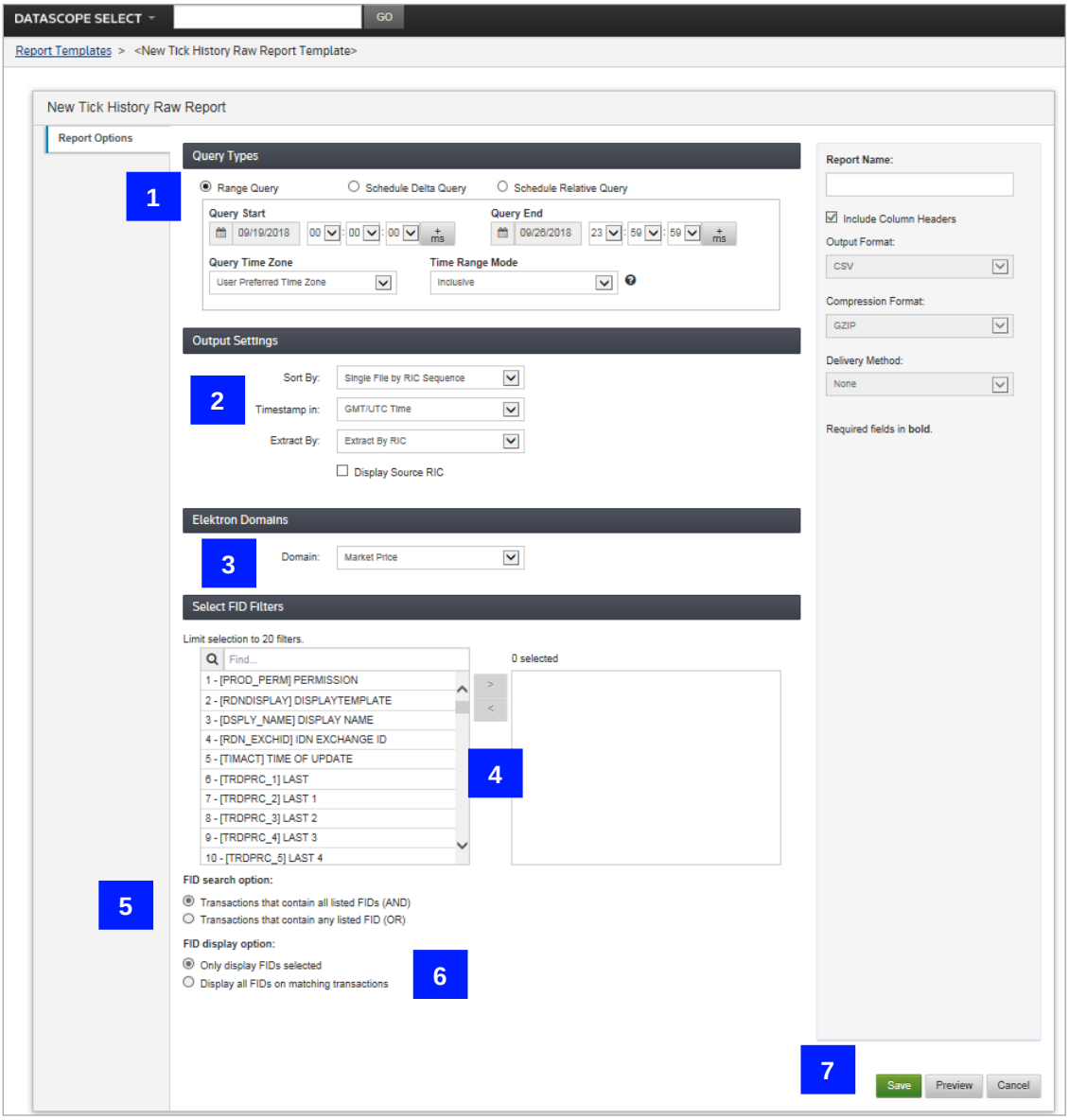
2. Specify the Output Settings.
3. Select an interval summary for outputting data from the **Summary Interval** drop-down.

   Supported values are 1 and 5 seconds aggregations, 1, 5, 10 and 15-minute aggregations and 1-hour aggregations. All summary intervals commence on the interval and end of the last millisecond of the interval, e.g. the 10:00 Hourly bar includes all transactions between 10:00:00.000 and 10:59:59.999 exactly.

4. Check the **Timebar Persistence** box to carry over values from the previous bar to the next bar (optional). When cleared, persistence is disabled.

Raw

Specify your preferences for retrieving **Raw** data in the following sections: **Query Types**, **Output Settings, Elektron Domains and Select FID Filters**.



1. Select the Query Type.

   For **Range** and **Relative** queries, specify the Query Time Zone and Time Range Mode.

2. Specify the Output Settings.

3. Select a supported market depth from the **Domain** dropdown:
   - **Market Price**
   - **Market By Order**
   - **Market by Price**
   - **Market Maker**

4. Double-click on a FID to select it.

   You can choose up to 20.

5. Select a FID search option (For **Market Price Domain** only):
   - **Transactions that contain all listed FIDs (AND):**

     Displays only the updates that have all of the selected FIDs.
   - **Transactions that contain any listed FID (OR):**

     Displays any update that has at least one of the selected FIDs.

6. Select a FID display Option:
   - **Only display FIDs selected**

     Displays only the selected FIDs of an update message.

     For example, the CLOSING RUN update will have all the possible FIDs the instrument supports, but if you select this option, you will receive only the selected FIDs, even from the closing run update.
   - **Display all FIDs on matching transactions**

     Displays the complete transaction message of which the selected FIDs are part, along with other FIDS**.**

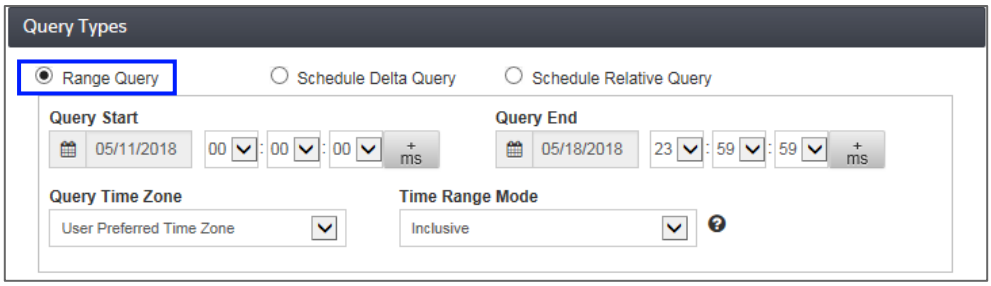
7 Click **Save**.

Selecting the Query Type & Query Time Zone

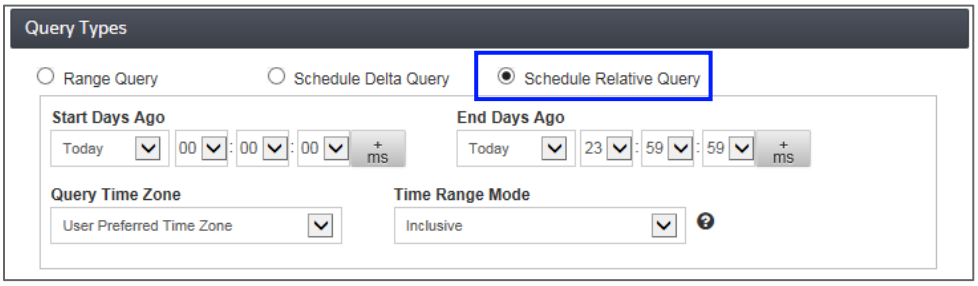
Query Type

Tick History Time and Sales, **Market Depth**, **Intraday Summaries** and **Raw** reports support **Range**, **Delta**, and **Relative** queries for requesting data. **Range** and **Relative** are the recommended query types. For these reports, ticks are captured inclusive of the start and exclusive of the end. For example, a range of 1/4/2021 00:00:00 to 1/5/2021 00:00:00 would capture data that occurred on, or after, the start date and time and up to, but not including, data for the end time. To capture a full day's data, set the query's end date to the next day 00:00:00.

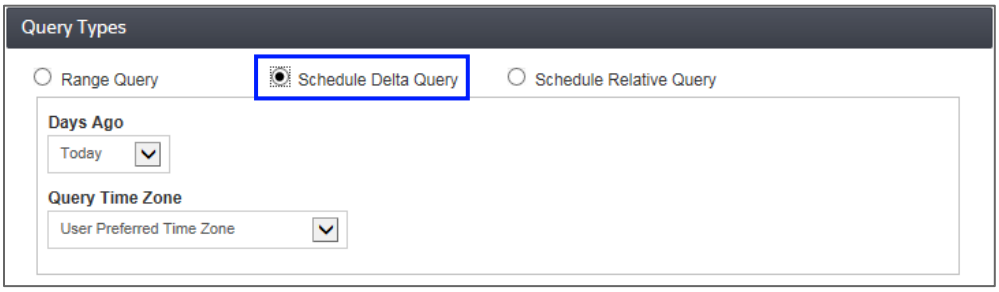
- **Range -** Use this query to retrieve all data for a specified date range defined using calendar dates. You specify the start day and time, and the end day and time. Each time the extraction executes, those dates are used for retrieving data.



- **Relative -** Use this query to retrieve all data for a span of time that is defined relative to the extraction execution time. Each time the extraction executes, data is retrieved for that period of time defined relative to the extraction date. You specify how many days before the extraction execution that the query will begin and how many days before the extraction execution that the query will end. You can define the start, and the end, beginning with the day of extraction (Today) through a previous number of days (1-31).



- **Delta -** Use this query to retrieve all data that has changed over a specified number of days preceding the extraction execution. You specify the period, beginning with the date of the extraction execution (Today) through a previous number of days (1-31). Each time the extraction executes, the time period of the same length that ends with the extraction date is used for retrieving data.



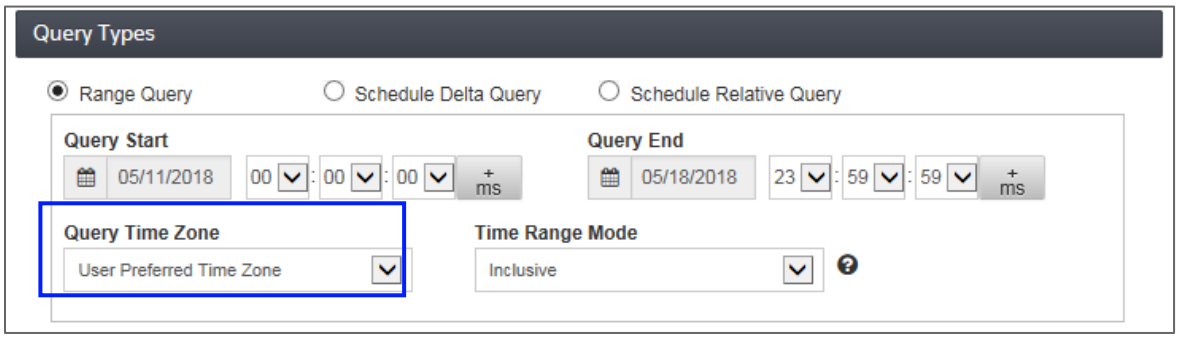
NOTE: **Important Information about Monthly Queries**

Requests for uniform monthly results regardless of the number of days in a month are not supported currently. Tick History v2 does not automatically recognize the number of days in the previous month, and instead, runs the monthly extraction on the day of that month selected in the **Days Ago** dropdown (for example, the 30th of every month). This can result in missing or overlapping data (for example, for months that have 28/29 or 31 days).

It is recommended that you select **31** in the **Days Ago** dropdown, and then remove the overlapping pricing for months that have fewer than 31 days in the extraction results file.

Query Time Zone

The **Query Time Zone** enables you to retrieve query-level data for a time period defined using a time zone other than the time zone specified in your user preferences.



The **Query Time Zone** defaults to the user preference time zone. If there is no user preference, it defaults to UTC +00:00.

Selecting **Local Exchange Time Zone** enables you to extract data using the venue's local time zone without needing to manually find and specify that time zone. It also enables you to extract data using venue-local time zones for multiple venues in one request.

NOTE: It is important to understand the difference between the **Query Time Zone** and the **User Preferred Time Zone**. The **Query Time Zone** identifies the time period in which you are querying. It applies to the selected report template only. The **User Preferred Time Zone** is a global setting that identifies the default time zone used for specifying dates and times when creating extraction queries and scheduling extraction executions.

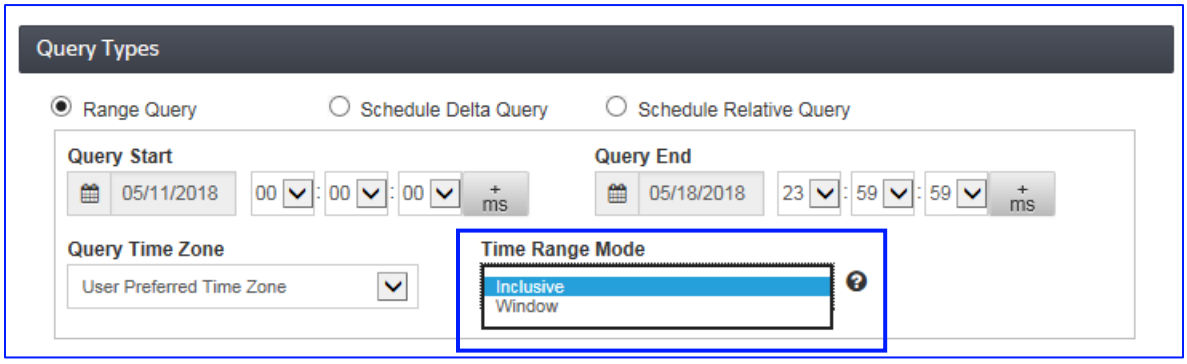
NOTE: Some time zone names are unsupported. In these instances, the query's data will be based on UTC, regardless of the selected **Query Time Zone**. Please see below for the current list.

Unsupported Time Zone Display Names
(UTC-10,00) Aleutian Islands
(UTC+07,00) Barnaul, Gorno-Altaysk
(UTC+04,00) Astrakhan, Ulyanovsk
(UTC+08,45) Eucla

Unsupported Time Zone Display Names
(UTC+11,00) Bougainville Island
(UTC+12,45) Chatham Islands
(UTC-05,00) Havana
(UTC-06,00) Easter Island
(UTC-05,00) Chetumal
(UTC-05,00) Haiti
(UTC+10,30) Lord Howe Island
(UTC-03,00) Punta Arenas
(UTC-09,30) Marquesas Islands
(UTC-02,00) Mid-Atlantic - Old
(UTC+11,00) Norfolk Island
(UTC+08,30) Pyongyang
(UTC+07,00) Novosibirsk
(UTC+06,00) Omsk
(UTC-03,00) Saint Pierre and Miquelon
(UTC+11,00) Sakhalin
(UTC+04,00) Saratov
(UTC-03,00) Araguaina
(UTC+07,00) Tomsk
(UTC+09,00) Chita
(UTC-04,00) Turks and Caicos
(UTC+13,00) Coordinated Universal Time+13
(UTC-08,00) Coordinated Universal Time-08
(UTC-09,00) Coordinated Universal Time-09
(UTC+07,00) Hovd
(UTC+02,00) Gaza, Hebron

Selecting the Time Range Mode

The **Time Range Mode** enables you to define a time window within each day of the specified date range during which data is extracted. Ticks that fall outside that window each day during the date range are ignored.



Use the drop down to select a mode:

- **Inclusive -** This default selection extracts data for the entire date/time range defined by **Query Start** and **Query End**, from the start time of the first day until the end time of the last day. This is the default value.

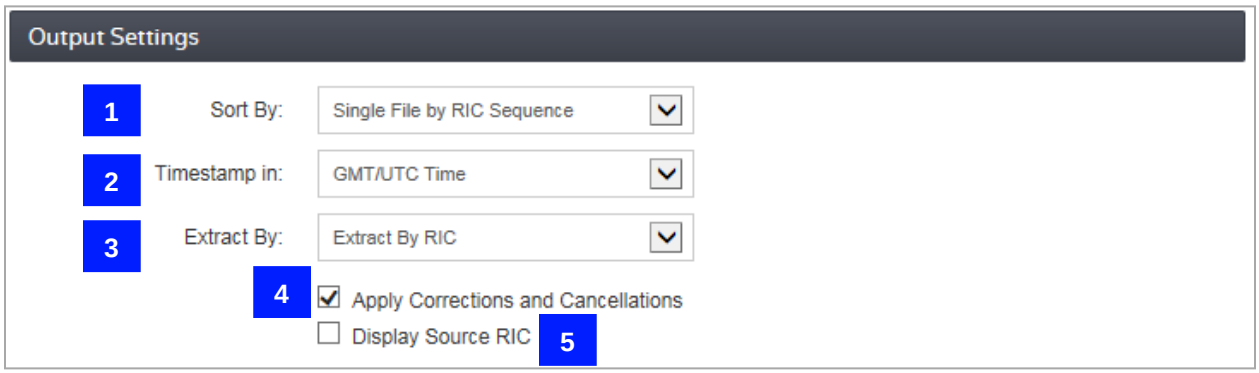
  For example, if the **Query Start** date is March 6, 2017 and its time is 09:00:00, and the **Query End** date is March 10, 2017 and its time is 17:00:00, then setting **Time Range Mode** to **Inclusive** reports on the period from March 6, 2017 at 9:00 am until March 10, 2017 at 5:00 pm.

- **Window –** Select this option to extract data for the specified time window on each day within the date range. The time window begins with the time specified in the **Query Start**, and ends with the time specified in the **Query End**. The window is applied to each day within the date range.

  For example, if the **Query Start** date is March 6, 2017 and its time is 09:00:00, and the **Query End** date is March 10, 2017 and its time is 17:00:00, then setting the **Time Range Mode** to **Window** defines a daily window of 9:00 am to 5:00 pm, and reports on that window on March 6, on March 7, on March 8, on March 9, and on March 10.

Specifying Output Settings

The follow output settings are common across **Tick History Time and Sales**, **Market Depth**, **Intraday Summaries**, and **Raw** reports



1. Select your preference for data output from the **Sort By** drop down:
   - **Single File By RIC Sequence (Default)**

     Results are displayed in instrument sequence as they appear in the instrument list. For example if the instrument list has two RICs: IBM and GE, the result file will include all data for IBM, followed by all data for GE.
   - **Single File By Timestamp**

     Results are displayed in time order sequence.
2. Select your preference for displaying message dates and times preference from the **Timestamp in** drop down:
   - **Local Exchange Time**

     All message dates and timestamps are displayed in the time zone relative to each instrument's exchange.
   - **GMT/UTC Time**

     All message dates and timestamps are displayed in GMT or UTC. When this option is selected, GMT Offset is added automatically as a column in the resulting extraction file.
3. Select your preference for extracting RICs in **Extract By** drop-down:
   - **Extract By Entity**

     Extract tick data only for the entity (company) that is valid at the end date of the specified extraction query.
   - **Extract By RIC**

     Extract all tick data for the input RICs that were valid during the specified extraction query.

4. **Apply Corrections and Cancellations** is selected automatically be default. Clear if desired. This setting applies to **Tick History Time and Sales** reports only.

   - **Cancellations**

     When a Cancellation message is processed, the Price and Volume fields of the original trade are cleared out, and the field Original Price and Original Volume are populated with the original price and volumes values respectively. The Correction Qualifiers field will contain the qualifiers associated with the Correction message and the string "**CANCELLED[SYS]**".

   - **Corrections**

     When a Correction is processed, the Price and Volume fields of the original trade are modified to the corrected values, while the field Original Price and Original Volume are populated with the original price and volume fields respectively. The Correction Qualifiers field will contain the qualifiers associated with the Correction message and the string **"CORRECTED[SYS]".**

     Corrections and Cancellations message can be processed for as many as five days post the end date of the request. That is, the system will scan a configurable number of days ahead of the request for any Correction or Cancellation messages that are applicable to the trades in the request range.

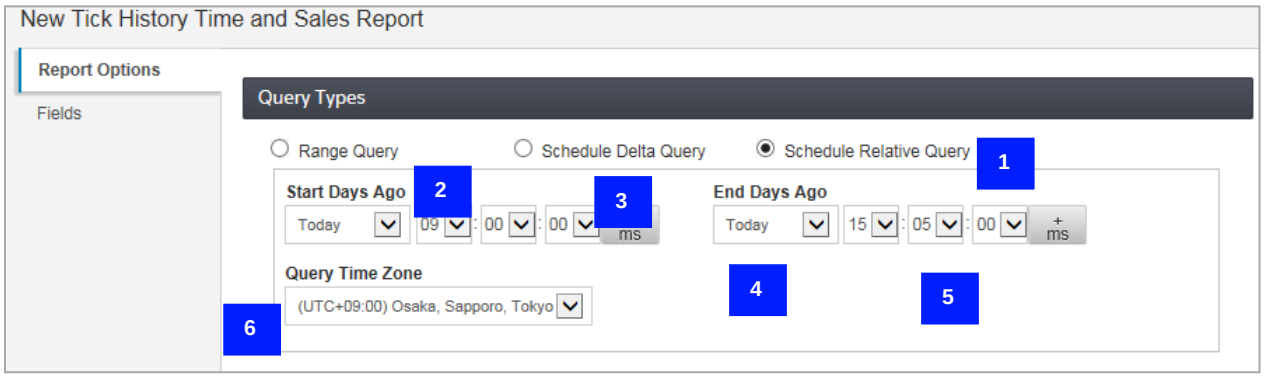
5. Check **Display Source RIC** to output an extra field in your extraction that indicates the underlying instrument used to source the data (optional).

Example Query

This section demonstrates the **Query Time Zone** and **Relative Query** capabilities in creating and scheduling a **Tick History Time and Sales** extraction. For exchange hours and embargoes by venue, see the *Tick History Data Coverage Guide* on MyRefinitiv.

In this example, your user preference time zone is set to London (UTC+00:00), and you want to schedule an extraction to retrieve a full day's trading data for RIC 7203.T - Toyota Motors from the Tokyo Stock Exchange (TYO) in the local time zone Tokyo (UTC+09:00). A day defined according to your user preference time zone (London) starts several hours after the TYO opening, causing you to miss data from earlier in the day.

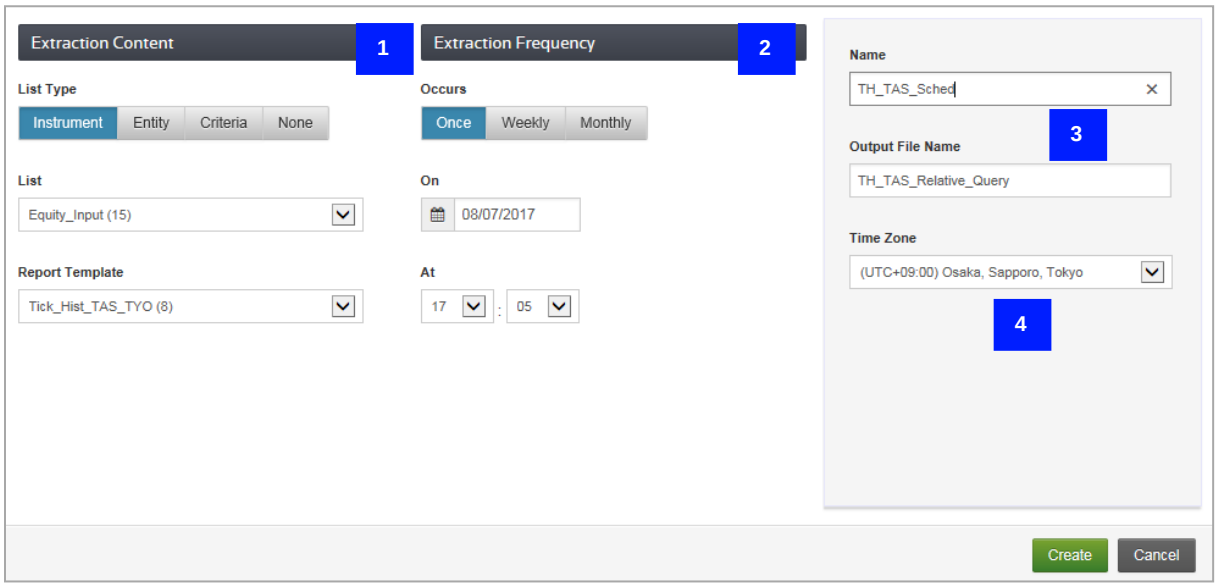
Using the **Query Time Zone**, you can specify that you want one day of Tokyo data based on a Tokyo day, and then schedule your extraction to execute in the Tokyo (UTC +09:00) time zone following the embargo to retrieve today's data.



