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TIBCO Spotfire Automation Services Documentation and Support Service

Documentation for this and other TIBCO products is available on the TIBCO Documentation site. This site is updated more frequently than any documentation that might be included with the product. To ensure that you are accessing the latest available help topics, visit:

https://docs.tibco.com

Product-Specific Documentation

The following documents for this product can be found in the TIBCO Documentation Library for TIBCO Spotfire Automation Services:

- **TIBCO Spotfire® Automation Services User’s Manual**
- **TIBCO Spotfire® Automation Services License Agreement**

For information about installing and configuring, see **TIBCO Spotfire® Server and Environment Installation and Administration**, available at https://docs.tibco.com.

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, contact TIBCO Support:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:
  
  http://www.tibco.com/services/support

- If you already have a valid maintenance or support contract, visit this site:
  
  https://support.tibco.com

  Entry to this site requires a user name and password. If you do not have a user name, you can request one.

System Requirements for Spotfire Products

For information about the system requirements for Spotfire products, visit http://support.spotfire.com/sr.asp.

How to Join the TIBCO Community

The TIBCO Community is an online destination for TIBCO Spotfire customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO Spotfire community. The community site offers forums, blogs, and access to a variety of resources. To register, go to the following web address.

https://community.tibco.com/products/spotfire
Overview

TIBCO Spotfire® Automation Services is a web service for automatically executing multi-step jobs within your TIBCO Spotfire® environment. You can, for example, use Spotfire® Automation Services to deliver an analysis to specific people, in a particular format, at specified times.

The Spotfire Automation Services package is available for purchase and is downloaded separately from Spotfire. The package includes the Spotfire Automation Services Job Builder, which comes with a set of pre-defined tasks for immediate job creation, as well as an API for developing custom tasks. After the Spotfire Automation Services is deployed, the Job Builder is accessed from TIBCO Spotfire® Analyst.

The jobs that you create with the Job Builder can either be executed immediately, or you can schedule the jobs to be executed periodically. To execute jobs periodically you configure the Client Job Sender to communicate with your TIBCO Spotfire® Server, and set the execution schedule by using Windows Task Scheduler.
Creating a job file

A Spotfire Automation Services job file is an XML file that is created in the Job Builder. It contains the set of tasks that are performed each time that the job runs, along with any relevant settings for each task.

Prerequisites

- To execute Spotfire Automation Services jobs on the server using the Job Builder or the Client Job Sender, a user must be a member of the group Automation Services Users.
- To run the Job Builder, a user must also have the Automation Services Job Builder Tool license enabled.
- Files that are used in automation jobs must be saved to the Spotfire library.

For information on group membership, see the Spotfire Server help. For information on licenses, see the Spotfire Analyst help.

Procedure

1. Open Spotfire Analyst.
2. Click Tools > Automation Services Job Builder.
3. In the Job Builder, click Add and then click the first task in the job.
   
   Any job that contains tasks involving an analysis file must begin with the Open Analysis from Library task.
4. To the right of the task list, in the Settings pane, adjust the task settings as necessary.
5. Repeat steps 3 and 4 until you have completed the task list and settings. For details on the available tasks and settings, see Job Builder tasks.
6. Save the job file to a location of your choice.

Inserting a field in a Spotfire Automation Services job

To ensure that the Job Builder creates a new file each time that a particular job runs, you can add one or several fields, such as the automatically updated date and time fields, to the file name. You can also insert fields in other text areas, such as an email message that you create for sending a new file to its recipients.

Procedure

1. From Spotfire Analyst, open the Spotfire Automation Services Job Builder.
2. Open the job file to which you want to add a field.
3. In the Automation Services Job Builder dialog, place the cursor where you want to insert a field, either in the file name part of the destination path or in another text area.
4. Click Tools > Insert Field, and then select the field you want to add.

Job Builder tasks

These are the tasks that are included in the Spotfire Automation Services Job Builder.

If your version includes different tasks, contact your Spotfire administrator for information on how to use those tasks.
Apply Bookmark

You can apply bookmarks to your job files to highlight certain aspects of a data set.

For example, you can use bookmarks if you have an analysis file with sales data for a department store and you want the manager of each department to receive a weekly update on their department.

You can create one job file for each department in the store, basing all the job files on the same analysis. If you then apply different bookmarks in each job file, each manager can receive a customized view of the analysis when the jobs are run.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookmark</td>
<td>Specifies the bookmark to apply. All the bookmarks in the analysis are listed in the <strong>Bookmark</strong> list.</td>
</tr>
</tbody>
</table>

Export Data Table to Library

You can export a data table from an analysis file and save it to the library as a Spotfire Binary Data File (SBDF).

If you want to make sure that the data table is saved as a new data table each time that the job is executed, you can add the date to the file name; for more information, see Inserting a field in a Spotfire Automation Services job.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Table</td>
<td>Select the data table that you want to export from the analysis file.</td>
</tr>
<tr>
<td>Library Path</td>
<td>Specify the library path and file name for saving the data table.</td>
</tr>
<tr>
<td>Description</td>
<td>Add a description for the data table.</td>
</tr>
<tr>
<td></td>
<td>If the data table already has a description, it is displayed here.</td>
</tr>
<tr>
<td>Keywords</td>
<td>Add keywords for the data table, separated by semicolons.</td>
</tr>
<tr>
<td></td>
<td>If the data table already has specified keywords, they are displayed here.</td>
</tr>
</tbody>
</table>

**Export Data to File**

You can export the data from a data table, or a tabular visualization, and save it as a file on disk.

