TIBCO Spotfire® Connector for Pipeline Pilot 1.0 - User's Manual

Important Information

SOME TIBCO SOFTWARE EMBEDS OR BUNDLES OTHER TIBCO SOFTWARE. USE OF SUCH EMBEDDED OR BUNDLED TIBCO SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED TIBCO SOFTWARE. THE EMBEDDED OR BUNDLED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER TIBCO SOFTWARE OR FOR ANY OTHER PURPOSE.

USE OF TIBCO SOFTWARE AND THIS DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED SOFTWARE LICENSE AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER LICENSE AGREEMENT WHICH IS DISPLAYED DURING DOWNLOAD OR INSTALLATION OF THE SOFTWARE OR IF THERE IS NO SUCH SOFTWARE LICENSE AGREEMENT OR CLICKWRAP END USER LICENSE AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document contains confidential information that is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of TIBCO Software Inc.

TIBCO and Spotfire are either registered trademarks or trademarks of TIBCO Software Inc. and/or subsidiaries of TIBCO Software Inc. in the United States and/or other countries. All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only. This software may be available on multiple operating systems. However, not all operating system platforms for a specific software version are released at the same time. Please see the readme.txt file for the availability of this software version on a specific operating system platform.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. TIBCO SOFTWARE INC. MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S) AND/OR THE PROGRAM(S) DESCRIBED IN THIS DOCUMENT AT ANY TIME.

Copyright © 1996- 2009 TIBCO Software Inc. ALL RIGHTS RESERVED.
THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "READ ME" FILES.

TIBCO Spotfire is covered by U.S. Patent No. 6,014,661 and U.S. Patent No. 7, 216,116. Other patent(s) pending. TIBCO Software Inc. Confidential Information

Table of Contents

1 INTRODUCTION 1

2 LOGGING IN 2

2.1 Logging In 2

3 SERVER ADMINISTRATION 3

3.1 Determining which Pipeline Pilot Protocols Should be Available in Spotfire 3

3.2 Managing Pipeline Pilot Servers 3

3.3 Details 4

4 CONFIGURE COMPUTATIONS 7

4.1 Adding a New Computation 7

4.2 Editing a Computation 8

4.3 Editing Parameters 8

4.4 Details 13

5 RUN COMPUTATION 29

5.1 Using Computations 29

5.2 Details on Pipeline Pilot Computation 30

5.3 Details on Parameter Prompt Dialogs 31

5.4 More About Parameters and Prompt Dialogs 34

6 GUIDE TOOLS 43

6.1 What are Guide Tools? 43

6.2 Configuring Pipeline Pilot Guide Tools 43

6.3 Details on Configure Pipeline Pilot Guide Tools 44

6.4 Details on Select Prompted Parameters 45

7 APPENDIX 46

7.1 Third Party Software Notices 46

8 INDEX 47

1 Introduction

These additional help topics provide a description of the functionality available in the TIBCO Spotfire Connector for Pipeline Pilot. It is important to note that these topics do not cover protocol generation in detail, nor any work done within Pipeline Pilot. See Accelrys for training in these areas. Neither does these help topics cover any further analysis done in TIBCO Spotfire. See the main TIBCO Spotfire help topics for more information about the available functionality.

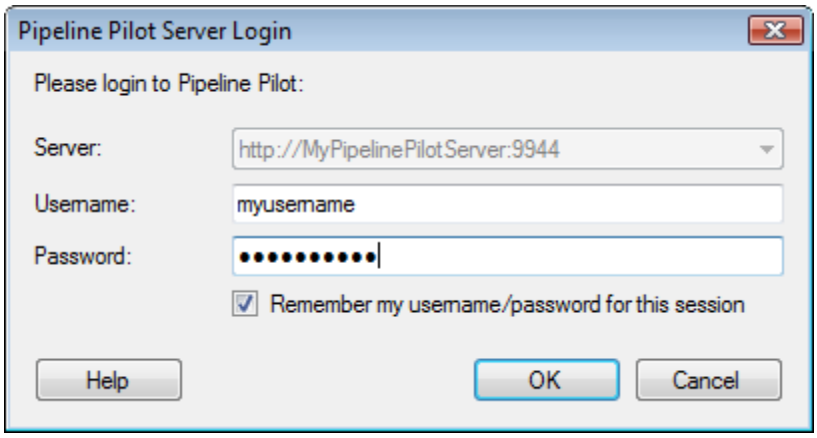
The TIBCO Spotfire Connector for Pipeline Pilot allows you to combine the visual interactive analytics of Spotfire with the high-throughput data pipelining capabilities of Accelrys SciTegic Pipeline Pilot. The connector allows you to deploy Pipeline Pilot protocols to other TIBCO Spotfire users, so that they can take advantage of powerful computations without having to learn any details of creating protocols themselves.

The TIBCO Spotfire Connector for Pipeline Pilot gives you the opportunity to define input prompts and appropriate output parameters. The Pipeline Pilot computation can then be run from within TIBCO Spotfire.

2 Logging In

2.1 Logging In

When you run any of the TIBCO Spotfire Connector for Pipeline Pilot tools and you have selected which server to run against, a login dialog appears:



Enter your Username and Password, and click on the OK button to connect to the Pipeline Pilot server.

If you are working on a large company with multiple Pipeline Pilot servers, you may occasionally also need to change the server you are connecting to. This is done in the Select Server step before reaching the login dialog. New servers can be added to the list by clicking on the Manage Servers... link in the Server Administration - Select Server dialog.

3 Server Administration

3.1 Determining which Pipeline Pilot Protocols Should be Available in Spotfire

When you have created a set of protocols on the Pipeline Pilot server, you need to specify which ones should be available in TIBCO Spotfire. This is done with the Server Administration tool.

Only those protocols that have been published here will be available for configuration in the Configure Pipeline Pilot Computation dialog.

Protocols that are intended to be used as a data source or a data transformation in TIBCO Spotfire must have one and only one output parameter of the type URL or DestinationURL in Pipeline Pilot. This parameter is then automatically populated with the Data output handler in the configuration of the protocol in TIBCO Spotfire. See Adding a New Computation and Editing Parameters for more information about configuration.

► To make a protocol available in TIBCO Spotfire:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Server Administration...**.
   Response: The Server Administration - Select Server dialog is displayed.
2. Select the Pipeline Pilot server of interest from the drop-down list.
   Comment: If you need to add another server to the list, click on the Manage server... link and follow the instructions under Managing Pipeline Pilot Servers.
3. Click **OK**.
   Response: The Pipeline Pilot Server Login dialog is displayed.
4. Enter the **Username** and **Password** for the selected server.
5. Click **OK**.
   Response: The Server Administration - Publish Protocols dialog is displayed.
6. Click on the protocol you want to make available in the **Pipeline Pilot protocols available for selection** list.
7. Click on **Add >**.
   Response: The selected protocol is moved to the Selected protocols available in TIBCO Spotfire list.
8. Repeat steps 6 and 7 for all protocols you want to make available.
9. When you are done, click **OK**.

3.2 Managing Pipeline Pilot Servers

Use the instructions below to add or edit the list of available Pipeline Pilot servers.

► To add a new Pipeline Pilot server to the list of available servers:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Server Administration...**.
   Response: The Server Administration - Select Server dialog is displayed.
2. Click on the **Manage servers...** link.
   Response: The Manage Servers dialog is displayed.
3. Click on **Add...**.
   Response: The Add Server dialog is displayed.

4. Enter the address to the new Pipeline Pilot server.
5. Click **OK**.
   Response: The new server address is shown in the Manage Servers dialog.
6. Click **OK**.
   Response: The new server can now be selected in the Server Administration - Select Server dialog.

► To edit the address to a Pipeline Pilot server:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Server Administration...**.
   Response: The Server Administration - Select Server dialog is displayed.
2. Click on the **Manage servers...** link.
   Response: The Manage Servers dialog is displayed.
3. Click on **Edit...**.
   Response: The Edit Server dialog is displayed.
4. Edit the address to the Pipeline Pilot server.
5. Click **OK**.
   Response: The updated server address is shown in the Manage Servers dialog.
6. Click **OK**.
   Response: The updated server address can now be selected in the Server Administration - Select Server dialog.

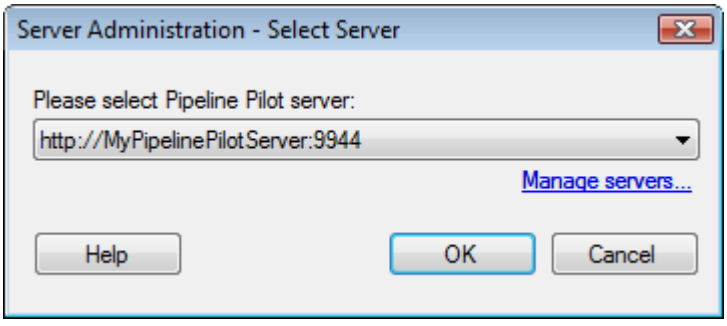
3.3 Details

3.3.1 Details on Server Administration - Select Server

You must always connect to a Pipeline Pilot server if you want to use any of the TIBCO Spotfire Connector for Pipeline Pilot tools. The Server Administration tool helps you to configure which protocols should be available on each server.

► To reach the Server Administration - Select Server dialog:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Server Administration...**.



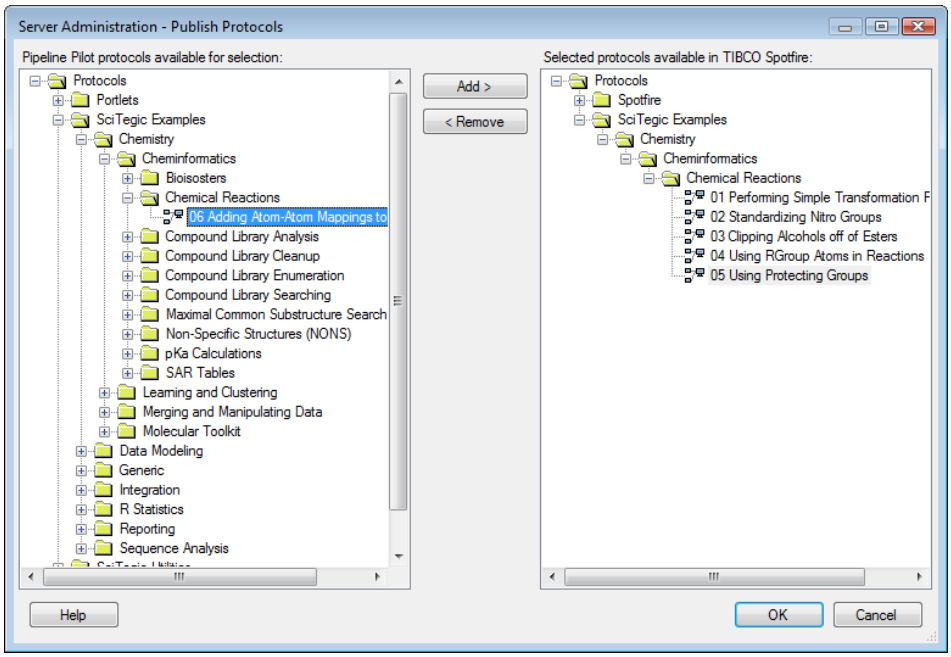
Select the Pipeline Pilot server to use from the drop-down list. If you want to add a server, or edit the address to a server, click on the Manage servers... link.

3.3.2 Details on Server Administration - Publish Protocols

This dialog allows you to specify which of the protocols on the Pipeline Pilot server should be available for configuration of TIBCO Spotfire computations.

► To reach the Server Administration - Publish Protocols dialog:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Server Administration...**.
2. If you have not previously logged into a server then you will be prompted to do so now.

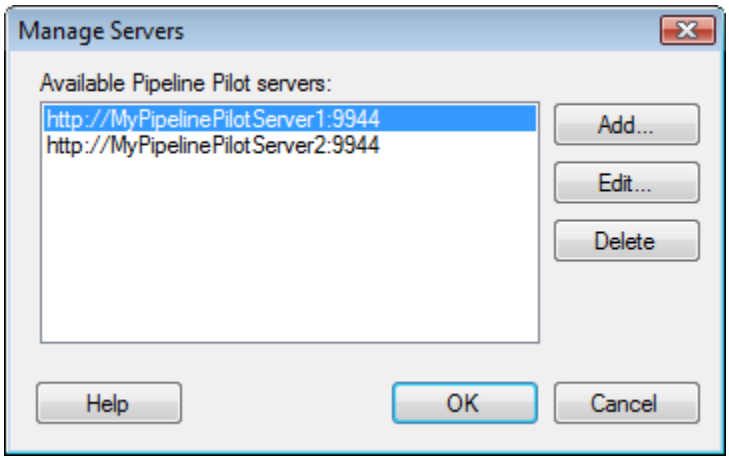


Option	Description
Pipeline Pilot protocols available for selection	Lists all protocols that are available on the selected Pipeline Pilot server and have not yet been published to TIBCO Spotfire.
Selected protocols available in TIBCO Spotfire	Lists all protocols that have been selected to be available for configuration into computations in TIBCO Spotfire.

3.3.3 Details on Manage Servers

► To reach the Manage Servers dialog:

1. Click on the **Manage servers...** link in the Server Administration - Select Server dialog.



Option	Description
Available Pipeline Pilot servers	Lists all available Pipeline Pilot servers. You must always connect to a Pipeline Pilot server if you want to use any of the TIBCO Spotfire Connector for Pipeline Pilot tools.
Add...	Opens a dialog where you can add a new server to the list.
Edit...	Opens a dialog where you can edit the path to the server selected in the list.
Delete	Removes the selected server from the Available Pipeline Pilot servers list.

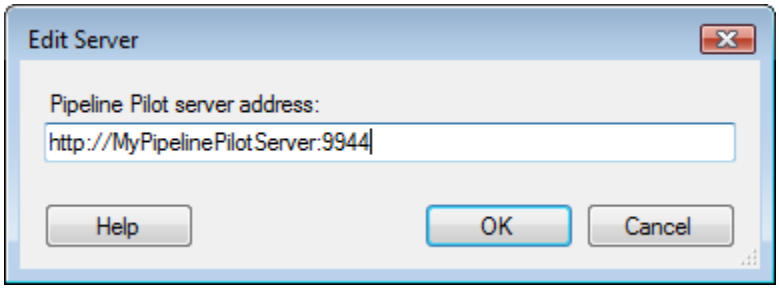
3.3.4 Details on Add/Edit Server

► To reach the Add Server dialog:

1. In the Server Administration - Select Server dialog, click on the **Manage Servers...** link.
2. In the Manage Servers dialog, click **Add...**.

► To reach the Edit Server dialog:

1. In the Server Administration - Select Server dialog, click on the **Manage Servers...** link.
2. In the Manage Servers dialog, click to select a server, then click **Edit...**.



Type the address to the Pipeline Pilot server in the field.

4 Configure Computations

4.1 Adding a New Computation

Once some Pipeline Pilot protocols have been made available in TIBCO Spotfire you can start to configure computations. A computation is what determines how the result from the Pipeline Pilot protocol should be used in TIBCO Spotfire. It could be a new data source, a transformation step used when retrieving data from other sources or a stand-alone tool used from a link in a text area of a guided analysis. Each protocol can result in several different computations.

