# TIBCO Spotfire<sup>®</sup> Data Source for ActiveSpaces<sup>®</sup>

User's Guide

Software Release 1.1 December 2015



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## **Preface**

TIBCO Spotfire<sup>®</sup> Data Source for ActiveSpaces<sup>®</sup> provides the functionality to connect to an ActiveSpaces data grid and analyze data from one or more metaspaces in TIBCO Spotfire<sup>®</sup>.

#### **Topics**

- Related Documentation, page viii
- Typographical Conventions, page ix
- Connecting with TIBCO Resources, page xi

#### **Related Documentation**

This section lists documentation resources you may find useful.

#### TIBCO Spotfire Data Source for ActiveSpaces Documentation

The following documents form the TIBCO Spotfire Data Source for ActiveSpaces documentation set:

- TIBCO Spotfire Data Source for ActiveSpaces User's Guide Read this manual for instructions on using the product to connect to TIBCO ActiveSpaces<sup>®</sup>.
- TIBCO Spotfire Data Source for ActiveSpaces Release Notes Read the release notes for a list of new and changed features. This document also contains lists of known issues and closed issues for this release.

#### Other TIBCO Product Documentation

You may find it useful to read the documentation for the following TIBCO products:

TIBCO ActiveSpaces software: TIBCO ActiveSpaces is a distributed data grid that stores customer data in a distributed network and provides for fast retrieval, data replication, and fault tolerance. The TIBCO ActiveSpaces documentation is located at the following URL on the TIBCO documentation site:

https://docs.tibco.com/products/tibco-activespaces-enterprise-edition-2-1-6

## **Typographical Conventions**

The following typographical conventions are used in this manual:

Table 1 General Typographical Conventions

	<u> </u>
Convention	Use
ENV_NAME	TIBCO products such as TIBCO ActiveSpaces can be installed into an installation
TIBCO_HOME	environment. A product installed into an installation environment does not access components in other installation environments. Incompatible products
AS_HOME	and multiple instances of the same product must be installed into different installation environments.
	In the case of TIBCO Spotfire Data Source for ActiveSpaces, you can perform a full installation of TIBCO ActiveSpaces, or you can simply copy the DLLs in the <i>AS_HOME/lib</i> directory to a directory on the Spotfire Client that is running TIBCO Spotfire Data Source for ActiveSpaces.
	If you perform a full installation of TIBCO ActiveSpaces, then the installation environment for TIBCO ActiveSpaces can consist of the following properties:
	<ul> <li>Name Identifies the installation environment. This name is referenced in TIBCO ActiveSpaces documentation as AS_HOME. On Microsoft Windows, the name is appended to the name of Windows services created by the installer and is a component of the path to the product shortcut in the Windows Start &gt; All Programs menu.</li> </ul>
	• <b>Path</b> The folder into which the product is installed. This folder is referenced in documentation as <i>TIBCO_HOME</i> .
	A full installation of TIBCO ActiveSpaces installs into a directory within a <i>TIBCO_HOME</i> . This directory is referenced in documentation as <i>AS_HOME</i> . The default value of <i>AS_HOME</i> depends on the operating system. For example, on Windows systems, the default value is C:\tibco\as\2.1.
code font	Code font identifies commands, code examples, filenames, pathnames, and output displayed in a command window. For example:
	Use MyCommand to start the foo process.

 $Table\ 1\quad General\ Typographical\ Conventions\ (Cont'd)$ 

Convention	Use
bold code	Bold code font is used in the following ways:
font	• In procedures, to indicate what a user types. For example: Type admin.
	<ul> <li>In large code samples, to indicate the parts of the sample that are of particular interest.</li> </ul>
	<ul> <li>In command syntax, to indicate the default parameter for a command. For example, if no parameter is specified, MyCommand is enabled:</li> <li>MyCommand [enable   disable]</li> </ul>
italic font	Italic font is used in the following ways:
	<ul> <li>To indicate a document title. For example: See TIBCO ActiveMatrix BusinessWorks Concepts.</li> </ul>
	<ul> <li>To introduce new terms For example: A portal page may contain several portlets. <i>Portlets</i> are mini-applications that run in a portal.</li> </ul>
	• To indicate a variable in a command or code syntax that you must replace. For example: MyCommand <i>PathName</i>
Key combinations	Key name separated by a plus sign indicate keys pressed simultaneously. For example: Ctrl+C.
	Key names separated by a comma and space indicate keys pressed one after the other. For example: Esc, Ctrl+Q.
	The note icon indicates information that is of special interest or importance, for example, an additional action required only in certain circumstances.
*	The tip icon indicates an idea that could be useful, for example, a way to apply the information provided in the current section to achieve a specific result.
$\triangle$	The warning icon indicates the potential for a damaging situation, for example, data loss or corruption if certain steps are taken or not taken.

