



TIBCO Spotfire® Server and Environment Basic Installation Guide

*Software Release 7.11 LTS
Document Updated: August 2019*

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 (AND WHICH IS DUPLICATED IN THE LICENSE FILE) 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.

ANY SOFTWARE ITEM IDENTIFIED AS THIRD PARTY LIBRARY IS AVAILABLE UNDER SEPARATE SOFTWARE LICENSE TERMS AND IS NOT PART OF A TIBCO PRODUCT. AS SUCH, THESE SOFTWARE ITEMS ARE NOT COVERED BY THE TERMS OF YOUR AGREEMENT WITH TIBCO, INCLUDING ANY TERMS CONCERNING SUPPORT, MAINTENANCE, WARRANTIES, AND INDEMNITIES. DOWNLOAD AND USE THESE ITEMS IS SOLELY AT YOUR OWN DISCRETION AND SUBJECT TO THE LICENSE TERMS APPLICABLE TO THEM. BY PROCEEDING TO DOWNLOAD, INSTALL OR USE ANY OF THESE ITEMS, YOU ACKNOWLEDGE THE FOREGOING DISTINCTIONS BETWEEN THESE ITEMS AND TIBCO PRODUCTS.

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, the TIBCO logo, the TIBCO O logo, TIBCO Spotfire, TIBCO Spotfire Analyst, TIBCO Spotfire Automation Services, TIBCO Spotfire Server, TIBCO Spotfire Web Player, TIBCO Spotfire Developer, TIBCO Enterprise Message Service, TIBCO Enterprise Runtime for R, TIBCO Enterprise Runtime for R - Server Edition, TERR, TERR Server Edition, TIBCO Hawk, and TIBCO Spotfire Statistics Services are either registered trademarks or trademarks of TIBCO Software Inc. in the United States and/or other countries.

Java and all Java based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

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. SEE THE README 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.

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.

Copyright © 1994-2020. TIBCO Software Inc. All Rights Reserved.

Contents

TIBCO Spotfire Server Documentation and Support Services	6
Introduction to the TIBCO Spotfire environment	8
Spotfire Server introduction	8
Spotfire database introduction	9
Nodes and services introduction	9
Spotfire clients introduction	9
Environment communication introduction	9
Deployment introduction	10
Basic installation process for Spotfire	11
Preparation	12
Downloading required software	12
Collecting required information	13
Setting up the Spotfire database (Oracle)	16
Setting up the Spotfire database (SQL Server)	19
Setting up the Spotfire database (SQL Server with Integrated Windows authentication)	21
Installation	25
Installing the Spotfire Server files (interactively on Windows)	25
Installing the Spotfire Server files (RPM Linux)	26
Installing the Spotfire Server files (Tarball Linux)	26
Database drivers	28
Installing the Oracle database driver	28
Applying hotfixes to the server	29
Initial configuration	30
Configuration using the configuration tool	30
Opening the configuration tool	30
Running the configuration tool on a local computer	30
Creating the bootstrap.xml file	31
Setting up the Spotfire Server bootstrap file for Integrated Windows authentication	32
Saving basic configuration data (authentication towards Spotfire database)	33
Creating an administrator user	34
Start or stop Spotfire Server	35
Starting Spotfire Server (as a Windows service)	35
Starting or stopping Spotfire Server (Windows, no service)	35
Starting or stopping Spotfire Server (Windows, service exists, Integrated Authentication for SQL Server)	36
Starting or stopping Spotfire Server (Windows, no service, Integrated Authentication for SQL Server)	36
Starting or stopping Spotfire Server (Linux)	37

- Deploying client packages to Spotfire Server38**
- Node manager installation 39**
 - Installing a node manager interactively39
 - Trusting a node40
 - Starting or stopping a node manager (as a Windows service)41
- Service installation on a node42**
 - Installing Spotfire Web Player instances42
 - Multiple service instances on one node 43
 - Installing Spotfire Automation Services instances 43

TIBCO Spotfire Server Documentation and Support Services

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website, mainly in HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit <https://docs.tibco.com>.

TIBCO Spotfire Server Documentation

The following documents for this product can be found on the TIBCO Documentation site:

- *TIBCO Spotfire® Server and Environment - Installation and Administration*
- *TIBCO Spotfire® Server and Environment - Basic Installation Guide*
- *TIBCO Spotfire® Cobranding*
- *TIBCO Spotfire® Server Release Notes*
- *TIBCO Spotfire® Server Web Services API Reference*
- *TIBCO Spotfire® Server Server Platform API Reference*
- *TIBCO Spotfire® Server Information Services API Reference*
- *TIBCO Spotfire® Server License Agreement*

Release Version Support

Some release versions of TIBCO Spotfire products are designated as long-term support (LTS) versions. LTS versions are typically supported for up to 36 months from release. Defect corrections will typically be delivered in a new release version and as hotfixes or service packs to one or more LTS versions. See also https://docs.tibco.com/pub/spotfire/general/LTS/spotfire_LTS_releases.htm.