► To add a new computation:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Configure Computations...**.

   Response: The Configure Pipeline Pilot Computations dialog is displayed.
2. Click **Add.....**

   Response: The Add Computation - Select Server dialog is displayed.
3. Select the Pipeline Pilot server of interest from the drop-down list.

   Comment: See Managing Pipeline Pilot Servers for more information about how to add Pipeline Pilot servers to the list of available servers.
4. Click **OK.**

   Response: The Add Computation - Select Pipeline Pilot Protocol dialog is displayed.
5. Select the protocol of interest from the list of **Available protocols**.

   Comment: Only the protocols that have been published in the Server Administration - Publish Protocols dialog will be available. See Determining which Pipeline Pilot Protocols Should be Available in Spotfire for more information.
6. Click **OK.**

   Response: The Add Computation - Select Usage Mode dialog is displayed.
7. Click on a radio button to determine how the computation should be used.

   Comment: It could be used as a new data source, as a transformation step used when retrieving data or as a stand-alone tool. See the note below for more information.
8. Click **OK.**

   Response: The Add Computation - Configure dialog is displayed.
9. If desired, edit the description of the computation or edit the parameters by clicking on the button to the right for each parameter.

   Comment: See Editing Parameters for more information.
10. Determine whether or not the computation should be available to end users by selecting or clearing the check box at the bottom of the dialog.
11. Click **OK.**

    Response: The new computation is added to the list of Available computations in the Configure Pipeline Pilot Computations dialog and it can also be used from the specified location as defined in the Add Computation - Select Usage Mode dialog.

Note: Protocols that are intended to be used as a data source or as a data transformation in TIBCO Spotfire must have one and only one output parameter of the type URL or DestinationURL in Pipeline Pilot. This parameter is then automatically populated with the Data output handler in the configuration of the protocol in TIBCO Spotfire.

A protocol that should be used as a data source cannot have an input parameter that operates on existing data, e.g., a parameter that is configured with a Data from Spotfire input handler.

4.2 Editing a Computation

Once some Pipeline Pilot protocols have been made available in TIBCO Spotfire you can start to configure computations. A computation is what determines how the result from the Pipeline Pilot protocol should be used in TIBCO Spotfire.

► To edit a computation:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Configure Computations...**.
   Response: The Configure Pipeline Pilot Computations dialog is displayed.
2. Click **Edit...**.
   Response: The Edit Computation dialog is displayed.
3. If desired, edit the Name or Description of the computation, or edit the parameters by clicking on the button to the right of each parameter.
   Comment: See Editing Parameters for more information.
4. To publish a computation so that end users can see it, select the **Make this computation available to end users** check box.
5. Click **OK**.
   Response: The computation is updated.

4.3 Editing Parameters

You can edit some settings for the parameters which have been defined at the creation of the Pipeline Pilot protocol. This is done by clicking on the ... button to the right of the parameter in the Add Computation - Configuration dialog or in the Edit Configuration dialog.

It is normally a good idea to find out as much as possible about a parameter before you edit any of the settings. Depending on the type of parameter, you can change whether it should be an Input or an Output parameter. However, changing something that has been created to be of one type to another might lead to strange results. The most common case of editing parameters is probably that you need to change the handlers that determine what to do with each parameter. However, the available handlers for a certain parameter will depend on the type of parameter. You cannot select a handler that does not agree with the character of the selected parameter. See Details on Edit Parameter for descriptions of all handlers.

Input handlers

Input handlers will determine whether the input will be treated as a string, integer or real, or as data from a data table currently available in TIBCO Spotfire. You can only use one input handler per parameter. Input parameters can often be filled with content by prompting the end user for information.

A protocol that should be used as a data source cannot have an input parameter that operates on existing data, e.g., a parameter that is configured with a Data from Spotfire input handler.

Output handlers

If the computation is run as a tool, you can use more than one output handler for a parameter. For example, this means that the result from the computation may be added both as new columns to be incorporated with the current data table in the analysis and as a new data table. This gives the end users of the computation the opportunity to decide how to use the results for themselves.

The Add columns, Add data table, Add rows, Replace data table and Data output handlers all require a file to be produced by the Pipeline Pilot protocol. The file type can be either a tab delimited text file or an SD file. The path to the file must be given to a parameter of the type URL or DestinationURL in Pipeline Pilot which is then configured in TIBCO Spotfire with one of the handlers listed above.

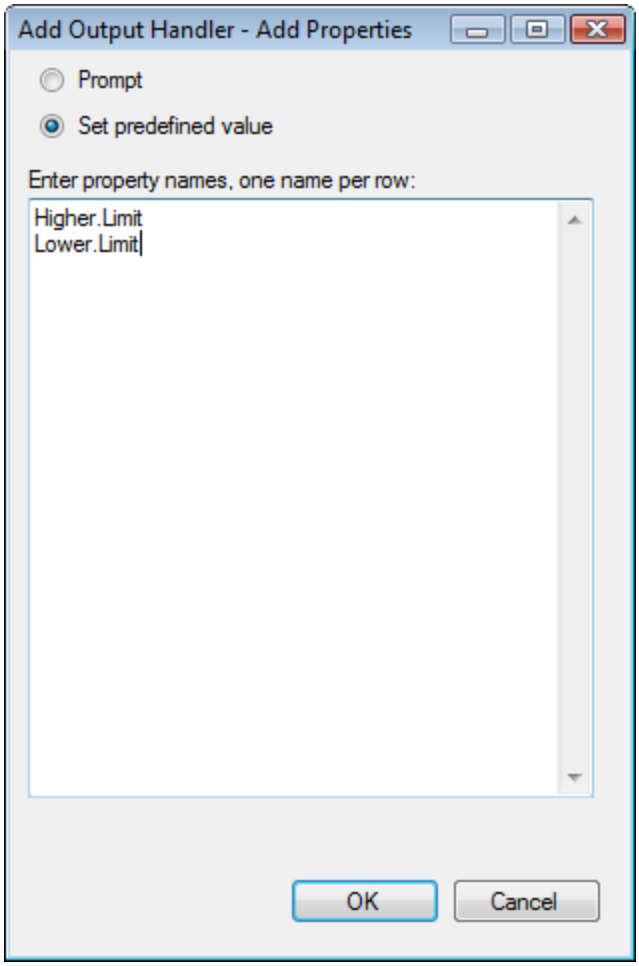
Some output handlers require a little more configuration than others. See the examples below.

Add properties:

This output handler allows you to use the output parameter results as document properties in the analysis.

Example: You can use the resulting document properties to define lines in a visualization, representing the approved higher and lower limits of the displayed values.

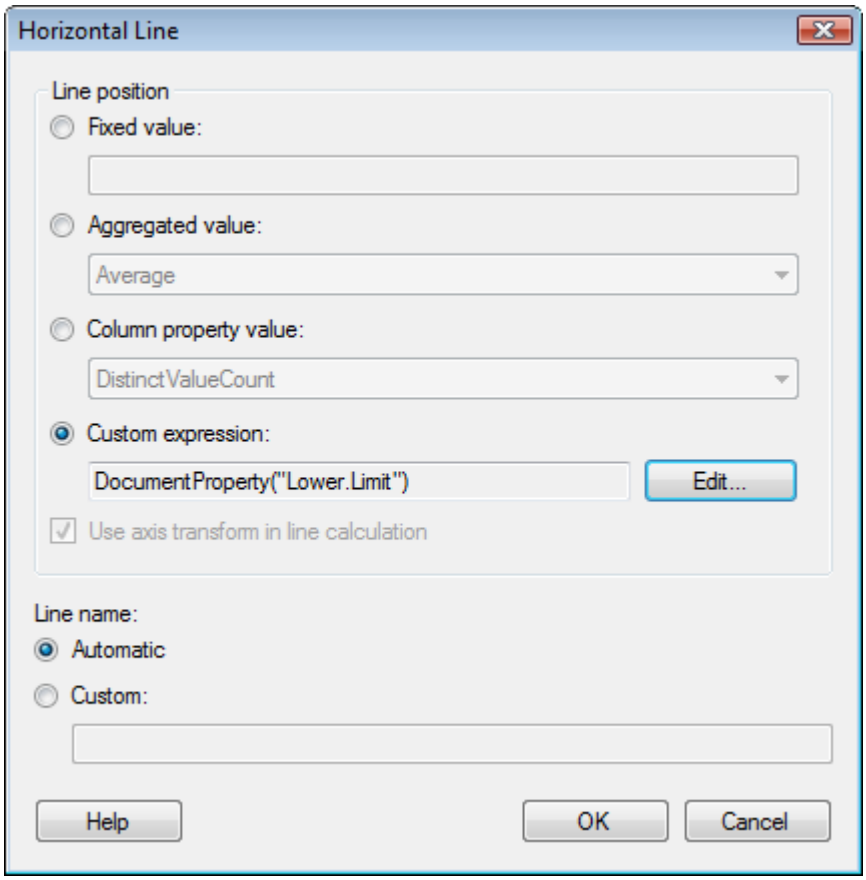
1. In the Pipeline Pilot computation, specify the property names to use:



The number of entered property names must match the number of values returned by the parameter. If you have not created the protocol yourself, this information should be available from the creator of the protocol.

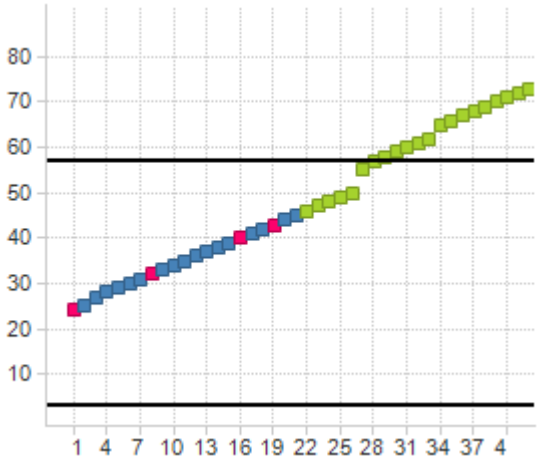
2. Run the computation to apply the properties to the current analysis.

3. In the selected visualization of your TIBCO Spotfire analysis, specify custom expressions to use when defining straight lines using the defined properties.



You reach the dialog shown above by selecting **Edit > Visualization Properties**, going to the **Lines & Curves** page and **Add > Horizontal Line > Y-axis: Straight Line...**.

4. If desired, add more lines.
5. Look at the results:



In the image above, both the higher limit and the lower limit have been shown in the scatter plot.

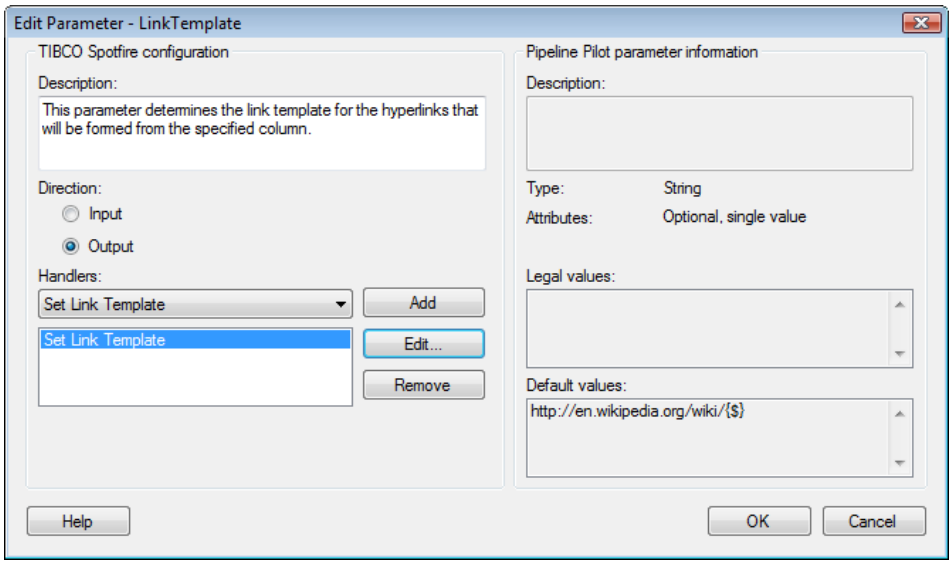
Set link template:

This output handler specifies the LinkTemplate property on a column, so that the content of that column is shown as hyperlinks leading to the URL defined in the protocol. Search for LinkTemplate in the main TIBCO Spotfire help for more information about this property.

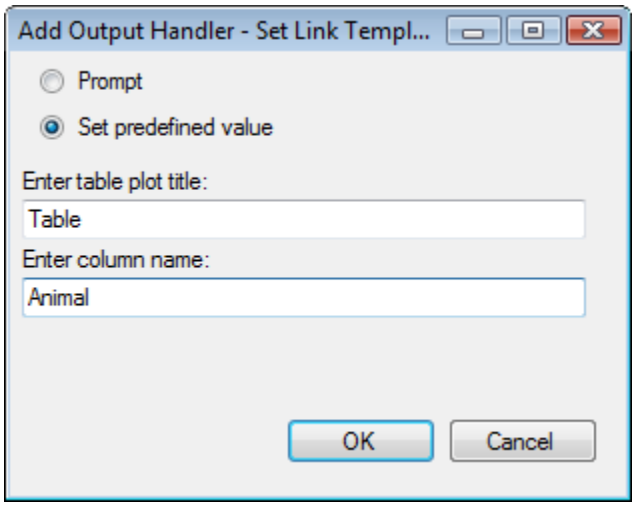
A simple example; if we have a table visualization containing a column with different animals, we can use the set link table output handler to connect each animal type to its corresponding Wikipedia page by doing the following:

1. In the Pipeline Pilot protocol, specify an output string parameter with the default value http://en.wikipedia.org/wiki/{$}.

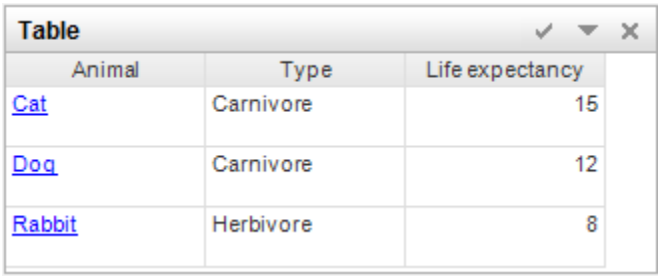
2. Configure a computation in TIBCO Spotfire using the Pipeline Pilot protocol and edit the output parameter to use the Set link template output handler.