1. Create a new **Tick History Time and Sales** report, and then select **Schedule Relative Query**.
2. In the **Start Days Ago** section, accept **Today** as the default selection. In this example, today's date is 08/07/2017.
3. Use the dropdowns to specify the hour, minutes and seconds to initiate the query. This time should correspond to the exchange's start time. For TYO, this is 09:00:00.
4. In the **End Days Ago** section, accept **Today** as the default selection. In this example, today's date is 08/07/2017.
5. Use the dropdowns to specify the hour, minutes and seconds to end the query. This time should correspond to the exchange's close time. For TYO, this is 15:05:00.
6. In the **Query Time Zone** dropdown, select (UTC+09:00) Osaka, Sapporo, Tokyo. Then complete the remaining sections of the report template to select the output settings, file format and fields.

Scheduling Considerations

NOTE: See Scheduling Tick History Extractions for detailed instructions on the steps below.



1 In the **New Schedule** screen, under **Extraction Content**, select the list of instruments to use as input for extraction from the **List** dropdown, and then select the report template created in the previous section from the **Report Template** dropdown.

2 In the **Extraction Frequency** section, use the **On** and **At** selections to specify today's date and time on which to execute the extraction.

The time should be after the market's close and required embargo. In this example, the TYO exchange closes at 15:05 and has a 120-minute embargo. Therefore, the extraction is scheduled to execute at 17:05.

Note that this example is scheduled to run once, but you could easily modify it to run on a repeating schedule.

3 Specify schedule and output file names.

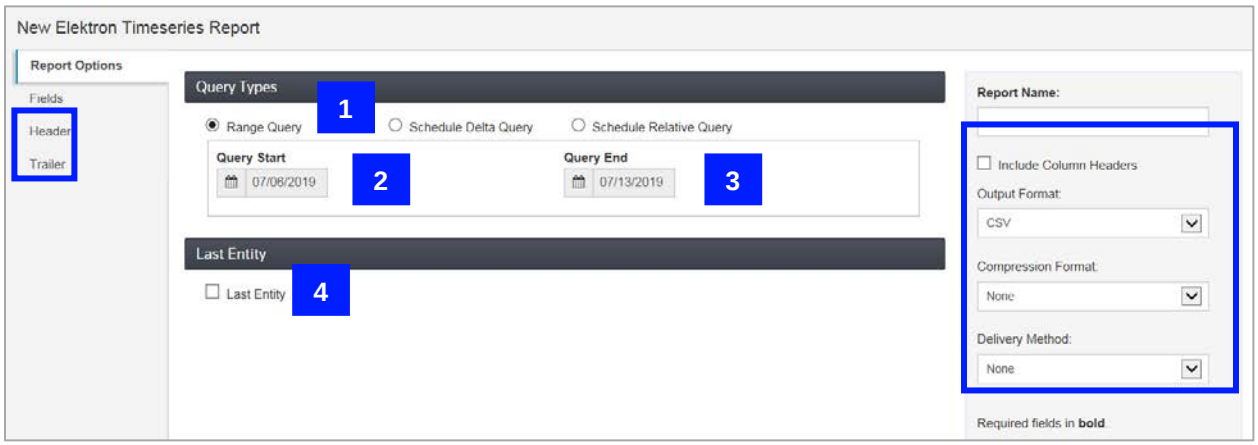
4 In the **Time Zone** dropdown, select (UTC+09:00) Osaka, Sapporo, Tokyo to reflect the Query Time Zone selected in your report template, and then save the schedule. You can retrieve your completed extraction after 17:05 Tokyo time.

Elektron Timeseries & Historical Reference

Elektron Timeseries and **Historical Reference** reports also support **Range**, **Delta** and **Relative** queries, like the **Tick History** reports. **Range** and **Delta** are the recommended query types for these reports. As **Relative** queries are not applicable, **Elektron Timeseries** and **Historical Reference** reports do not support Query **Time Zone**. These reports use UTC against the extraction execution date to retrieve data.

NOTE: The **Elektron Timeseries** and **Historical Reference** report layouts are identical. Both include **Header** and **Trailer** tabs and options for defining the file output, compression format and delivery options. These functions are not part of the Tick History workflow and can be ignored.

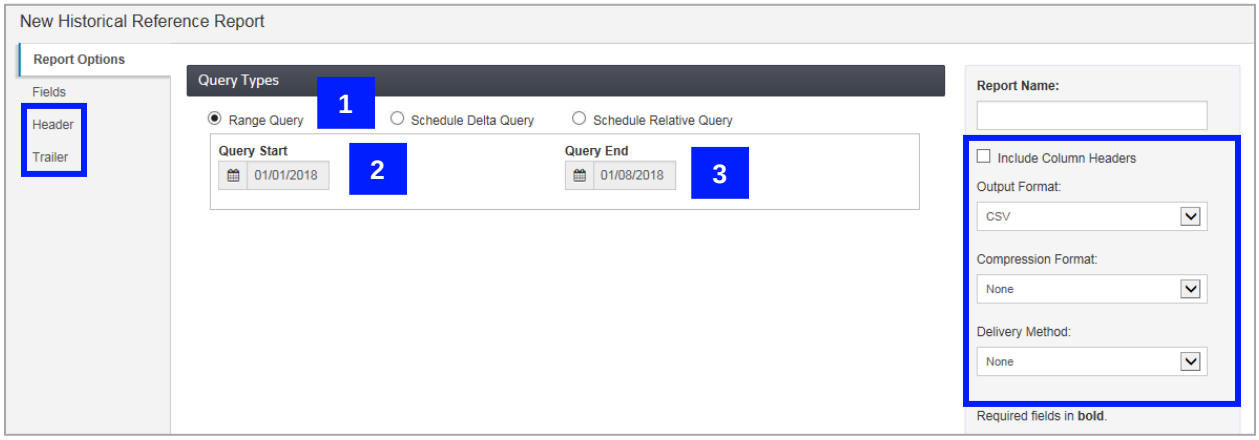
Elektron Timeseries



Important Notes about Creating Elektron Timeseries Reports

- To retrieve data for inactive/delisted RICs, make sure **Allow Import of Historical Instruments** is selected in **Preferences**.
- To retrieve data for an expired RIC, enter a date range that overlaps the time period when the RIC was active for the company of interest. The RIC name specified in instrument list should be the same name that was used when the RIC was active.
- If the date range of the extraction includes a time period when the RIC was assigned to additional companies, then the extraction will include data rows for the additional companies.
- Include the **Reference Company** field to distinguish which company owned the RIC for any specific trade date.

Historical Reference



Range Query

1. Select **Range Query**.

2. Use the calendar to select a historical start date for retrieving data in the **Start Date** box.

   For **Elektron Timeseries reports**, historical pricing data is available as far back as 01 January 1996 or earlier, in some cases. The start date defaults to today minus one week.

   For **Historical Reference** reports, the start date defaults to one week ago. Data is available as far back as 2002.

3. Use the calendar to select a historical end date for retrieving data in the **End Date** box.

   The end date defaults to today.

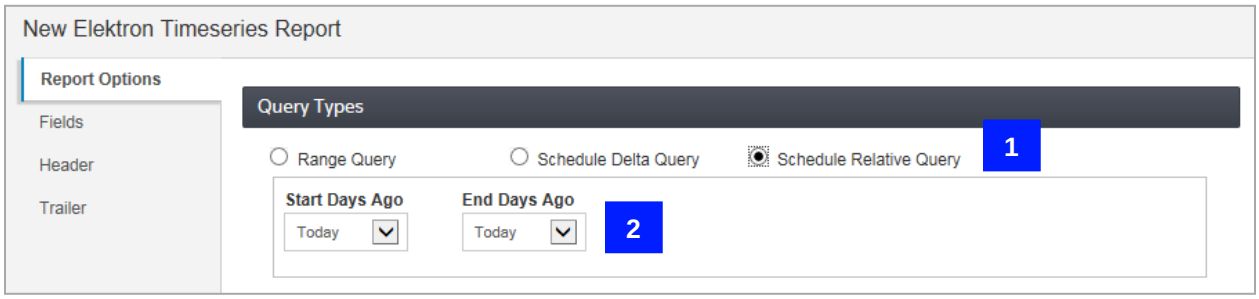
   For **Elektron Timeseries reports**, the resulting extraction will provide a row of data for each historical date in the specified date range, including the start and end dates.

   For **Historical Reference** reports, the resulting extraction will provide a full initialization as of the start date; all records will be provided. Only records containing changes are provided after the start date and through end date

4. For **Elektron Timeseries** reports only, click **Last Entity** to limit the extraction to retrieving prices only for the last entity that owned the RIC as of the current date.

   When this option is cleared (default), prices for all entities assigned to that RIC for the specified date range are requested. This can result in multiple prices for the RIC for a specified date.

Relative Query



1. Select **Schedule Relative Query**.

2. Use the **Start Days Ago** and **End Days Ago** drop-downs to retrieve all data relative to the number of days ago.

   Each time the extraction executes, data is retrieved for that period of time defined relative to the extraction date.

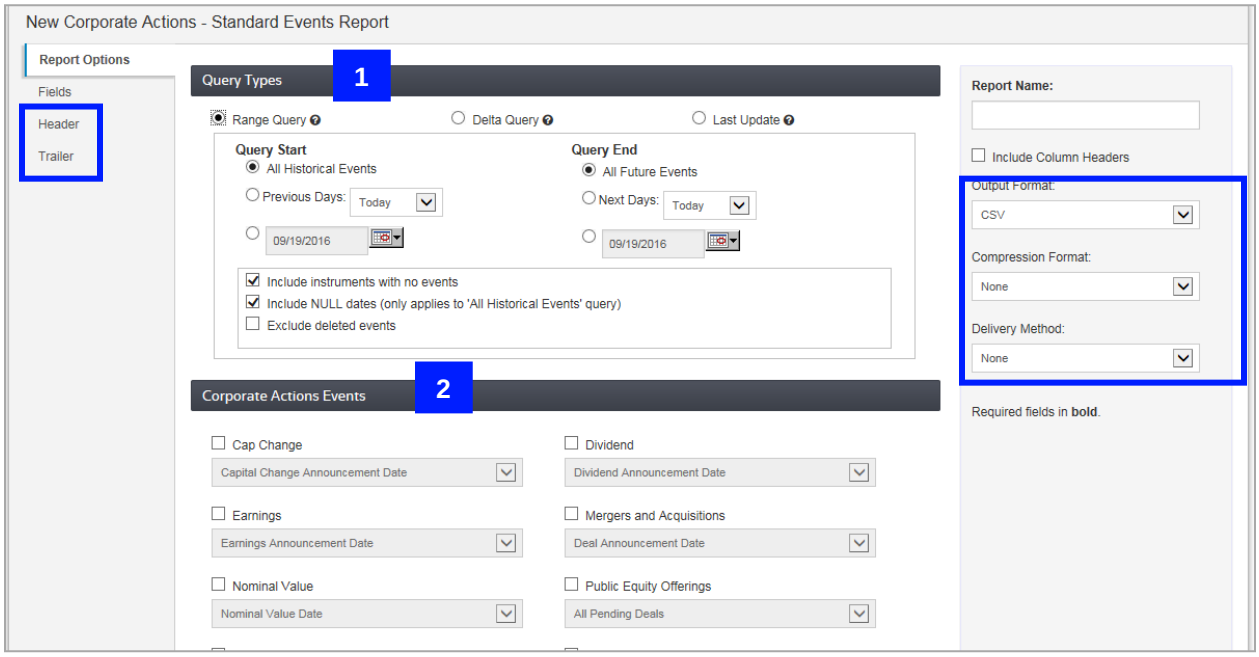
   You specify how many days before the extraction execution that the query will begin and how many days before the extraction execution that the query will end. You can define the start, and the end, beginning with the day of extraction (Today) through a previous number of days (1-31).

   Ticks are captured inclusive of the start and exclusive of the end. For example, a range of 1/1/2018 00:00:00 to 1/2/2018 00:00:00 would capture data that occurred on, or after, the start date and time and up to, but not including, data for the end time.

Corporate Actions – Standard Events

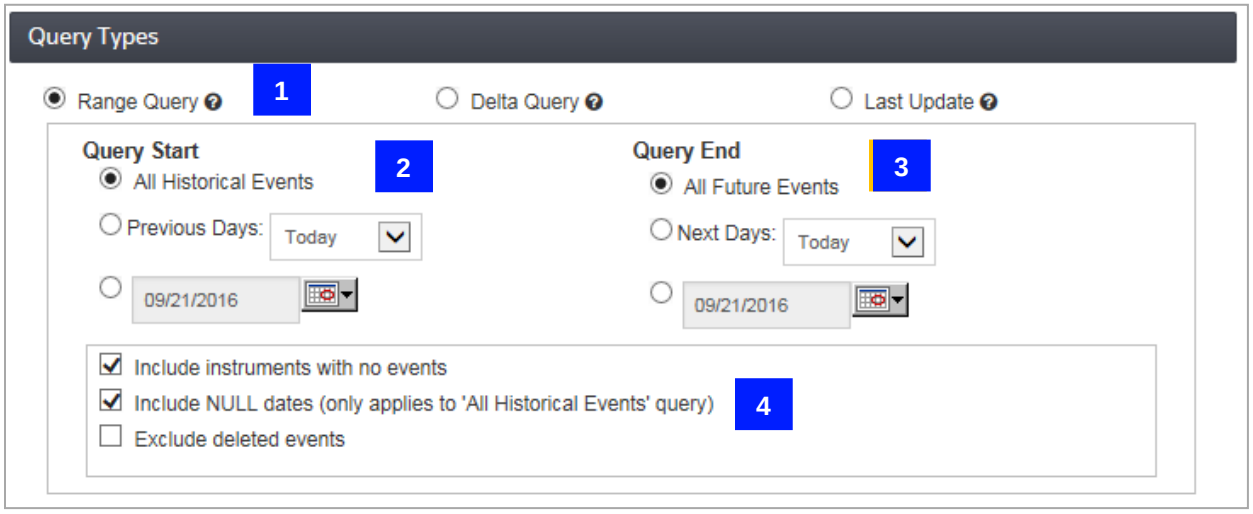
NOTES: The **Corporate Actions – Standard Events** report includes **Header** and **Trailer** tabs and options for defining the file output, compression format and delivery options. These functions are not part of the Tick History workflow and can be ignored.

Specify your preferences for retrieving standard corporate actions data in the **Query Types**, **Corporate Actions Events** sections.



Query Type

Range Query



1. Select **Range Query**.

2. Select the **Query Start** for extracting event data:

   - **All Historical Events**

     Retrieve all historical events available.

   - **Previous Days**

     Retrieve all events that have occurred within a specified number of days in the past. This selection is similar to **All Historical Events**; however, you can narrow the historical date range to a specified number of days.

     Previous days are calculated based on the time zone specified in your user **Preferences**. Selecting 1 day ago will return all events that have occurred since 00:00 one day ago in your time zone (in this case, 1 day is not the equivalent of 24 hours).

   - **Calendar**

     Retrieve all events as of the indicated date. You can select the current date or a historical or future date. To extract events occurring today (Current Events), select today's date in the calendar in both the **Query Start** and **Query End** sections.

3. Select the **Query End** for extracting event data:

   - **All Future Events**

     Retrieve all events occurring today or on some future date. Selecting this option includes today and beyond.

   - **Next Days**

     Retrieve all events that will occur within a specified number of days in the future. This selection is similar to **All Future Events**; however, you can narrow the future date range to a specific number of days. All events that will occur within the specified number of days, beginning at 00:00 on the first date in the date range will be returned in your extraction.

   - **Calendar**

     Retrieve all events as of the indicated date. The date that you specify must be greater than or equal to the calendar date specified in the **Query Start** section.

4. Optionally, specify preferences for extracting standard events:

   - **Include instruments with no events**

     Select to include or suppress instruments with no event data for all standard events.

   - **Include NULL dates for 'All Historical Events' query**

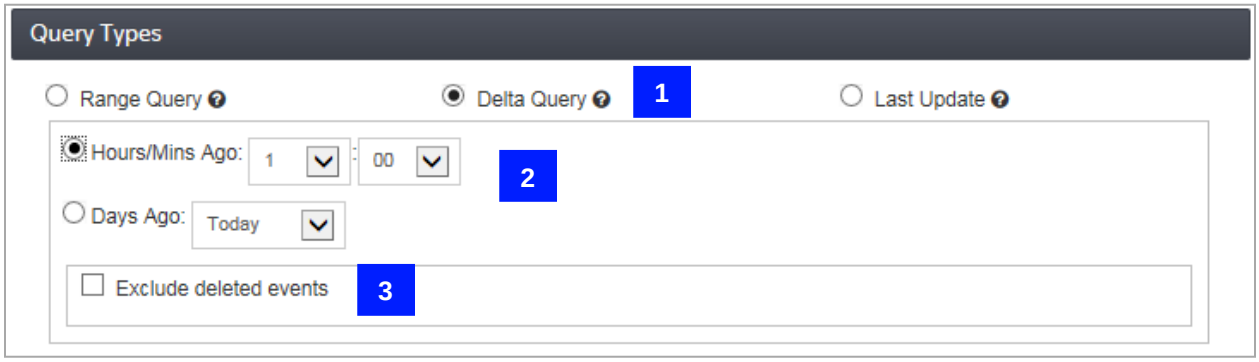
     You can specify whether to extract or suppress historical records with null value(s) for the event date(s) selected from the dropdowns in the **Corporate Actions Events** section of the report template.

     This preference is enabled by default for all event/data types; however, it is not relevant for Nominal Value, Shares and Voting Rights. This is because the available dates for these event types are never null.

   - **Exclude deleted events**

     You can specify whether to include or exclude deleted records. This box is cleared by default. When selected, only currently valid records are included in the extraction.

Delta Query

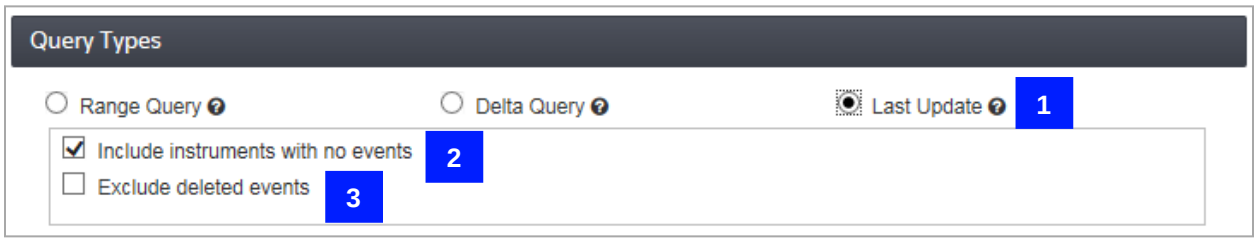


1. Select **Delta Query**.
2. Select a range for extracting event data:
   - **Hours/Mins Ago**

     Retrieve all events that have occurred within the specified number of hours and minutes of the extraction execution. Minutes are specified in 15-minute intervals.
   - **Days Ago**

     Retrieve all events that have been announced within the specified number of days of the extraction execution. This option will return all events that have occurred beginning at 00:00 x number of days ago.
3. **Exclude deleted events** is box is cleared by default. Check it to include only currently valid records in the extraction.

Last Update

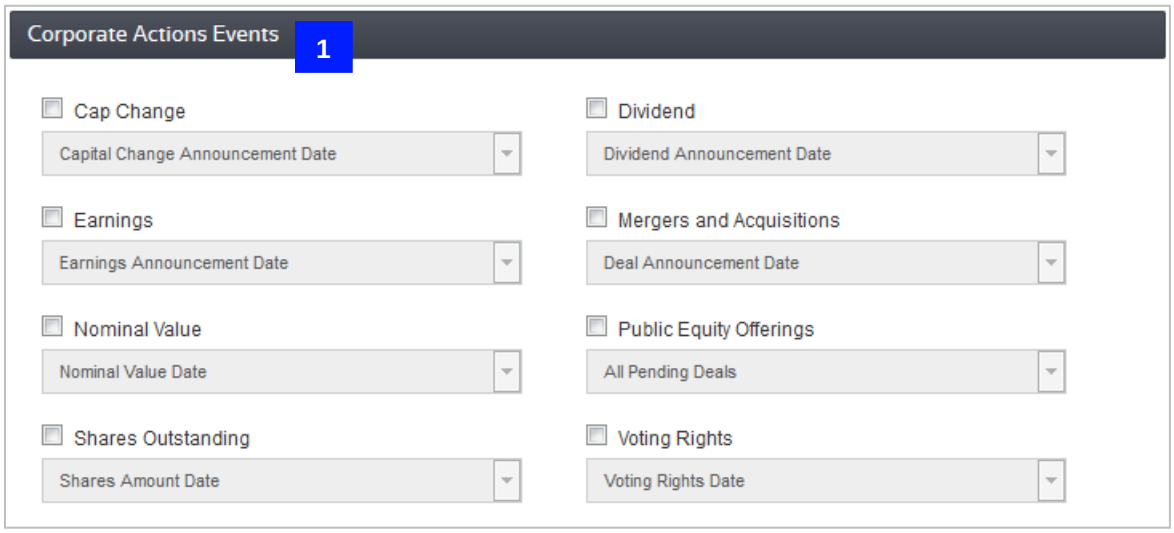


1. Select **Last Update**.
2. **Include instruments with no events** is selected by default.

   Clear it to suppress instruments with no event data in your extraction.
3. **Exclude deleted events** is box is cleared by default.

   Check it to include only currently valid records in the extraction.

Corporate Actions Events



1. Select one or more **Corporate Actions Events**, and then select the data to retrieve for that event from the corresponding drop-down lists. Supported events are:

   - **Capital Changes**

     Coverage includes Stock Distributions and Cash Events. You can retrieve the events by Announcement Date, Deal Date, Effective Date, Ex Date and Record Date.

   - **Dividends**

     Coverage comprises Regular, Special and Extraordinary Distributions with relevant tax details. You can retrieve the events by Announcement Date, End Date, Ex Date and Pay Date, and Record Date.

   - **Earnings**

     Coverage includes Year to date and interim results, as well as as-reported and annualized figures. You can retrieve the data by Announcement Date and Period End Date.

   - **Equity Offerings**

     Coverage comprises IPO data for All Pending Deals or by First Trading Date.

   - **Mergers & Acquisitions**

     Coverage includes Mergers of Equals, Open Market Purchases, Tender Offers, Strategic Investments, Joint Ventures, Venture Capital, Reverse Takeovers, Asset Acquisitions and Consolidations for Public Target companies. You can retrieve data by Announcement Date, Cancel Date, Close Date, Effective Date, Revised Proposal Date, and Tender Offer Date.

   - **Nominal Value**

     You can retrieve nominal value amount and currency by Nominal Value Date.

   - **Shares**

     Coverage includes the default share amount type and/or multiple types. You can retrieve the number of shares by Shares Amount Date.