#### **Connecting with TIBCO Resources**

#### **How to Join TIBCOmmunity**

TIBCOmmunity is an online destination for TIBCO customers, partners, and resident experts. It is a place to share and access the collective experience of the TIBCO community. TIBCOmmunity offers forums, blogs, and access to a variety of resources. To register, go to http://www.tibcommunity.com.

#### How to Access TIBCO Documentation

You can access TIBCO documentation here:

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#### **How to Contact TIBCO Support**

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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.

## Chapter 1 **Product Introduction**

This chapter provides an overview of TIBCO Spotfire Data Source for ActiveSpaces.

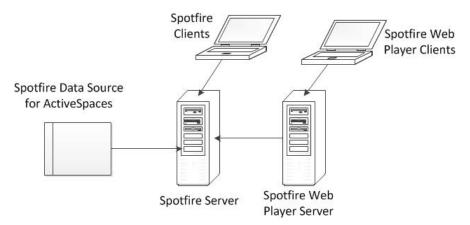
#### **Topics**

• Overview of Spotfire Data Source for ActiveSpaces, page 2

### Overview of Spotfire Data Source for ActiveSpaces

TIBCO Spotfire is an enterprise-class analytics platform that helps both business and technical users to quickly explore data to develop actionable insights without IT intervention. TIBCO ActiveSpaces is a distributed peer-to-peer in-memory data grid, a form of virtual shared memory that leverages distributed hash table with configurable replication.

TIBCO Spotfire Data Source for ActiveSpaces works as a connector between TIBCO Spotfire and TIBCO ActiveSpaces. It provides the software package that you can deploy on a Spotfire server. After the deployment, you can connect to an ActiveSpaces data grid and analyze data from one or more metaspaces in TIBCO Spotfire.



#### **User Roles**

TIBCO Spotfire provides users with different user roles for installing, configuring, and administering different components of the system. Select the appropriate user role to deploy and add ActiveSpaces data source.

- **Spotfire Server Administrator** This user is responsible for installing and configuring the Spotfire server (or servers) and the Spotfire database. See the TIBCO Spotfire Server Installation and Configuration document about how to install and configure Spotfire servers.
- **Spotfire Admin** This user is responsible for setting up users and groups in the Spotfire system, assigning licenses and preferences to the Spotfire groups, setting up the Spotfire library, and deploying the Spotfire software package on a Spotfire server. See the TIBCO Spotfire Deployment and Administration document for more details.

# Chapter 2 **Deploying and Adding Spotfire Data Source** for ActiveSpaces

This chapter describes how to deploy and add the ActiveSpaces data source in TIBCO Spotfire.

#### **Topics**

- Prerequisites, page 4
- Adding an ActiveSpaces Data Source, page 5
- Connecting to an ActiveSpaces Data Source, page 9

#### **Prerequisites**

Before deploying TIBCO Spotfire Data Source for ActiveSpaces, ensure that your system meets the following requirements:

- TIBCO Spotfire version 6.0, 6.5 or 7.x must be installed.
- You must have access to a running TIBCO Spotfire server that Spotfire can connect to.
  - For TIBCO Spotfire server installation instructions, see the TIBCO Spotfire Server Installation and Configuration document.
- At least one instance of TIBCO ActiveSpaces must be installed on a Spotfire client, as described in Installing ActiveSpaces on the Spotfire Client.

#### Installing ActiveSpaces on the Spotfire Client

You have to install TIBCO ActiveSpaces on the Spotfire client machine where you add the ActiveSpaces data source. It is good practice to install TIBCO ActiveSpaces version 2.1.6 on the Spotfire client machine.

Complete these steps to install and configure TIBCO ActiveSpaces:

- 1. Install TIBCO ActiveSpaces on the Spotfire client machine. For installation instructions, see the TIBCO ActiveSpaces Installation document.
- 2. Set the system PATH variable to point to the ActiveSpaces/lib directory:
  - a. From the Desktop, right-click **My Computer** and click **Properties**.
  - b. Click **Advanced system settings**.
  - c. In the System Properties window, click **Environment Variables**.
  - d. In the Environment Variables window, select the PATH variable from the list in the "System variables" section and click **Edit**.
  - e. Edit the PATH setting to point to the ActiveSpaces /lib directory. For example, you can add the following to the PATH setting:
    - c:/tibco/as/2.1/lib

Directory settings are separated by semicolons.

f. Click **OK**.