3. Determine whether to prompt the end user for input or predefine the table and column to use.



4. Run the computation.

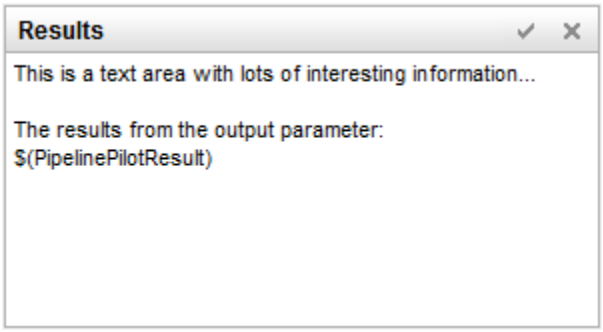


Show in text area:

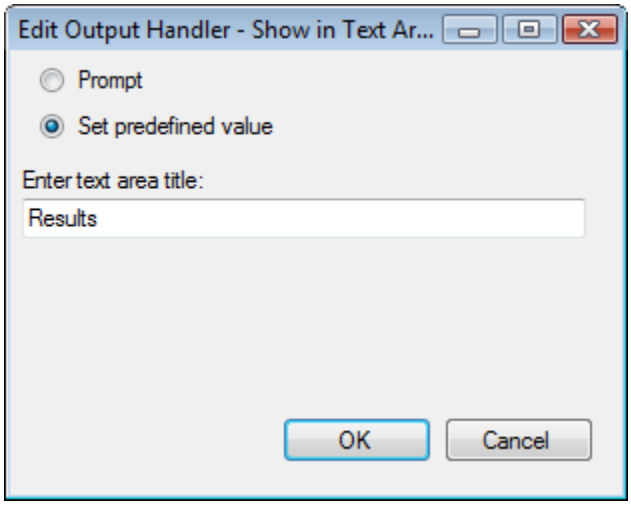
This output handler populates a text area in Spotfire with the values of the output parameter.

In this example, we have a text area entitled Results available in the analysis and we want the output results from a computation to be shown on a specific location in that text area.

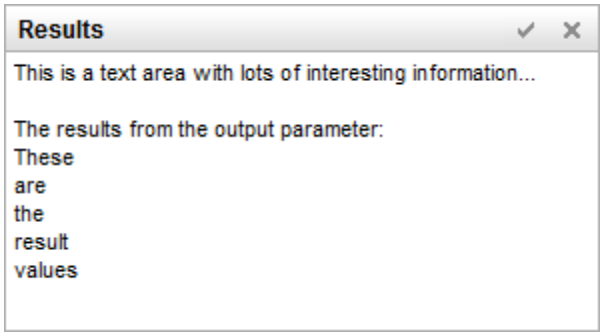
1. In the text area, type "$(PipelinePilotResult)" where you want the results from the output parameter to appear.



2. Edit the configuration for the output parameter so that it uses the Show in text area handler and specify the predefined value to the name of the desired text area (in this example, "Results").



3. Run the computation.



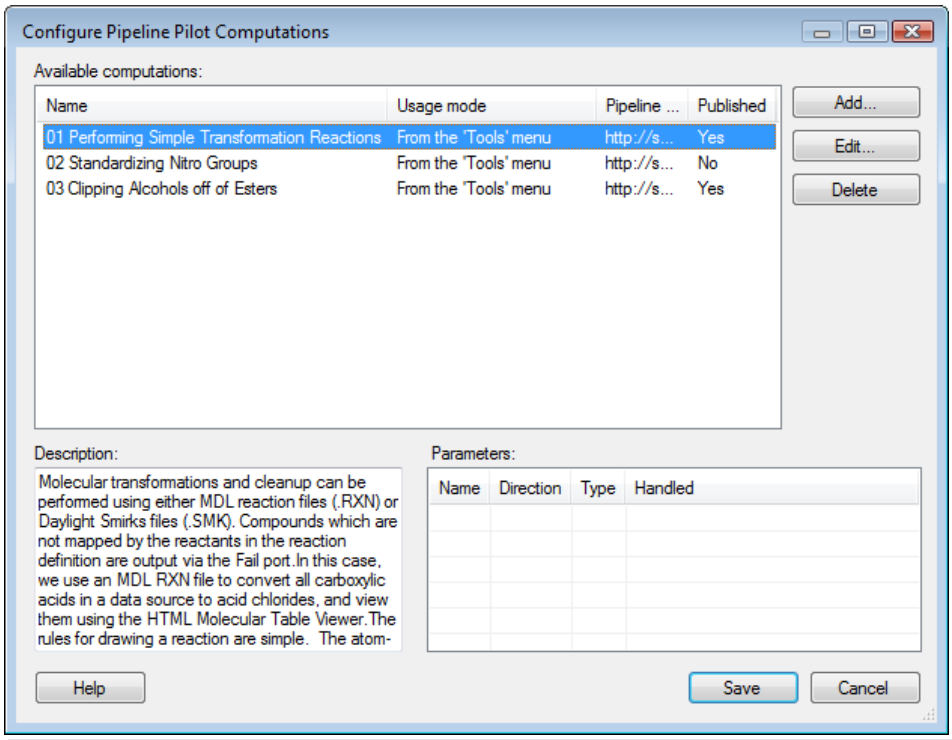
The results are shown in the specified text area instead of the placeholder.

4.4 Details

4.4.1 Details on Configure Pipeline Pilot Computations

► To reach the Configure Pipeline Pilot dialog:

1. Select **Tools** > **TIBCO Spotfire Connector for Pipeline Pilot** > **Configure Computations...**.



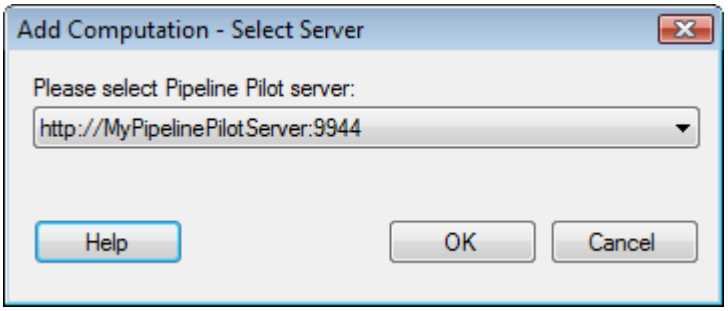
Option	Description
Available computations	Lists the currently available computations. The usage mode, the server name and whether or not the computation has been made available to end users (published) are also shown.
Add...	If you have not previously logged in to a Pipeline Pilot server, you need to do so now. Opens the Add Computation wizard where you can choose which protocol from the server you wish to add as an available computation. You also get a chance to configure the computation according to your own choice.
Edit...	Opens the selected computation for editing.
Delete	Deletes the selected computation.
Description	Displays the description added by the creator of the protocol. This description can also be changed by clicking **Edit...**.
Parameters	Displays the available parameters.

4.4.2 Details on Add Computation - Select Server

This dialog allows you to select from which Pipeline Pilot server you wish to add a computation.

► To reach the Add Computation - Select Server dialog:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Configure Computation...**.
   Response: The Configure Pipeline Pilot Computation dialog is displayed.
2. Click **Add...**.



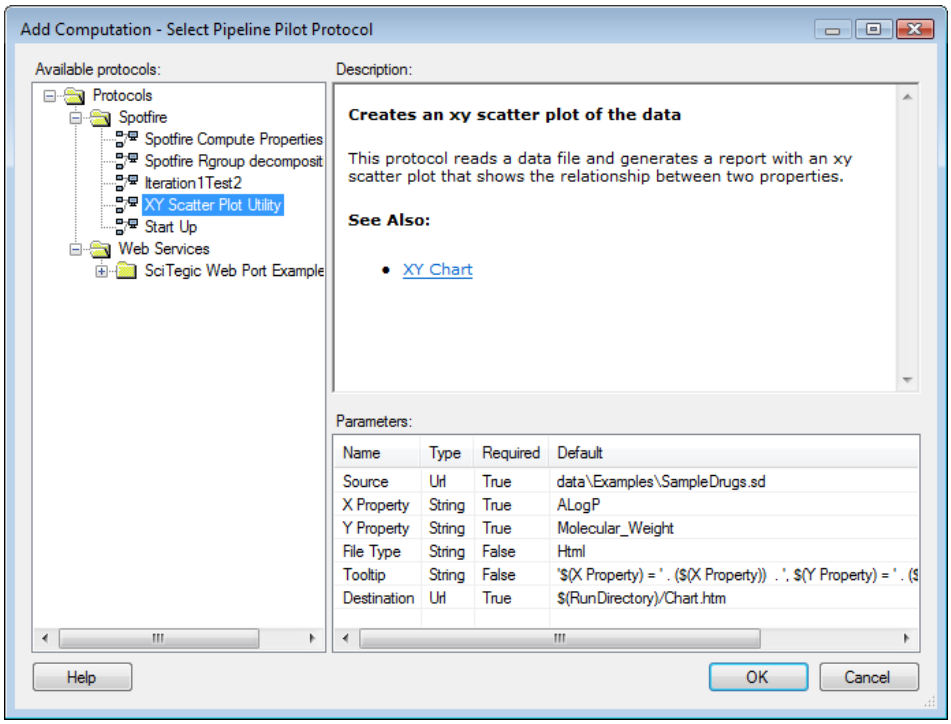
Select the Pipeline Pilot server to use from the drop-down list.

4.4.3 Details on Add Computation - Select Pipeline Pilot Protocol

In this dialog, you select which Pipeline Pilot protocol to add as a new computation available in TIBCO Spotfire.

► To reach the Add Computation - Select Pipeline Pilot Protocol dialog:

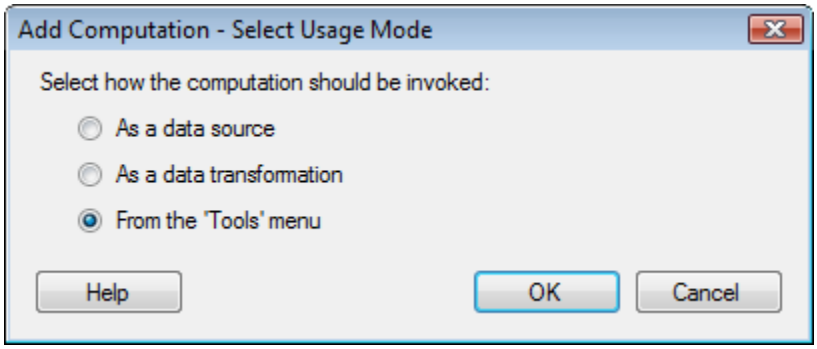
1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Configure Computations...**.
2. If you have not previously logged into a server then you will be prompted to do so now.
3. In the Configure Pipeline Pilot Computation dialog, click **Add...**.



Option	Description
Available protocols	Lists the protocols that have been specified to be available in TIBCO Spotfire using the Server Administration - Publish Protocols dialog.
Description	Shows the description of the selected protocol as the creator of the protocol wrote it in Pipeline Pilot.
Parameters	Lists the parameters that have been defined for the selected protocol.

4.4.4 Details on Add Computation - Select Usage Mode

This dialog is used to specify where you want the new computation to appear. It is automatically shown when you have selected to add a Pipeline Pilot protocol. You cannot go back to change the selection once you have clicked OK; add another computation instead.



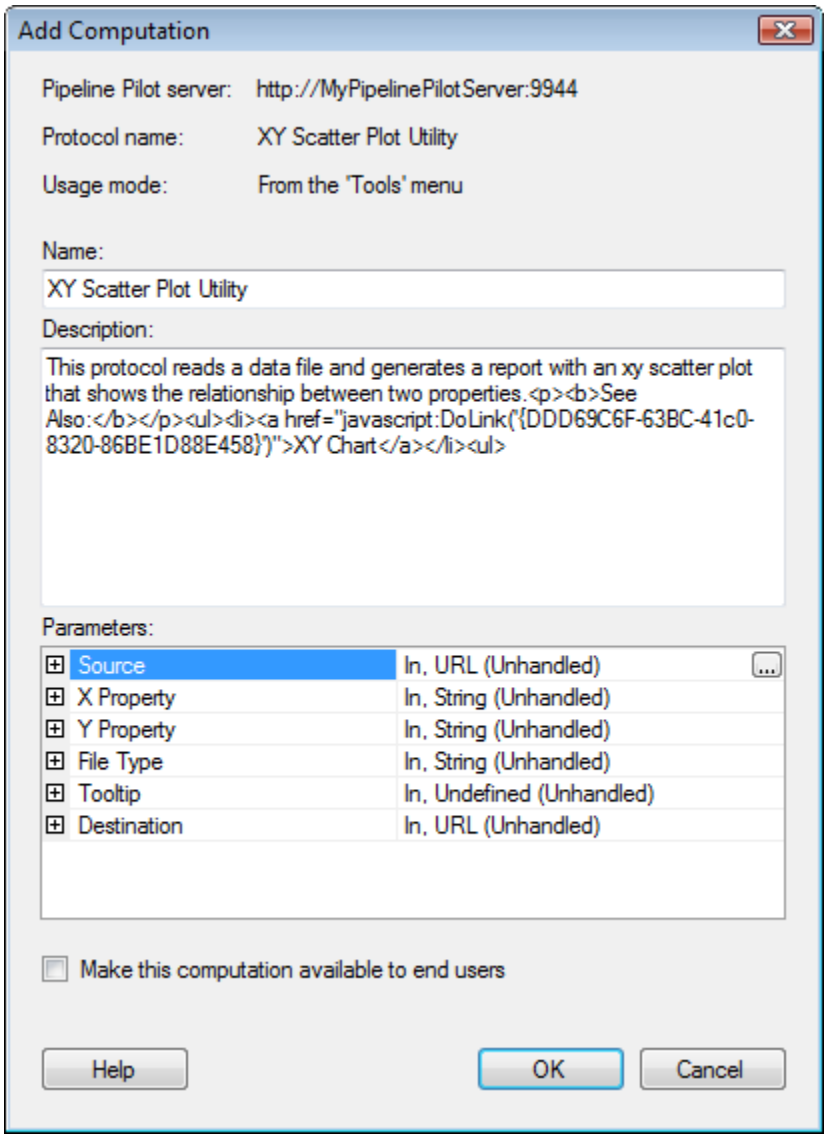
The selection made in this dialog affects the choices available for further configuration of the computation at a later stage.

Option	Description
As a data source	Select this option if you want the Pipeline Pilot computation to be shown among the available data sources from the **File > Open From**

	menu and in tools that can add data such as the wizards listed below. In the Add Data Table wizard, the Replace Data Table wizard, the Insert Columns from External Data wizard and the Insert Rows from External Data wizard, the TIBCO Spotfire Connector for Pipeline Pilot option will be shown in the Other drop-down list once this option has been selected.
As a data transformation	Select this option if you want the Pipeline Pilot computation to be shown among the available transformations in the Add Data Table wizard, the Replace Data Table wizard, the Insert Columns from External Data wizard and the Insert Rows from External Data wizard. See the main TIBCO Spotfire help for more information about transformations and the various wizards.
From the 'Tools' menu	Select this option if you want the Pipeline Pilot computation to be available when selecting **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Run Computation...**. This option should also be selected if you want to use the computation as a guide tool.

4.4.5 Details on Add Computation - Configure

This dialog is used to configure the new computation before it is added to the specified usage point in TIBCO Spotfire.