If you want to make sure that the data table is saved as a new data table each time that the job is executed, you can add the date to the file name; for more information, see Inserting a field in a Spotfire Automation Services job.

![Image of Export Data to File settings](image)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export data from</td>
<td>Select a tabular visualization or a data table to export data from.</td>
</tr>
<tr>
<td>Export data as</td>
<td>Select the file format the data should be saved as.</td>
</tr>
<tr>
<td></td>
<td>Data exported from a cross table, summary table or graphical table can only be saved as a tab separated Spreadsheet file.</td>
</tr>
</tbody>
</table>
### Export data to

Select where to save the exported data.

The file will be saved to the node executing the job. Therefore you must make sure that the folder you select as destination folder actually exists on that computer, and that you have writing permissions for the selected folder.

Allowed file paths may be limited by the `allowedFilePaths` setting in the `Spotfire.Dxp.Worker.Automation.config` file. For more information, see the Spotfire Server and Environment Installation and Administration help.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Export data to</strong></td>
<td>Select where to save the exported data. The file will be saved to the node executing the job. Therefore you must make sure that the folder you select as destination folder actually exists on that computer, and that you have writing permissions for the selected folder. Allowed file paths may be limited by the <code>allowedFilePaths</code> setting in the <code>Spotfire.Dxp.Worker.Automation.config</code> file. For more information, see the Spotfire Server and Environment Installation and Administration help.</td>
</tr>
</tbody>
</table>

### Export Image

You can export an image from an analysis file to a destination of your choice.

If you want to make sure that the image is saved as a new data table each time that the job is executed, you can add the date to the file name; for more information, see Inserting a field in a Spotfire Automation Services job.

**Settings for Export Image**

- **Destination path:** `C:\Temp\Sales.png`
- **Visualization:** `Sales : Distribution per Sales Area`
- **Width (pixels):** 1649
- **Height (pixels):** 949

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Destination Path</strong></td>
<td>Specify the location (on the node running Automation Services) and file name of the exported image. The file will be saved to the node executing the job. Therefore you must make sure that the folder you select as destination folder actually exists on that computer, and that you have writing permissions for the selected folder. Allowed file paths may be limited by the <code>allowedFilePaths</code> setting in the <code>Spotfire.Dxp.Worker.Automation.config</code> file. For more information, see the Spotfire Server and Environment Installation and Administration help.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Visualization</td>
<td>Specify the visualization to export.</td>
</tr>
<tr>
<td></td>
<td>The exported image only includes the currently visible content.</td>
</tr>
<tr>
<td>Hide preview images in list</td>
<td>Select to disable rendering of images in visualization list. This significantly improves response time if there are many available visualizations in the analysis.</td>
</tr>
<tr>
<td>Width</td>
<td>Specify the width, in pixels, that the exported image should have.</td>
</tr>
<tr>
<td>Height</td>
<td>Specify the height, in pixels, that the exported image should have.</td>
</tr>
</tbody>
</table>

**Export to PDF**

You can export parts of an analysis to a PDF file, and save the file to a destination of your choice on the computer running Spotfire Automation Services.

You can choose between two types of PDF export:

- Export selected visualizations or pages as they currently appear in the analysis.
- Export based on bookmarks.

With bookmarks export, you can export all the bookmarks of interest, in one single export operation and to one single document. Each of the bookmarks will automatically be applied in turn during the export, and the resulting PDF document will contain one version of the analysis (or parts of it) for each bookmark.

If you want to make sure that the document is saved as a new file each time the job is executed, you can add a field to the file name; for more information, see [Inserting a field in a Spotfire Automation Services job](#).