### Adding an ActiveSpaces Data Source

You can view and analyze the ActiveSpaces data in TIBCO Spotfire by adding an ActiveSpaces data source to TIBCO Spotfire.

To add an ActiveSpaces data source, you have to complete the following tasks:

- 1. Deploying on Spotfire Servers, page 5
- 2. Updating to the Latest Version of the Spotfire Client, page 6

#### **Deploying on Spotfire Servers**

Before adding the ActiveSpaces data source in a Spotfire client, you have to deploy the software package that contains the ActiveSpaces data source on a Spotfire server using Spotfire Administration Console.

To deploy the ActiveSpaces data source:

- 1. Log on to Spotfire Administration Console and click the **Deployment** tab to open the Deployment page.
- 2. Click **Add** next to the "Software packages" table.
- 3. Select the following .spk files extracted from the TIBCO Spotfire Data Source for ActiveSpaces software package:
  - TIB\_spds-as\_1.1.0.spk
  - TIB\_spds-as\_Form\_1.1.0.spk
- Click Save to deploy the ActiveSpaces data source on the Spotfire server.

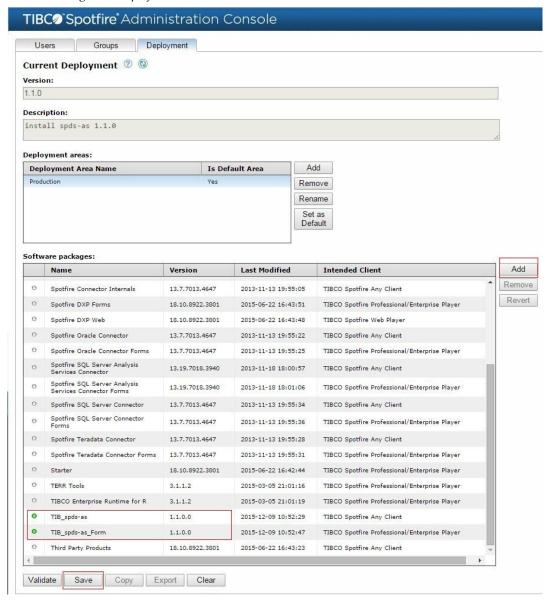


Figure 1 Spotfire Administration Console

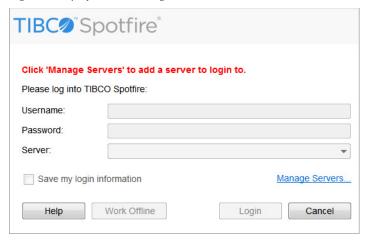
#### Updating to the Latest Version of the Spotfire Client

After deploying the ActiveSpaces data source on the Spotfire server, you have to update the Spotfire client to the latest version to make the ActiveSpaces data source available in the Spotfire client.

Complete these steps to update the Spotfire client:

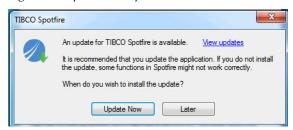
- 1. Start the Spotfire client.
- 2. If you have not previously logged on to a Spotfire server, you are prompted to add a server, as shown in Figure 2. Click Manage Servers to add the server where the ActiveSpaces data source is deployed:
  - a. In the Manage Servers dialog, click **Add**.
  - b. In the Add Server dialog, enter the URL for the Spotfire server, and then click Add.
  - c. Click **OK** to save your configurations and close the Manager Servers dialog.

Figure 2 Spotfire Client Logon



- 3. Enter the user name and password for the specified Spotfire server and click Login.
- 4. Click **Update Now** when you are informed that there are available updates. The Spotfire client downloads the updates from the Spotfire server.

Figure 3 Update Prompt



5. Click **Install** when you are prompted to install the update.

When the deployment and update are completed, you are ready to connect to an ActiveSpaces data source to view ActiveSpaces data in Spotfire, see Connecting to an ActiveSpaces Data Source on page 9 for more details.