Option	Description
Pipeline Pilot server	[Read only.] Lists the Pipeline Pilot server that the protocol resides on.
Protocol name	[Read only.] Lists the name of the protocol on the Pipeline Pilot server.
Usage mode	[Read only.] Lists where this computation should be available. The usage mode is specified in the Add Computation - Select Usage Mode dialog, prior to this step. Add a new computation using the same protocol if you need to change this setting.
Name	The name of the computation as you want it to be displayed to the end users. This can be a different name than the original protocol name.
Description	Lists the description of the protocol as it was written by the protocol creator. You can edit the text by simply writing in the Description field. The updated description will be shown in the Description field of the

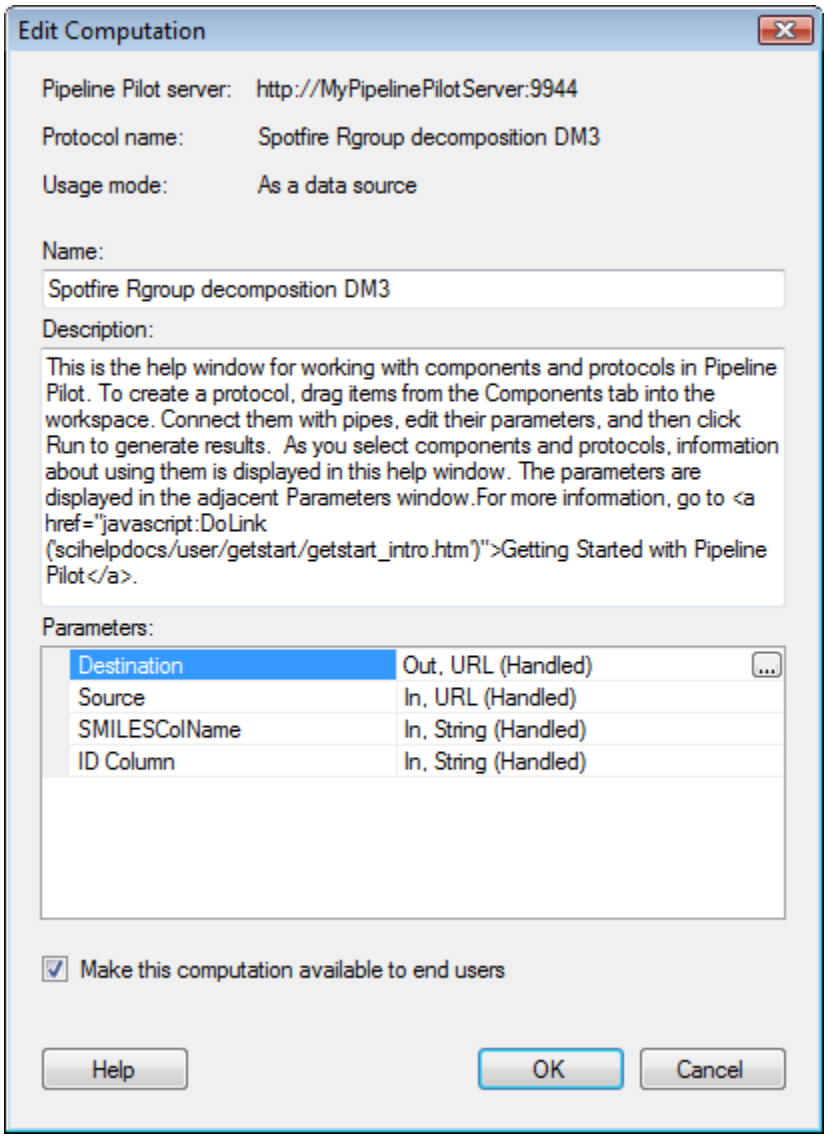
	Configure Pipeline Pilot Computations dialog and the Pipeline Pilot Computation dialog. The description should be written as clearly as possible to help the end users select the correct computation at all situations.
Parameters	Lists the specified parameters for the selected protocol. You can click to select a specific parameter and then click on the edit parameter button, , to change the settings of the selected parameter, See Editing Parameters for more information. Only parameters promoted to the protocol level will be visible in this list.
Make this computation available to end users	Select this check box to make the computation available to end users which do not have the license to configure protocols. Keep the check box cleared until you are finished with all configurations and the computation works as it should.

4.4.6 Details on Edit Computation

This dialog is used to edit a previously configured computation.

► To reach the Edit Computation dialog:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Configure Computations...**.
2. Click **Edit...**.



Option	Description
Pipeline Pilot server	[Read only.] Lists the Pipeline Pilot server that the protocol resides on.
Protocol name	[Read only.] Lists the name of the protocol on the Pipeline Pilot server.
Usage mode	[Read only.] Lists where this computation should be available. The usage mode is specified in the Add Computation - Select Usage Mode dialog, prior to this step. Add a new computation using the same protocol if you need to change this setting.
Name	The name of the computation as you want it to be displayed to the end users. This can be a different name than the original protocol name.
Description	Lists the description of the protocol as it was written by the protocol creator. You can edit the text by simply writing in the Description field. The updated description will be shown in the Description field of the

	Configure Pipeline Pilot Computation dialog and the Pipeline Pilot Computation dialog. The description should be written as clearly as possible to help the end users select the correct computation at all situations.
Parameters	Lists the specified parameters for the selected protocol. You can click to select a specific parameter and then click on the edit parameter button, , to change the settings of the selected parameter, See Editing Parameters for more information. Only parameters promoted to the protocol level will be visible in this list.
Make this computation available to end users	Select this check box to make the computation available to end users which do not have the license to configure protocols. Keep the check box cleared until you are finished with all configurations and the computation works as it should.

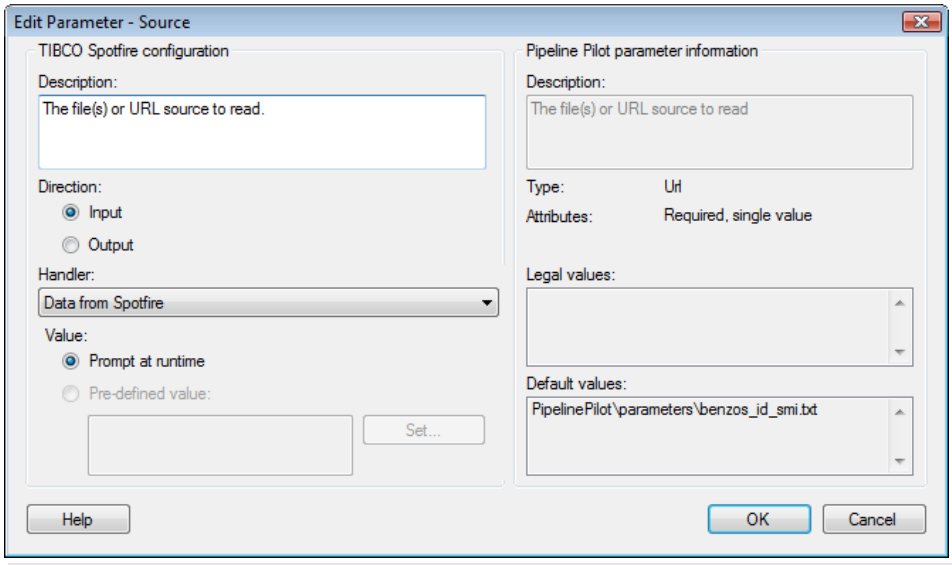
4.4.7 Details on Edit Parameter

The parameters of a computation can be edited by clicking on the edit parameter button, , in the Add Configuration - Configure or the Edit Configuration dialog.

However, the available handlers for a certain parameter will depend on the type of parameter. You cannot select a handler that does not agree with the character of the selected parameter. The usage mode of the computation also limits the available handlers.

TIBCO Spotfire configuration:

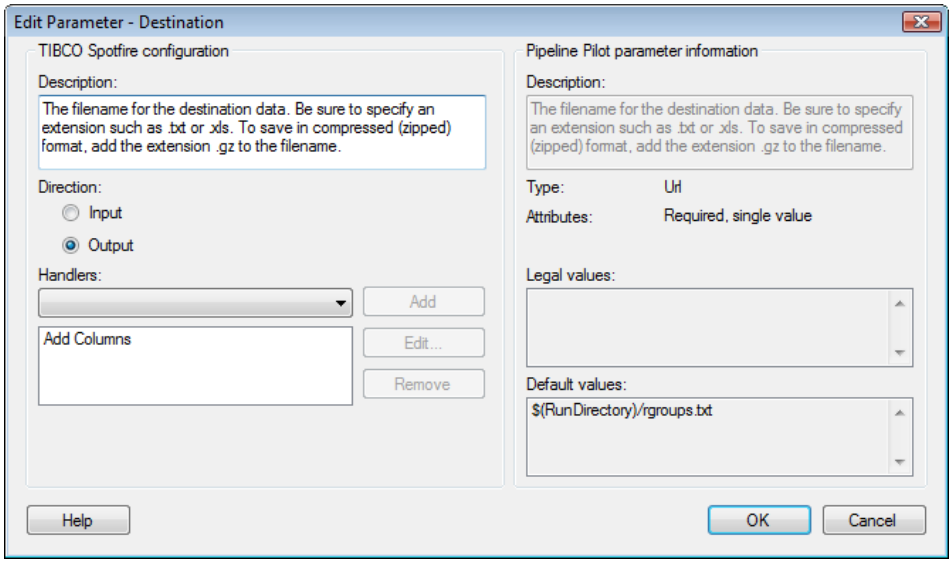
Input parameters:



Option	Description
Parameter description	Displays the description of the parameter for the TIBCO Spotfire users. The general description that was written upon creation of the protocol can be edited for further detail. The description written here is displayed in the prompt dialog, if a prompt step is defined. This allows you to write specific instructions on the type of input that is required for this parameter.

	Note: If the protocol requires certain columns to be included, it is important to add that information here to help users select the correct columns in the prompt dialog.
Direction	Specifies whether this should be an **Input** or **Output** parameter.
Handler	Specifies how the parameter should be handled: **Empty (unhandled)** - No input handler has been selected. This option can be used if the parameter not is required by the protocol. **String** - Specifies that the input parameter should be treated as a string. It can either be a single value or an array. **Integer** - Specifies that the input parameter should be treated as an integer. It can either be a single value or an array. **Real** - Specifies that the input parameter should be treated as a real. (This parameter type corresponds to the DoubleType in Pipeline Pilot.) It can either be a single value or an array. Note that if there are legal values set for a Real parameter, no validation will be done. **Data from Spotfire** - Specifies that the input parameter should be data from a data table currently available in TIBCO Spotfire. A prompt allows you to specify what data to use at runtime. The Data from Spotfire input handler can be used for the parameter type URL or DestinationURL in Pipeline Pilot (PP). The PP protocol then needs to have one of two file reader components, e.g., a tab delimited text reader or an SD file reader. The second reader must be used when the data contains Molfiles and the first reader is used in any other case. **Note:** If the protocol requires certain columns to be included, it is important to add that information in the Parameter description to help users select the correct columns in the prompt dialog.
Value	
Prompt at runtime	Select this option to prompt the end user of the computation for input.
Pre-defined value	[Not available for the Data from Spotfire option.] Select this option to specify a value (or an array of values) to use as input manually.
Set...	Opens a dialog where you can specify the input parameter.

Output parameters:



Option	Description
Description	Displays the description of the parameter for the TIBCO Spotfire users. The general description that was written upon creation of the protocol can be edited for further detail.
Direction	Specifies whether this should be an **Input** or **Output** parameter.
Handlers	Specifies how the parameter should be handled: **Add columns** - Specifies that the output parameter should add new columns to the currently available data table. If the computation is run as a tool, you will be prompted to specify which join type to use. **Add data table** - Specifies that the output parameter should be sent to the Add data table tool so that it can be used as a new data table in the open analysis. **Add properties** - Specifies that the output parameter values should be used as document properties in the analysis. You can either predefine the document properties or prompt for them at runtime. The properties must be defined on the form "prefix.suffix". Search for Document Properties in the main TIBCO Spotfire help for information about where document properties can be used. **Add rows** - Specifies that the output parameter should be sent to the Add rows tool so that it can be used to add new rows to the currently available data tables. **Replace data table** - Specifies that the output parameter should be sent to the Replace data table tool where it can replace any of the currently open data tables. **Data** - This output parameter returns some form of data to Spotfire and is always used when the usage mode for a computation is a data source or a data transformation. **Set link template** - This output handler specifies the LinkTemplate property on a column, so that the content of that column is shown as hyperlinks leading to the URL as it has been defined in the protocol. Search for LinkTemplate in the main TIBCO Spotfire help for more information about this property. The title of the table visualization and the column name for the column

	which should contain the hyperlinks is specified in a prompt dialog. **Show in text area** - This output handler populates a text area in Spotfire with the values of the output parameter. It is possible to show the values in an existing text area or to create a new text area. When this output handler is selected, you will be prompted to specify the name of the text area where you want the values to appear. If a text area with the given title is found in any page of the current analysis, that text area will be used. If no text area is found that matches the given title, a new one will be added. It is also possible to specify a position in an existing text area where the output parameter values will be added. Simply type "$(PipelinePilotResult)" in the text area of interest and that placeholder will be replaced with the result from the Show in text area output handler. The first occurrence of the placeholder will be replaced with the first value. Note: If no placeholder is found in the specified text area, the entire content of the text area will be replaced. If more than one placeholder is added, each following instance of the output handler will replace the first available occurrence of the placeholder. It is therefore possible to display the results from multiple parameters or from multiple computations in the same text area. **Show in browser** - This output handler is used to display the output URLs from the computation in your web browser. The Add columns, Add data table, Add rows, Replace data table and Data output handlers all require a file to be produced by the Pipeline Pilot (PP) protocol. The file type can be either a tab delimited text file or an SD file. The path to the file must be given to a parameter of the type URL or DestinationURL in PP which is then configured in TIBCO Spotfire with one of the handlers listed above.
Add	Adds the handler selected in the drop-down list to the list of chosen handlers. You can add more than one handler for all parameters. See Details on Add/Edit Output Handler for more information about available settings for different handlers.
Edit...	Opens a dialog where the settings for the selected output handler can be changed. Only a few of the output handlers have any settings. See Details on Add/Edit Output Handler for more information about available settings for different handlers.
Remove	Removes the selected handler from the list of chosen handlers.

Pipeline Pilot parameter information:

All the information in this group box is read-only. It shows the settings specified at the creation of the protocol in Pipeline Pilot and it can be of help if you are going to configure parameters for a protocol that someone else has created.

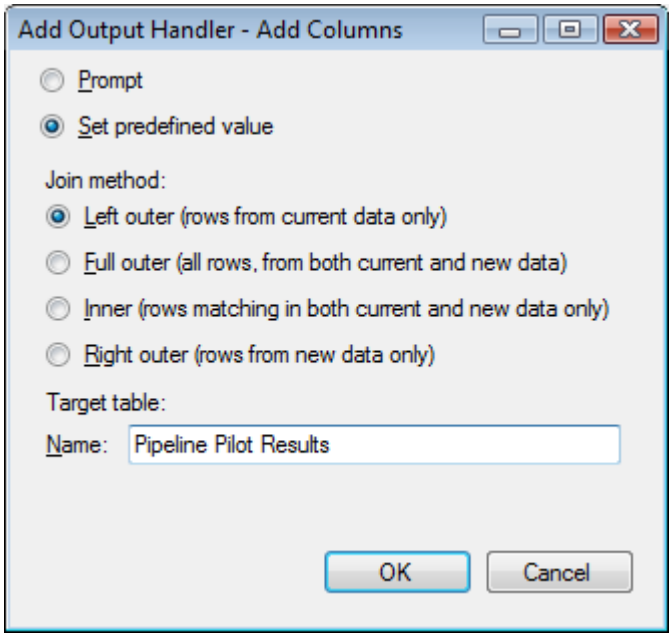
Option	Description
Description	Displays the original description of the parameter from the protocol.
Type	Displays the parameter type.
Attributes	Displays whether the parameter is required or optional, and whether it

	should use a single value or multiple values.
Legal values	Lists the allowed values for this parameter. For example, for a file input value this could be HTML or PDF. The legal values are shown as selectable values in the prompt dialog if the parameter requires input from the end user at runtime.
Default value	Lists the default value of the parameter. Note: If you are using a Pipeline Pilot protocol with an output parameter intended as a URL to a file, then this parameter must have the directory set to one of the following: $(runDirectory), $(jobDir) or $(userDir). If the parameter is set to any other path you must configure this in Pipeline Pilot or the file will not be found from TIBCO Spotfire.