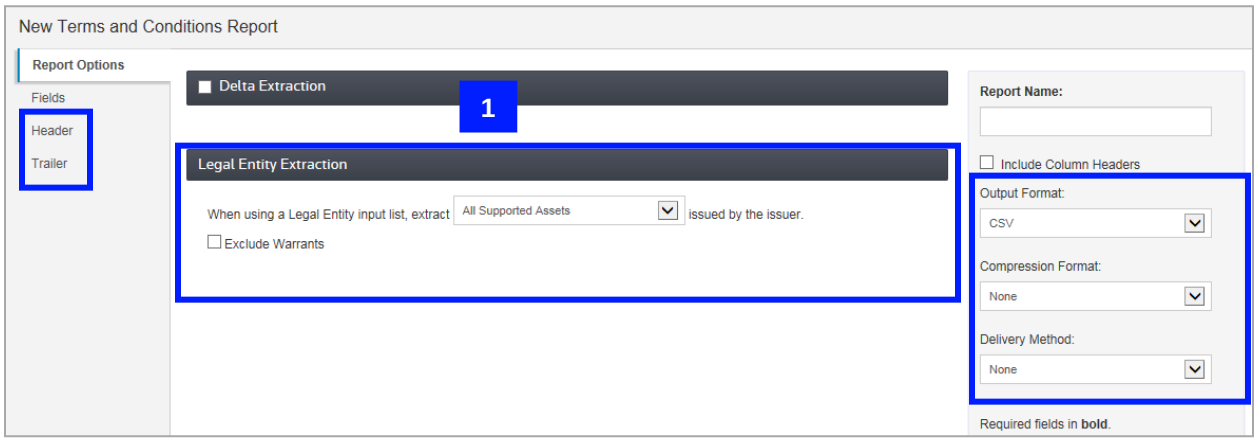
   - **Voting Rights**

     You can retrieve the voting rights per share by Voting Rights Date.

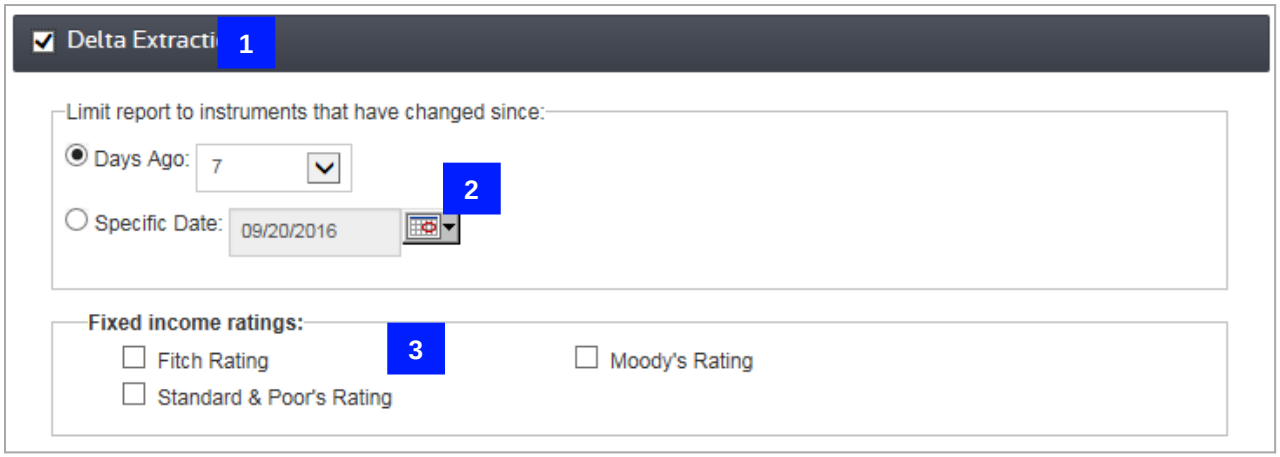
Terms and Conditions

NOTE: The **Terms and Conditions** report provides current data only. Historical content is not available. You are encouraged to use the Historical Reference report instead.

NOTE: The **Terms and Conditions** report includes **Header** and **Trailer** tabs and options for defining the file output, compression format and delivery options. These functions are not part of the Tick History workflow and can be ignored.



Delta Extraction



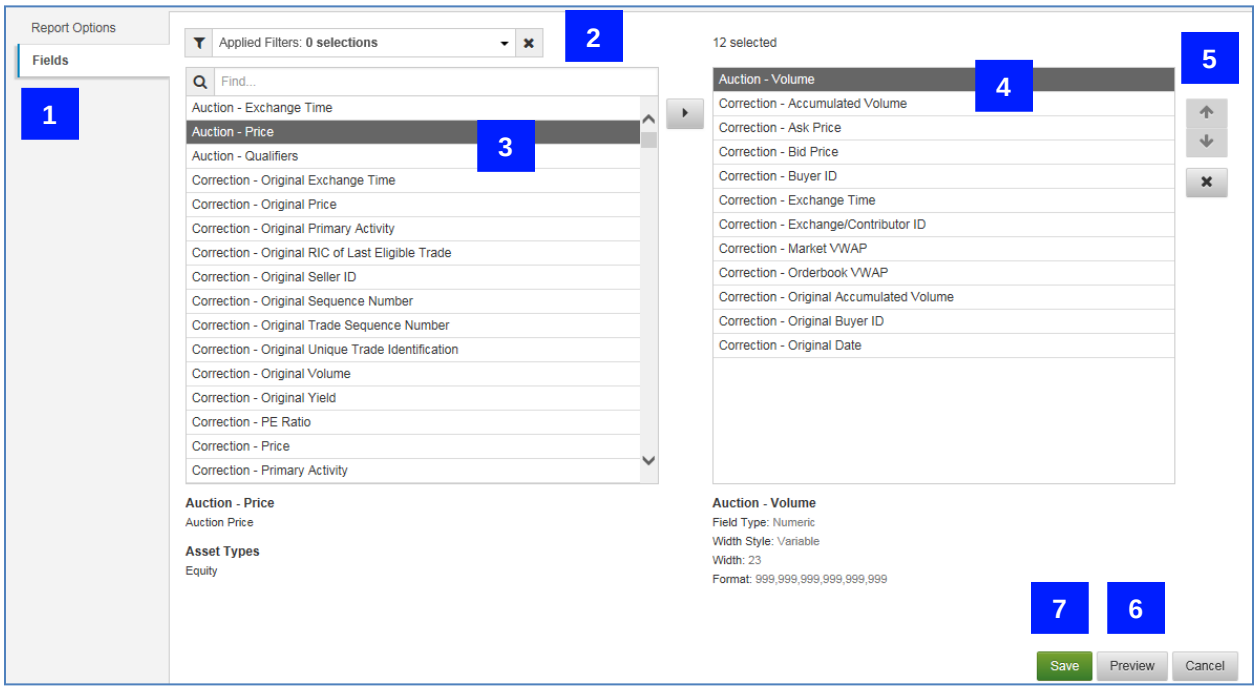
1. Select **Delta Extraction**.
2. Specify the time frame for retrieving terms and conditions content by either:
   - Selecting **Days Ago** (default), and then selecting the number of days from the dropdown.

     You can go back as far as 31 days.
   - Selecting **Specific Date**, and then using the calendar to select a specific date.
3. Select one or more ratings type check boxes for fixed income instruments only.

   Access to Fitch, Moody's, and Standard and Poor's ratings data is restricted based on third-party licensing and permissioning.

Selecting Fields for Extraction

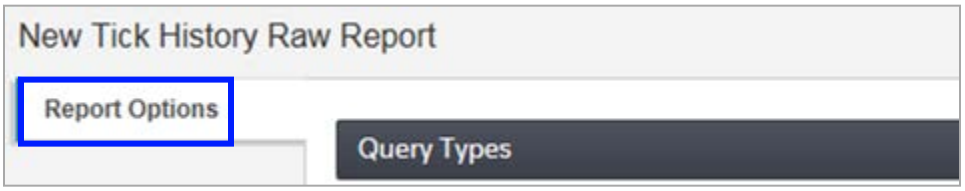
Field selections are not available to **Raw** reports. Raw format describes every message for an instrument in its original transmitted form. No data is excluded.



1. Click on the **Fields** tab in the selected **Report Templates** screen.

   For **Market Depth – Raw Market By Price**, **Raw Market By Order**, **Raw Market Maker** and **Raw Legacy Market Depth** reports, the following message appears to indicate that field selections are not available.

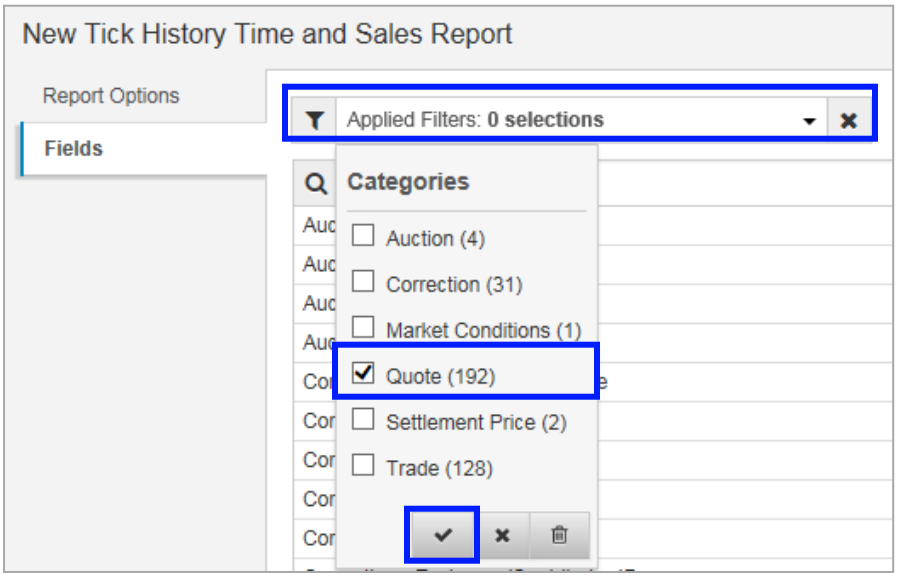
   For **Raw** reports, there is no **Fields** tab:



   For all other report types, the list of fields for the selected report type appears.

2. Optionally for **Time and Sales** reports, use the **Applied Filters** dropdown to narrow the list of fields by message type. The number of available fields for each message type appears in parentheses.

   For example, to view only **Quote** fields, click the box next to **Quote** and then click ✔ to apply the filter.



3. Select one or more fields in the list.
   - To select multiple fields in a range, click on the first field in the range, press and hold **Shift**, and then select the last field in the range.
   - To select multiple fields out of range, press and hold **Ctrl** while making your selections.

   When you select a single field, the corresponding definition and supported asset types appear below the available fields list. No information appears when multiple fields are selected.

4. Use ► to move the fields to the **Selected** box.

   When you add a single field to the **Selected** box, the field's type and width style appear at the bottom of the screen. A message also appears stating that the field is not yet saved.

5. Use x to delete a selected field and return it to the list of available fields.

> NOTE: Tick History employs a consistent column ordering for custom extraction queries. This behavior is intended by design and has been a carried over from Tick History v1. While you can select the fields to include in your Tick History reports, you cannot change the order of those fields. As a result, the up and down arrows will always be disabled.

6. Optionally, click **Preview** to perform an extraction preview.

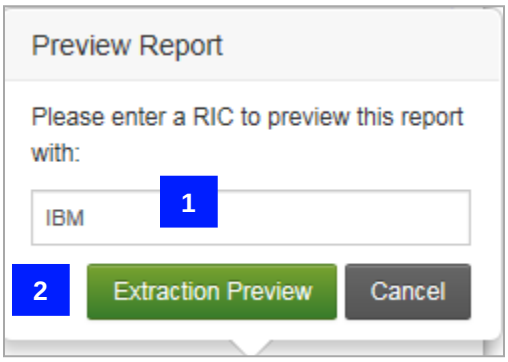
   See the next section for details.

7. Click **Save** to save the fields.

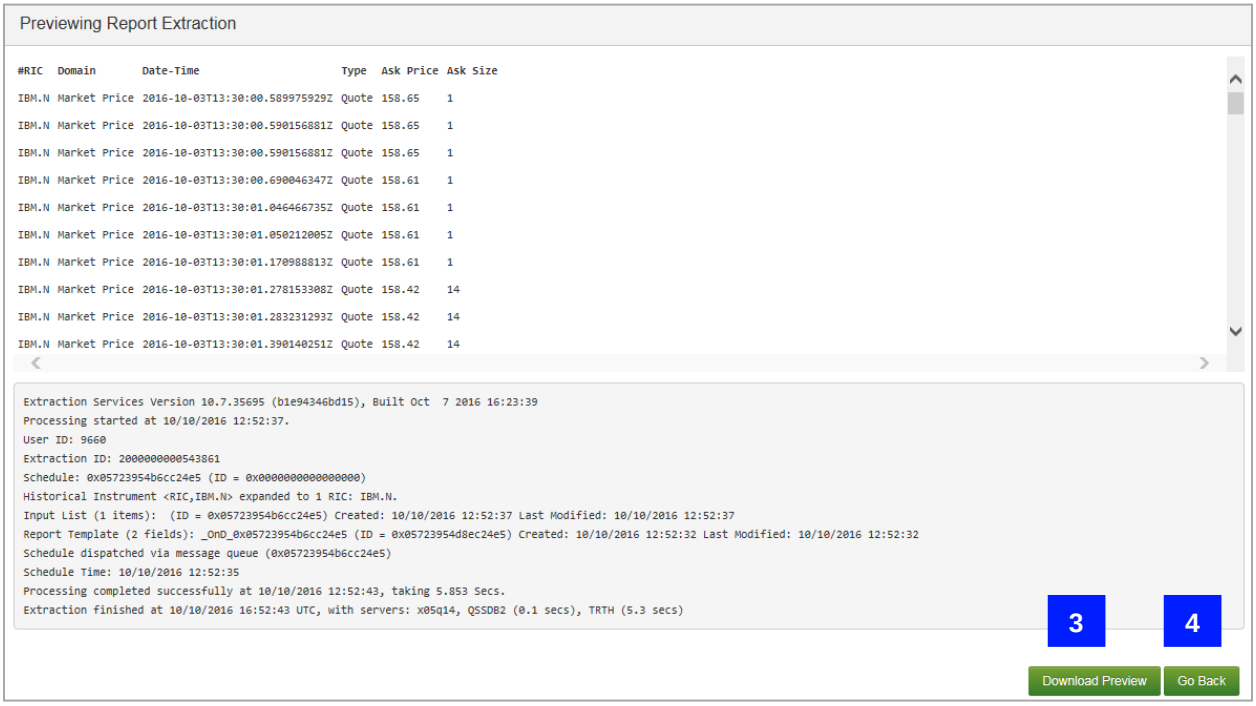
Previewing the Extraction

You can preview a sample data request for the selected Tick History report template using the **Preview** button at the bottom of the screen. Extraction previews do not count against Quotas or reported usage. Note that extraction previews are available for **Tick History** reports only.

1. Enter a RIC to use in the preview.
2. Click **Extraction Preview**.



An HTML preview appears, showing the first 100 rows of the extraction for the selected RIC. Note that the preview times out automatically after 90 seconds.



The extraction processing statistics appear below the preview, displaying the start and end times, user id, extraction id, schedule id, report template id, along with other identifying information.

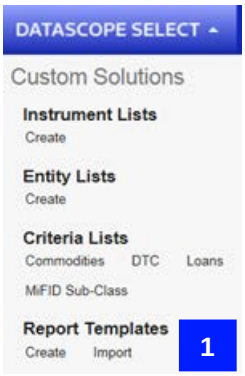
3. Click **Download Preview** to view the extraction preview in CSV format that you can view and/or save on your computer.

4. Click **Go Back** to exit the preview and return to the **Report Template** screen.

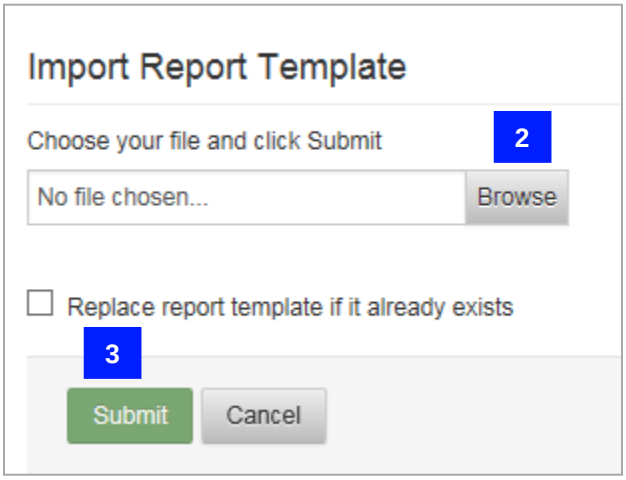
Importing Report Templates

The import file must be XML-formatted. You can import a previously exported report (all exported reports are XML-formatted) or generate the file using an XML editor. See Appendix B for details.

1. Click **DataScope Select**, and under **Report Templates**, click **Import**.



The screen updates to show the **Report Definition Import** screen.



2. Click **Browse** to choose your file.

3. Click **Submit**.

   The file is validated prior to being imported. Any errors are listed at the bottom of the screen. If no errors exist, the report is automatically added to your report templates.

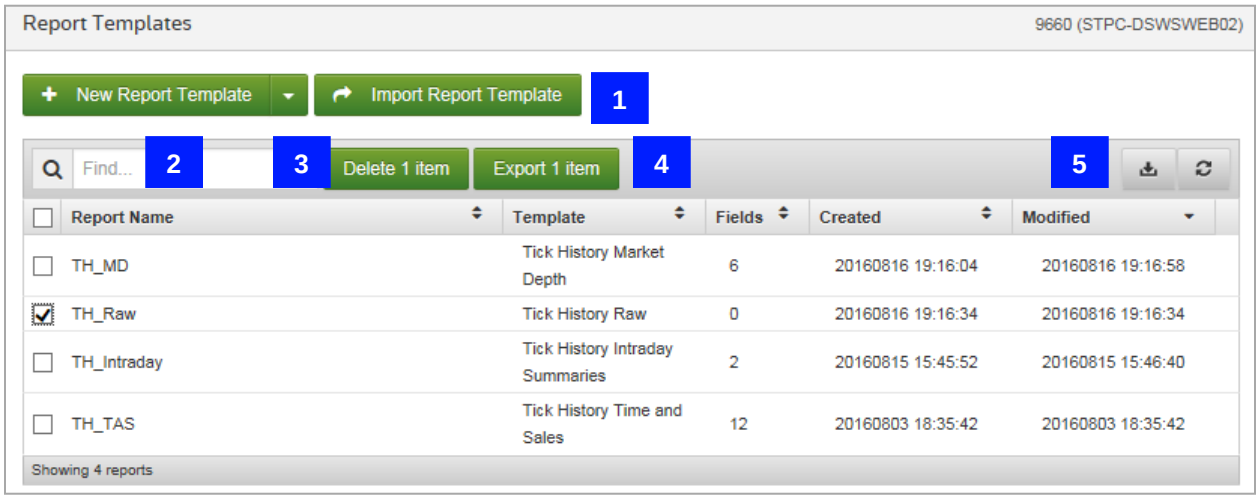
XML File Format

Tick History reports use a common XML format for importing report templates. For example:

```
<ReportTemplate version="2">
  <ReportAction>Replace</ReportAction>
  <Name>MyMarketDepthReport</Name>
<TemplateType>TickHistoryMarketDepth</TemplateType>
  <Conditions>
    <SingleSelectionCondition>
      <Name>ExtractBy</Name>
      <Value>Ric</Value>
    </SingleSelectionCondition>
    <SingleSelectionCondition>
      <Name>MessageTimeStamp</Name>
      <Value>GmtUtc</Value>
    </SingleSelectionCondition>
    <IntegerCondition>
      <Name>NumberOfLevels</Name>
      <Value>10</Value>
    </IntegerCondition>
    <SingleSelectionCondition>
      <Name>PreviewMode</Name>
      <Value>None</Value>
    </SingleSelectionCondition>
    <DateTimeCondition>
      <Name>QueryEndDate</Name>
      <Value>2016-06-01T23:59:59</Value>
    </DateTimeCondition>
    <DateTimeCondition>
      <Name>QueryStartDate</Name>
      <Value>2016-05-25T00:00:00</Value>
    </DateTimeCondition>
    <SingleSelectionCondition>
      <Name>ReportDateRangeType</Name>
      <Value>Range</Value>
    </SingleSelectionCondition>
    <SingleSelectionCondition>
      <Name>SortBy</Name>
      <Value>SingleByRic</Value>
    </SingleSelectionCondition>
    <SingleSelectionCondition>
      <Name>View</Name>
      <Value>NormalizedLL2</Value>
    </SingleSelectionCondition>
  </Conditions>
  <Body>
    ...
  </Body>
</ReportTemplate>
```

Updating Report Templates

You can update your existing report templates by clicking **DataScope Select**, and then selecting **Report Templates**. All of your existing reports appear in a scrolling list. For each list, the report name, template type and number of fields are identified, along with the list creation and last modified dates.



You can update your reports as follows:

1 To initiate a new report template, click **New Report Template**. Click **Import Report Template** to create the report from an XML import file.

2 Use the **Find** box to search for a report template. When you enter a text string, only your reports matching that text appear.

3 To delete one or more selected reports, click on the check box next to the report(s) to delete. The **Delete *x* Items** becomes enabled with the number of selected reports indicated. Click this button to delete the reports. You are prompted to confirm the deletion.

Note that deleted reports cannot be restored. If you delete a report that is part of a recurring extraction, you must remove or update the extraction schedule. Otherwise, the scheduler will continue to attempt to execute the extraction and the extraction will fail.

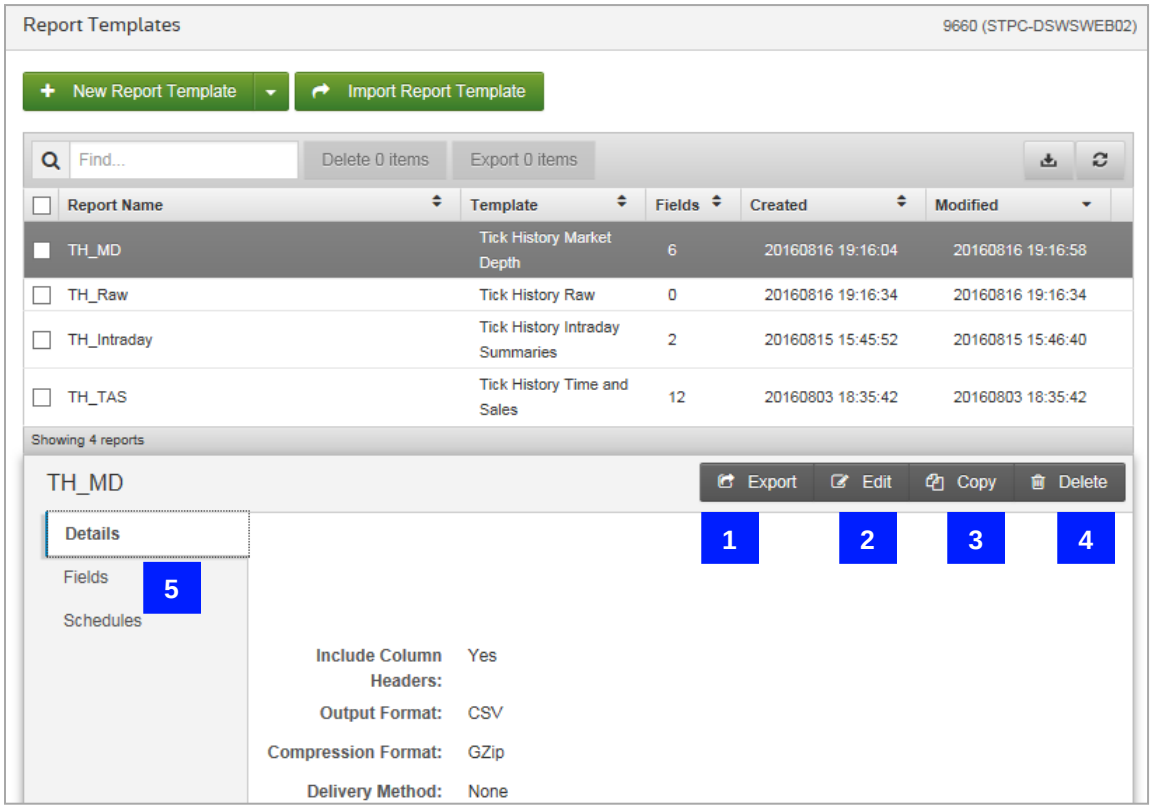
4 To export one or more selected reports, click on the report(s) to export, and then click **Export *x* Items**. You can export a maximum of 100 reports simultaneously to an XML formatted file. Multiple files are saved to a zipped file with a default name of **RPT_Definitions.zip**.