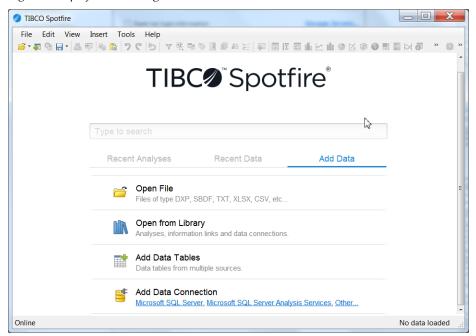
#### Connecting to an ActiveSpaces Data Source

After deploying ActiveSpaces data source on a Spotfire server and updating the corresponding Spotfire client, you can connect to an ActiveSpaces data grid and start analyzing ActiveSpaces data.

Complete these steps to connect to an ActiveSpaces data source:

1. Log on to the Spotfire client. TIBCO Spotfire start page is displayed.

Figure 4 Spotfire Start Page



- Click Add Data Tables.
- In the Add Data Tables dialog, click **Add**.
- Scroll down to the **Other** section and select **ActiveSpaces Data Source**, as shown in Figure 5.

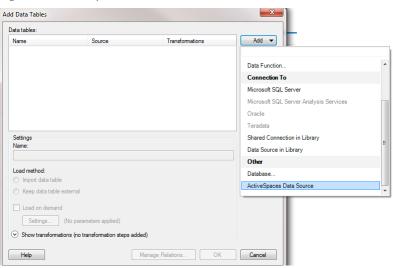
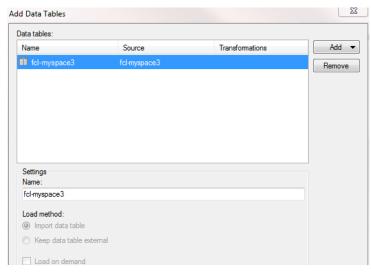


Figure 5 ActiveSpaces Data Source Selection

- 5. In the displayed ActiveSpaces window, provide the required information to connect to ActiveSpaces. See ActiveSpaces Connection Settings on page 11 for more details.
- 6. Click **Connect** to connect to the specified space. The added ActiveSpaces data source is displayed in the "Data tables" list.

Figure 6 Added ActiveSpaces Data Source



7. Click **OK** to load data to Spotfire.

See Viewing a Data Source Using a Data Table on page 16 for more details about how to view data in TIBCO Spotfire.

#### **ActiveSpaces Connection Settings**

Refer to the following information to configure a connection to TIBCO ActiveSpaces.

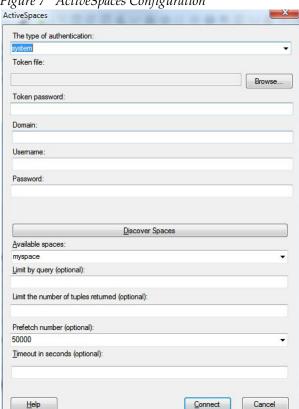


Figure 7 ActiveSpaces Configuration

*Table 2 ActiveSpaces Connection Settings (Sheet 1 of 4)* 

Option	Description
Authentication Type	Select an authentication type to use when connecting to a metaspace:
	None: no authentication is required.
	<ul> <li>System: user name and password authentication is used to authenticate the user.</li> </ul>

Table 2 ActiveSpaces Connection Settings (Sheet 2 of 4)

Option	Description
The following fields are	e displayed when you select the System authentication.
Token file	Click <b>Browse</b> to select the token file used to connect to the metaspace.
Token password	Enter the password of the selected token file.
Domain	Enter the login domain name.
Username	Enter the login user name.
Password	Enter the login password.

*Table 2 ActiveSpaces Connection Settings (Sheet 3 of 4)* 

,	Connection Settings (Sheet 3 of 4)
Option	Description
Discovery URL	Specify the discovery URL you want to use when connecting to a metaspace.
	You can use the following formats to specify the Discovery URL:
	tibpgm URL format:
	<pre>tibpgm://[dport]/[interface];[discovery group address]/[option=value;]*</pre>
	For example:
	tibpgm://8088/0.0.0.0;239.8.8.8
	Listen URL format:
	You can specify a single interface or specify multiple IP addresses to
	discover members of an ActiveSpaces cluster.
	<ul> <li>To specify a single interface, enter</li> </ul>
	tcp:// <interface>:<listen_port></listen_port></interface>
	where interface is the IP address of an interface and listen_port is the name of the listener port to use.
	For example:
	tcp://192.168.67.51:11111
	<ul> <li>To specify multiple IP addresses (to identify multiple cluster members), enter the discovery URL in the following format:</li> </ul>
	tcp://ip1[:port1];ip2[:port2],
	For example:
	tcp://192.168.67.51:11111;192.168.67.52:12345
	Remote listen URL format:
	If you are using a remote listen URL, enter the command using this
	format:
	<pre>tcp://<interface>:<remote_listen_port>?remote=true</remote_listen_port></interface></pre>
	For example:
	tcp://192.168.67.51:22222?remote=true