4.4.8 Details on Add/Edit Output Handler

The Output Handler dialog looks different depending on the type of output handler you have selected. Below are examples of the various output handler dialogs.

Add columns

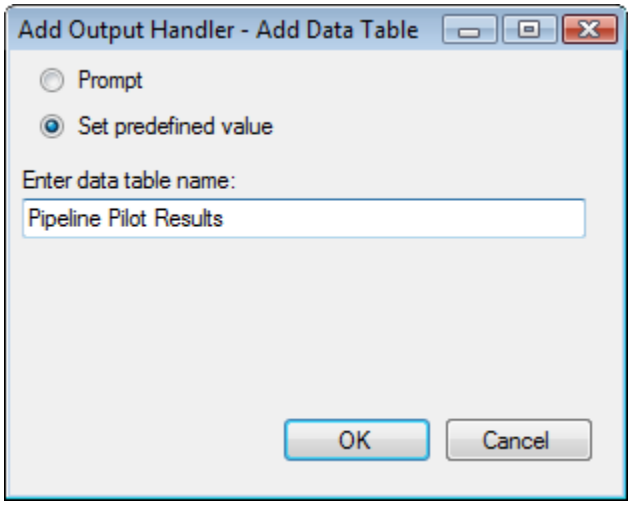


Note: To use this output handler, the computation must supply a data table where one of the columns can be used to match an ID column in the existing data table.

Option	Description
Prompt	Click this radio button to prompt the end user of the computation to determine which join method to use.
Set predefined value	Click this radio button to predefine which join method to use.
Join method	
Left outer	Data will be kept (and columns added) only for rows that are available

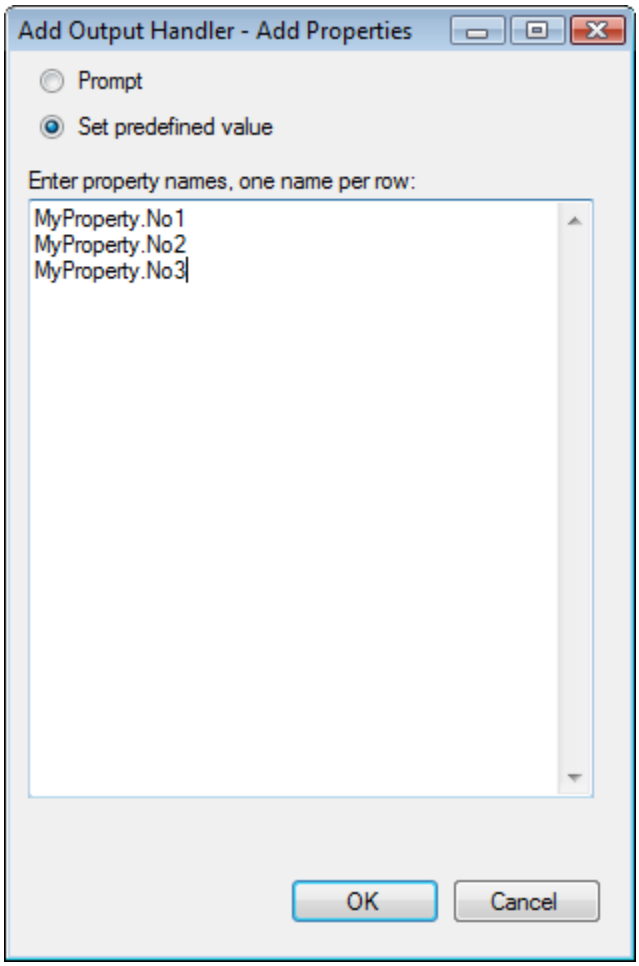
	in the current data table. If additional rows exist in the new data, they will not be added to the current data table.
Full outer	Data will be kept (and columns added) for all rows available in any of the data tables. If additional rows exist in the new data, they will be added to the current data table.
Inner	Data will be kept (and columns added) only for rows that are available in the new data. If the new data contains fewer rows than the current data table, rows will be removed from the current data table after this operation.
Right outer	Data will be kept (and columns added) only for rows that are available in the new data. If the new data contains fewer rows than the current data table, rows will be removed from the current data table after this operation.

Add data table



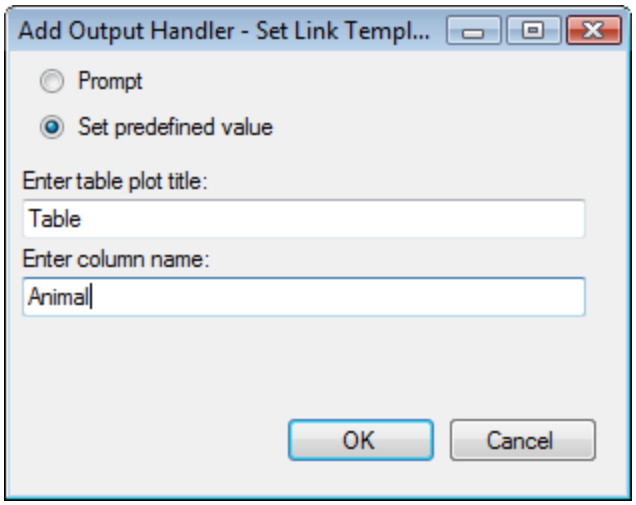
Option	Description
Prompt	Click this radio button to prompt the end user of the computation for the name of the new data table.
Set predefined value	Click this radio button to predefine the name of the resulting data table.
Enter data table name	Type the name of the new data table.

Add properties



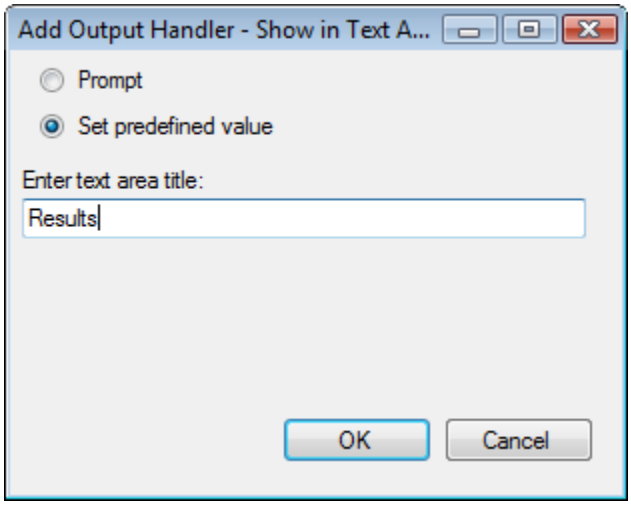
Option	Description
Prompt	Click this radio button to prompt the end user of the computation for property names.
Set predefined value	Click this radio button to predefine the property names to use for this output parameter.
Enter property names, one name per row	Type the names of the document properties that should use the results from the output parameter.

Set link template



Option	Description
Prompt	Click this radio button to prompt the end user of the computation for the table visualization title and the column name of the column to edit.
Set predefined value	Click this radio button to predefine the table visualization title and the column name.
Enter table visualization title	Type the title of the table visualization you wish to edit.
Enter column name	Type the column name of the column containing the data that is going to be converted to hyperlinks.

Show in text area



Option	Description
Prompt	Click this radio button to prompt the end user of the computation for the title of the text area to update with the parameter results.
Set predefined value	Click this radio button to predefine the title of the text area to update with the parameter results.

Enter text area title	Type the title of the text area that should be updated with the results from the output parameter in the field. Leave the field blank to present the results in a new text area.

Show in Browser

For the Show in Browser handler to work, you must design the output parameter of the PP protocol in one of the following ways:

A PP protocol can be designed in two ways for use with the Show in Browser handler:

1. For each output file from PP, an output parameter of type URL need to be created. A Show in Browser output handler must then be configured for each such parameter.

2. Instead of a file, output parameters of type String or StringArray can be created in PP and be returned as result properties. A Show in Browser output handler must then be configured for each such parameter.

5 Run Computation

5.1 Using Computations

Once the Pipeline Pilot protocols have been configured into computations in TIBCO Spotfire they are ready to be used for various types of calculations. Depending on how the computation was set up in the Add Computation - Select Usage Mode dialog, it will show up on different places in the Spotfire user interface.

► To run a computation from the Tools menu:

When the usage mode is set to "From the 'Tools' menu", the computation is displayed as a standalone tool in the Pipeline Pilot Computation dialog.

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Run Computation...**.
2. If you have not previously logged into a server then you will be prompted to do so now.
3. Depending on the type of computation, you may be presented with one or more prompt dialogs where you need to provide some input. See the Details on Parameter (prompt dialogs) for more information.

► To use a computation as a data source in the wizards:

When the "As a data source" option has been selected, the computation is added to all places where you can select a new data source: It can be used in the Add Data Table wizard, the Replace Data Table wizard, the Insert Columns from External Data wizard and the Insert Rows from External Data wizard. See an example below. It is also available if you select **File > Open From > TIBCO Spotfire Connector for Pipeline Pilot...**.

1. Select **File > Add Data Table...**.

   Comment: Follow the same steps for either of the wizards listed above if you want to add Pipeline Pilot data somewhere else.
2. Click **Other**.
3. Select **TIBCO Spotfire Connector for Pipeline Pilot** from the drop-down list.
4. Click **Browse...**.
5. In the Pipeline Pilot Computation dialog, select the computation of interest and click **OK**.
6. Continue with the wizard according to the instructions in the main TIBCO Spotfire help.

► To use a computation as a transformation in the wizards:

When the "As a data transformation" option has been selected, the computation is added to all places where you can perform a transformation: It can be used in the Add Data Table wizard, the Replace Data Table wizard, the Insert Columns from External Data wizard and the Insert Rows from External Data wizard. Example:

1. Select **File > Add Data Table...**.

   Comment: Follow the same steps for either of the wizards listed above if you want to add a Pipeline Pilot transformation somewhere else.
2. Select the source type for the data you wish to transform.
3. Click **Browse...**.
4. If the transformation section of the dialog is hidden, click on the show transformation arrow, , to display it.

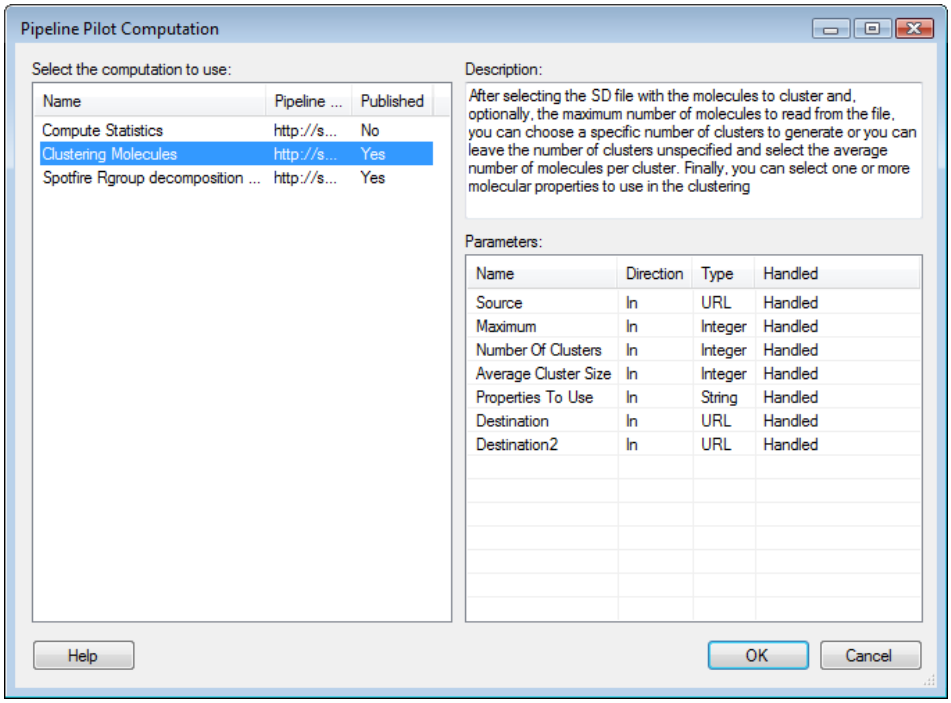
5. In the Transformations drop-down list, select TIBCO Spotfire Connector for Pipeline Pilot.
6. Click on **Add...**.
7. In the Pipeline Pilot Computation dialog, select the computation of interest and click **OK**.
8. Continue with the wizard according to the instructions in the main TIBCO Spotfire help.

5.2 Details on Pipeline Pilot Computation

► To reach the Pipeline Pilot Computation dialog:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Run Computation...**.
2. If you have not previously logged into a server then you will be prompted to do so now.

In this dialog, you select which Pipeline Pilot computation to use in the current situation. You can reach this dialog from other places in the user interface too. For example, it will be available if you have selected to add a data table or a transformation from a Pipeline Pilot computation.



Option	Description
Available computations	Lists all Pipeline Pilot computations that have been defined to be available at this specific place of usage. The usage mode is configured during the set up of a new computation. It may often be so that a computation that is available in the Add Data Table or Replace Data Table tools is unavailable when you select to run a Pipeline Pilot computation from the Tools menu. If you have the license for configuring computations, you may see computations that have not yet been made available to end users with the check box in the Edit Computation dialog. These computations have "No" in the Published field, as indicated in the image.