How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, visit <http://www.tibco.com/services/support>.
- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the TIBCO Support portal at <https://support.tibco.com>.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to <https://support.tibco.com>. If you do not have a user name, you can request one by clicking Register on the website.

System Requirements for Spotfire Products

For information about the system requirements for Spotfire products, visit <http://spotfi.re/sr>.

How to Join TIBCO Community

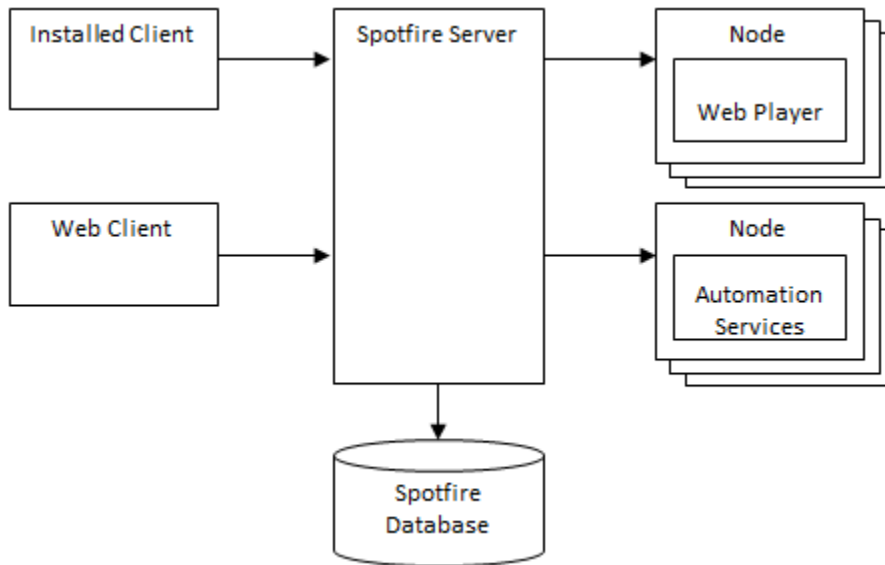
TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can

submit and vote on feature requests from within the [TIBCO Ideas Portal](#). For a free registration, go to <https://community.tibco.com>.

For quick access to TIBCO Spotfire content, see <https://community.tibco.com/products/spotfire>.

Introduction to the TIBCO Spotfire environment

The TIBCO Spotfire® environment is installed and configured to enable users to analyze their data in the Spotfire® clients.



The TIBCO Spotfire® Server is the central component of the TIBCO Spotfire® environment, to which all Spotfire® clients connect. Multiple nodes are installed and connected to Spotfire® Server. The TIBCO Spotfire® Web Player service and TIBCO Spotfire® Automation Services are installed on nodes to enable the use of Spotfire web clients and the running of Spotfire® Automation Services jobs. The server is connected to a Spotfire database that contains a user directory and stores analyses and configuration files. From a Spotfire Server start page, entities in the Spotfire environment can be configured and monitored.

Spotfire Server introduction

Spotfire Server, a Tomcat web application that runs on Windows and Linux operating systems, is the administrative center of any Spotfire environment.

In addition to providing the tools for configuring and administering the Spotfire environment, the Spotfire Server, through the Spotfire clients, enables users to access their data, create visualizations, and share them—with their co-workers or with the world.

Spotfire Server performs the following main functions:

- Authenticates and authorizes Spotfire users.
- Provides access to analyses and data stored in the Spotfire library.
- Provides access to external data sources, including Oracle and SQL Server databases and most JDBC sources, through information links.
- Makes sure that analyses are loaded with updated data according to schedules that are defined by the administrator.
- Provides storage (in the Spotfire database) for configurations, preferences, analyses, and so on.
- Manages the traffic through the Spotfire environment to optimize performance, and in accordance with rules that are defined by the administrator.
- Distributes software updates throughout the implementation.

- Monitors the health and activities of the Spotfire environment and provides diagnostic information both in the server interface and through downloadable logs.

Spotfire database introduction

Spotfire Server requires access to a Spotfire database.