5 To export the **Report Templates** table, click  . This action launches a separate window from where you can open or save the grid to a comma delimited (*.csv) file.

Exporting this screen results in a file named **ReportTemplates.csv** that identifies your report templates under the following columns: **Name, TypeDescription, FieldCount, CreateDate** and **ModifiedDate.**

Updating an Existing Report Template

To update an existing report, click on the row that contains the report. The screen expands to show the report details at the bottom of the screen.



You can update the selected report as follows:

1 To export the report to an XML-formatted file, click **Export**.

2 To edit the report's options and field selections, click **Edit**. This action launches the **Report Template** screen, from where you can make your edits.

3 To duplicate the report, click **Copy**. This action launches the **Report Template** screen with the report identified as *Copy of report template name*. You can assign a new report name and update the report options and fields as needed.

4 To delete the report, click **Delete**. You are prompted to confirm the deletion.

Note that deleted reports cannot be restored. If you delete a report that is part of a recurring extraction, you must remove or update the extraction schedule. Otherwise, the scheduler will continue to attempt to execute the extraction and the extraction will fail.

5 Use the tabs located on the left side of the screen to view the report details, delete fields and create a new extraction schedule with the report.

4 Scheduling Tick History Extractions

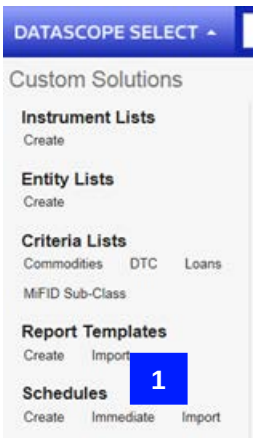
In this Chapter:

This chapter takes you through the process of scheduling a Tick History extraction.

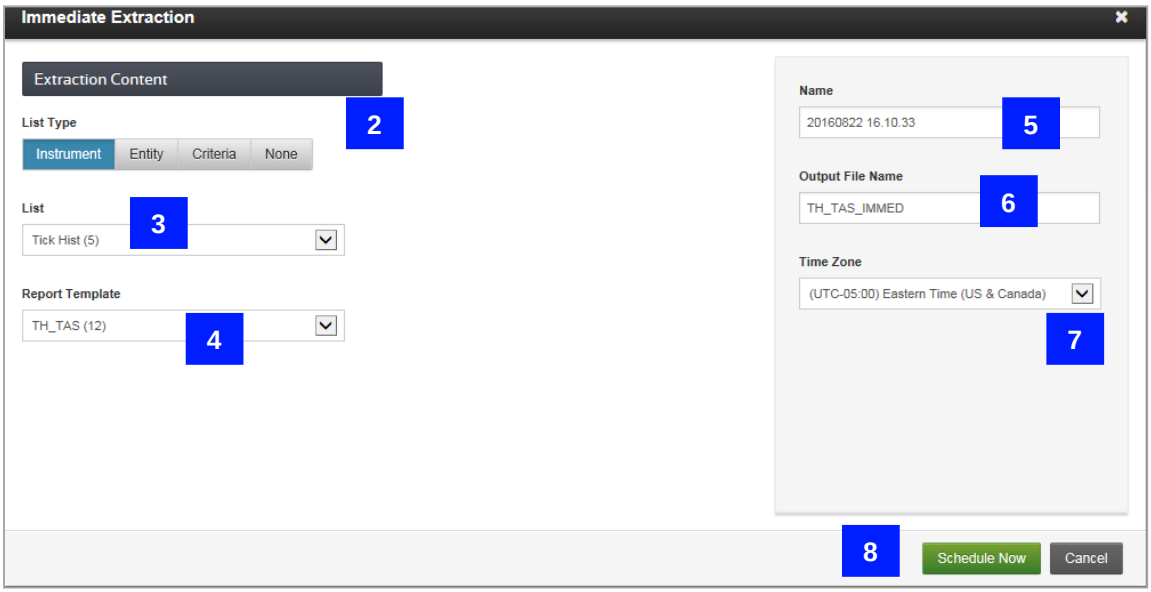
Instructions for scheduling an extraction to run immediately or on some future date, once or on a recurring basis at a specified time are provided. Details on tracking extractions are also provided, along with instructions for updating schedules.

Scheduling Immediate Extractions

1. Click **DataScope Select**, and under **Schedules,** click **Immediate**.



The screen updates to show the **Immediate Extraction** wizard.



2. Under **List Type**, make sure **Instrument** is selected (default).

3. Under **List,** select the corresponding instrument list to use in the extraction.

4. Under **Report Template,** select the Tick History report to use in the extraction.

5. Enter a schedule name in the **Name** box (optional).

   Note that this is the name of the schedule, not the extraction file

   This box is populated automatically with a default name, consisting of today's date and time. You can update it if desired.

   Double-byte character sets are not supported.

6. Enter a name for the extraction in the **Output File Name** box (optional).

   Double-byte character sets are not supported

7. Optionally, under **Time Zone**, select the time zone in which to schedule the extraction.

   The time zone defaults to the time zone specified in your **Preferences**. The updated time zone applies to the selected schedule only.

8. Click **Schedule Now**.

   Your extraction is added to the **Schedules** screen. You can check the status of the extraction in the **Status** column.

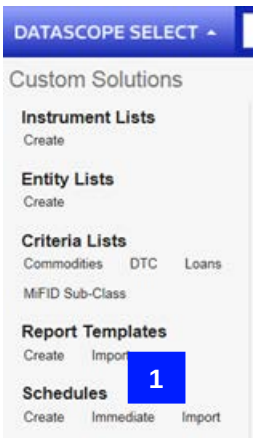
   The statuses are as follows: Submitted, Queued, Processing, Formatting, Delivering and Completed.

   Other statuses that can appear are Cancelled, Retrying and Failed. These statuses can indicate an issue with the extraction generation.

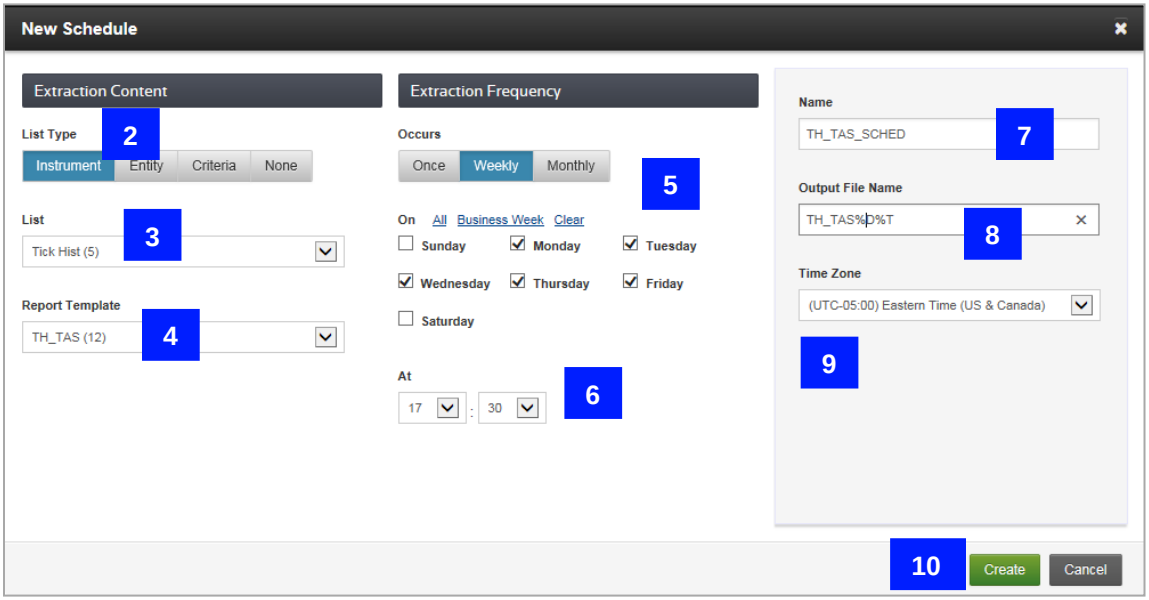
   Once the extraction executes, you can retrieve your output file from the **Extracted Files** page.

Scheduling Future Extractions

1. Click **DataScope Select**, and under **Schedules,** click **Create**.



The screen updates to show the **New Schedules** wizard.



2. Under **List Type**, make sure **Instrument** is selected (default).

3. Under **List,** select the corresponding instrument list to use in the extraction.

4. Under **Report Template,** select the Tick History report to use in the extraction.

5. Under **Occurs**, select the frequency for the extraction.
   - **Once** - Use the calendar to select the initiation date.
   - **Weekly** - Use the check boxes to select one or more days of the week. Click **Business Week** to select Monday-Friday simultaneously.
   - **Monthly** - Select the day of the month, where **1st** and **Last** are calendar days, not business days. You can select only one day of the month.
6. Under **At**, specify the time (hour and minutes) at which you want the extraction to execute from the drop-down lists.

   The specified time should be at some future point. If you want today's data make sure to schedule your extraction to execute on the current date, following the venue's effective market close + embargo (no earlier). For exchange hours and embargoes by venue, see the *Tick History Data Coverage Guide*. This document is available on MyRefinitiv.
7. Enter a schedule name in the **Name** box.

   Note that this is the name of the schedule, not the extraction file.

   Double-byte character sets are not supported.
8. Enter a name for the extraction in the **Output File Name** box (optional).

   If you specify an output file name for a recurring extraction, the extraction will be overwritten each time it executes. To ensure that your extraction is not overwritten, you can do either of the following:
   - Leave the box blank. A default name will be generated, consisting of your login ID, and the extraction date and time, among other characters to identify the file. Time is shown in UTC.
   - Enter an output file name and append **%D** and/or **%T**. The extraction date and/or time will be appended to the output file name each time the extraction executes. The time defaults to the time zone value selected in your **Preferences**.

     NOTE: Tick History does not guarantee that automatically generated extraction output file names will not change from release to release. To ensure consistent extraction output file names across releases, specify a file name with **%D** and **%T** appended.

   Double-byte character sets are not supported
9. Optionally, under **Time Zone**, select the time zone in which to schedule the extraction.

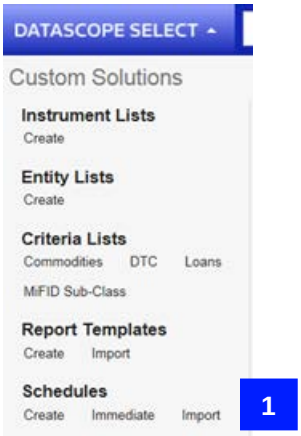
   The time zone defaults to the time zone specified in your **Preferences**. The updated time zone applies to the selected schedule only.

   For Tick History Time and Sales, Market Depth, Intraday Summaries and Raw reports, make sure the selected time zone is the same as the Query Time Zone specified in the report template.
10. Click **Create**.

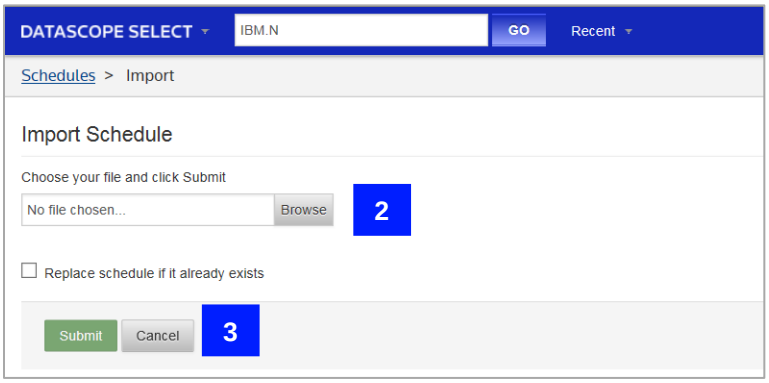
    Your extraction is added to the **Schedules** screen. You can check the status of the extraction in the **Status** column. Once the extraction executes, you can retrieve your output file from the **Extracted Files** page.

Importing Schedules

1. Click **DataScope Select**, and under **Schedules**, click **Import**.



The **Import Schedule** screen appears.



2. Click **Browse** to locate the XML-formatted schedule on your computer.

3. Click **Submit**.

   Any errors are listed at the bottom of the screen. If no errors exist, the report is automatically added to the **Schedules** screen.

Importing Schedules

The import file must be XML-formatted. You can import a previously exported report (all exported schedules are XML-formatted) or generate the file using an XML editor.

Immediate Extraction

```
<?xml version="1.0"?>
<ReportRequest xmlns="http://www.reuters.com/Datascope/ReportRequest.xsd">
   <Schedule>
      <ScheduleAction>Replace</ScheduleAction>
      <Name>20160822 16.09.43</Name>
      <TickHistorySchedule>
         <InputList>
            <Name>Tick Hist</Name>
            <Type>Instrument</Type>
         </InputList>
         <ReportTemplate>
            <Name>TH_TAS</Name>
            <Type>TickHistoryTimeAndSales</Type>
         </ReportTemplate>
         <OutputFileName>TH_TAS_IMMED</OutputFileName>
         <ScheduleTimezone>Eastern Standard Time</ScheduleTimezone>
         <ScheduleImmediate/>
      </TickHistorySchedule>
   </Schedule>
</ReportRequest>
```

Future Extraction

```
<?xml version="1.0"?>
<ReportRequest xmlns="http://www.reuters.com/Datascope/ReportRequest.xsd">
   <Schedule>
   <ScheduleAction>Replace</ScheduleAction>
   <Name>TH_TAS_WEEKLY_SCHED</Name>
      <TickHistorySchedule>
         <InputList>
            <Name>Tick Hist</Name>
            <Type>Instrument</Type>
         </InputList>
         <ReportTemplate>
            <Name>TH_TAS</Name>
            <Type>TickHistoryTimeAndSales</Type>
         </ReportTemplate>
         <OutputFileName>TH_TAS%D%T</OutputFileName>
         <ScheduleTimezone>Eastern Standard Time</ScheduleTimezone>
         <ScheduleWeekly>
            <DayOfWeek>Monday</DayOfWeek>
            <DayOfWeek>Tuesday</DayOfWeek>
            <DayOfWeek>Wednesday</DayOfWeek>
            <DayOfWeek>Thursday</DayOfWeek>
            <DayOfWeek>Friday</DayOfWeek>
         </ScheduleWeekly>
         <ScheduleTime>
            <Hour>17</Hour>
            <Minute>30</Minute>
         </ScheduleTime>
      </TickHistorySchedule>
   </Schedule>
</ReportRequest>
```

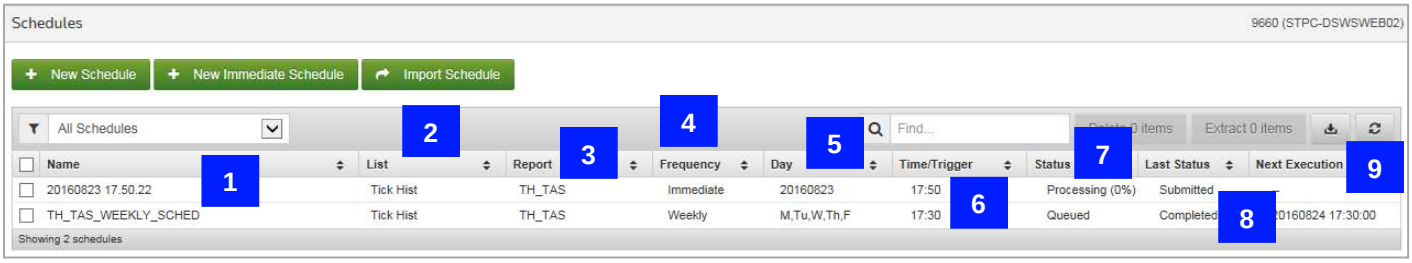
Important Notes about Importing Schedules

- When importing a schedule, the corresponding input list and report template must exist in your Tick History account in order for the extraction to execute. The file is validated prior to being imported.
- If you import a recurring schedule, the extraction will execute at the next scheduled date and time. If you import an immediate schedule, the extraction will execute immediately upon import.
- If you import a one-time schedule, the extraction will execute immediately only if the scheduled extraction time is not earlier than midnight (start of the calendar day) based on the time zone specified in your user preferences; or if the scheduled extraction time is earlier than the current Universal Time Clock (UTC), minus 24-hours.

Tracking Extractions

You can track your scheduled extractions from the **Schedules** screen. By default, the screen shows **Today's Schedules** (all completed and pending extractions schedules).

Use the drop-down to view your schedules. **Active Schedules** shows all scheduled extractions that will execute today or at some future point, once or on a recurring basis. (Immediate extractions are excluded). **All Schedules** (All pending and completed extractions). Alternatively, use the **Find** box to search your schedules and related details. When you enter a text string or numerical value, only schedules matching your input appear:



For each schedule, the following information appears:

1 **Name** – Name of the extraction schedule. Immediate schedules are automatically assigned a name consisting of the extraction date and time.

All times shown are relevant to the time zone selected in **Preferences**. A clock appearing next to the schedule name indicates that the schedule executes in a different time zone.

2 **List** – The instrument list tied to the extraction.

3 **Report** – The report template tied to the extraction.

4 **Frequency** – The frequency of the extraction (**Once**, **Weekly** or **Monthly**). For immediate extractions, **Immediate** appears in this column.

5 **Day** – The day(s) of the week on which the extraction runs. For weekly extractions, the letter(s) representing the day(s) of the week are shown. For monthly extractions, the calendar day is shown. For one-time extractions, the extraction date is shown in the date format selected in your **Preferences**.

6 **Time/Trigger Initiation** – The time that initiates the extraction.

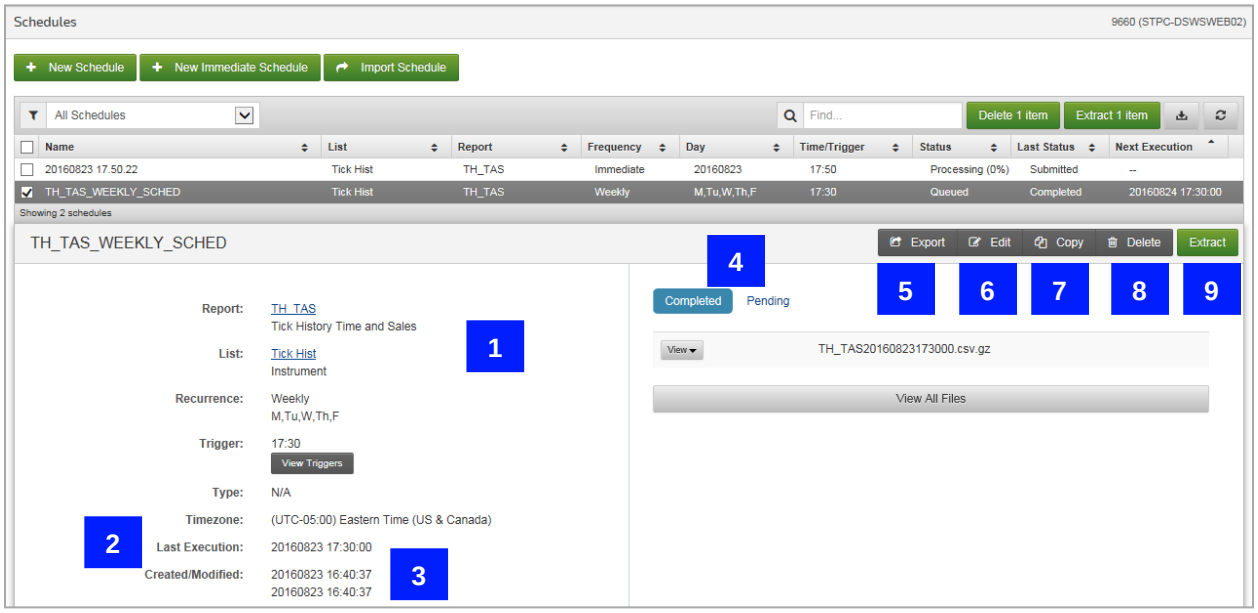
7 **Status** – The scheduled extraction's status: Submitted, Queued, Processing, Formatting, Delivering and Completed. Other statuses that can appear are Cancelled, Retrying and Failed. These statuses can indicate an issue with the extraction generation.

8 **Last Status –** Status of the previous extraction for this schedule. This column only applies to recurring extractions. The symbol - - appears for immediate extractions, as well as for new recurring schedules.

9 **Next Execution –** Date and time of the recurring extraction's next scheduled execution. The symbol - - appears for immediate extractions.

Viewing Schedule Details

When you click on a schedule, the screen expands to show the corresponding details.



Schedule details include the following information:

1. **Report, List, Recurrence, Trigger, Type, Time Zone Name, Last Execution** and **Created/Modified Date** These fields identify the report template and instrument list tied to the extraction, extraction recurrence, execution time and time zone in which the extraction runs. Note that the **Trigger** and **Type** fields are not applicable to Tick History extractions.

2. **Last Execution** – Date and time of the last extraction execution for this schedule. Date and time are shown in the format selected in **Preferences**. The symbol - - appears in this column for immediate extractions, as well as for new recurring schedules.

3. **Created/Modified** – Date and time when the extraction schedule was created and last updated. Date and time are shown in the format selected in **Preferences**.

4. **Completed/Pending** – By default, up to five completed extractions are shown. Click **Pending** to show the dates and times of the next five extractions for the selected schedule. Use the View ▼ drop-down to preview or download the extraction or view the corresponding notes file. Click **View All Files** to launch the **Extracted Files** screen.

5. To export the selected schedule to an XML-formatted file, click **Export**. The file is automatically assigned the same name as the schedule with **_SCHED_Definition** appended.

6. To edit the selected schedule, click **Edit**. Note that you cannot edit immediate schedules.

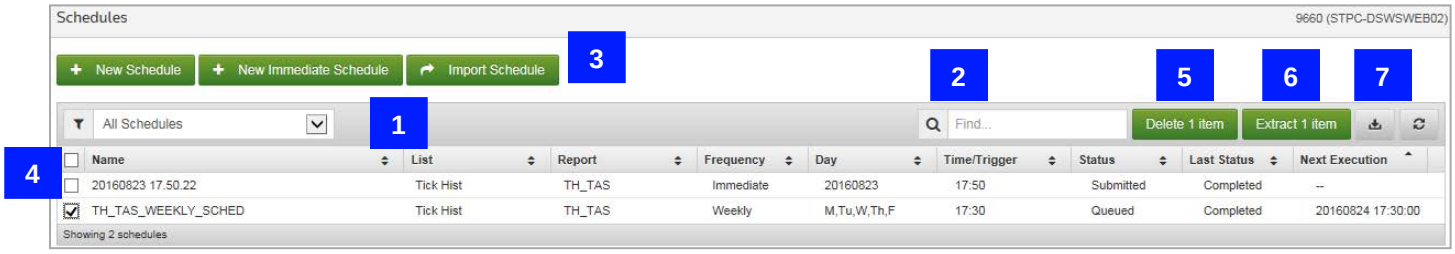
7. To copy the selected schedule, click **Copy**. Note that you cannot copy immediate schedules.

8. To delete the selected schedule, click **Delete**.

9. Click **Extract** to initiate an immediate extraction without having to create a new schedule.

Updating Schedules

You can update your existing schedules by clicking **DataScope Select**, and then selecting **Schedules**.



You can manage your schedules follows:

1 Use the dropdown to display **All Schedules, Today's Schedules** or **Active Schedules**. See Tracking Schedules for descriptions.