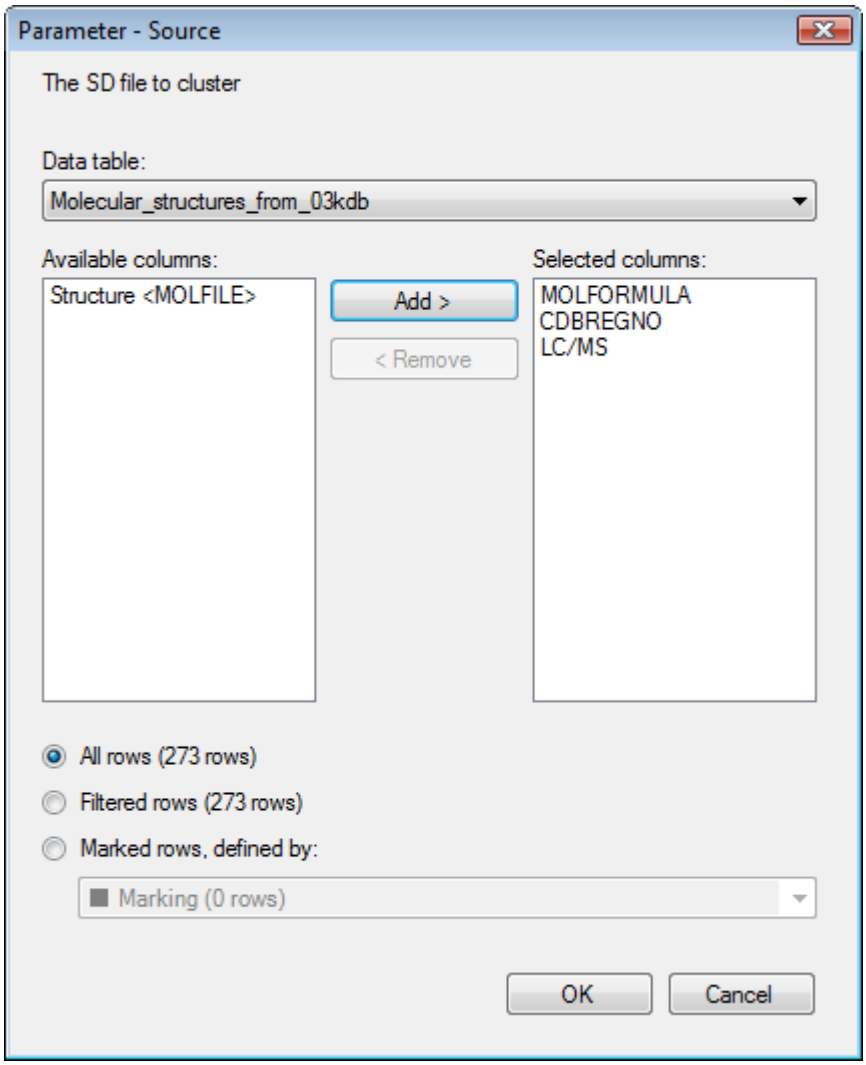
Description	Shows the description of the selected computation as it was set up during the configuration.
Parameters	Lists the parameters that have been defined for the selected protocol.

5.3 Details on Parameter Prompt Dialogs

The Parameter prompt dialogs may look very different depending on the type of parameter and the text that the person configuring the computation has entered in the Edit Parameter dialog. Below are some examples of the various prompt types. Note that the look of each prompt dialog type also varies depending on whether the parameter is a single value or an array and whether or not it has some legal values defined. See also More About Parameters and Prompt Dialogs.

Data from Spotfire

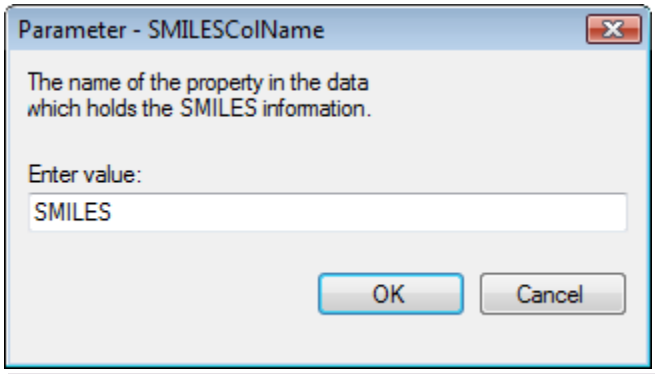
Use this dialog to define what data from your currently open analysis in TIBCO Spotfire should be used as input to this parameter.



Option	Description
[Description]	In most cases the text at the top of the dialog should give you instructions regarding what type of input is required. If you do not understand what data to choose, please contact the person who

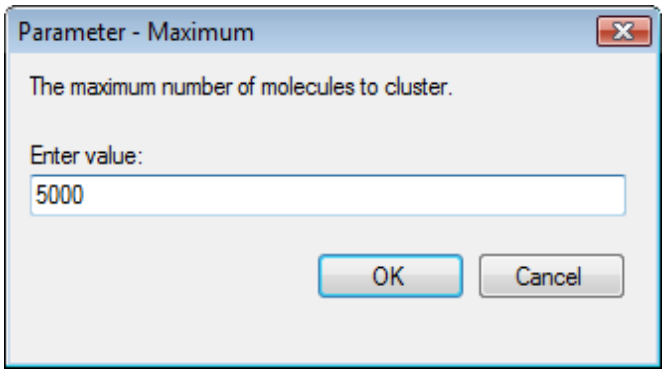
	configured the computation.
Data table	Select the data table in your current analysis from which the data should be picked.
Available columns	Lists the columns in the selected data table that are available for selection.
Add >	Moves the selected column to the Selected columns list.
< Remove	Removes the selected column from the Selected columns list.
All rows	Specifies that all rows from the selected columns should be retrieved.
Filtered rows	Specifies that only the rows remaining after filtering should be retrieved.
Marked rows	Specifies that only the marked rows should be retrieved. If multiple markings are available in the analysis, select the one to define your input data from the drop-down list.

String



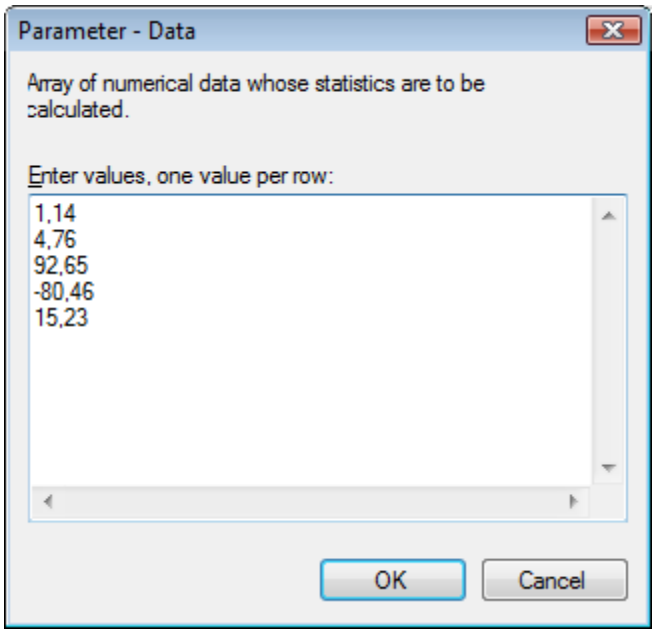
Option	Description
Enter value	Type a string value matching the parameter you are prompted for. In most cases the text at the top of the dialog should give you instructions regarding what type of input is required. If you do not understand what you should write, please contact the person who configured the computation.

Integer



Option	Description
Enter value	Type an integer value matching the parameter you are prompted for. In most cases the text at the top of the dialog should give you instructions regarding what type of input is required. If you do not understand what you should write, please contact the person who configured the computation.

Real

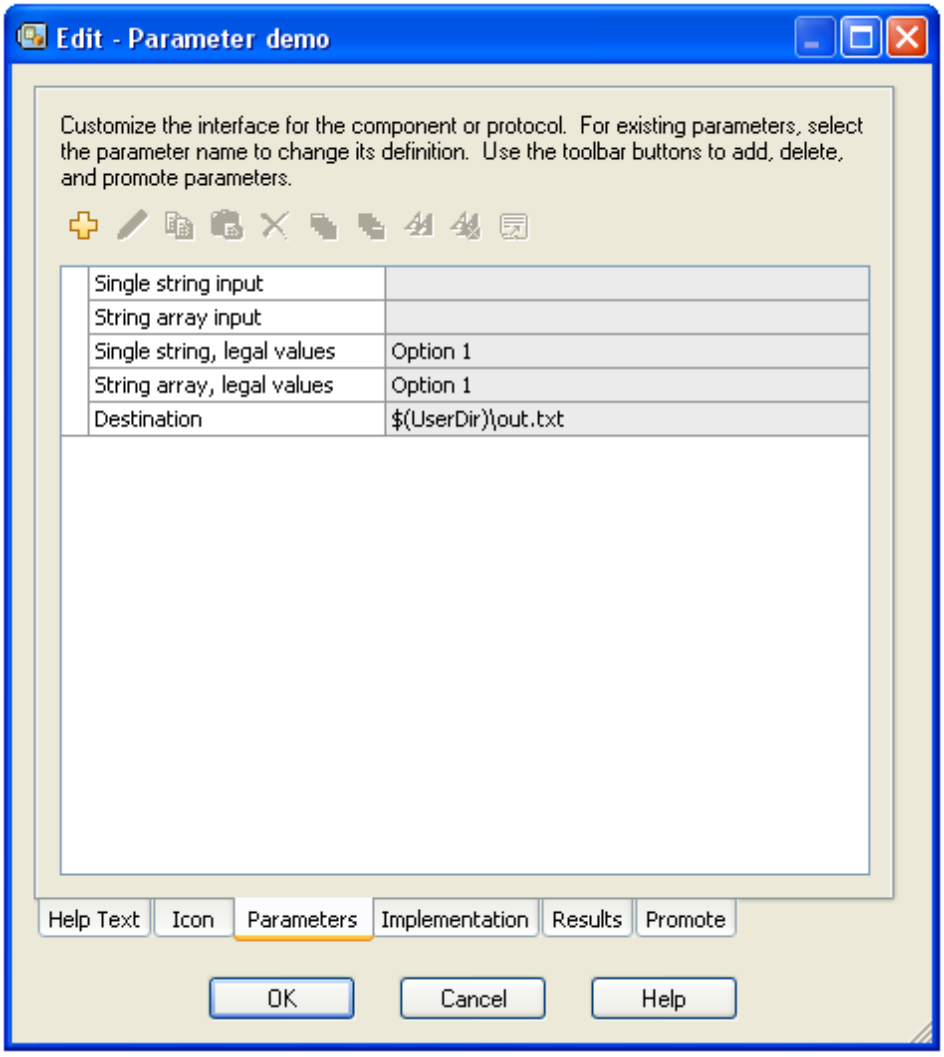


Option	Description
Enter value	Type a real value matching the parameter you are prompted for. In most cases the text at the top of the dialog should give you instructions regarding what type of input is required. If you do not understand what you should write, please contact the person who configured the computation.

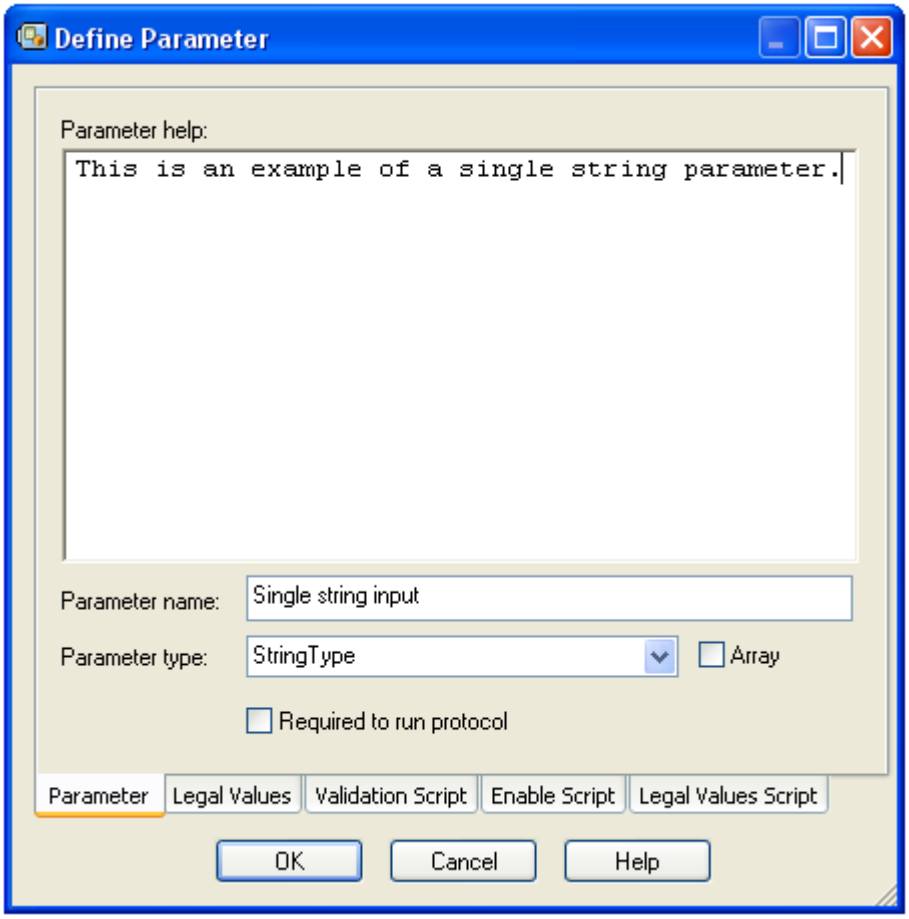
5.4 More About Parameters and Prompt Dialogs

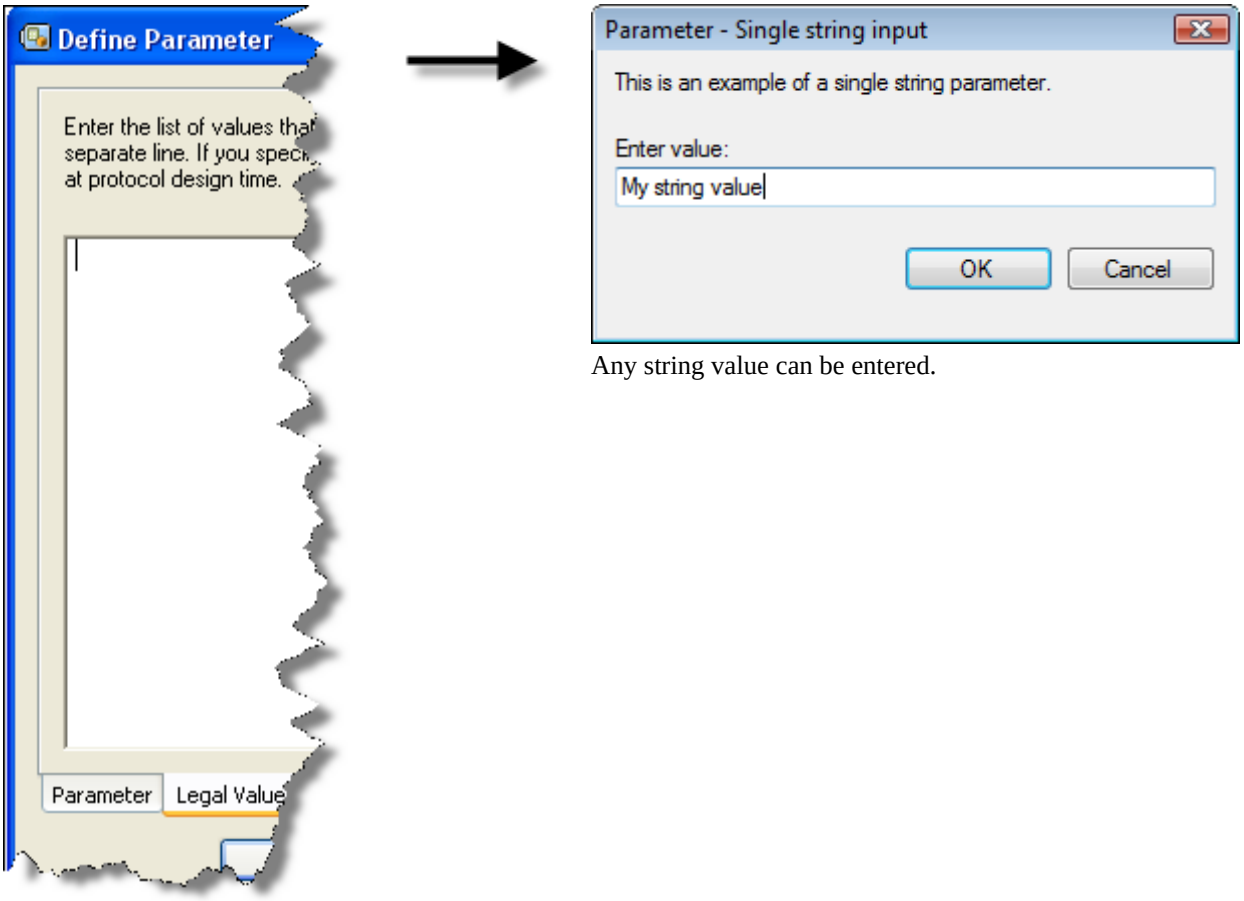
The Parameter prompt dialogs that are displayed for the end users of a computation will also vary depending on the choices made when creating the protocol in Pipeline Pilot. Below are some examples of what the resulting prompt will look like for a certain Pipeline Pilot configuration. In the example below, all dialogs with a blue frame come from Pipeline Pilot and all dialogs with a lighter blue-grey color come from TIBCO Spotfire.