**General tab**
## Option Description

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Destination Path</strong></td>
<td>Specify the location (on the computer running Spotfire Automation Services) and file name of the exported PDF file. The file will be saved to the node executing the job. Therefore you must make sure that the folder you select as destination folder actually exists on that computer, and that you have writing permissions on the selected folder. Allowed file paths may be limited by the <code>allowedFilePaths</code> setting in the <code>Spotfire.Dxp.Worker.Automation.config</code> file. For more information, see the Spotfire Server and Environment Installation and Administration help.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Export what</td>
<td>Define which parts of the analysis to export. For more information about what the options in this drop-down list mean for the different export types, see the following topics in the Spotfire Analyst help: &quot;Exporting to PDF&quot; and &quot;Exporting Bookmarks to PDF&quot;.</td>
</tr>
<tr>
<td></td>
<td>If you export bookmarks, then the PDF file will contain one set of PDF pages for each bookmark. For example, if you export three bookmarks and select All pages, then you will get a PDF document containing all the pages in the analysis times three (that is, one set of all analysis pages for each of the bookmarks). The descriptions of the drop-down list options below are based on regular export where each page or visualization appears only once in the resulting PDF.</td>
</tr>
<tr>
<td>Active visualization</td>
<td>Exports the active visualization in the analysis (or in the bookmark, for bookmark export) to a single page in a PDF document. Tables and trellised visualizations may be extended to more than one page.</td>
</tr>
<tr>
<td>Active page</td>
<td>Exports all the visualizations on the active page in the analysis (or in the bookmark, for bookmark export) to a single page in a PDF document.</td>
</tr>
<tr>
<td>Active page (new page for each visualization)</td>
<td>Exports all the visualizations on the active page in the analysis (or in the bookmark, for bookmark export) to one or more pages in a PDF document. Each visualization on the active page will be exported to a new page in the PDF document. Tables and trellised visualizations may be extended to more than one page.</td>
</tr>
<tr>
<td>All pages</td>
<td>Exports all the visualizations on all the pages in the analysis. Each page will be exported to a new page in the PDF document.</td>
</tr>
<tr>
<td>All pages (new page for each visualization)</td>
<td>Exports all the visualizations on all the pages in the analysis. Each visualization in the analysis will be exported to a new page in the PDF document. Tables and trellised visualizations may be extended to more than one page.</td>
</tr>
<tr>
<td>Details-on-Demand</td>
<td>Exports the Details-on-Demand to one or more pages in a PDF document. Select the check box <strong>Trellis panels and table rows not visible on screen</strong> if you want to export all the data in Details-on-Demand, including data that is not visible.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Use entire page</td>
<td>When exporting to PDF from Automation Services, this option is not applicable because the exported parts of the analysis do not have any proportions when the user interface is not available. Therefore, the result will always be that the exported parts of the analysis are redrawn to fill the entire space of the selected page layout.</td>
</tr>
<tr>
<td>Include</td>
<td></td>
</tr>
<tr>
<td>Visualization title</td>
<td>Indicate whether you want the page titles to be included in the export.</td>
</tr>
</tbody>
</table>
| Description                                | Indicate whether you want hidden visualization descriptions to be included in the export. The description will only be visible for visualizations where a description has been entered. If the description is visible in the visualization or legend, it will automatically be included in the export as a part of the visualization.  
  A long description may be cut off when you export to PDF. |
| Filter settings                            | Indicate whether you want the filter settings to be included in the export as textual information. Only the values of the modified filters will be listed.                                                                                                                                                                                   |
| Page title                                 | Indicate whether you want the page titles to be included in the export.                                                                                                                                                                                                                                                                  |
| Trellis panels and table rows not visible on screen | Indicate whether to include non-visible data in trellis panels and tables in the export. If a table contains too many rows to fit on one page in the PDF document, it will be extended to the following pages. Similarly, a trellised visualization with many panels will be extended to the following pages.  
  Not available if you select to export Active page or All pages. You must select an option where each visualization is exported to a new page. |
| Page layout                                | Define the size and orientation of the pages in the resulting PDF document.                                                                                                                                                                                                                                                                |
| Margins                                    | Define the margins of the page, in pixels.                                                                                                                                                                                                                                                                                                    |

**Advanced tab**

TIBCO Spotfire® Automation Services
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Graphics settings</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Items to export</strong></td>
<td>Lists the parts of the analysis to include in the export. The items in the list may refer to pages, visualizations, or the Details-on-Demand, depending on the selection that you made under Export what on the General tab.</td>
</tr>
<tr>
<td><strong>Name</strong></td>
<td>Shows the names of the pages or visualizations to export.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Graphics mode</strong></td>
<td>Here you can change which graphics mode each item will be exported as: Vector or Raster. This can be useful if you must keep the file size down. Using raster graphics does not always result in a smaller file size, but if the file becomes very large when exporting as vector graphics, you can try exporting as raster graphics instead.</td>
</tr>
<tr>
<td><strong>All Vector Graphic</strong></td>
<td>Click this button to set all the items in the list to be exported using vector graphics. 3D scatter plots are always exported as raster graphics.</td>
</tr>
<tr>
<td><strong>All Raster Graphic</strong></td>
<td>Click this button to set all the items in the list to raster graphics.</td>
</tr>
<tr>
<td><strong>Raster graphics quality</strong></td>
<td>Here you can specify the quality of the export for parts of the analysis that will be exported as raster graphics. This can be useful if you need to keep the file size down. You can specify a value from 1.0 to 5.0, where 1.0 is the lowest quality and will result in a smaller file size. Using raster graphics will always result in lower quality than vector graphics, even if you set the raster graphics quality to the highest possible value. However, using raster graphics does not always result in a smaller file size.</td>
</tr>
<tr>
<td><strong>Header options</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Enable page header</strong></td>
<td>Select this check box if you want to include a header on each page in the resulting PDF document.</td>
</tr>
<tr>
<td><strong>Header height</strong></td>
<td>Enter a number between 10 and 100 to adjust the height of the header.</td>
</tr>
</tbody>
</table>
| **Left, Center, Right** | Make a selection from each drop-down list to specify the position of the header content, and what to include in the header. The following options are available:  
  - Custom text (enter the text of your choice in the field below the drop-down list)  
  - Page number  
  - Current date  
  - Current date and time |
| **Font Settings**   | Specify font, style, and size for the header. The current font settings are displayed to the right of the button.                                                                                                                                                  |
| **Footer options**  |                                                                                                                                                                                                             |
### Option Description