2 Use the **Find** box to search for a particular schedule. When you enter a text string or numerical value, only the schedules matching that information appear.

3 Use the buttons above the table to create a new or new immediate schedule or to import a schedule from an xml-formatted file.

4 Use the check boxes to select one or more schedules. This action enables the **Delete x Items** and **Extract x Items** buttons. The number appearing in these buttons identifies the number of items selected.

5 Click the **Delete *x* Items** button to delete the selected schedules. You will be prompted to confirm the deletion.

6 Use **Extract *x* Items** to execute one or more scheduled extraction immediately.

Note that **Extract** is just like running an immediate extraction without having to create a new immediate schedule.

7 To export the **Schedules** table, click . This action launches a separate window from where you can open or save the grid to a comma delimited (*.csv) file.

5 Retrieving Tick History Extractions

In this Chapter:

This chapter provides instructions for previewing and downloading your extraction files.

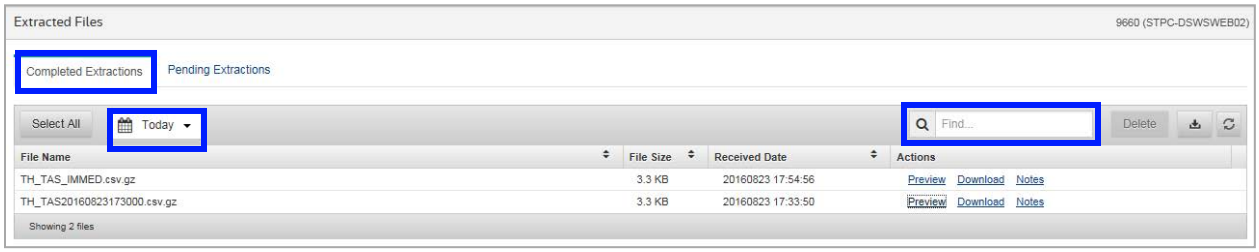
Details on the extraction and corresponding notes file are provided, along with information about managing extractions.

Viewing Extractions

You can view your extractions, related notes, and optional reports by clicking **DataScope Select**, and then selecting **Extracted Files**. Extraction details appear across two tabs: **Completed Extractions** and **Pending Extractions**.

NOTE: You must check the **Extracted File** screen to view and access your completed extractions. Automatic notifications of completed extractions are not supported.

Completed Extractions



This tab identifies your completed extractions that have executed, as well as extractions that have failed:

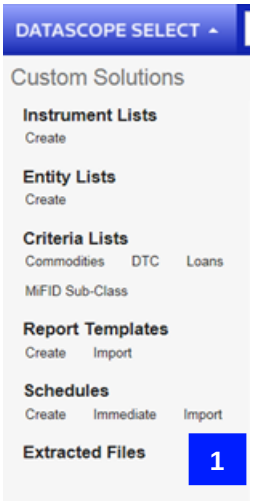
- To filter your completed extractions, select a time period from the dropdown. Supported views are **Today** (Default), **Yesterday**, **Last 7 Days**, **Last 30 Days**, **This Month**, **Last Month** and **Custom Range**.
- Extractions are listed chronologically with the most recent file listed first.
- You can also use the **Find** box to search for one or more extraction files matching a text string on numerical value. When you enter text in the **Find** box, only extractions matching that text appear.

Pending Extractions

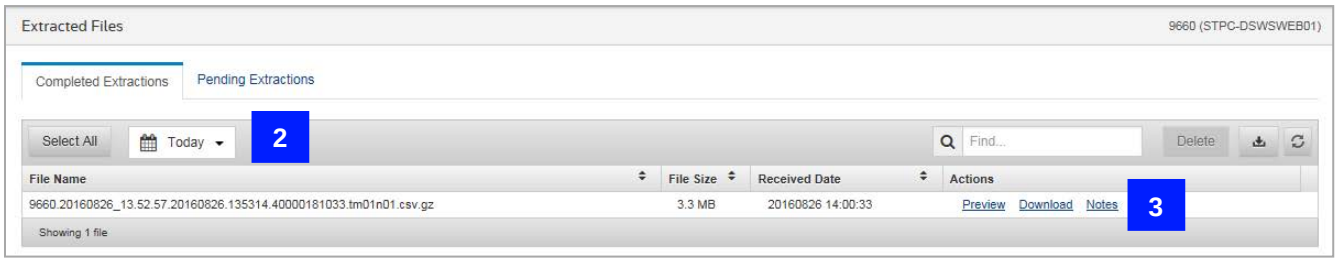
This tab identifies all of your upcoming extractions for today through the next two calendar days. The extractions' statuses and extraction start times are also identified.

Previewing & Downloading Extraction Files

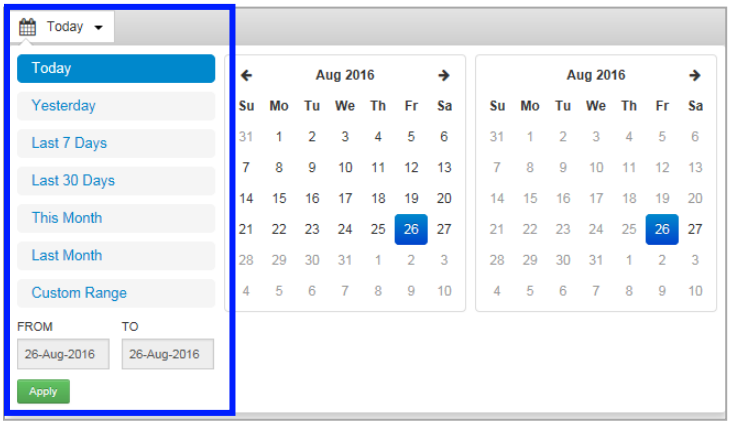
1. Click **DataScope Select**, and then click **Extracted Files**.



The **Extracted Files** screen appears. The screen defaults to showing today's completed extractions.



2. Use the dropdown to select a different date or date range.



3. Click a link in the **Actions** column to preview or download the file and view related notes as follows:

   - **Preview**

     Click **Preview** to view your completed extraction in HTML format:

DATASCOPE SELECT Print Close

9006981.0x056ba42a7eeb192f.20160920.060232.2000000000270871.x07q13.csv.gz (9006981.0x056ba42a7eeb192f.20160920.060232.2000000000270871.x07q13.csv)
9006981 (HDCS-NWSWEB04)

#RIC	Domain	Date-Time	Type	Open	High	Low	Last	Volume	No. Trades	Open Bid	High Bid	Low Bid	Close Bid	No. Bids	Open Ask	High Ask	Low Ask	Close Ask	No. Asks
IBM.N	Market Price	2016-09-13T13:30:00.000000000Z	Intraday 1Min	157.63	157.75	157.2	157.2	91379	15	157.6	157.6	157.08	157.08	44	157.63	157.82	157.45	157.45	44
IBM.N	Market Price	2016-09-13T13:31:00.000000000Z	Intraday 1Min	157.22	157.22	157.19	157.19	320	4	157.08	157.19	157.08	157.14	57	157.45	157.45	157.31	157.35	57
IBM.N	Market Price	2016-09-13T13:32:00.000000000Z	Intraday 1Min	157.32	157.33	157.32	157.33	200	2	157.14	157.14	157.14	157.14	30	157.35	157.35	157.33	157.34	30
IBM.N	Market Price	2016-09-13T13:33:00.000000000Z	Intraday 1Min	157.24	157.35	157.14	157.35	1053	10	157.14	157.2	157.08	157.15	87	157.34	157.42	157.18	157.42	87
IBM.N	Market Price	2016-09-13T13:34:00.000000000Z	Intraday 1Min	157.35	157.46	157.05	157.46	4573	35	157.15	157.3	157	157	160	157.42	157.59	157.21	157.59	160
IBM.N	Market Price	2016-09-13T13:35:00.000000000Z	Intraday 1Min	157.46	157.49	156.93	157.23	3642	21	157.01	157.26	156.8	157.09	345	157.59	157.59	157.03	157.23	345
IBM.N	Market Price	2016-09-13T13:36:00.000000000Z	Intraday 1Min	157.23	157.48	157.2	157.3	4323	25	157.09	157.34	157.09	157.14	154	157.23	157.5	157.2	157.44	154
IBM.N	Market Price	2016-09-13T13:37:00.000000000Z	Intraday 1Min	157.41	157.6	157.39	157.51	3800	28	157.18	157.41	157.18	157.41	213	157.44	157.6	157.39	157.58	213
IBM.N	Market Price	2016-09-13T13:38:00.000000000Z	Intraday 1Min	157.55	157.6	157.4	157.44	2939	17	157.41	157.54	157.33	157.34	151	157.58	157.8	157.4	157.58	151
IBM.N	Market Price	2016-09-13T13:39:00.000000000Z	Intraday 1Min	157.53	157.61	157.53	157.55	873	9	157.43	157.61	157.34	157.43	223	157.58	157.72	157.53	157.63	223
IBM.N	Market Price	2016-09-13T13:40:00.000000000Z	Intraday 1Min	157.58	157.6	157.53	157.53	735	8	157.43	157.52	157.43	157.51	123	157.63	157.76	157.57	157.72	123
	Market	2016-09-	Intraday																

NOTE: Due to a known issue, not all columns will print as part of the **Preview** feature. This issue will be corrected in a future release. Please use the **Download** feature instead.

- **Download**

  Click **Download** to download the extraction file to your computer.

  The amount of time to download the compressed file depends on the size of the file, as well as other factors, including the speed of your internet connection, the speed and capability of your internal network, etc.

  The file is delivered in compressed format. To view the file, you must uncompress it using a decompression tool, such as WinZip.

- **Notes**

  A corresponding notes file is generated with your extraction. It provides information about the resulting extraction, including processing statistics, instrument expansion and instrument usage statistics.

NOTE: To expedite troubleshooting of extractions, always provide the notes file, along with the corresponding input list and report template, when raising a client inquiry.

Click **Notes**. The file appears in a separate browser window with the following information:

- Refinitiv DataScope Select version and build date.
- Your user ID.
- The extraction ID.
- The schedule name and ID
- The instrument list name and ID, the number of instruments in the list, and the creation and last modified dates displayed in the date and time formats selected in your user preferences.
- The report template name and ID, the number of fields in the report, and the creation and last modified dates displayed in the date and time formats selected in your user preferences.
- The schedule dispatch message queue ID and Data source ID (Job ID) The Job ID is the key to extraction troubleshooting.
- The extraction scheduling date and time displayed in the date and time formats selected in your user preferences.
- The extraction processing start and end date and times, displayed in the date and time formats selecting in your user preferences.
- The date and time at which the extraction finished and the servers used to complete the extraction. The date is shown in the date format selected in your user preference, while time is shown in GMT.
- The historical instruments are listed in the order in which they appear in the instrument list. Historical instruments are expanded from instrument list ID and Report Start/End Date/Time to RIC, Domain, Start Date/Time, and End Date/Time for the entire period of the extraction request. There can be multiple RICs expanded from a single RIC if the RIC changed names.

  For example:

  ```
  Historical Instrument <CSP,17275R102> expanded to 48 RIC
  instances: 1ACSCO.PIPB to DE878841=CITI.
  ```

- Instrument suppression messages.

  For example:

  ```
  (RIC,IBM.N,NYS) entire extraction falls after exchange cutoff time
  for NYS of 07/11/2016 21:02:00 (GMT). All data is suppressed.
  ```

  The message above identifies a complete embargo suppression.

  ```
  (RIC,IBM.N,NYS) extraction end time falls after exchange
  cutoff time for NYS of 07/11/2016 21:02:00 (GMT). All data
  after exchange cutoff time is suppressed.
  ```

  The message above identifies a partial embargo suppression.

  ```
  (RIC,AU1MEBBAF=ICAA,) row suppressed for lack of 'Distribution
  Rights - Tick History never allowed for PE xx permission.
  ```

  This message above identifies an instrument for which you are not permissioned or is not supported for Tick History extractions.

- Manifest details for tracking instrument quota usage: #RIC, Domain, Start, End, Status and Count. Note that start and end dates in this section are shown in UTC.

A sample Notes file is as follows:

Notes file

```
Extraction Services Version 10.8.35849 (c0ad5a347037), Built Nov  2 2016 01:06:56
User ID: 9006981
Extraction ID: 110000084097
Schedule: THIntraday_Weekly_Pending (ID = 0x057784f0f0dc3185)
Input List (1103 items): dss_Eq_all_subtypes_1K (ID = 0x0555196daa4c2582) Created: 2016-07-12 AM 05:11:01 Last Modified: 2016-07-12 AM
05:11:04
Report Template (16 fields): IntradaySummaries_All (ID = 0x055a44013b6c2064) Created: 2016-07-28 AM 06:24:42 Last Modified: 2016-07-28
AM 06:24:42
Schedule dispatched via message queue (0x05778641ab7b1f87), Data source identifier (969686239404 42A28E1A94F3D2E79004)
Schedule Time: 2016-11-03 AM 03:50:00
Processing started at 2016-11-03 AM 03:50:02
Processing completed successfully at 2016-11-03 AM 03:56:17
Extraction finished at 2016-11-03 AM 03:56:17 UTC, with servers: tm01n01, TRTH (335.636 secs)
Historical Instrument <RIC,CCPpa.L> expanded to 1 RIC: CCPpa.L.
Historical Instrument <RIC,MXUPA.AX> expanded to 1 RIC: MXUPA.AX.
Historical Instrument <RIC,RHCPA.AX> expanded to 1 RIC: RHCPA.AX.
Historical Instrument <RIC,BMYMP.PK> expanded to 1 RIC: BMYMP.PK.
Historical Instrument <RIC,NAV_pd.DF> expanded to 1 RIC: NAV_pd.DF.
Historical Instrument <RIC,NAV_pd.TH> expanded to 1 RIC: NAV_pd.TH.
Historical Instrument <RIC,NAV_pd> expanded to 1 RIC: NAV_pd.
Historical Instrument <RIC,NAV_pd.N> expanded to 1 RIC: NAV_pd.N.
Historical Instrument <RIC,NAV_pd.P> expanded to 1 RIC: NAV_pd.P.
Historical Instrument <RIC,NAV_pd.Z> expanded to 1 RIC: NAV_pd.Z.
Historical Instrument <RIC,NAV_pd.ZY> expanded to 1 RIC: NAV_pd.ZY.
Historical Instrument <RIC,NAV_pd.B> expanded to 1 RIC: NAV_pd.B.
Historical Instrument <RIC,NAV_pd.NB> expanded to 1 RIC: NAV_pd.NB.
```

Downloading Notes Files

NOTE: Make sure **Enable Download Direct From S3** is selected in the **Tick History File Delivery** section of your user preferences to ensure faster delivery of your custom extractions.

Use to download the notes file to your computer. The file is formatted as a text file for integration into your internal processes.

Alternatively, use Print to print the note file in HTML format as it appears on screen.

Click Close to exit the screen.

About the Extraction File

The uncompressed extraction file is comma delimited (*.csv) formatted. A row of data is returned for each expanded instrument based on the date range specified in the report template. A blank field indicates that data was not available for the instrument for the date range specified. Fields will also be blank for third-party providers for which you are not permissioned. Please contact your local account manager or sales specialist for permissioning details.

For **Time and Sales**, **Market Depth**, **Intraday Summaries**, and **Raw** reports, GMT Offset is provided automatically in the resulting extraction between the **Date-Time** and **Type** columns. This column appears when **Timestamp In** is set to **GMT/UTC Time** in the **Output Settings** section of the corresponding report template. It is formatted using a plus or minus sign.

For example, RICs trading on the New York Stock Exchange (NYS) for the date range specified above will show -4. Partial hours will be expressed with a decimal value, for example, +5.5.

A1 fx #RIC

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	#RIC	Domain	Date-Time	Type	Open	High	Low	Last	Volume	No. Trade	Open Bid	High Bid	Low Bid	Close Bid	No. Bids	Open Ask	High Ask	Low Ask	Close Ask
2	IBM.N	Market Pr	2016-09-1	Intraday 1	157.63	157.75	157.2	157.2	91379	15	157.6	157.6	157.08	157.08	44	157.63	157.82	157.45	157.45
3	IBM.N	Market Pr	2016-09-1	Intraday 1	157.22	157.22	157.19	157.19	320	4	157.08	157.19	157.08	157.14	57	157.45	157.45	157.31	157.35
4	IBM.N	Market Pr	2016-09-1	Intraday 1	157.32	157.33	157.32	157.33	200	2	157.14	157.14	157.14	157.14	30	157.35	157.35	157.33	157.34
5	IBM.N	Market Pr	2016-09-1	Intraday 1	157.24	157.35	157.14	157.35	1053	10	157.14	157.2	157.08	157.15	87	157.34	157.42	157.18	157.42
6	IBM.N	Market Pr	2016-09-1	Intraday 1	157.35	157.46	157.05	157.46	4573	35	157.15	157.3	157	157	160	157.42	157.59	157.21	157.59
7	IBM.N	Market Pr	2016-09-1	Intraday 1	157.46	157.49	156.93	157.23	3642	21	157.01	157.26	156.8	157.09	345	157.59	157.59	157.03	157.23
8	IBM.N	Market Pr	2016-09-1	Intraday 1	157.23	157.48	157.2	157.3	4323	25	157.09	157.34	157.09	157.14	154	157.23	157.5	157.2	157.44
9	IBM.N	Market Pr	2016-09-1	Intraday 1	157.41	157.6	157.39	157.51	3800	28	157.18	157.41	157.18	157.41	213	157.44	157.6	157.39	157.58
10	IBM.N	Market Pr	2016-09-1	Intraday 1	157.55	157.6	157.4	157.44	2939	17	157.41	157.54	157.33	157.34	151	157.58	157.8	157.4	157.58
11	IBM.N	Market Pr	2016-09-1	Intraday 1	157.53	157.61	157.53	157.55	873	9	157.43	157.61	157.34	157.43	223	157.58	157.72	157.53	157.63
12	IBM.N	Market Pr	2016-09-1	Intraday 1	157.58	157.6	157.53	157.53	735	8	157.43	157.52	157.43	157.51	123	157.63	157.76	157.57	157.72
13	IBM.N	Market Pr	2016-09-1	Intraday 1	157.51	157.51	157.43	157.47	1425	9	157.51	157.51	157.33	157.43	154	157.72	157.72	157.47	157.54
14	IBM.N	Market Pr	2016-09-1	Intraday 1	157.43	157.56	157.38	157.48	4620	36	157.43	157.53	157.3	157.43	344	157.54	157.6	157.42	157.56
15	IBM.N	Market Pr	2016-09-1	Intraday 1	157.46	157.6	157.35	157.6	2992	27	157.43	157.53	157.3	157.51	284	157.55	157.73	157.41	157.61
16	IBM.N	Market Pr	2016-09-1	Intraday 1	157.59	157.75	157.56	157.56	6105	31	157.51	157.71	157.5	157.52	376	157.61	157.84	157.61	157.69
17	IBM.N	Market Pr	2016-09-1	Intraday 1	157.51	157.51	157.41	157.46	1524	13	157.52	157.52	157.41	157.44	160	157.68	157.69	157.46	157.51
18	IBM.N	Market Pr	2016-09-1	Intraday 1	157.51	157.52	157.5	157.5	732	6	157.44	157.57	157.44	157.57	96	157.51	157.69	157.51	157.69
19	IBM.N	Market Pr	2016-09-1	Intraday 1	157.62	157.72	157.51	157.52	8028	66	157.57	157.63	157.5	157.51	223	157.69	157.78	157.55	157.59
20	IBM.N	Market Pr	2016-09-1	Intraday 1	157.52	157.52	157.34	157.36	4296	39	157.51	157.52	157.3	157.32	246	157.52	157.59	157.38	157.4
21	IBM.N	Market Pr	2016-09-1	Intraday 1	157.39	157.57	157.39	157.5	1954	18	157.32	157.56	157.32	157.37	288	157.39	157.7	157.39	157.49
22	IBM.N	Market Pr	2016-09-1	Intraday 1	157.43	157.49	157.37	157.41	4252	29	157.37	157.48	157.3	157.38	243	157.43	157.55	157.41	157.45
23	IBM.N	Market Pr	2016-09-1	Intraday 1	157.45	157.47	157.35	157.41	3733	31	157.38	157.46	157.33	157.38	453	157.45	157.51	157.42	157.42
24	IBM.N	Market Pr	2016-09-1	Intraday 1	157.41	157.51	157.41	157.47	2812	30	157.38	157.45	157.38	157.43	445	157.42	157.51	157.42	157.47
25	IBM.N	Market Pr	2016-09-1	Intraday 1	157.45	157.45	157.3	157.33	6493	55	157.43	157.44	157.3	157.33	564	157.47	157.48	157.31	157.38
26	IBM.N	Market Pr	2016-09-1	Intraday 1	157.3	157.37	157.28	157.37	2495	16	157.33	157.34	157.28	157.34	317	157.37	157.42	157.31	157.41
27	IBM.N	Market Pr	2016-09-1	Intraday 1	157.39	157.45	157.28	157.34	4910	39	157.34	157.45	157.25	157.35	546	157.41	157.49	157.29	157.39

Data Availability

Tick History data is made available in a near real-time framework with data for most instruments available for download a few hours after a market has closed. In Tick History v2, the service automatically releases data across both fixed release cycles by timezone and dynamic release times for specific venues.

The fixed release cycles are similar to the release cycles in Tick History v1. Dynamic release times are determined based on the venue's effective market close time and required embargo period. The addition of dynamic release times is an enhancement that can result in data being available sooner for some instruments than in Tick History v1.

Most data is available two hours post venue close time. For example, all current session data for many European equity markets, which close at approximately 4:00 pm (GMT) is available at 6:00 pm (GMT). Trade and quote messages transmitted after 4:00 pm (GMT) will be available with the next fixed release cycle or dynamic release time.

Release Cycles

Cycle	Cutoff time*	Release time*	For venues in…	Shifts to account for DST in…	Cutoff time* during DST	Release time* during DST
C1	9:30	11:30	APAC	no DST shift	9:30	11:30
C2	17:30	19:30	EMEA	London (BST)	16:30	18:30
C3	22:00	0:00	AMERS	New York (EDT)	21:00	23:00
C4	1:00	3:00	AMERS	New York (EDT)	0:00	2:00

* All times are UTC+00:00.

Cycles C2 – C4 take daylight savings time (DST) into account using a time zone within the region for which that cycle is intended.

- For cash and equity markets, data is released based on either:
  - The market's effective close plus the embargo time, as defined in the Data Release Times sheet in the Data Coverage Guide.
  - A C cycle that is close to the closing time of that market (for example, equities traded in London are released in cycle C2). Any off-book and over the counter trades that are reported after the effective close are made available at the following cycle (in this example, in cycle C3).
  - The release cycles for CASH markets are adjusted for Daylight saving changes in London (Cycle 2) and New York (Cycle 3 and Cycle 4). And consequently, you'd find C2 released at 1830 GMT for half of the year and 1930 the other half. Similarly, C3 and C4 are adjusted for Daylight saving changes in the New York region.
- For Instruments that are traded/quoted round the clock (i.e. FX, money market, commodities & energy, OTC fixed income, and global futures, etc.), present-day' data is released with below 5 Release Cycles in UTC Time Zone:

Cycle	Cutoff time*	Release time*
U0	6:00	8:00
U1	9:30	11:30
U2	17:30	19:30
U3	22:00	0:00
U4	1:00	3:00

* All times are UTC+00:00.

For example, FX, money market, commodities & energy, OTC fixed income, and global futures are released at all four U cycle release times.

Custom Extractions data for the London Stock Exchange (LSE) for example. is released with C2 and C3 cycles. For instance, when C2 is released at 18:30 UTC, tick data up until 16:30 UTC is made available.

All quotes/trades reported at/after the cut-off time (C2) of 16:30 UTC and on/ before 21:00 UTC will be released with C3 cycle at 23:00 UTC. (Add an hour when BST clocks are moved an hour forward for Daylight savings).