Overview:



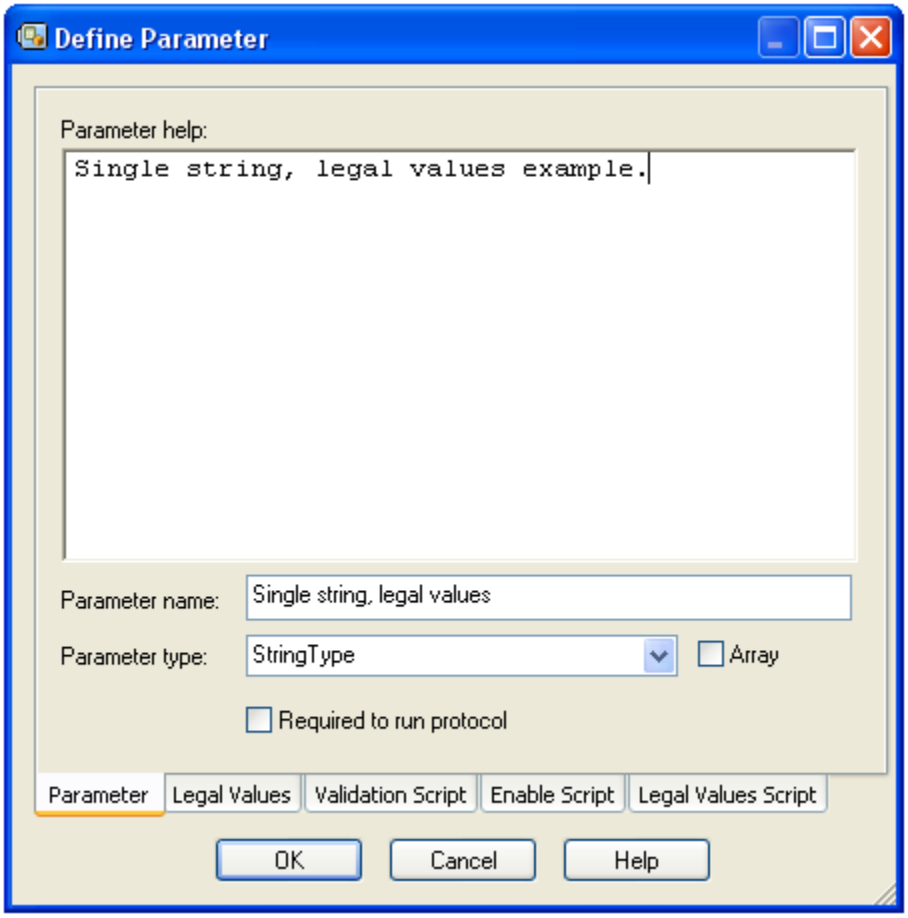
Single value string without legal values:

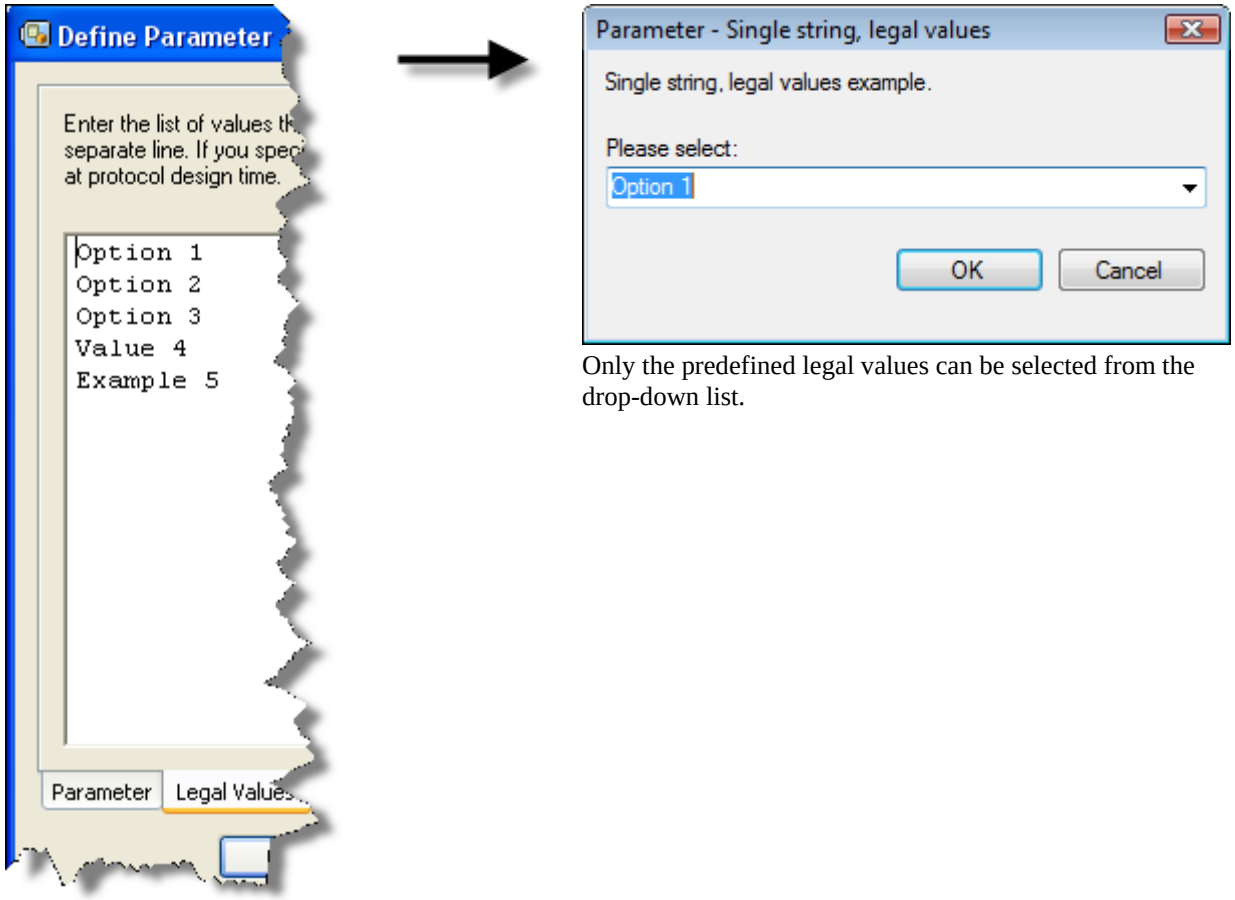




Any string value can be entered.

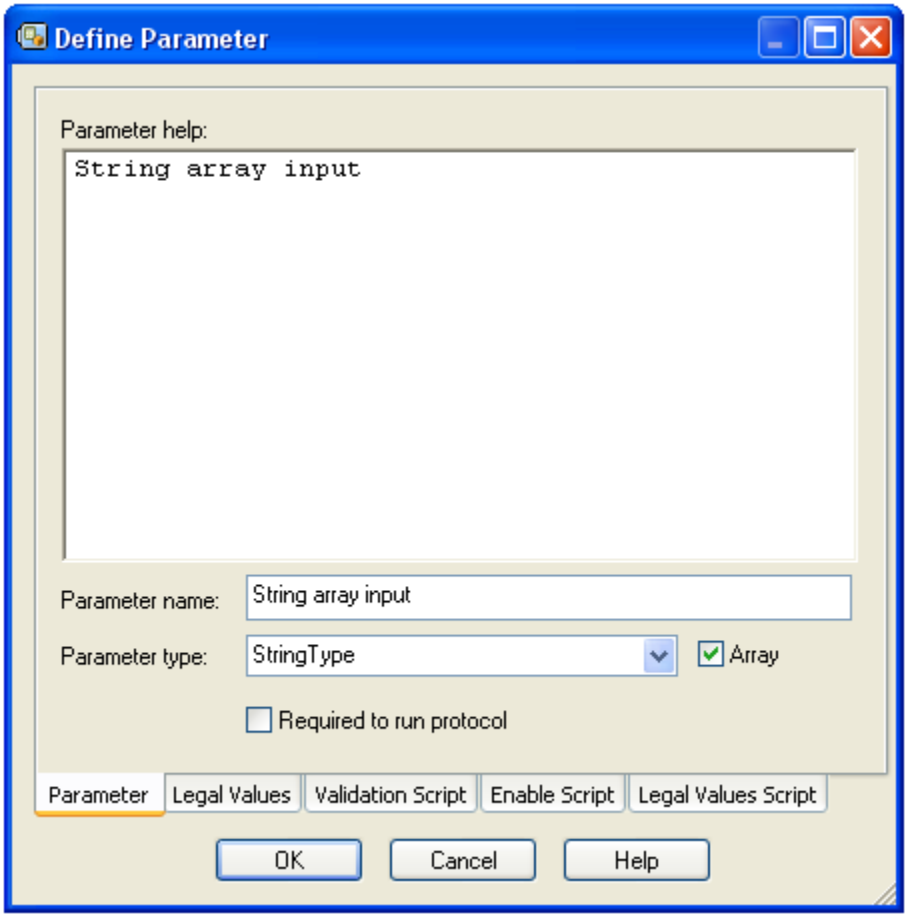
Single value string with legal values:

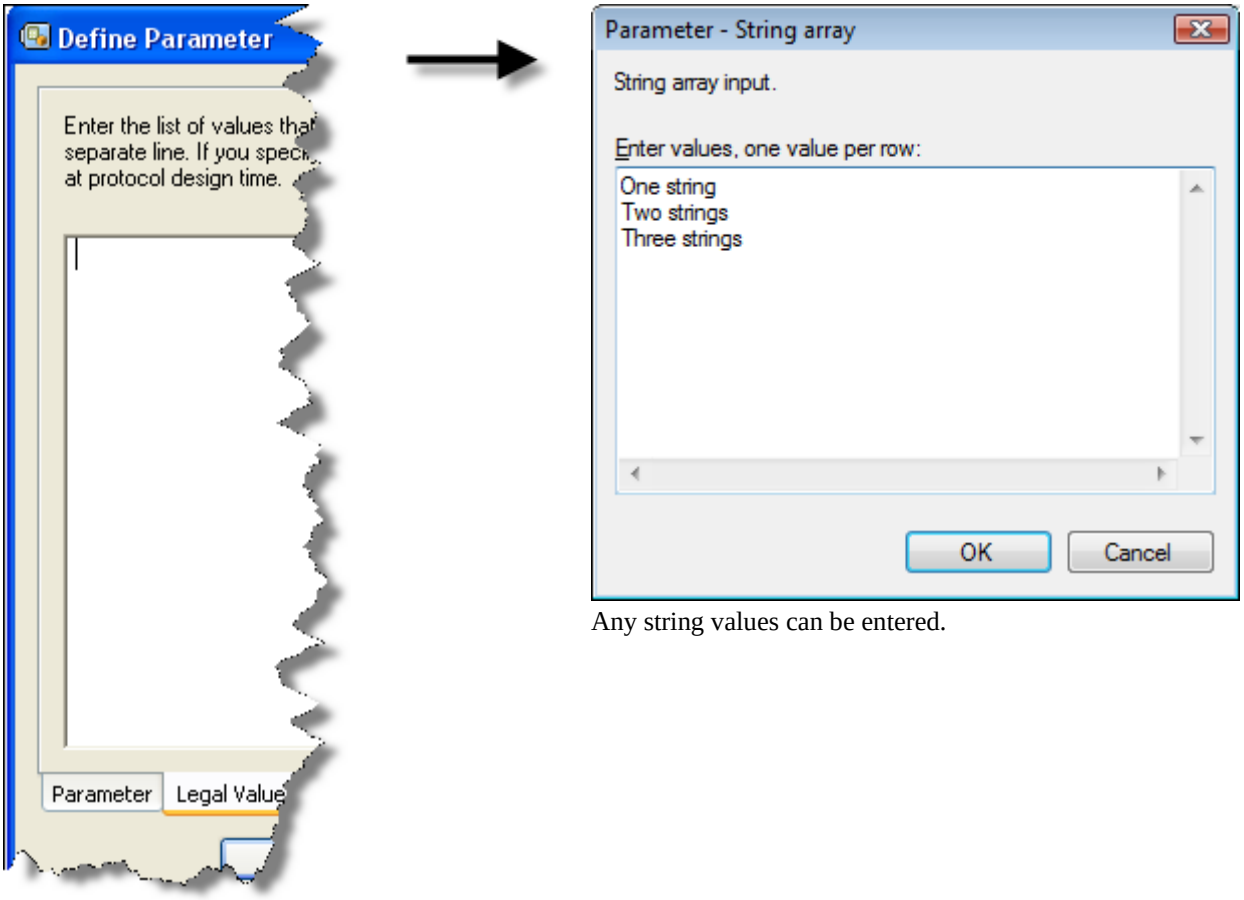




Only the predefined legal values can be selected from the drop-down list.