<table>
<thead>
<tr>
<th><strong>Enable page footer</strong></th>
<th>Select this check box if you want to include a footer on each page in the resulting PDF document.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Footer height</strong></td>
<td>Enter a number between 10 and 100 to adjust the height of the footer.</td>
</tr>
<tr>
<td><strong>Left, Center, Right</strong></td>
<td>Make a selection from each drop-down list to specify the position of the footer content, and what to include in the footer. The following options are available:</td>
</tr>
<tr>
<td></td>
<td>* Custom text* (enter the text of your choice in the field below the drop-down list)</td>
</tr>
<tr>
<td></td>
<td>* Page number*</td>
</tr>
<tr>
<td></td>
<td>* Current date*</td>
</tr>
<tr>
<td></td>
<td>* Current date and time</td>
</tr>
<tr>
<td><strong>Font Settings</strong></td>
<td>Specify font, style, and size for the footer. The current font settings are displayed to the right of the button.</td>
</tr>
</tbody>
</table>

### Bookmarks tab

The **Bookmarks** tab is used only when you want to export different views of the analysis, which are defined by selected bookmarks. When you select this option, each of the bookmarks is automatically applied in turn, and the resulting PDF file contains one version of the analysis (or parts of it) for each bookmark. See "Exporting Bookmarks to PDF" in the Spotfire Analyst online help for more information about the result of exporting based on bookmarks.

---

**Settings for Export to PDF**

#### General
- Export selected views based on bookmarks

#### Advanced

#### Bookmarks
- 2016-Q1
- 2016-Q2
- 2016-Q3
- 2016-Q4

---

<table>
<thead>
<tr>
<th><strong>Option</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Export selected views based on bookmarks</strong></td>
<td>Select this check box to enable export to a PDF file based on bookmarks. Choose which parts of the analysis to export on the <strong>General</strong> tab.</td>
</tr>
<tr>
<td>[List of available bookmarks]</td>
<td>Select the bookmarks you want to export.</td>
</tr>
</tbody>
</table>
**Open Analysis from Library**

A job generally starts with a task that opens an analysis file. The job is then based on this file, and all the tasks are performed on this file.

If you want to use an analysis file that is already open in Spotfire, you can click **Set to Current**. If you have opened a job file that is based on an analysis file that is not currently open, you can click **Load** to open that file in Spotfire. You can use a configuration block to configure the initial state of the analysis file that you want to open, such as applying a bookmark, or setting a filter to the analysis before it is opened.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Path</strong></td>
<td>Indicate the location and file name of the file to open. Click <strong>Browse</strong> to navigate to the file, or use the <strong>Set to Current</strong> option.</td>
</tr>
<tr>
<td><strong>Set to Current</strong></td>
<td>Click this button to set the path to the analysis that is currently open in Spotfire.</td>
</tr>
<tr>
<td><strong>Load</strong></td>
<td>Opens the analysis that is specified in the <strong>Path</strong> field. If the Open Analysis from Library task is preceded by the Set Data Source Credentials task or the Set Credentials for External Connection task, it is not possible to load the file using this button. It is therefore not possible to edit any following tasks, for example the Export Image task, either. To be able to do this, open the file from the <strong>File</strong> menu in Spotfire Analyst before proceeding with setting up additional tasks.</td>
</tr>
</tbody>
</table>
Option | Description
--- | ---
**Configuration block** | Optionally, use this advanced feature to provide a configuration block to specify the initial state of the analysis. A configuration block is a piece of code that defines, for example, which page is active in the analysis when the analysis is opened, or applies a specific bookmark when the analysis.

Example:
```
SetPage(pageTitle = "Overview");
ApplyBookmark(bookmarkName = "UserRegionOnly");
```

Replace Data Table with Information Link

You can replace the contents of a data table with the contents of a prompted information link. You can then set parameters for the information link to filter by.

For example, you can set the task to show only the column values that are greater than a specified value, or between two values.

**Option**

**Data table to replace**

Specify the data table that you want to replace with an information link.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information link</td>
<td>Indicate the path to the selected information link. The information link must have prompts in order to be useful. If you want to use parameterized information links instead, you can specify that in a configuration block when you open the analysis from the library; see Open Analysis from Library. To learn more about using information links, see the Spotfire Analyst help.</td>
</tr>
<tr>
<td>Information link parameters</td>
<td>Lists the columns with parameters of the selected information link.</td>
</tr>
<tr>
<td>Edit</td>
<td>Opens the Edit Information Link Parameters dialog (shown below) where you can set parameters for the selected column.</td>
</tr>
</tbody>
</table>

**Edit Information Link Parameters**

- **Column name**: Displays the name of the column for which you are currently editing parameters.
- **Data type**: Set the data type of the column.
- **Expression**: Set the expression that indicates how the column value should be compared to the values set in this dialog, and thus how the data is filtered.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of values</td>
<td>List the values by which you want to filter. The values that you enter here will replace the %Value% in the selected expression above.</td>
</tr>
</tbody>
</table>

### Save Analysis to Library

This task saves the analysis to a location of your choice in the library.