Tick History v2 - Data Release Times										
Venue Description	Timezone	Venue Code	Start Time	Effective Close	UTC Offset	Summer Offset	Embargo (Mins.)	PE	Example RIC	Release Cycles
London Stock Exchange	Europe/London	LSE	M-F 8:00	M-F 16:30	UTC	+1	120	5625	VOD.L	C2,C3

Where there is room to make content available sooner than the release cycles, we use “Market End Time + 2 hrs Embargo. For example, Xetra Exchange:

Tick History v2 - Data Release Times										
Venue Description	Timezone	Venue Code	Start Time	Effective Close	UTC Offset	Summer Offset	Embargo (Mins.)	PE	Example RIC	Release Cycles
Xetra Level 1	Europe/Berlin	GER	M-F 9:00	M-F 21:30	UTC+1	+1	120	5926	DWNG.DE	Effective Market Close + 2 hours.

In addition to above, we have a unique release cycle CET0000 for NASDAQ OMX Nordic & Baltic Exchanges data

The current day’s data on the above exchanges in custom extractions will be released at 00:00 Central European Time (CET) in accordance with rules defined by the exchange.

Cycle	Cutoff time	Release time	For venues	Cutoff time* during DST	Release time* during DST
CET0000	21:00 CET	23:00 CET	NASDAQ OMX Nordic & Baltic Exchanges	22:00 CET	00:00 CET

Additionally, we have certain data (Broker Content) released with 24 hours embargo. Please see the attached DSS -TRTHv2 PE list spreadsheet for the Release Cycles assigned on each PE: You can refer to this spreadsheet to easily arrive at release cycles assigned to the PE of instruments/ RICs.

Data Retrieval Process

The process for Tick History data retrieval is determined at the instrument level based on Permissioning Entity (PE) code as follows:

- If the instrument's PE code is tied to a fixed release cycle, the release's most recent trigger time before the extraction snap time is used to release data through the indicated end (cutoff) time.
- If there is no fixed release time associated with the PE code, a tailored (dynamic) release time based on the effective close time and the embargo required by the venue (e.g., exchange, specialist data, etc.) is used to determine the release time. The embargo is automatically raised to two hours from the effective venue close time if the required embargo is less than two hours.
- If no delay/venue hours exist, a 24-hour delay from the extraction snap time is enforced.

Understanding Embargo Enforcements

Tick History is governed by exchange and contributor rules that prohibits the release of their data during the venue's operating hours. To avoid embargo messages, you must schedule the extraction to run two hours after the effective market close plus the embargo, For example, for a venue that closes at 16:05:00, you should schedule your extraction to run 18:05:00 (16:05:00 plus two hours), with the request time range ending at 16:05:00 or later.

If you schedule your custom extraction to execute before the venue's effective close and embargo, it is possible that Tick History data could be partially or completely suppressed. The extraction's corresponding notes file will identify the complete or partial suppression.

Complete Suppression

Complete suppression occurs when the extraction start date and snap time occur during the embargo window. As a result, data for all instruments is suppressed. Consider these examples where data is requested for the current day (4/10/2017) from 17:00 - 18:00 pm (ET) with the extraction running at 19:00 pm (ET) on 4/10/2017. The following messages will be output in your extraction notes file:

- Release Time based on Release Cycle (Fixed Release Cycle)
  `(RIC,EUR=D3,N/E) All data suppressed for release cycle(s) C1, C5, C6, C7, PE 7583. Data currently available through 04/10/2017 16:00:00. See Release Cycle schedule for details.`

  `(RIC,EUR=D3,) Some data suppressed for release cycle(s) U0, U1, U2, U3, U4, PE 640.  Request occurred during embargo.  Data currently available through 02/13/2019 09:30:00.  See Release Cycle schedule in the user documentation for details.`

  `(RIC,IBM,NYQ) Some data suppressed for release cycle(s) C3, C4, PE 62. Request occurred during embargo.  Data currently available through 02/13/2019 01:00:00.  See Release Cycle schedule in the user documentation for details.`
- Release Times based on Effective Close Plus Embargo: (Dynamic Release)
  `(RIC,IBM,NYQ) All data suppressed for NYQ, PE 62. Data currently available through 04/10/2017 16:05:00. Full access at effective market close plus 2 hours.`

  `(RIC,DWNG.DE,GER) All data suppressed for GER, PE 5926.  Request occurred during embargo.  Data currently available through 02/12/2019 20:30:00.  Full access at effective market close plus 2 hours.`

Partial Suppression

Partial suppression occurs when the extraction start date and snap time occur outside of the embargo window, but the end time is within the embargo window. Consider these examples where data is requested for the current day (4/10/2017) from 08:00 - 18:00 pm (ET) with the extraction running at 19:00 pm (ET) on 4/10/2017.

The following messages will be output in your extraction notes file:

- Release Time based on Release Cycle (Fixed Release Cycle)
  `(RIC,EUR=D3,N/E) Some data suppressed for release cycle(s) C1, C5, C6, C7, PE 7583. Data currently available through 04/10/2017 16:00:00. See Release Cycle schedule for details.`

- Release Times based on Effective Close Plus Embargo: (Dynamic Release)
  `(RIC,IBM,NYQ) Some data suppressed for NYQ, PE 62. Data currently available through 04/12/2017 16:05:00. Full access at effective market close plus 2 hours.`

Troubleshooting Extractions

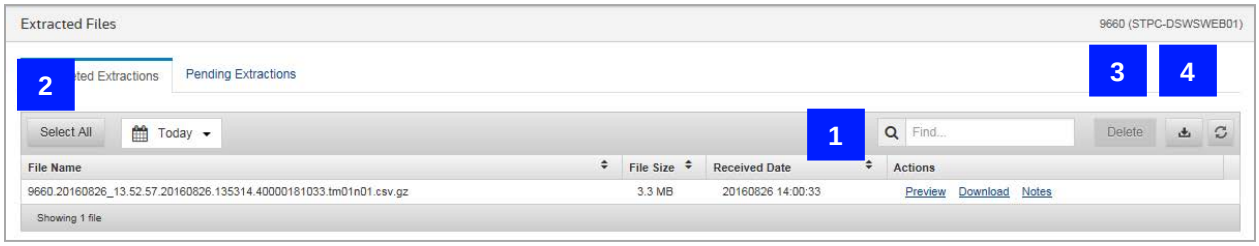
Any problems with retrieving Tick History extractions should be escalated to MyRefinitiv via Help & Support. Please make sure to provide the **Data Source Identifier**, otherwise known as the **Job ID**, listed in the extraction notes file. This identifier is the key to a prompt resolution.

```
Schedule dispatched via message queue (0x0570fbd9bc7b58ad), Data source identifier (5892DF2C420C41819599B9DE30295B54)
```

In instances where the extraction is rejected, for example, if the data being requested is prohibited, it is possible that no extraction or notes file will be generated and the extractions status in the **Schedules** screen will indicate that the extraction has failed.

Please use MyRefinitiv if you do not receive your extraction in a timely manner. Please note that by definition, Tick History extractions can take some time to process, as they typically return large amounts of data.

Managing Extraction Files



You can manage your existing extraction files as follows:

1 Use the **Find** box to search for an extraction. When you enter a text string, only your extractions matching that text appear.

2 Use the **Select All** button to select all extractions in the current view simultaneously. This action enables the **Delete** button.

3 Click **Delete** button to delete one or more selected extractions permanently. The button updates to show the number of extractions selected for deletion.

4 Click this button to export the **Extracted Files** screen. This action launches a separate window from where you can open or save the grid to a comma separated value (csv) file. The file takes the name of the selected screen.

6 Venue by Day Service

In this Chapter:

Tick History Venue by Day lets you view and download bulk files containing a day's complete trading data from 250 trading venues. Access to venue data is subject to subscription and/or third-party licensing.

This chapter gets you started using Tick History Venue by Day, provides an overview of the offering and includes instructions for viewing and downloading the daily and weekly venue files through the user interface.

About Tick History Venue by Day

Tick History Venue by Day provides access to bulk files containing a day's complete trading data on a venue. It offers a convenient way for downloading venue data into your internal processes because:

- There is no need to request data or specify particular instruments or data fields. You simply select and download entire files for the exchange(s) of interest
- Data is always available daily at set times
- Data is always in the same format for easy integration into your internal processes

Each venue is offered as an individual package that requires a subscription to view and download its corresponding data. Daily and weekly venue files are generated in a consistent, predefined format and are available for download through the user interface or REST API. Most files are available approximately two hours after market close. All files remain available for download for 30 calendar days.

Tick History Venue by Day Data Messages

For most venues, Tick History Venue by Day provides daily/weekly files for the following message types. Please see *Tick History Data Coverage Guide* on MyRefinitiv for the supported message types for each venue.

Recorded Trade & Quotes

Message Type	Description
NORMALIZEDMP	Tick-by-tick trade execution messages presented in a single-record format for the following event types: • Trades Quotes • Correction • Auction • Settlement Price • Market Conditions
MARKETPRICE	Tick-by-tick level 1 messages (trades and best quotes) in original raw format, including machine-readable time and date format.
NORMALIZEDLL2	Aggregated market by price level quotes (1-10) in normalized format. Each price level represents an aggregation of orders at that price from top (Level 1) to bottom quotes for the market at the time of the update.
LEGACYLEVEL2	Aggregated market by price level quotes in original raw format.

Reference Data

Message Type	Description
REF	Reference data, including metadata, terms and conditions, symbology changes, etc., presented in a single-record format for all supported asset types. Universe is available with a separate set of initialization files delivered after Friday's venue close. Please note that client stores should match the content in the initialization file if all deltas were applied properly. You can load the initialization files containing the full universe to verify or correct processing errors while applying deltas. Each reference field includes a corresponding set of fields that provide the previous value and a change flag. The previous value is the last published value. It is populated in the segment only when a change occurred. The initialization files will provide the previous values and change flags but they will not be populated. You must be licensed to receive CUSIP, SEDOL and GIC content in REF messages. This content will be excluded in REF messages for non-entitled clients. Permissioned clients will receive two files: REF-Data and REF-Data-CUSIP-SEDOL-GIC. Non-permissioned clients will receive REF-Data files only.

Corporate Actions Data

Message Type	Description
CORP	Corporate Actions data is presented in a single-record format for all supported event types: • Capital Changes • Dividends • Earnings • Nominal Value • Stock Splits • Issue Level Share Types • Exchange Level Share Types • Voting Rights • Corporation Actions Meeting Records Each Corporate Actions field includes a corresponding set of fields that provide the previous value and a change flag. The previous value is the last published value. It is populated in the segment only when a change occurred. The initialization files will provide the previous values and change flags but they will not be populated.

Instruments

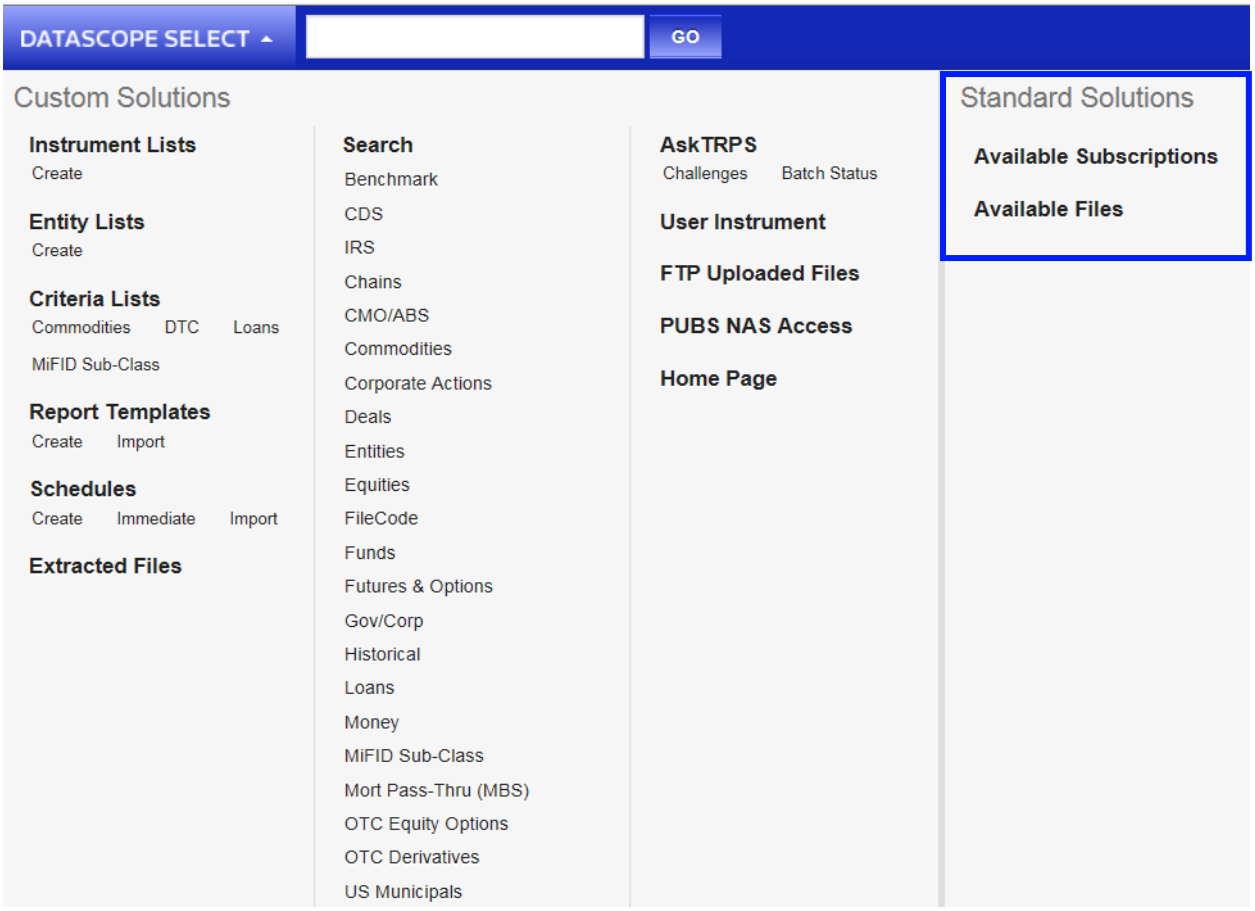
Message Type	Description
INSTRUMENTS	All of the venue's active instruments. You must be licensed to receive CUSIP, SEDOL and GIC content. You will receive only the content for which you are licensed: • INSTRUMENTS (contains no license-based content) • INSTRUMENTS-CUSIP (including CUSIP based ISINS, CINS) • INSTRUMENTS-CUSIP-SEDOL-GICS • INSTRUMENTS-CUSIP-SEDOL • INSTRUMENTS-CUSIP-GICS • INSTRUMENTS-SEDOL • INSTRUMENTS-SEDOL-GICS • INSTRUMENTS-GICS

Reports

Message Type	Description
REPORT	Files with REPORT appended indicate the availability of data for each instrument for that venue. You can use this information with the corresponding data files to collate data about the history of an instrument. This information can be useful when no data is returned for an instrument. Each report file has the following syntax: #RIC,Domain, Start (GMT),End (GMT),Status,Details The following statuses are available: • **Active** - Data present from the file date. (Note: there is a count of messages available for each active RIC) • **Inactive** - Data not present for the file date An inactive status is reported only when data is not available for five consecutive days or longer to avoid reporting of valid non-trading periods, such as weekend and exchange holidays. Data is considered inactive due to: • Outside of trading hours • Instrument has expired or has been dropped, (e.g. expired futures or options contract) • Inactive period (e.g., NYSE closed 11 Sept -16 Sept 2001)

Accessing Tick History Venue by Day

Tick History Venue by Day data is available from the **DataScope Select** menu under **Standard Solutions**. You can navigate to the **Available Subscriptions** and **Available Files** screens to view and download Tick History Venue by Day data.

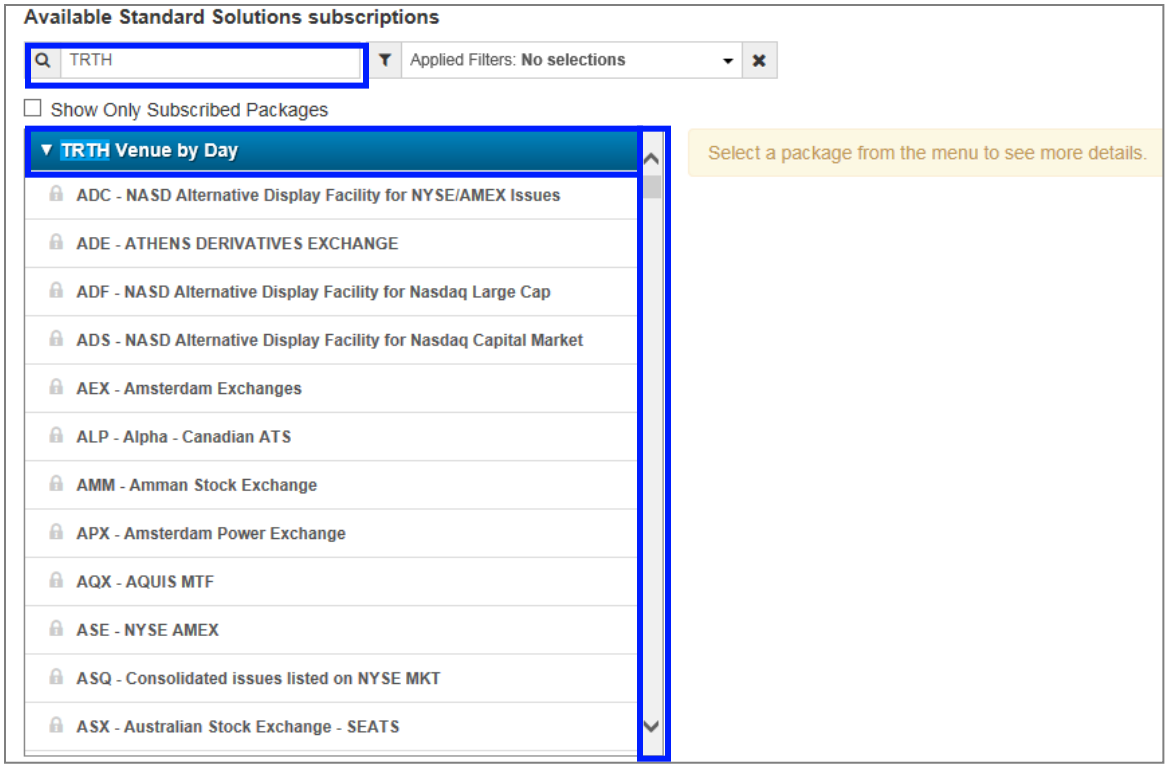


Viewing Venue by Day Screens

The **Available Subscription** screen shows all of the subscriptions offered by Refinitiv DataScope Select as part of the Standard Solutions offering (not just Tick History Venue by Day).

To locate the Tick History Venue by Day subscription, do one of the following:

- Use the scroll bar to navigate the subscription list.
- Click on the subscription headers to collapse all subscriptions except Tick History Venue by Day.
- Use Search.

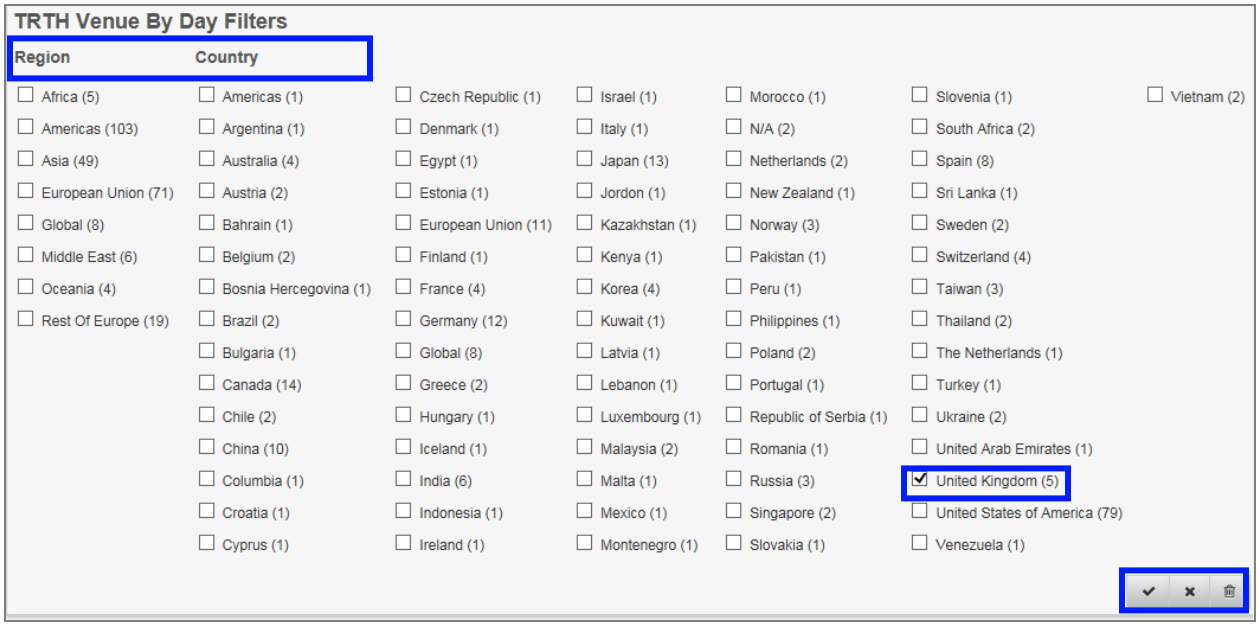


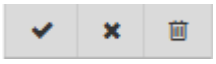
The screen updates to show only the Tick History Venue by Day subscriptions. All available packages appear in the scrolling list. Each venue is offered as a separate subscription package.
A lock appears next to unsubscribed packages.

Filtering Tick History Venue by Day Packages

You can filter Tick History Venue by Day packages by region or country by clicking in the **Applied Filters** box. This action launches the **TRTH Venue By Day Filters** screen.

The number of venues associated with each region and country is identified in parenthesis. Use the check boxes to apply one or more filters.



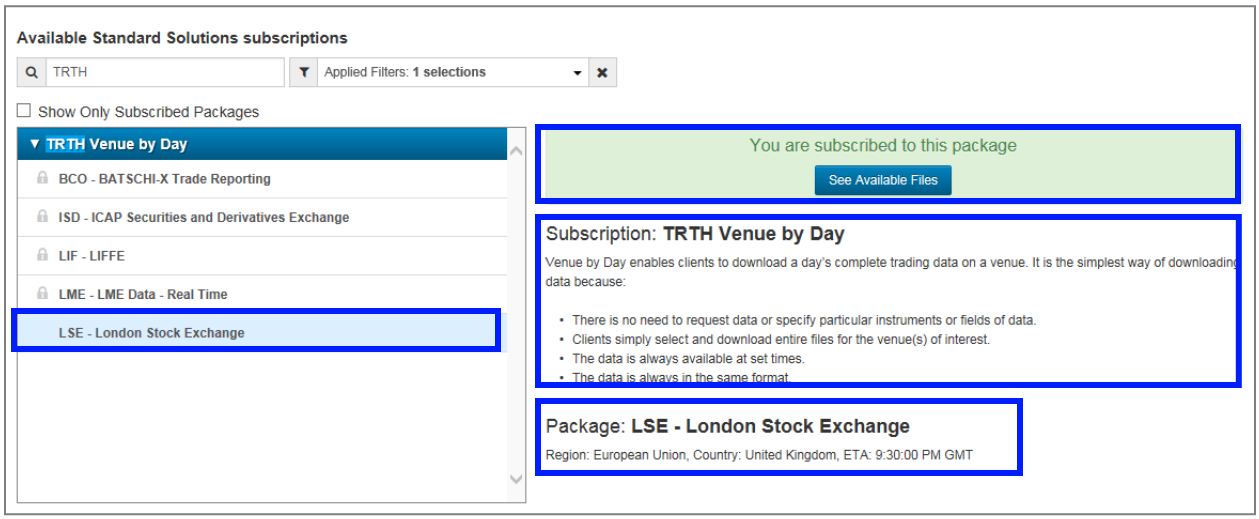
Use the  buttons at the bottom of the screen to manage the filter as follows:

- Click ✔ to apply the filter. The filter box updates to show the number of regions and/or countries selected.
- Click ✖ to close the window. Any previously saved selections are preserved. Unsaved selections are cleared.
- Click 🗑 to delete the filter and any previously saved selections. Alternatively, you can click the ✖ in the filter box to clear all previously saved selections.