Table 2 ActiveSpaces Connection Settings (Sheet 4 of 4)

Option	Description
Metaspace	Specify the name of the metaspace you want to connect to.
	A metaspace is a virtual entity that contains spaces where actual data is stored.
Discover Spaces	Click this button to find the spaces that are available in the specified metaspace.
Available spaces	Select the space that you want to load data from.
	A space provides shared virtual storage for data.
Limit by query (optional)	Optionally, specify a query to limit the amount of data returned from ActiveSpaces. For example:
	Columnname="value"
Limit the number of tuples returned (optional)	Optionally, specify the number of the tuples returned from ActiveSpaces.
Prefetch number (optional)	Optionally, specify the number of entries to fetch from the connected space each time the browser retrieves more entries to buffer.
Timeout (optional)	Optionally, specify how long (in seconds) Spotfire has to wait for data to be returned from ActiveSpaces. This is useful for large data sets.

## Chapter 3 Viewing ActiveSpaces Data

This chapter describes how to view ActiveSpaces data in TIBCO Spotfire.

You can view ActiveSpaces data either in the Spotfire client by adding an ActiveSpaces data table, or in Spotfire Web Player by running a Python script on a Spotfire server.

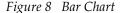
#### **Topics**

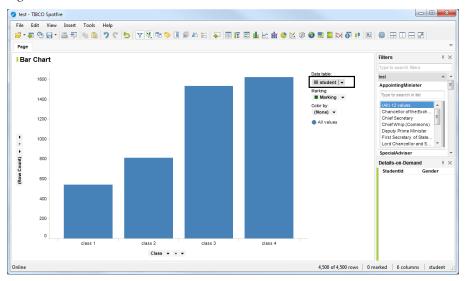
- Viewing a Data Source Using a Data Table, page 16
- Viewing a Data Source Using Spotfire Web Player, page 18

### Viewing a Data Source Using a Data Table

After adding the ActiveSpaces data source, as described in Connecting to an ActiveSpaces Data Source on page 9, the data loaded from the connected space is displayed on the Spotfire Data page.

The Spotfire client displays a bar chart of the data that matches your specified filter criteria, as shown in Figure 8.





You can view the loaded data in other types of chart by clicking the corresponding chart icon on the Spotfire client menu bar.

For example, you can choose a graph view, as shown in Figure 9, and click the combination box to switch between different data from different ActiveSpaces.

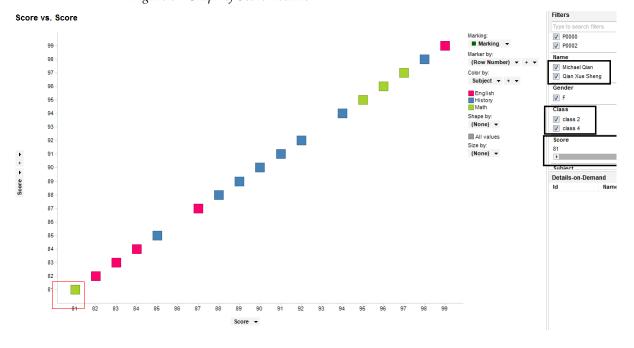


Figure 9 Graph of Score Results

### Viewing a Data Source Using Spotfire Web Player

TIBCO Spotfire<sup>®</sup> Web Player provides the Spotfire visualizations and graphics in a web browser.

After deploying the TIBCO Spotfire Data Source for ActiveSpaces on a Spotfire server, you can view the ActiveSpaces Data Source on Spotfire Web Player by using a Python script.

To view a data source using Spotfire Web Player, complete these steps:

- 1. Log on to the Spotfire Web Player server.
- 2. Enter the following commands: cd \${webplayer\_home}\webroot\bin\Tools directory webupdate.bat
- 3. Start the Spotfire client.
- 4. From the Spotfire start page menu, select **Insert > New Text Area** to open the Action Control dialog.

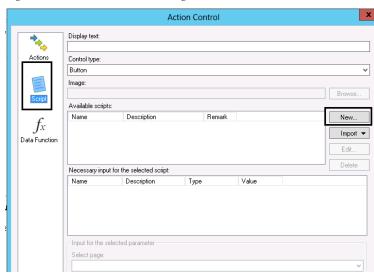


Figure 10 Action Control Dialog

- Click **Script**.
- 6. Enter your Python script, and then click **Run Script**.