To save a unique analysis each time that the job runs, instead of replacing the existing one, you can add a field to the file name; for more information, see [Inserting a field in a Spotfire Automation Services job](#).

![Settings for Save Analysis to Library](image)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Save as</td>
<td>Specify the location and name of the file that will be saved.</td>
</tr>
<tr>
<td>Set to Current</td>
<td>Click to use (in the Save as field) the path of the currently open document.</td>
</tr>
<tr>
<td>Embed data in analysis</td>
<td>Select this check box to embed the data in the analysis.</td>
</tr>
<tr>
<td>Remove any previously existing bookmarks</td>
<td>Select this check box to delete any previously existing bookmarks when the analysis is saved to the library. Note that if you select this check box, bookmarks that have been added by other users will be removed</td>
</tr>
<tr>
<td>Description</td>
<td>Optionally, type a description of the analysis.</td>
</tr>
<tr>
<td>Keywords (not shown in image)</td>
<td>Optionally, type one or more keywords specific to the contents of the analysis.</td>
</tr>
</tbody>
</table>

### Send Email

A job can be set up to send an email to a number of recipients when it is executed.

You can write a message with included images, attach an analysis, or a file, and add links to the web player and library.
### Option Description

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>To</strong></td>
<td>Type the email addresses to which the email should be sent. The separator to use depends on the regional settings of your computer.</td>
</tr>
<tr>
<td><strong>Cc</strong></td>
<td>Type the email addresses to which a copy of the email should be sent.</td>
</tr>
<tr>
<td><strong>Bcc</strong></td>
<td>Type the email addresses to which a hidden copy of the email should be sent.</td>
</tr>
<tr>
<td><strong>Select</strong></td>
<td>Click to open a dialog where you can select recipients from your LDAP directory. This only works if you have an LDAP directory.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Subject</td>
<td>Enter a subject for the email.</td>
</tr>
<tr>
<td>Message</td>
<td>Enter the body text of the email.</td>
</tr>
<tr>
<td>Add library link</td>
<td>Select the check box to include a link to the analysis in the library. Optionally, enter text for the link in the text box, such as &quot;Click to open analysis from the library.&quot; If you leave the field blank, the link is shown as the actual path to the library.</td>
</tr>
<tr>
<td>Add Web Player link</td>
<td>Select this check box to include a link to the analysis in the web client. Optionally, enter text for the link in the text field. If you leave the field blank, the link is shown as the actual path.</td>
</tr>
<tr>
<td>Attach analysis (with embedded data)</td>
<td>Select this check box to attach the analysis to the email.</td>
</tr>
<tr>
<td>Attached visualization images</td>
<td>You can include images from visualizations in the email. The images will be shown in the message body. The data will be embedded in the email.</td>
</tr>
<tr>
<td>Add...</td>
<td>Open to select the visualization images to add.</td>
</tr>
<tr>
<td>Edit</td>
<td>Edit the settings for an added image.</td>
</tr>
<tr>
<td>Remove</td>
<td>Removes the selected image from the list.</td>
</tr>
<tr>
<td>Attached files</td>
<td>You can include files in the email, for example a PDF created by the Export to PDF task.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Add...</td>
<td>Opens the Select File Attachment dialog, where you select the file to attach, specify the name of the attachment, and select if the file should be deleted after the email has been sent. Only select to delete the file if you are absolutely sure that the file should be deleted after the email has been sent. It is recommended to only delete temporary files, such as PDF files created by the Export to PDF task for the sole purpose of being sent out in an email. To avoid deleting files that should be saved, files can only be deleted if they have a create or modification time in the last 30 minutes. The time can be changed in the allowDeleteOfFilesModifiedLastMinutes setting in the Spotfire.Dxp.Worker.Automation.config file. Allowed file paths may be limited by the allowedFilePaths setting in the Spotfire.Dxp.Worker.Automation.config file. For more information, see the Spotfire Server and Environment Installation and Administration help.</td>
</tr>
<tr>
<td>Edit</td>
<td>Edit the settings for an added attachment.</td>
</tr>
<tr>
<td>Remove</td>
<td>Removes the selected attachment from the list.</td>
</tr>
</tbody>
</table>

**Set Credentials for External Connection**

To open an analysis that requires authentication for external data sources (that is, any analysis that uses Spotfire data connectors), use this task to specify the credentials.

This task should be performed before any "Open Analysis from Library" task. To secure the login credentials, you must encrypt them using an X.509 certificate. Note that you need to add one Set Credentials for External Connection task for each credentials profile. The credentials profiles are used to connect a username and password to an external data source that is used in a specific analysis.