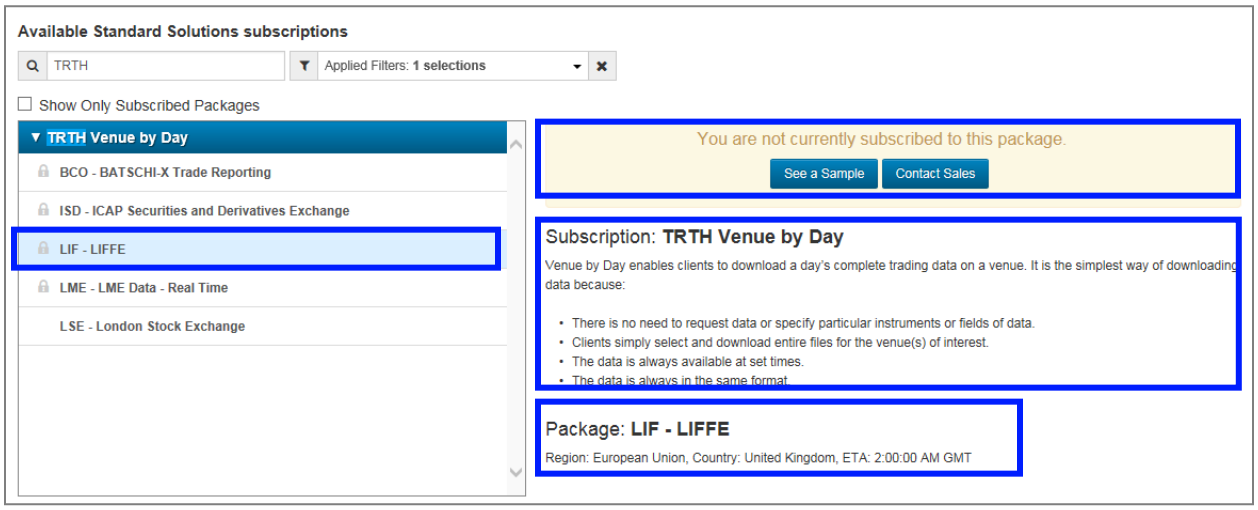
Viewing Tick History Venue by Day Package Details

You can view the details of a selected Tick History Venue by Day package by clicking on it. The screen provides an overview of the offering and identifies whether you subscribe to it.

If you subscribe to the package, you can click **See Available Files** to view the daily/weekly files for that package generated over the past 30 days. See Viewing Available Files for information.



If you are not subscribed, selections for contacting Sales for subscription information are provided. Note that **See a Sample** is no longer supported and will result in a server error.

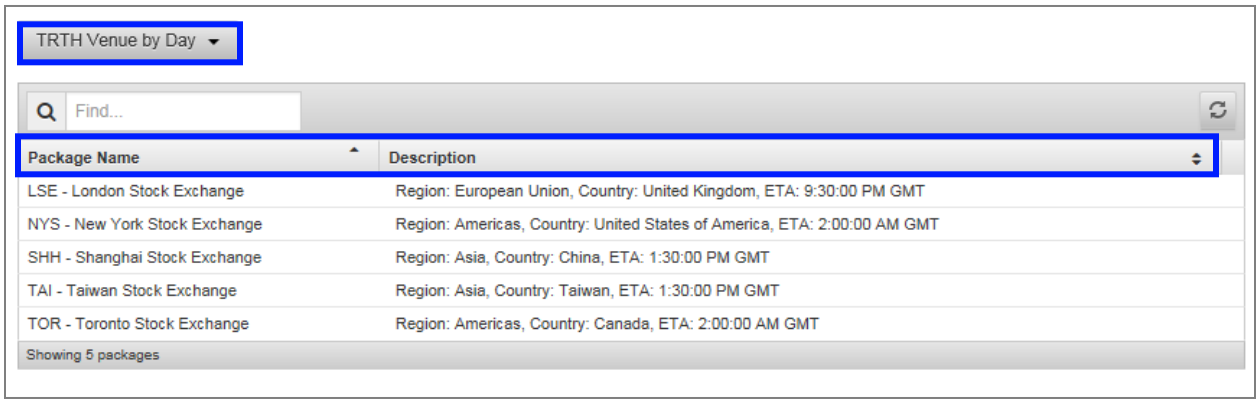


NOTE: You will also need third-party entitlements in order to access CUSIPs, ISINs and SEDOLs via these packages. Entitlements are not included automatically as part of your subscriptions. Please contact your local account manager or specialists for details.

Viewing & Downloading Venue by Day Files

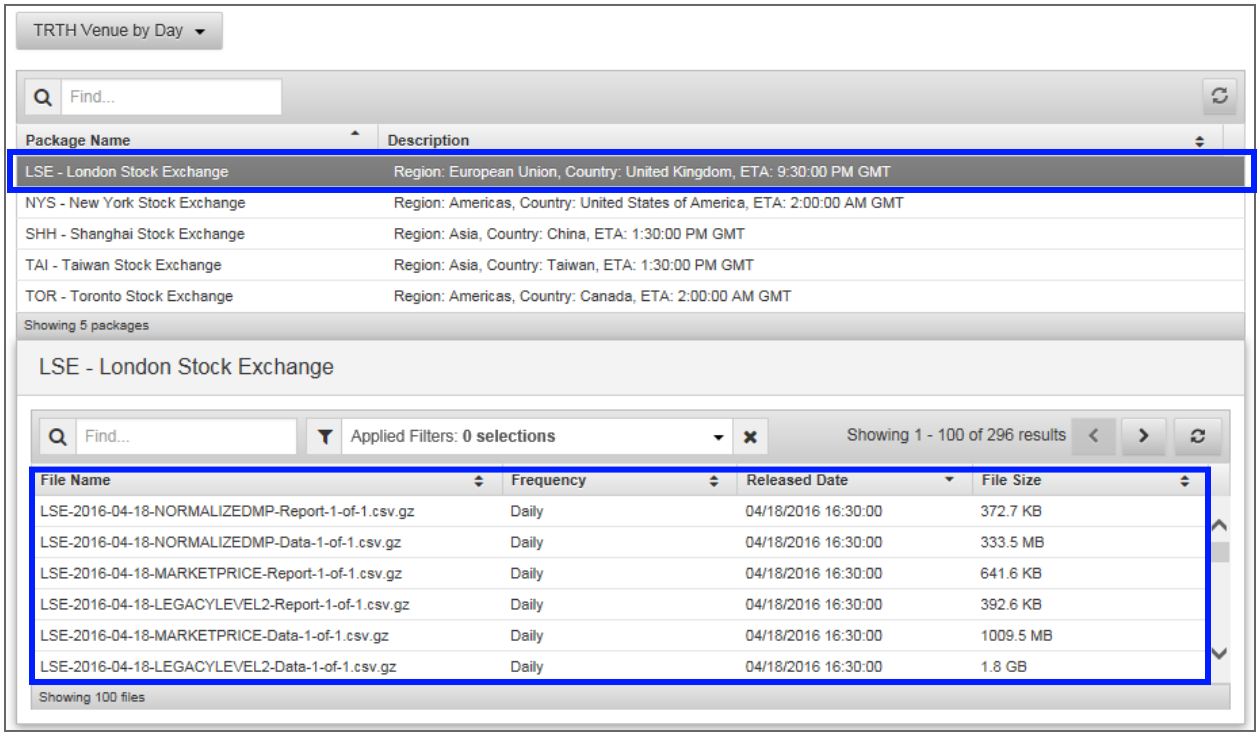
Viewing Available Files

To view your Tick History Venue by Day files, select **Available Files** from the **DataScope Select** menu. The table shows your venue subscriptions, listed alphabetically under **Package Name**. The **Description** column shows the venue region and the estimated time when the daily/weekly files are delivered.



NOTE: The **Available Files** screen shows all of your Standard Solutions subscriptions, not just Tick History Venue by Day. You can select the **TRTH Venue by Day** from the drop down at the top of the screen to view only Tick History Venue by Day subscriptions. If you do not have other subscriptions, only **Tick History Venue by Day** appears.

When you click on a venue, the screen expands to show the most recent files for that package.

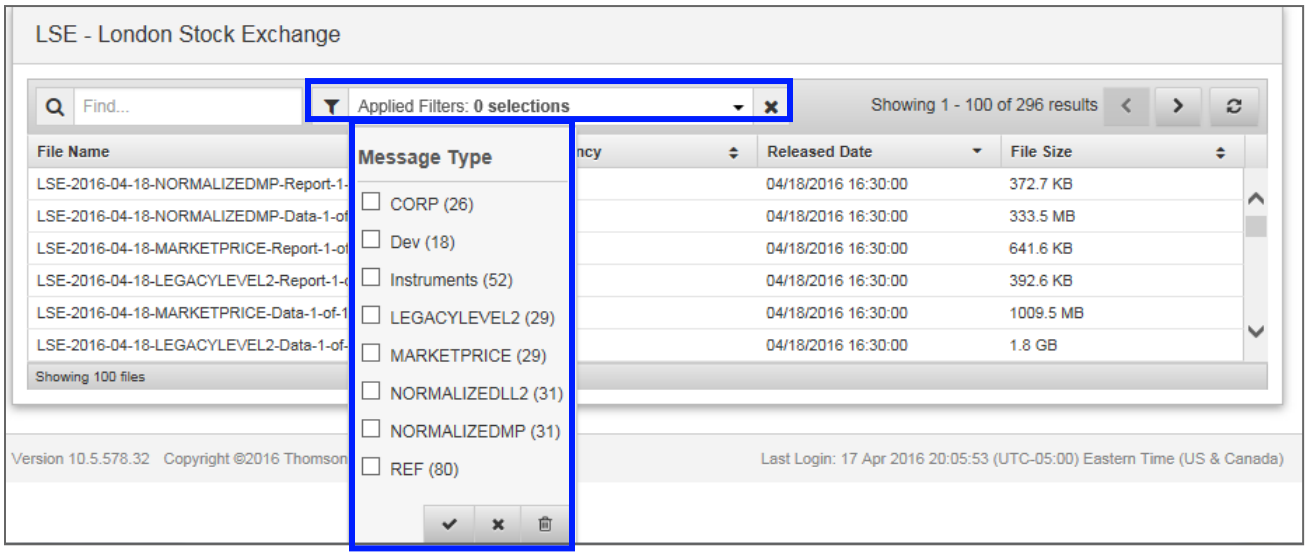


Note the following:

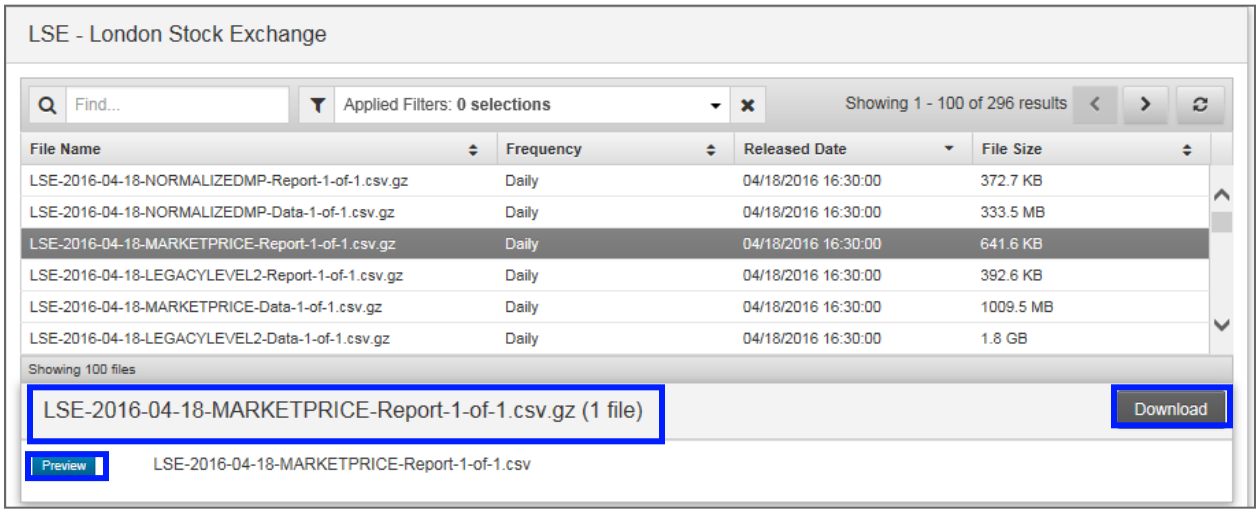
- The table identifies each file by name, delivery frequency, creation date and size.
- Files appear in chronological order with the most recently released file appearing first.
- Separate files are generated for each supported message type.
- The instrument list file you receive is dependent upon your third-party content licensing.
- The corresponding "Report" file for each message type indicates the availability of data for each of the venue's instruments. Domain information and message count are included for every RIC.

To view your files, use these features:

- Click on the column headers to reverse the sort order.
- Use the scroll bar to navigate the file list.
- Enter text in the search box to locate a file. Only the files matching that text appear.
- Use the **Applied Filters** box to filter the files by message type.



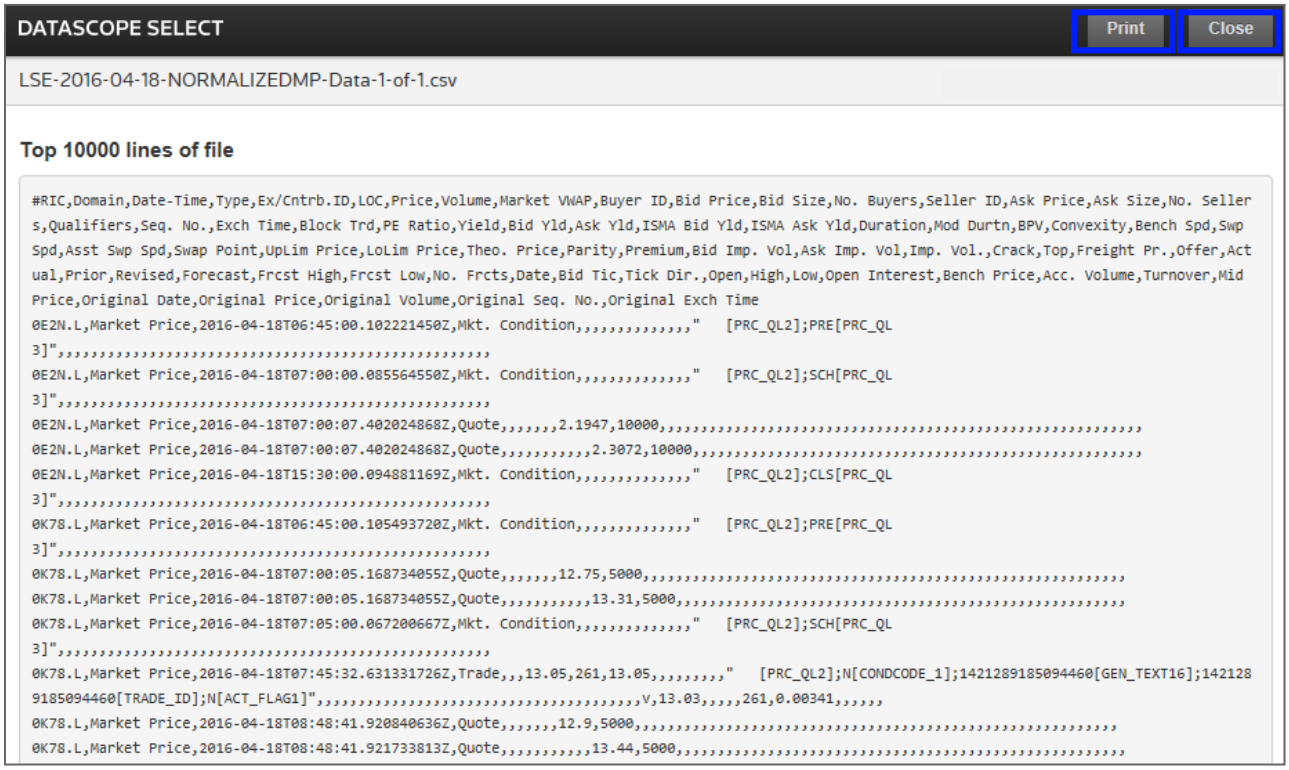
When you click on a file, the screen expands again to show that file with preview and download options.



File Name	Frequency	Released Date	File Size
LSE-2016-04-18-NORMALIZEDMP-Report-1-of-1.csv.gz	Daily	04/18/2016 16:30:00	372.7 KB
LSE-2016-04-18-NORMALIZEDMP-Data-1-of-1.csv.gz	Daily	04/18/2016 16:30:00	333.5 MB
LSE-2016-04-18-MARKETPRICE-Report-1-of-1.csv.gz	Daily	04/18/2016 16:30:00	641.6 KB
LSE-2016-04-18-LEGACYLEVEL2-Report-1-of-1.csv.gz	Daily	04/18/2016 16:30:00	392.6 KB
LSE-2016-04-18-MARKETPRICE-Data-1-of-1.csv.gz	Daily	04/18/2016 16:30:00	1009.5 MB
LSE-2016-04-18-LEGACYLEVEL2-Data-1-of-1.csv.gz	Daily	04/18/2016 16:30:00	1.8 GB

Previewing the File

Click **Preview** to view the first 10000 lines of the file. To print the HTML preview, click **Print;** otherwise, click **Close** to return to the **Available Files** screen.



```
#RIC,Domain,Date-Time,Type,Ex/Cntrb.ID,LOC,Price,Volume,Market VWAP,Buyer ID,Bid Price,Bid Size,No. Buyers,Seller ID,Ask Price,Ask Size,No. Seller
s,Qualifiers,Seq. No.,Exch Time,Block Trd,PE Ratio,Yield,Bid Yld,Ask Yld,ISMA Bid Yld,ISMA Ask Yld,Duration,Mod Durtn,BPV,Convexity,Bench Spd,Swp
Spd,Asst Swp Spd,Swap Point,UpLim Price,LoLim Price,Theo. Price,Parity,Premium,Bid Imp. Vol,Ask Imp. Vol,Imp. Vol.,Crack,Top,Freight Pr.,Offer,Act
ual,Prior,Revised,Forecast,Frcst High,Frcst Low,No. Frcts,Date,Bid Tic,Tick Dir.,Open,High,Low,Open Interest,Bench Price,Acc. Volume,Turnover,Mid
Price,Original Date,Original Price,Original Volume,Original Seq. No.,Original Exch Time
0E2N.L,Market Price,2016-04-18T06:45:00.102221450Z,Mkt. Condition,,,,,,,,,,,,,,"   [PRC_QL2];PRE[PRC_QL
3]",,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0E2N.L,Market Price,2016-04-18T07:00:00.085564550Z,Mkt. Condition,,,,,,,,,,,,,,"   [PRC_QL2];SCH[PRC_QL
3]",,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0E2N.L,Market Price,2016-04-18T07:00:07.402024868Z,Quote,,,,,,,2.1947,10000,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0E2N.L,Market Price,2016-04-18T07:00:07.402024868Z,Quote,,,,,,,,,,,2.3072,10000,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0E2N.L,Market Price,2016-04-18T15:30:00.094881169Z,Mkt. Condition,,,,,,,,,,,,,,"   [PRC_QL2];CLS[PRC_QL
3]",,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0K78.L,Market Price,2016-04-18T06:45:00.105493720Z,Mkt. Condition,,,,,,,,,,,,,,"   [PRC_QL2];PRE[PRC_QL
3]",,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0K78.L,Market Price,2016-04-18T07:00:05.168734055Z,Quote,,,,,,,12.75,5000,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0K78.L,Market Price,2016-04-18T07:00:05.168734055Z,Quote,,,,,,,,,,,13.31,5000,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0K78.L,Market Price,2016-04-18T07:05:00.067200667Z,Mkt. Condition,,,,,,,,,,,,,,"   [PRC_QL2];SCH[PRC_QL
3]",,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0K78.L,Market Price,2016-04-18T07:45:32.631331726Z,Trade,,,13.05,261,13.05,,,,,,,,,"   [PRC_QL2];N[CONDCODE_1];1421289185094460[GEN_TEXT16];142128
9185094460[TRADE_ID];N[ACT_FLAG1]",,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,v,13.03,,,,,261,0.00341,,,,,,
0K78.L,Market Price,2016-04-18T08:48:41.920840636Z,Quote,,,,,,,12.9,5000,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0K78.L,Market Price,2016-04-18T08:48:41.921733813Z,Quote,,,,,,,,,,,13.44,5000,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
```

Downloading Venue by Day Files

NOTE: Make sure **Enable Download Direct From S3** is selected in the **Tick History File Delivery** section of your user preferences to ensure faster delivery of your custom extractions.

To download the selected Venue by Day file, click Download.

The file is delivered in compressed .CSV format to reduce the amount of data to download. You must uncompress it using a software program, such as WinZip, PKZIP or Secure Zip.

Venue Availability

Please see *Tick History Data Coverage* on MyRefinitiv for the release times for each venue. The message types supported for each venue are also identified. Note that times are approximate. The time required to generate the venue data depends on a number of factors, including the volume of data on an exchange. On days with high data volume, release times can be delayed.

Understanding Venue by Day Files

File Generation & Timing

All Venue by Day files, excluding Corporate Actions and Reference, span a 24-hour period from the previous day cycle cut-off to the current day's cut-off. For example, files for the US cycle contain all data from 21:00 GMT previous day to 21:00 GMT on the current day.

Corporate Actions and Historical Reference files include data for the two most recent rolling days. Files are generated for each business day of the week and non-trading weekdays.

File Naming

The files are named using the following convention:

Venue-YYYY-MM-DD-Format-Datatype-Part-of-*Totalparts*.csv.gz

For example: *LSE-2016-03-20-NORMALIZEDLL2-DATA-1-of-1.csv.gz*

Where:

Component	Description
Venue	Three-letter identifier code for the venue
YYYY-MM-DD	File creation Year, Month and Date (See next section for details)
Format	Message type NORMALIZEDMP, MARKETPRICE, NORMALIZEDLL2, LEGACYLEVEL2, CORAX, REF or INSTRUMENTS
Data Type	File contents: Data or Report
Part	When the file is divided into tranches, this is the tranche number
Totalparts	When the file is divided into tranches, this is the total number of tranches

Understanding File Publishing Dates & Dates Identified in File Names

Venue by Day files are released across four cycles in GMT:

- Cycle 1 is released at 13:30 GMT, with 09:30 GMT as the cutoff.
- Cycle 2 is released at 21:30 GMT, with 17:30 GMT as the cutoff.
- Cycle 3 is released at 02:00 GMT, with 22:00 GMT as the cutoff.
- Cycle 4 is released at 05:00 GMT, with 01:00 GMT as the cutoff.

Dates identified in file names reflect the venue's local exchange time zone, and not GMT.

As a result, there can be a discrepancy between the date identified in the file name and the date on which the file was published.

Here are the conditions that can result in this discrepancy:

- Venues released in Cycle 1 must have a local offset of 14:30 hours or more.

  Cycle 1 cutoff is 09:30 GMT. Adding the threshold of 14:30 local hours offset results in the next calendar day. However, there is no country with an offset of 14:30 hours, so none of the Cycle 1 exchanges will have a date discrepancy between the file publishing date and the date identified in the file name.

- Venues released in Cycle 2 must have a local offset of 06:30 hours or more.