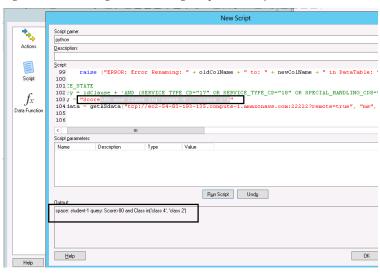
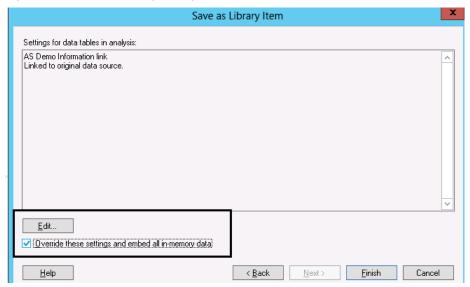


Figure 11 Entering and Running a Python Script

- Click **OK**, and then save the script as a library item.
- 8. In the Save as Library Item dialog, select the **Override these settings and** embed all in-memory data check box.

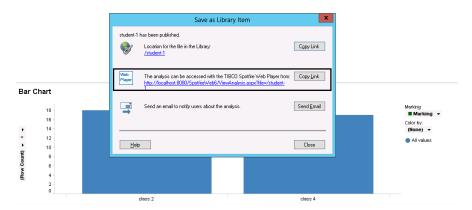
Figure 12 Override Setting Dialog



After selecting the Override these settings and embed all in-memory data check box, another dialog is displayed, as shown in Figure 13.

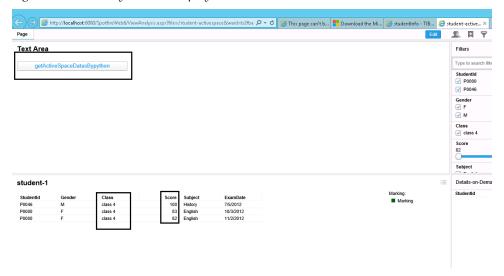
Figure 13 Save as Library Item Dialog





9. In the Save as Library Item dialog, click the link in the Web Player section. Web Player saves the item as a library item and displays the data in the selected link, as shown in Figure 14.

Figure 14 Web Player Data Display



# Chapter 4 Undeploying Spotfire Data Source for ActiveSpaces

This chapter describes how to undeploy TIBCO Spotfire Data Source for ActiveSpaces.

#### **Topics**

• Undeploying ActiveSpaces Data Source, page 22

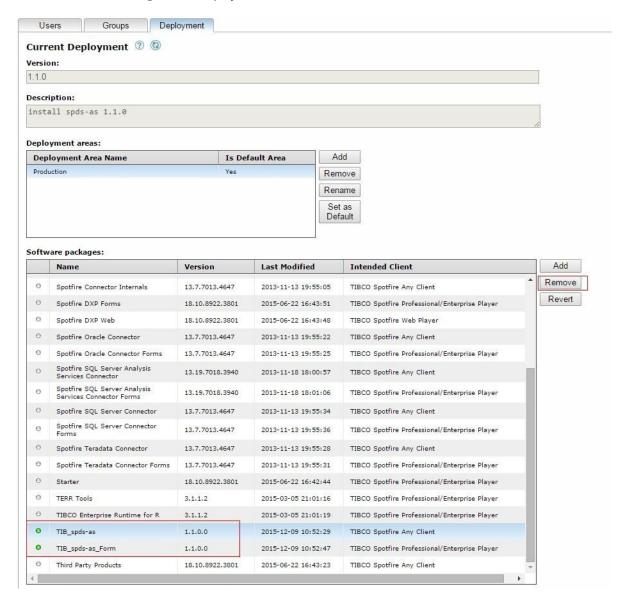
## **Undeploying ActiveSpaces Data Source**

You can use Spotfire Administration Console to undeploy the ActiveSpaces data source. After undeploying, the ActiveSpaces data source is not available in the corresponding Spotfire client.

Complete these steps to undeploy the ActiveSpaces data source:

- 1. Log on to Spotfire Administration Console and click the **Deployment** tab to open the Deployment page.
- 2. From the "Software packages" table, select TIB\_spds-as\_1.1.0.spk and TIB\_spds-as\_Form\_1.1.0.
- 3. Click **Remove**, and then click **Save**.

Figure 15 Deployed Items



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