![Settings for Set Credentials for External Connection](image)
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X.509 certificate subject</td>
<td>Select a valid X.509 certificate. This is used to protect the security of the passwords that are used to connect to the external data sources. The valid certificates that are installed locally on your computer are listed in the drop-down list. The selected certificate must also be installed on the node that runs the Automation Services jobs.</td>
</tr>
<tr>
<td>Credentials profile</td>
<td>Select the name of the credentials profile. Make sure that the profile matches a profile that is saved in the analysis file. The profile that is used in an analysis is saved in the Data Connection Properties dialog in Spotfire.</td>
</tr>
<tr>
<td>Username</td>
<td>Enter the username for the profile to use when connecting to the data source.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the password for the profile.</td>
</tr>
</tbody>
</table>

### Set Data Source Credentials

To open an analysis or information link that requires data source authentication, use this task to specify the credentials.

This task should be performed before any Open Analysis from Library or Replace Data Table with Information Link tasks. To secure the login credentials, you must encrypt them using an X.509 certificate. Note that you must add one Set Data Source Credentials task for each data source that requires authentication.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data source</td>
<td>Select the data source for which you are setting credentials.</td>
</tr>
<tr>
<td>Username</td>
<td>Enter the username to use when connecting to the specified data source.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the password.</td>
</tr>
</tbody>
</table>

**Update Text Area Contents**

If the analysis has text areas, you can set up the job file to replace the contents of these text areas.

You can also insert time and date by using the **Insert Field** option on the **Tools** menu; for more information, see **Inserting a field in a Spotfire Automation Services job**.

![Settings for Update Text Area Contents](image)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text Area to Update</td>
<td>Select the text area to change.</td>
</tr>
<tr>
<td>New Content</td>
<td>Enter the new content for the text area in this field.</td>
</tr>
<tr>
<td></td>
<td>The new content will completely replace any older content.</td>
</tr>
</tbody>
</table>

**Automated library export and import**

The tasks Export Library Items and Import Library Items have been deprecated in Spotfire Automation Services.

Instead of these tasks, use the following commands in the Spotfire Server command-line tool:

- `export-library-content`
- `import-library-content`

Details about these commands are available in the Reference section of the Spotfire Server and Environment Installation and Administration help.

If you select to use these tasks in Spotfire Automation Services anyway, these are the available settings.
## Export Library Items

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export from library folder</td>
<td>Specifies the location and name of the folder to export from the library. To export a folder and its contents to file you must have Browse + Access permissions for the folders you want to export. You must also be a member of the Library Administrator group.</td>
</tr>
<tr>
<td>Browse...</td>
<td>Opens the Browse Library dialog where you can locate the library folder from which you want to export items. Only available if you are connected to the library.</td>
</tr>
<tr>
<td>Export to file</td>
<td>Specifies a name for the file that will be created. The file will be saved as a zip archive on the server. The format of the entire file name will be fileName.part0.zip. However, you should always specify the name without file name extensions such as .part0 or .zip. To include all the exported items, several zip archives may be created from one single export. The middle part of the file name will reflect this: fileName.part0.zip, fileName.part1.zip, fileName.part2.zip, and so on.</td>
</tr>
<tr>
<td>Export items of type</td>
<td>Specify the type of items you want to export if you want to limit the export to only a certain type.</td>
</tr>
<tr>
<td>Include permissions</td>
<td>Select whether or not to include the selected library folder permissions.</td>
</tr>
</tbody>
</table>
## Import Library Items

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Import from file</strong></td>
<td>Specifies the name of the file to import. The file must be a zip archive containing appropriate library content.</td>
</tr>
<tr>
<td></td>
<td>The format of the entire file name is <code>fileName.part0.zip</code>. However, you should always specify the name without any file name extensions such as .part0 or .zip.</td>
</tr>
<tr>
<td></td>
<td>If the zip archive is located in a subfolder to the Shared disk location folder you must provide the subfolder name as well. Example: <code>subfolderName/fileName</code>.</td>
</tr>
<tr>
<td></td>
<td>To import a folder and its contents to file you must have Browse + Access + Modify permissions for the destination folder. You must also be a member of the Library Administrator group.</td>
</tr>
<tr>
<td><strong>Import to library folder</strong></td>
<td>Specifies the location and the name of the folder in the library to which you want to import the library items.</td>
</tr>
<tr>
<td><strong>Browse...</strong></td>
<td>Opens the Browse Library dialog where you can select the folder in the library to which you want to import. Only available if you are connected to the library.</td>
</tr>
<tr>
<td><strong>Import items of type</strong></td>
<td>Specify the type of items you want to import if you want to limit the import to only a certain type of items.</td>
</tr>
<tr>
<td><strong>Include permissions</strong></td>
<td>Select this check box if you want to include permissions, if such are stored in the file. If you do not include any permissions, the imported items will inherit the permissions of the destination folder.</td>
</tr>
<tr>
<td><strong>Ignore empty folders</strong></td>
<td>Select this check box if you do not want to import any empty library folders.</td>
</tr>
</tbody>
</table>
Remap Data Sources