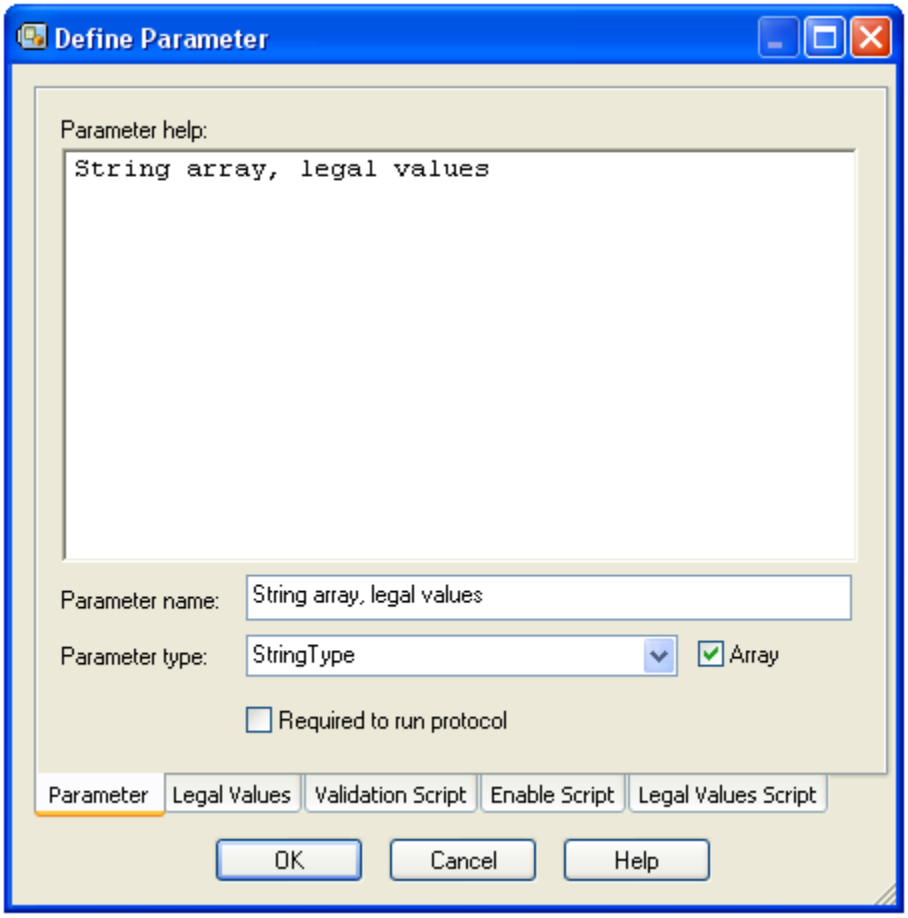
String array without legal values:

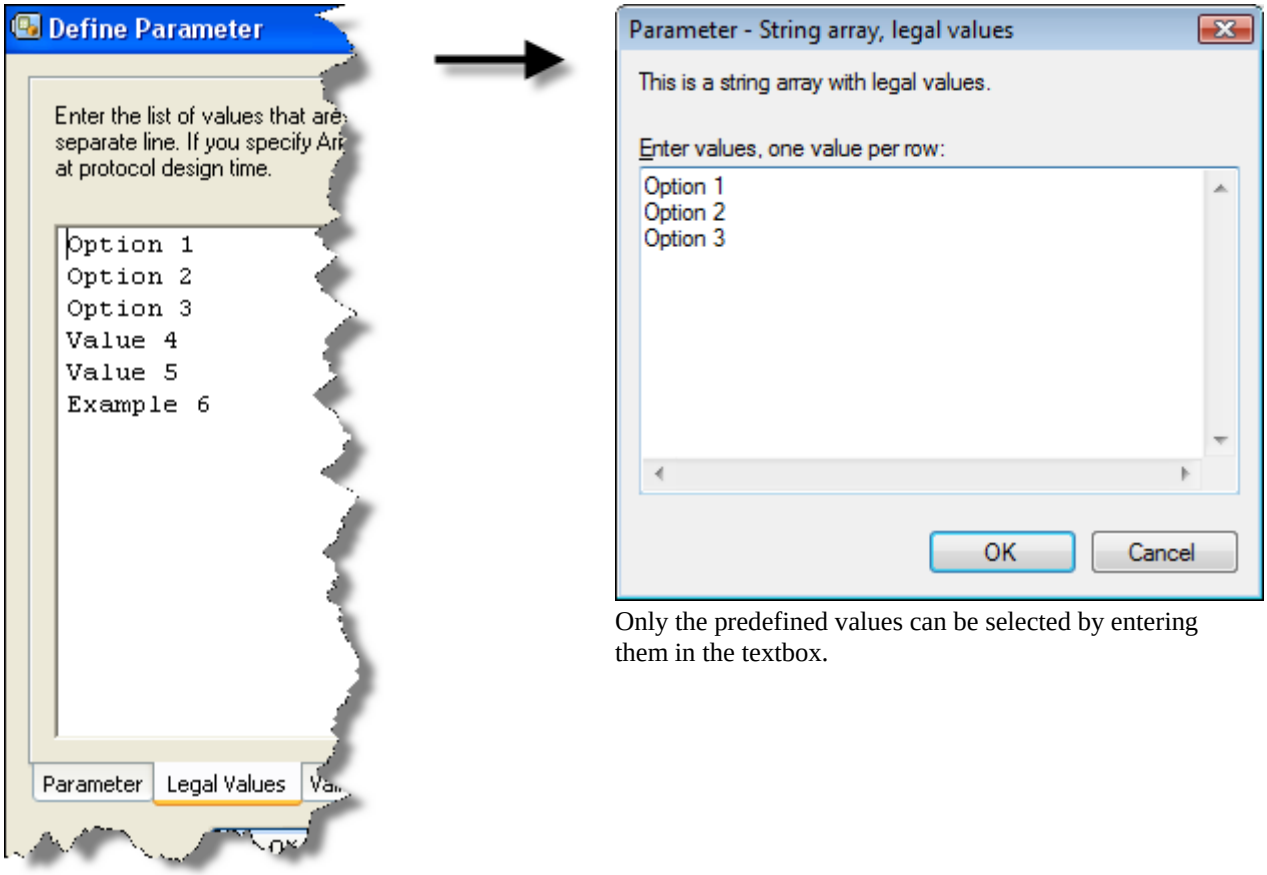




Any string values can be entered.

String array with legal values:





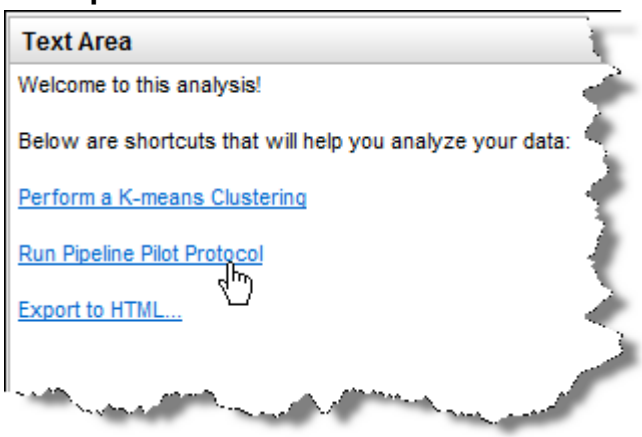
Only the predefined values can be selected by entering them in the textbox.

6 Guide Tools

6.1 What are Guide Tools?

The Pipeline Pilot guide tools are five slots in the Tools menu where you can place any five Pipeline Pilot computations and use them directly from the **Tools > TIBCO Spotfire Connector for Pipeline Pilot** menu. The guide tools can also be incorporated in a guided analysis via a link in a text area.

Example:



This functionality allows the person configuring the Pipeline Pilot computations to make the most commonly used computations more available to the end users.

Note: The configuration of guide tools only applies to the current document, so you can have different sets of guide tools in different analyses.

6.2 Configuring Pipeline Pilot Guide Tools

If you want to be able to use a Pipeline Pilot computation as a stand-alone tool from the Tools menu, or, if you want to be able to incorporate the computation in a text area of an analysis, you first need to configure the computation as a Pipeline Pilot Guide Tool. Always follow the steps in the Configuration workflow overview below when setting up guide tools.

► Configuration workflow:

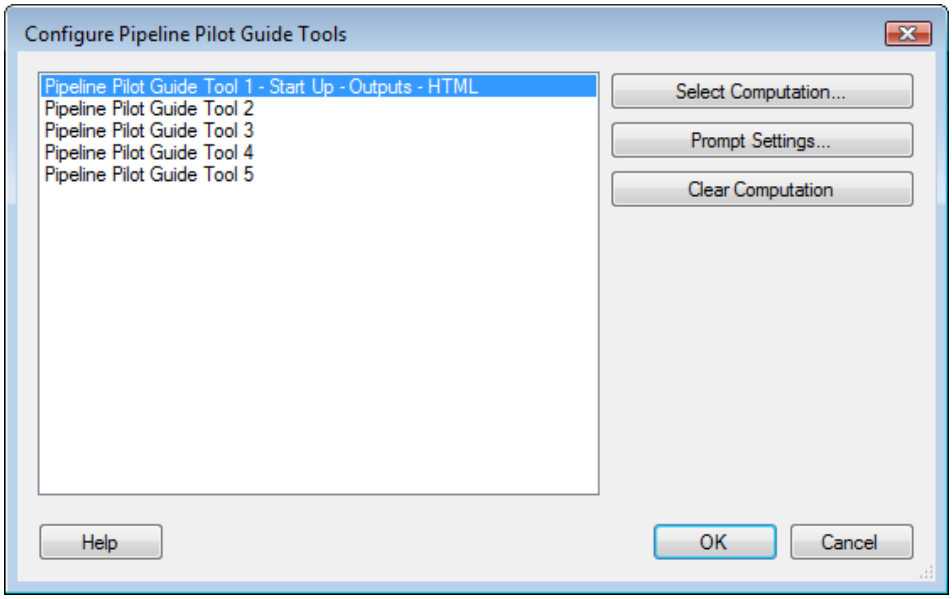
1. Configure the protocol to run as a **tool**.
   Comment: This is done in the Add Computation - Select Usage Mode dialog. See Adding a New Computation for more details.
2. **Test** the computation by selecting **Run Computation...**.
   Comment: Make sure that the computation works as expected.
3. When satisfied with the result, configure the computation to run as a **guide tool**.
   Comment: See the step instruction below for more details.
4. **Create a link** to the tool in a Text Area.
   Comment: Go to the Function page in the Insert Link dialog and select the tool from its predefined slot under Tools > TIBCO Spotfire Pipeline Pilot Connector. See How to Use the Text Area in the main TIBCO Spotfire help for more information about how to add links.
5. **Save** the analysis.
   Note: If the configuration of the protocol needs to be changed, all steps above must be repeated. Hence, you must configure the computation as a guide tool once more.

► To specify a computation as a guide tool:

1. Select **Tools > TIBCO Spotfire Connector for Pipeline Pilot > Configure Pipeline Pilot Guide Tool...**.
   Response: The Configure Pipeline Pilot Guide Tool dialog is displayed.
2. Click to select the slot you wish to define.
   Comment: Use Pipeline Pilot Guide Tool &1 if this is your first configuration. Otherwise, use the first empty slot or the one you wish to change or update.
3. Click **Select Computation...**.
   Response: The Pipeline Pilot Computation dialog is displayed.
4. Select the computation you wish to use as a guide tool.
   Comment: Only computations that have been defined with the usage mode "From the 'Tools' menu" will be available for selection.
5. Click **OK**.
   Response: The computation is run so that you can provide any necessary parameters. However, this execution will not affect your current document. Once the execution is finished, the Configure Pipeline Pilot Guide Tools dialog is updated so the name of the specified computation is shown after the selected slot name.
6. If desired, repeat steps 2 to 5 for the other slots.
7. Click **OK**.
   Response: The Configure Pipeline Pilot Guide Tools dialog is closed and the guide tool is ready to be used.

6.3 Details on Configure Pipeline Pilot Guide Tools

This dialog allows you to configure five different computations that can be run directly from the pre-configured slots under the Tools > TIBCO Spotfire Connector for Pipeline Pilot menu. They can also be incorporated in a guided analysis via a link in a text area.

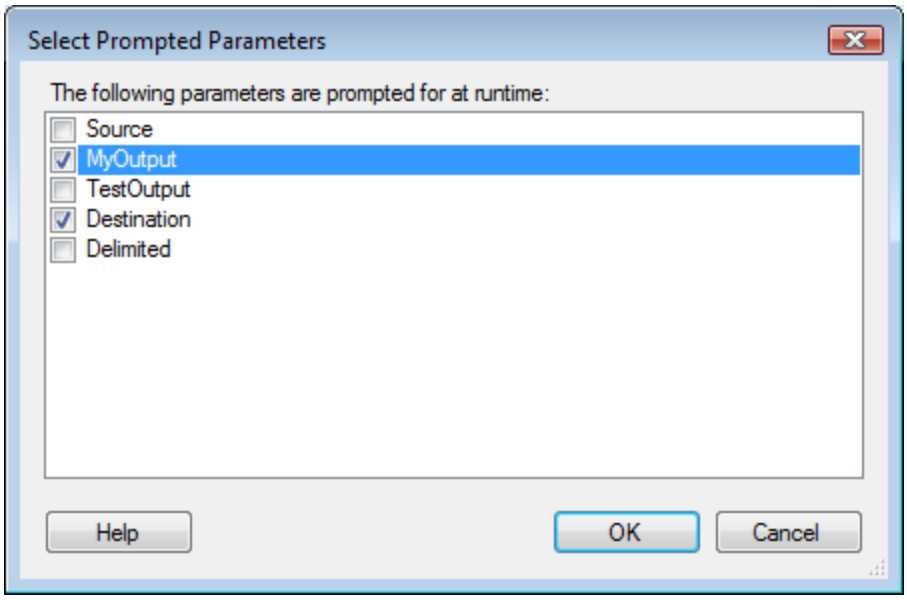


Option	Description
Select Computation...	Opens the Pipeline Pilot Computation dialog where you can select a computation that should be placed in the selected guide tool slot.
Prompt Settings...	Opens the Select Prompted Parameters dialog where you can select which values the user should be prompted for when running the

	selected guide tool.
Clear Computation	Removes the computation from the selected guide tool slot.

6.4 Details on Select Prompted Parameters

This dialog is displayed when you click the **Prompt Settings...** button in the Details on Configure Pipeline Pilot Guide Tools dialog, or after you've entered all parameters when setting up a guide tool.



The list displays all parameters for the selected guide tool. Select the parameters that should prompt the user for values when running the selected guide tool.

7 Appendix

7.1 Third Party Software Notices

► Pipeline Pilot (nalpp.dll) 7.5.2.300

Copyright ©2009, Accelrys Software Inc.
All rights reserved.

8 Index

A

Add Computation dialogs
- Configure....16
- Select Pipeline Pilot Protocol....14
- Select Usage Mode....15

Add Output Handler dialog....24
Add Server dialog....6
Adding a new computation....7

C

Computations
- adding new....7
- editing....8
- using....29

Configure Pipeline Pilot Computations dialog....13
Configure Pipeline Pilot Guide Tools dialog....44
Configuring
- computations....13
- guide tools....43

E

Edit Output Handler dialog....24
Edit Parameter dialog....20
Edit Server dialog....6
Editing
- computations....13
- parameters....20

G

Guide tools
- configuring....43
- what are they?....43

I

Introduction....1

L

Logging in....2

M

Manage Servers dialog....5

P

Parameter prompt dialogs
- descriptions....31
- more about....34

Parameters
- details on handlers....20
- editing....8
- prompting for....31, 34

Pipeline Pilot Computation dialog....30
Pipeline Pilot protocols
- converting into computations....7
- publishing to Spotfire....3

Pipeline Pilot server
- administration of available protocols....3, 4
- logging in....2

R

Running computations
- Run Computation...30
- using computations....29

S

Select Server....14
Server
- logging in....2
- managing....3

Server Administration dialogs
- Publish Protocols....4
- Select Server....4

U

Using computations....29