  Cycle 2 cutoff is 17:30 GMT. Adding the threshold of 06:30 local hours offset results in the next calendar day. Cycle 2 consists primarily of European exchanges and some Asian exchanges. As the local offset of European countries is a maximum of two hours, only Asian exchanges released with Cycle 2 can have this discrepancy.

  The impacted venues are as follows:

Venue Description	Timezone	Venue Code	Start Time	Effective Close	UTC Offset	Date in Filename	Release Date-Time GMT
ICE FUTURES SINGAPORE	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SGT Singapore Oil Industry	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE - CHI-X	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE EXCH MTLQTE - L1+L2	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE EXCHANGE COMMODITIESQUOTE LEVEL 1	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE EXCHANGE COMMODITIESQUOTE LEVEL 2	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
Singapore Exchange Derivatives Trading	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date

- Venues released in Cycle 3 must have a local offset of 02:00 hours or more.

  Cycle 3 cutoff is 22:00 GMT. Adding a threshold of 02:00 local hours or more results in the next calendar day. Cycle 3 is primarily for American exchanges and some European/Asian derivatives exchanges.

  The impacted venues are as follows:

Venue Description	Timezone	Venue Code	Start Time	Effective Close	UTC Offset	Date in Filename	Release Date-Time in GMT
ICE FUTURES SINGAPORE	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SGT Singapore Oil industry	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE - CHI-X	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE EXCH MTLQTE - L1+L2	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE EXCHANGE COMMODITIESQUOTE LEVEL 1	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
SINGAPORE EXCHANGE COMMODITIESQUOTE LEVEL 2	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date
Singapore Exchange Derivatives Trading	Asia/Singapore	SIM	M-F 7:45	M-F 15:15	UTC+8	Next day's date	Next day's date

- Venues released in Cycle 4 are not impacted as the release carries data for American venues with local offset hours either being -5:00 or -4:00 hours.

  As the Cycle 4 cutoff is 01:00 GMT, adding the local offset will not result in the next calendar day.

GMT Offset

GMT Offset is provided in the following VBD files: NormalizedMP, NornalizedLL2, MarketPrice and LegacyLevel2 (Reference, Corporate Actions, and Instrument files are excluded). It will appear after the Date-Time column. Date-Time is expressed according to ISO 8601, where “Z” appended to the time indicates UTC. This value indicates the GMT Offset of the local time zone in which the venue operates.

GMT Offset is expressed using a plus or minus sign. For example, the GMT Offset column for RICs trading on the Tokyo Stock Exchange (TYO) will show +9; while the same column for RICs trading on the New York Stock Exchange (NYS) will show -5. Partial hours will be expressed with a decimal value, for example, +5.5.

File Format & Size

Tick History generates both the Data and Report files in comma separated value (csv) format, and then compresses and delivers them in .gz format. Depending on your operating system, a software program, such as WinZip, PKZIP or Secure Zip, may be required to uncompress the files.

Separate files are generated for each message type. As the amount of data available per venue can be significant, multiple files can be output for a single message type.

File Replacement

Replacement Tick History Venue by Day files are available within 30 calendar days of the current date. Files older than 30 calendar days are considered “Archive Files” and are available upon request to clients who subscribe to Hard Media Cuts. This offering is not tied to your Tick History Venue by Day subscriptions and must be purchased separately.

A Tick History Overview

In this Chapter:

This Appendix provides an overview of the Tick History features and functionality. Policy details also provided.

Tick History Features Summary

Tick History lets you request and retrieve global recorded trade and quote messages, historical reference data, Elektron end of day prices, corporate actions and terms and conditions data across a variety of report that can be tailored to retrieve only the content you need in the format you need it.

- Import or interactively build an instrument list for extraction using an identifier, criteria or bulk instrument search.
- Create report templates that define the type of Tick History data to retrieve: Market Depth, Intraday Summaries, Time and Sales and Raw, as well as Elektron Timeseries Pricing, Historical Reference Data, Corporate Actions and Terms and Conditions.
- Select data output fields for extraction.
- Preview a sample extraction with a specified instrument.
- Schedule custom extraction requests to execute immediately (on-demand) or on some future date, once or on a recurring basis.
- Preview and download completed extractions; Files are delivered as CSV files in compressed (.gzip) format. Extraction retrieval via FTP is not supported.
- Retrieve corresponding notes file providing details on the extraction execution, including processing statistics, embargo delays, suppressed items and warnings.
- View and track Tick History extraction and historical instrument usage.

Tick History Data

Time and Sales

- Provides tick-by-tick trade execution messages for:
  - Trades (marketing statistics, indices, settlement price, open interest, fund statistics and economic indicators).
  - Quotes (time and quotes, commodities and energy quotes, OTC quotes, convertibles transactions and order imbalance).
  - Trade Corrections.
  - Market Condition Indicators/Qualifiers associated with the trade.
- Messages include the execution price and volume, as well as market supplied VWAP, exchange time-stamps, sequence numbers where available, the exchange identifier (consolidated issues only).
- Supports Range, Delta, and Relative queries for requesting data.

Market Depth

- Provides aggregated market by price level quotes messages that represent the depth of the market (Level II) by price at each price level (1- 25).
- Each price level represents an aggregation of orders at that price from best (Level 1) to worst quotes for the market at the time of the update, as dictated by market force.
- Supports Range, Delta, and Relative queries for requesting data.

Intraday Summaries

- Provides transaction messages constructed on the fly from either Trade or Quote messages, summarized into timeseries intervals representing aggregations at 1 second, 5 seconds, 1 minute, 5 minutes, 10 minutes, 15 minutes and 60 minutes.
- Open, High, Low, Close, traded volume, average price, VWAP and number of trades are available for each interval, along with corrected and cancelled trades.
- Supports Range, Delta, and Relative queries for requesting data.

Raw

- Provides domain data in a format unaltered from that transmitted on the Elektron real-time network. Field selection is not supported; all of the Field, Value pairs are preserved.
- Supported domains are Market By Order, Market By Price, Market Maker and Market Price.
- Supports Range, Delta, and Relative queries for requesting data.

Elektron Timeseries

- Provides historical EOD Prices from Elektron.
- Historical pricing data is available as far back as 01 January 1996 or earlier, in some cases. The resulting extraction will provide a row of data for each historical date in the specified date range, including the start and end dates.
- Supports Range, Delta, and Relative queries for requesting data.

Historical Reference Data

- Retrieve historical data for a specified date range dating as far back as 2002.
- The resulting extraction will provide a full initialization as of the start date; all records will be provided. Only records containing changes are provided after the start date and through end date.
- Supports Range, Delta, and Relative queries for requesting data.

Corporate Actions

- Provides standard Corporate Actions event data for equity and fixed-income instruments.
- You can use historical RICs to extract all companies that owned the RIC name during the query range, with over 25 years of historical corporate actions data available. Include the **Reference Company** field in your report request to distinguish entities when there are reused RICs in the query range.
- Requires that **Allow Import of Historical Instruments** and **Allow Import of Inactive Instruments into Instrument Lists** are selected in your user preferences.
- When importing historical instruments, you must use the delisted RIC syntax, where "^" is added after an original RIC once the RIC is delisted from the exchange (for example, *ABCD*^1). Only historical RICs will be validated on import. Historical CUSIPs, ISINs, etc. are not supported.

Terms and Conditions

- Provides validated terms and conditions data, including ratings and descriptive content.

Coverage

Equities

- Global Equities Coverage (Common, Preferred, etc.), Exchange Warrants, Equity Options, and Equity-Linked

Options & Futures

- Global Derivative Coverage (Options, Futures, Futures on Options)
- Single-stock Futures; Futures contracts on Cross Market, Equities, Equity Indices, Foreign Exchange, Money Market, Fixed Income and Commodity and Energy securities
- Cash Options on Cross Market, Equities, Equities, Indices, Foreign Exchange, Money Market and Fixed Income securities
- Options on Futures contracts based on Cross Market, Equities, Indices, Money Market, Fixed Income and Commodity and Energy securities

Foreign Exchange

- Spot rates, Cross rates, Forward rates, Fixings and Cross Rate Forward instruments
- All Refinitiv contributed data, including Super RICs, regional, and contributed
- Foreign Exchange derivatives - includes exchange-traded Futures and Options contracts

Money Market

- Deposit Rates, Deposit Fixings, Certificates of Deposit, Commercial Paper, Federal Funds, Repurchase Agreements, Prime Rates, Forward Rate Agreements, Discount Notes, Eligible Bills and Interest Rate Swaps instruments
- All Refinitiv contributed data, including Super RICs, regional, and contributed
- Money Market derivatives - includes exchange-traded Futures and Options contracts

Fixed Income

- Over-the-Counter instruments for all countries
- Exchange-traded Corporate Debt, Treasury and Sovereign bonds
- Mortgage/Asset-Backed domestic bonds and securities

Funds

- Managed Funds sourced from the Lipper service
- Exchange-traded Funds for most equity exchanges

Indices

- Global Index Data

Commodities

- Grains, Base Metals, Coins Precious Metals, etc.

Policies

The following policies apply to Refinitiv Tick History. Contact your local accounts manager or sales representative for more information:

- Tick History data is available for extraction from 01 January 1996. Most historical Corporate Actions and Reference data is available from 01 January 1980. Market data is available in a near real-time framework with most data available two hours after market close.
- The maximum number of instruments that can be processed in a custom extraction for Tick History Market Depth, Time and Sales, Intraday Summaries and Raw data, as well as Historical Reference and Elektron Timeseries Pricing data, is 30000 (before and instrument expansion).
- The maximum number of market depth price order levels that can be extracted is 25.
- The maximum number of messages that can be displayed in an extraction preview is 100.
- Custom extractions are available for download for a certain number of days, after which time they are removed via an automatic process. Scheduled extractions are available for 45 calendar days while immediate (on-demand) extractions are available for 7 calendar days.
- Access to Tick History content requires CUSIP and ISIN licensing. Third-party data permissions also apply.
- The maximum number of instruments that can be returned in an instrument search is 30000.
- All extraction preview and search requests will timeout after 10 minutes. This implies that a search or preview request may not be complete after the indicated period and the system will return as many rows that it had processed to that point.
- Data requests formatted by market sequence are only possible if GMT is set for both the data request range and the message time-stamps.
- Where your account is restricted by Instrument Quota, it is not possible to request data on any instruments that have not been previously requested.
- Concurrent sessions launched from the web interface are not supported. If you are signed in to Tick History and you or another user signs in with your credentials, you will be logged off automatically on your next web page request since the other user's session will supersede your session.
- In order to support consistent performance and optimize response times for the most users, Tick History applies execution limits and queuing on a per-report template basis. You can submit a maximum of 50 concurrent requests per report template. The number of concurrent extractions that can be processed on a per-report and per-user basis is two for all report templates except Historical Reference and Elektron Timeseries report templates. Concurrent extraction processing is not supported for Historical Reference and Elektron Timeseries report templates.
- You are allowed up to four concurrent connections for downloads. Each connection may see speeds up to 1 MB/s.

B Understanding XML File Formats for Report Templates

In this Appendix:

This Appendix provides an overview of the XML file that you can use to import report templates for Tick History extractions.

XML Import File Format

Tick History reports use a common XML format for importing report templates. For example:

```
<ReportTemplate version="2">
  <ReportAction>Replace</ReportAction>
  <Name>MyMarketDepthReport</Name>
<TemplateType>TickHistoryMarketDepth</TemplateType>
  <Conditions>
    <SingleSelectionCondition>
      <Name>ExtractBy</Name>
      <Value>Ric</Value>
    </SingleSelectionCondition>
    <SingleSelectionCondition>
      <Name>MessageTimeStamp</Name>
      <Value>GmtUtc</Value>
    </SingleSelectionCondition>
    <IntegerCondition>
      <Name>NumberOfLevels</Name>
      <Value>10</Value>
    </IntegerCondition>
    <SingleSelectionCondition>
      <Name>PreviewMode</Name>
      <Value>None</Value>
    </SingleSelectionCondition>
    <DateTimeCondition>
      <Name>QueryEndDate</Name>
      <Value>2016-06-01T23:59:59</Value>
    </DateTimeCondition>
    <DateTimeCondition>
      <Name>QueryStartDate</Name>
      <Value>2016-05-25T00:00:00</Value>
    </DateTimeCondition>
    <SingleSelectionCondition>
      <Name>ReportDateRangeType</Name>
      <Value>Range</Value>
    </SingleSelectionCondition>
    <SingleSelectionCondition>
      <Name>SortBy</Name>
      <Value>SingleByRic</Value>
    </SingleSelectionCondition>
    <SingleSelectionCondition>
      <Name>View</Name>
      <Value>NormalizedLL2</Value>
    </SingleSelectionCondition>
  </Conditions>
  <Body>
    ...
  </Body>
</ReportTemplate>
```

Note that the `OutputFormat`, `Delimiter`, `Delivery`, `Compression`, and `ColumnHeaders` properties apply to Tick History report templates because the file format is static. The `Delivery` property is also not supported.

All other properties are defined in the `<Conditions>` section. The available conditions depend on the report template type. In the example above, “CorrectedPrices”, “StartDate” and “EndDate” are the supported conditions for an ElekronTimeseries report template, while a TickHistoryMarketDepth has a different set of conditions.

Each condition specifies the report template type, name, and value. The type is specified by the tag, such as `<IntegerCondition>` or `<DateTimeCondition>`. The supported condition types include:

```
<BoolCondition>                <IntegerCondition>
<DateCondition>                <IntegerRangeCondition>
<DateRangeCondition>           <MultiSelectionCondition>
<DateTimeCondition>            <QuarterRangeCondition>
<DoubleCondition>              <SemiAnnualRangeCondition>
<DoubleRangeCondition>         <SingleSelectionCondition>
<FiscalYearRangeCondition>     <TextCondition>
```

Condition Types

The condition type used depends on the type of the data for the property, and the available condition names depend on the report template type being imported. Examples of each condition type are also provided.

BoolCondition

A `<BoolCondition>` interprets the passed value as 'true' or 'false'. Accepted values include 'True', 'False', 'Yes', and 'No'.

```
<BoolCondition>
  <Name>MyFlag</Name>
  <Value>True</Value>
</BoolCondition>
```

DateCondition

A `<DateCondition>` interprets the passed value as a date. Following the ISO 8601 standard, the date is expected to be in the form *yyyy-mm-dd*.

```
<DateCondition>
  <Name>QueryStartDate</Name>
  <Value>2017-12-05</Value>
</DateCondition>
```

DateRangeCondition

A `<DateRangeCondition>` takes a pair of values. They each are interpreted as a date. As mentioned above, the dates are expected to be in the form *yyyy-mm-dd*.

```
<DateRangeCondition>
  <Name>QueryDateRange</Name>
  <From>2017-06-01</From>
  <To>2017-12-31</To>
</DateRangeCondition>
```

DateTimeCondition

A `<DateTimeCondition>` interprets the passed value as a date *and* a time. Following the ISO 8601 standard, the date is expected to be in the form *yyyy-mm-dd* T *hh:mm:ss*

```
<DateTimeCondition>
  <Name>ExactDateAndTime</Name>
  <Value>2016-06-01T23:59:59</Value>
</DateTimeCondition>
```

IntegerCondition

An `<IntegerCondition>` accepts integer (whole number) values. Depending on the condition it represents (specified by the name), it may be limited to a certain range of values. If so, error/warning messages will indicate the range of acceptable values.

```
<IntegerCondition>
  <Name>NumberOfLevels</Name>
  <Value>3</Value>
</IntegerCondition>
```

IntegerRangeCondition

An `<IntegerRangeCondition>` takes a pair of values. They each are interpreted as an integer (whole number). As mentioned above, depending on the condition name it may be limited to a certain range of values.

```
<IntegerRangeCondition>
  <Name>CustomerRating</Name>
  <From>1</From>
  <To>10</To>
</IntegerRangeCondition>
```

DoubleCondition

A `<DoubleCondition>` accepts floating-point (decimal) values. Depending on the condition it represents (specified by the name), it may be limited to a certain range of values. If so, error/warning messages will indicate the range of acceptable values.

```
<DoubleCondition>
  <Name>ConversionFactor</Name>
  <Value>3.14159</Value>
</DoubleCondition>
```

DoubleRangeCondition

An `<DoubleRangeCondition>` takes a pair of values. They each are interpreted as decimal numbers. As mentioned above, depending on the condition name it may be limited to a certain range of values.

```
<DoubleRangeCondition>
  <Name>FactorRange</Name>
  <From>1.1</From>
  <To>2.6</To>
</DoubleRangeCondition>
```

TextCondition

A `<TextCondition>` accepts general text values. Depending on the condition it represents (specified by the name), it may be limited to a certain range of values. If so, error/warning messages will indicate the range of acceptable values.

```
<TextCondition>
  <Name>Label</Name>
  <Value>This is a test</Value>
</TextCondition
```

SingleSelectionCondition

A `<SingleSelectionCondition>` accepts a single text value from a list of fixed possible inputs. For example, a 'Color' condition might have possible values (Red, Orange, Yellow, Green, Blue, Violet). A 'color' SingleSelectionCondition would accept only one value from that list. The list of acceptable values depends on the condition (specified by the name). If the value supplied does not among the acceptable set, an error message will indicate the range of acceptable values.

```
<SingleSelectionCondition>
  <Name>Color</Name>
  <Value>Green</Value>
</SingleSelectionCondition>
```

MultiSelectionCondition

A `<MultiSelectionCondition>` accepts multiple value from a list of fixed possible inputs. An 'exchanges' MultiSelectionCondition would accept multiple values from a list of known exchange codes. Like SingleSelectionConditions, the list of acceptable values depends on the condition (specified by the name). If the value supplied does not among the acceptable set, an error message will indicate the range of acceptable values.

```
<MultiSelectionCondition>
  <Name>Exchanges</Name>
  <Value>NASD, NYSE, FTSE, OMX</Value>
</MultiSelectionCondition>
```

FiscalYearRangeCondition

A `<FiscalYearRangeCondition>` is a range condition for specialized for corporate accounting periods. It takes a pair of values. They each are interpreted as "RelativeFiscalYears". The valid values for a RelativeFiscalYear are "None", "FY1", "FY2", "FY3", "FY4", and "FY5".

```
<FiscalYearRangeCondition>
  <Name>YearRange</Name>
  <From>FY1</From>
  <To>FY3</To>
</FiscalYearRangeCondition>
```

QuarterRangeCondition

A `<QuarterRangeCondition>` is a range condition for specialized for corporate accounting periods. It takes a pair of values. They each are interpreted as “RelativeQuarterTypes”. The valid values for a RelativeQuarterType are “None”, “Q1”, “Q2”, “Q3”, “Q4”, “Q5”, “Q6”, “Q7”, and “Q8”.

```
<QuarterRangeCondition>
  <Name>QuarterRange</Name>
  <From>Q1</From>
  <To>Q3</To>
</QuarterRangeCondition>
```

SemiAnnualRangeCondition

A `<SemiAnnualRangeCondition>` is a range condition for specialized for corporate accounting periods. It takes a pair of values. They each are interpreted as “RelativeSemiAnnualTypes”. The valid values for a RelativeSemiAnnualType are “None”, “S1”, “S2”, “S3”, and “S4”.

```
<SemiAnnualRangeCondition>
  <Name>SemiAnnualRange</Name>
  <From>S1</From>
  <To>S3</To>
</SemiAnnualRangeCondition>
```

Supported Condition Names & Associated Types

Listed below are the currently supported condition names and their associated types by Tick History report template. Note that these values are subject to change:

Tick History Intraday Summaries

Condition Name	Condition Type	Accepted Values
SortBy	SingleSelectionCondition	SingleByRic, SingleByTimestamp
MessageTimeStampIn	SingleSelectionCondition	LocalExchangeTime, GmtUtc
ReportDateRangeType	SingleSelectionCondition	Range, Delta
QueryStartDate*	(optional) DateTime	Within reason
QueryEndDate*	(optional) DateTime	Within reason
DaysAgo*	IntegerCondition	From 0 to 31
Preview	SingleSelectionCondition	None, Content, Instrument
ExtractBy	SingleSelectionCondition	Ric, Entity
ApplyLegacySummaryTimeLabel	BooleanCondition	True, False, Yes, No
SummaryInterval	SingleSelectionCondition	OneSecond, FiveSeconds, OneMinute, FiveMinutes, TenMinutes, FifteenMinutes, OneHour

Notes

- QueryStartDate and QueryEndDate only apply when ReportDateRangeType is ‘Range’
- DaysAgo only applies when ReportDateRangeType is ‘Delta’

Tick History Market Depth

Condition Name	Condition Type	Accepted Values
View	SingleSelectionCondition	RawMarketByPrice, RawMarketByOrder, LegacyLevel2, NormalizedLL2
NumberOfLevels	IntegerCondition	From 1 to 25
SortBy	SingleSelectionCondition	SingleByRic, SingleByTimestamp
MessageTimeStampIn	SingleSelectionCondition	LocalExchangeTime, GmtUtc
ReportDateRangeType	SingleSelectionCondition	Range, Delta
QueryStartDate*	(optional) DateTime	Within reason
QueryEndDate*	(optional) DateTime	Within reason
DaysAgo*	IntegerCondition	From 0 to 31
Preview	SingleSelectionCondition	None, Content, Instrument
ExtractBy	SingleSelectionCondition	Ric, Entity

Notes

- QueryStartDate and QueryEndDate only apply when ReportDateRangeType is ‘Range’
- DaysAgo only applies when ReportDateRangeType is ‘Delta’

Tick History Raw

Condition Name	Condition Type	Accepted Values
SortBy	SingleSelectionCondition	SingleByRic, SingleByTimestamp
MessageTimeStampIn	SingleSelectionCondition	LocalExchangeTime, GmtUtc
ReportDateRangeType	SingleSelectionCondition	Range, Delta
QueryStartDate*	(optional) DateTime	Within reason
QueryEndDate*	(optional) DateTime	Within reason
DaysAgo*	IntegerCondition	From 0 to 31
Preview	SingleSelectionCondition	None, Content, Instrument
ExtractBy	SingleSelectionCondition	Ric, Entity
DomainCodes	MultiSelectionCondition	At least one of: Headline IDN Permissions Market By Order Market By Price Market Maker Market Price Metadata News 2000 News Text Analytics Provider Admin Service Provider Status Story Symbol List Timing Log Transaction * Note that this list is subject to change

Notes

- QueryStartDate and QueryEndDate only apply when ReportDateRangeType is ‘Range’
- DaysAgo only applies when ReportDateRangeType is ‘Delta’

Tick History Time and Sales

Condition Name	Condition Type	Accepted Values
SortBy	SingleSelectionCondition	SingleByRic, SingleByTimestamp
MessageTimeStampIn	SingleSelectionCondition	LocalExchangeTime, GmtUtc
ReportDateRangeType	SingleSelectionCondition	Range, Delta
QueryStartDate*	(optional) DateTime	Within reason
QueryEndDate*	(optional) DateTime	Within reason
DaysAgo*	IntegerCondition	From 0 to 31
Preview	SingleSelectionCondition	None, Content, Instrument
ExtractBy	SingleSelectionCondition	Ric, Entity
ApplyCorrectionsAndCancellations	BooleanCondition	True, False, Yes, No

Notes

- QueryStartDate and QueryEndDate only apply when ReportDateRangeType is ‘Range’
- DaysAgo only applies when ReportDateRangeType is ‘Delta’

Elektron Timeseries

Condition Name	Condition Type	Accepted Values
StartDate	DateTime	Within reason
EndDate	DateTime	Within reason
LastEntity	Boolean	True, False Yes or No

Notes

- QueryStartDate and QueryEndDate only apply when ReportDateRangeType is ‘Range’
- DaysAgo only applies when ReportDateRangeType is ‘Delta’

Historical Reference

Condition Name	Condition Type	Accepted Values
StartDate	DateTime	Within reason
EndDate	DateTime	Within reason

Notes

- QueryStartDate and QueryEndDate only apply when ReportDateRangeType is ‘Range’
- DaysAgo only applies when ReportDateRangeType is ‘Delta’

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