When you migrate library items from one system to another, it is likely that you will have to remap the connection strings and/or passwords of the data sources when you import them to the new system.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X.509 certificate subject</td>
<td>Select a valid X.509 certificate. This is used to protect the security of the passwords used to connect to data sources when exporting and importing them. The valid certificates that are installed locally on your computer are listed in the drop-down list. The selected certificate must also be installed on the node that runs the Automation Services jobs.</td>
</tr>
<tr>
<td>Data sources library folder</td>
<td>Defines the location of the library folder that contains the data sources to be remapped. This is optional. However, if you do not specify a library folder, you must include the entire path for each data source that you add.</td>
</tr>
<tr>
<td>Browse</td>
<td>Opens the Browse Library dialog where you can select a library folder. Only available if you are connected to the library.</td>
</tr>
<tr>
<td>Data sources</td>
<td>Lists the currently added data sources. If you have not specified a Data sources library folder, you must include the entire path for each data source that you add.</td>
</tr>
<tr>
<td>Add</td>
<td>Opens a dialog where you can specify a new data source. See below</td>
</tr>
<tr>
<td>Edit</td>
<td>Opens a dialog where you can edit the selected data source. See below.</td>
</tr>
<tr>
<td>Remove</td>
<td>Removes the selected data source from the list.</td>
</tr>
<tr>
<td>Import</td>
<td>Opens a dialog where you can select a previously exported file. All the data sources that are included in the file will be added to the list.</td>
</tr>
<tr>
<td>Connection string</td>
<td>Specifies the current connection string for the selected data source. To change it, enter a new connection string in the text field.</td>
</tr>
<tr>
<td>Reset</td>
<td>Resets the modified connection string to the one that was originally set for the selected data source.</td>
</tr>
<tr>
<td>Password</td>
<td>The current password for the selected data source.</td>
</tr>
</tbody>
</table>
### Change
Opens a dialog where you can enter a new password for the selected data source.

### Reset
Resets the modified password to the one that was originally set for the data source.

---

**Add Data Source**

- **Name:**
  - **DataSource4**

- **In library folder:**
  - /Weekly

- [OK] [Cancel]

---

### Option Description

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Enter a name for the new or edited data source.</td>
</tr>
<tr>
<td>In library folder</td>
<td>Displays the location and name of the library folder that contains the data source.</td>
</tr>
</tbody>
</table>

---

**Remap Information Services Catalogs and Schemas**

The task Remap Information Services Catalogs and Schemas has been deprecated in Spotfire Automation Services.

When you migrate library items from one system to another, you may have to remap Information Services catalogs or schemas. Use the Spotfire Server web services API to achieve this. The Web Services API Reference is available here: [https://docs.tibco.com/products/tibco-spotfire-server](https://docs.tibco.com/products/tibco-spotfire-server)

If you decide to use this deprecated task in Spotfire Automation Services anyway, these are the available settings:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original export file</td>
<td>Specifies the original (input) export file. Use the path to the file on the node that will run the task, not on your computer, if you have the file there as well.</td>
</tr>
<tr>
<td>Remapped export file</td>
<td>Specifies the remapped (output) data export file. Use the path to the file on the node that will run the task, not on your computer.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Add...</td>
<td>Opens a dialog where you can enter a new remapping.</td>
</tr>
<tr>
<td>Edit...</td>
<td>Opens a dialog where you can edit the selected remapping.</td>
</tr>
<tr>
<td>Import...</td>
<td>Opens a dialog where you can select a local version of the original (input) export file and import the existing catalogs or schemas from it.</td>
</tr>
</tbody>
</table>
Job file testing

After you set up a job file, you should always make sure that it works as expected by executing it locally before you run it on a server. When you have checked that it works both locally and on the server, you can set it up to run regularly with a task scheduler.

Testing a job file locally

After setting up a job file, test it locally and then on the server.

Procedure

1. In the Job Builder, open the file that you want to test.
2. Click Tools > Execute Locally.
   - If the job does not include the task Send Email, go to step 6. If the job includes Send Email, continue to step 3.
3. In the first dialog that opens, enter the name of your SMTP host and then click OK.
4. In the second dialog that opens, enter the sender address and then click OK.
5. Check that all the tasks were executed as expected, and then test the job on the server.

Testing a job file on Spotfire Server

After testing your Spotfire Automation Services job locally, test it on Spotfire Server.

Prerequisites

To execute jobs on the server, you must be part of the group Automation Services Users.

Procedure

1. In the Job Builder, open the file that you want to test.
2. Click Tools > Execute on Server.
3. When the job has finished, check that all the tasks were executed as expected.
Job execution

After you create a job using the Spotfire Automation Services Job Builder, you can use the Client Job Sender to set up the job to be executed periodically.

The Job Sender tool, Spotfire.Dxp.Automation.ClientJobSender.exe, and its configuration file, Spotfire.Dxp.Automation.ClientJobSender.exe.config, are downloaded as part of the Automation Services bundle. These two files must be installed on a computer that can communicate through HTTP (or HTTPS if you have set this up) with Spotfire Server. Both the executable file and the config file must reside in the same directory.

Running the Client Job Sender

The Client Job Sender is run on the command line, and takes two arguments when executed: the URL to the Spotfire Server, and the full path to the job file.

Prerequisites

- You created an Automation Services job file by using the Job Builder.