The Spotfire database stores the information that Spotfire Server needs to control the Spotfire environment, including users, groups, licenses, preferences, shared analyses, and system configuration data.

You must have a database server up and running, preferably on a dedicated computer, before installing Spotfire Server. The Spotfire database can be installed on an Oracle Database server or a Microsoft SQL Server.

Nodes and services introduction

Install nodes in the environment to enable the use of Spotfire web clients and Spotfire Automation Services.

With Spotfire Server installed, the installed Spotfire client, called TIBCO Spotfire® Analyst, can be used. To enable the use of Spotfire web clients and Spotfire Automation Services, one or more nodes must also be configured, preferably on dedicated computers.

For each node, the administrator installs and enables services with a specified capability. Each node can have services with the Spotfire Web Player capability, the Spotfire Automation Services capability, or both. The Web Player service allows users to perform analyses in a web browser. Automation Services can be used to automate creation of analysis files, for example, with new data. The capabilities of the enabled services determine the functionality that the node provides to Spotfire end users, through the Spotfire Server. For failover and performance purposes, multiple service instances can be added on each node.

You can scale your Spotfire environment by adding or removing nodes and service instances.

Spotfire clients introduction

Spotfire end users connect to Spotfire Server using either an installed client or a web client.

Spotfire® Analyst, a fully-featured client for working with data sources and creating complex analyses, is installed on a user's local computer.

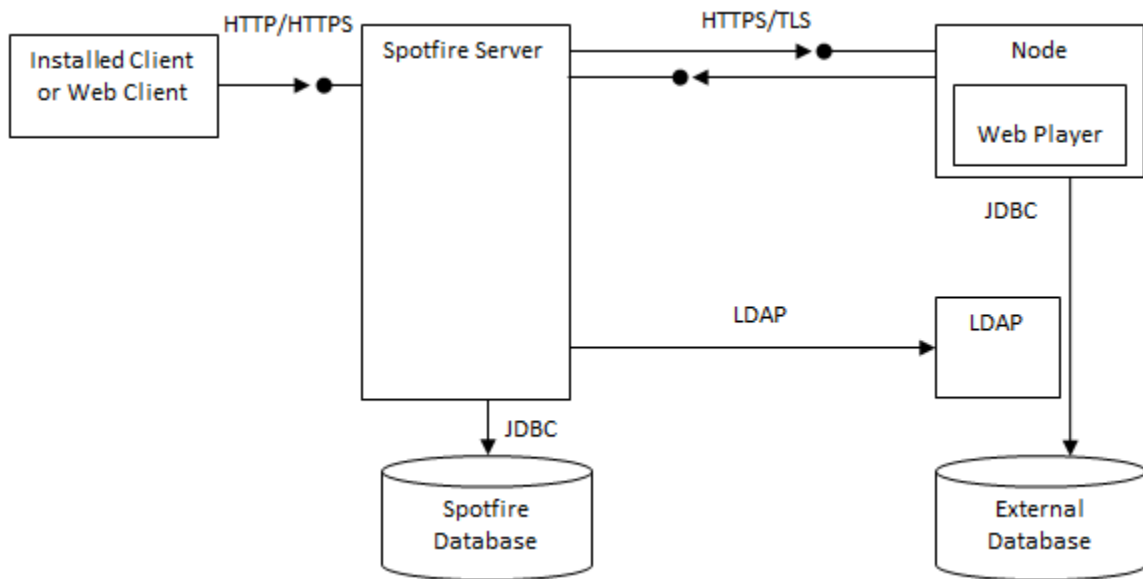
To facilitate interactive analysis in a web browser, a Web Player service generates visualizations that are displayed in the web browser. Depending on which of two licenses a user has, the web client will have different capabilities. With the Consumer license users can view interactive analyses. With the Business Author license users can also create and edit simple analyses.

Environment communication introduction

All back-end communication in a Spotfire environment is secured by HTTPS/TLS, complying with current security standards and industry best practices.

Spotfire Servers listen to incoming traffic from installed clients and web clients on one HTTP or HTTPS port, the front-end communication port.

Spotfire Servers listen to traffic from services on the nodes on another HTTPS port, the back-end communication port.



The secured back-end communication is based on certificates. After an administrator has approved the new server or node, the certificates are issued automatically. Without a certificate, a server or a service on a node cannot make requests to, or receive requests from, other entities, except for when requiring a certificate.