Procedure

- Enter the following text on the command line:


  where:

  - C:\Program Files\TIBCO Spotfire\Spotfire.Dxp.Automation.ClientJobSender.exe is the path to the Job Sender tool.
  - http://spotfireserver[:port] is the URL to the Spotfire Server.
  - C:\Temp\jobfile.xml is the full path to the job file.

  To run the jobs asynchronously, that is, without waiting for the result of the job, add async at the end of the previous example. This can be useful if you want to run several jobs simultaneously.

  When running the jobs asynchronously with the Client Job Sender, the result of the jobs can be found in the log file Spotfire.Dxp.Automation.ClientJobSender.exe.log located in the directory where the Client Job Sender files are located, and on the Automation Services tab in the Monitoring & Diagnostics area on the Spotfire Server.

Configuring the Client Job Sender

The configuration file Spotfire.Dxp.Automation.ClientJobSender.exe.config is a standard XML configuration file. It is used to configure authentication to the Spotfire Server, and the logging and handling of communication with Spotfire Server.

Procedure

- Open the configuration file in an XML editor or a text editor, and edit the following settings as necessary:
<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spotfire.Server.RequestTimeoutSeconds</td>
<td>Specify the maximum number of seconds for a single request to the Spotfire Server. The default value is 600.</td>
</tr>
<tr>
<td>Spotfire.MaxJobExecutionTimeSeconds</td>
<td>Specify the maximum number of seconds that a job can run before the application cancels the job. If set to 0 or less, the application will not cancel the job. The default value is -1.</td>
</tr>
<tr>
<td></td>
<td>- If the async flag is used on the command line when running a job, this setting is ignored.</td>
</tr>
<tr>
<td></td>
<td>- The specified value in the Spotfire Server setting <code>max-job-execution-time</code> will also affect the cancellation of the job. The lowest specified time will decide when the job is cancelled. For details on this setting, see the Spotfire Server and Environment Installation and Administration help.</td>
</tr>
<tr>
<td>Spotfire.Logging.Level</td>
<td>Specify the logging level for the client job execution. The log file <code>Spotfire.Dxp.Automation.ClientJobSender.exe.log</code> is located in the directory where the Client Job Sender files are located. The default value is INFO.</td>
</tr>
<tr>
<td>Spotfire.AllowedCertificateValidationErrors</td>
<td>If SSL is enabled on the Spotfire Server, certificate errors can be suppressed by this client by changing this setting. Set to <code>None</code> to allow no certificate errors. To allow specific errors, set the value to any or all of these values, separated by commas: RemoteCertificateChainErrors, RemoteCertificateNameMismatch, RemoteCertificateNotAvailable.</td>
</tr>
<tr>
<td>Spotfire.Authentication.Basic.UserName</td>
<td>Specify the username for logging in to Spotfire Server, when Spotfire Server is set up with username and password authentication. This can also be used when the server is configured with NTLM or Kerberos if another user than the one executing the process is to be used when accessing Spotfire Server. (The domain must be included in username.)</td>
</tr>
<tr>
<td></td>
<td>- This user must be a member of the group Automation Services Users.</td>
</tr>
<tr>
<td>Setting</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Spotfire.ClientCertificate.StoreLocation</td>
<td>The store location for the installed X.509 client certificate used to authenticate with Spotfire Server. Can be CurrentUser or LocalMachine.</td>
</tr>
<tr>
<td>Spotfire.ClientCertificate.StoreName</td>
<td>The store name for the installed X.509 client certificate used to authenticate with Spotfire Server. Can be AddressBook, AuthRoot, CertificateAuthority, My, Root, TrustedPeople, or TrustedPublisher.</td>
</tr>
<tr>
<td>Spotfire.ClientCertificate.SerialNumber</td>
<td>The serial number for the installed X.509 client certificate used to authenticate with Spotfire Server.</td>
</tr>
</tbody>
</table>

If no username and password or client certificate is specified and Spotfire Server uses Windows authentication (NTLM or Kerberos), then the Client Job Sender will use the identity of the Windows user that executes the job to authenticate with Spotfire Server.

It is possible to encrypt the password specified in the configuration file. To encrypt the password, enter the following on the command line:

```
```

Add the encryptWithUserScope parameter to encrypt using the current Windows user account; otherwise, the computer account is used. For more information, see [https://msdn.microsoft.com/en-us/library/system.security.cryptography.dataprotectionscope.aspx](https://msdn.microsoft.com/en-us/library/system.security.cryptography.dataprotectionscope.aspx). After encryption, the password field in the configuration file is empty and a new field (Spotfire.Authentication.Basic.Password.EncryptedUserscope or Spotfire.Authentication.Basic.Password.EncryptedMachineScope) containing the encrypted password is added.

### Scheduling the Client Job Sender

To schedule a job to be executed with the Spotfire Automation Services Client Job Sender, use Windows Task Scheduler.

In Windows Task Scheduler, create a new task that executes the Client Job Sender, provide arguments to it as described in Configuring the Client Job Sender, and set it to run periodically as needed. For more information about how to use the Windows Task Scheduler, refer to the Microsoft documentation on the feature.

The status of running jobs and the jobs history is available in Spotfire Server, on the Automation Services tab of the Monitoring & Diagnostics area. For more information, see the Spotfire Server help.