After being installed, a node performs a join request to a specific, unencrypted HTTP Spotfire Server port that only handles registration requests. The node remains untrusted until the administrator approves the request by trusting the node. The Spotfire Server start page provides the tools to add nodes to the environment by explicitly trusting them, thereby issuing the certificates. When the node receives its certificate, it can send encrypted communication over the HTTPS/TLS ports and with this it can start to send more than registration requests.

Deployment introduction

To deploy Spotfire software, the administrator places software packages in a deployment area on Spotfire Server, and assigns the deployment area to particular groups.

If a new deployment is available when a user logs in to a Spotfire client, the software packages are downloaded from the Spotfire Server to the client.

Deployments are used:

- To set up a new Spotfire environment.
- To install a product upgrade, extension, or hotfix provided by Spotfire.
- To install a custom tool or extension.

Administrators can create multiple deployment areas, such as "Production" and "Staging". This allows administrators to test new deployments before rolling them out to the entire client base, or to maintain different deployments for different groups of users.

Basic installation process for Spotfire

To get Spotfire up and running in a simple configuration, follow these steps. The resulting simple installation includes the following: the server on one computer, a few Spotfire Web Player instances available for other computers, the Spotfire Analyst client on another computer, and the user directory in the Spotfire database.

Prerequisite

A database server must be up and running, preferably on a dedicated computer. Spotfire supports Oracle Database server and Microsoft SQL Server.



To view the complete system requirements, go to <http://support.spotfire.com/sr.asp>.



If you are running an earlier version of Spotfire Server, see the "Upgrading Spotfire" section of the Spotfire Server help.

1. [Download the required software.](#)
2. [Collect the required information.](#)
3. Set up the Spotfire database:
 - [On Oracle](#)
 - [On SQL](#)
4. [Run the Spotfire Server installer.](#)
5. [Apply hotfix.](#)
6. [Create the bootstrap.xml file.](#)
7. [Create and save a basic Spotfire Server configuration.](#)
8. [Create an administrator user.](#)
9. [Start Spotfire Server.](#)
10. [Deploy client software packages to Spotfire Server.](#)
11. [Install a node manager.](#)
12. [Trust the node.](#)
13. [Install Spotfire Web Player instances.](#)
14. [Install Spotfire Automation Services instances.](#)

Preparation

Prepare to install Spotfire Server by downloading the required software from the TIBCO eDelivery and Support websites, recording the required system properties, and setting up the Spotfire database on your database server.



Make sure that your system fulfills the requirements listed on the TIBCO Spotfire Server System Requirements page, http://support.spotfire.com/sr_spotfireserver.asp.

Downloading required software

The first step in installing Spotfire Server is to download the required software to the computer that will run the server.

Prerequisites

You must have access to the required software on the TIBCO eDelivery website and the TIBCO Support website. If you do not have access, contact your sales representative.



As of Spotfire Server version 7.11.4, server hotfixes can be applied only on the specific service pack version that they were created for. Example: If you currently have Spotfire version 7.11.3, you can only apply server hotfixes for the 7.11.3 version, such as 7.11.3 HF-001, 7.11.3 HF-002, and so on. If you want a hotfix of a different service pack level, such as 7.11.5 HF-001, you must first make sure to upgrade to that service pack (7.11.5) before applying the hotfix. (Client hotfixes have not changed.)

Procedure

1. On the [TIBCO eDelivery website](#), go to the TIBCO Spotfire Server page.
2. At the bottom of the page, click **Download**, and then sign in to the site if required.
3. On the server download page, select the latest version and your platform, and select the license agreement check box.
4. Under **Installation Method**, do one of the following:
 - To download the entire product, including language packs and developer software, select **Full Product with Download Manager**, click **Download**, and then follow the instructions.
 - To download fewer files, do the following:
 1. Select **Individual file download**.
 2. Under **SELECT AN INDIVIDUAL COMPONENT**, expand **TIBCO Spotfire Server Software**.
 3. Under **TIBCO Spotfire Server Software**, select either `tib_sfirer_server_version_win.zip` (Windows) or `tib_sfirer_server_version.tar` (Linux). The software is downloaded to your computer.

The following example shows the approximate location of the required software components for Windows. The Linux options are similar.



4. Expand **TIBCO Spotfire Deployment Kit Software**.
 5. Under **TIBCO Spotfire Deployment Kit Software**, select `TIB_sfire_deploy_version.zip`.
 6. Select any other files that you want to download.
 7. Unzip any zipped files that you downloaded.
5. Optional: If you purchased Spotfire Automation Services, locate and download the product files. For information about installing the product, see the Spotfire Automation Services help.
 6. Download the folder containing the latest hotfix for Spotfire Server:
 1. Sign in to the [TIBCO Support website](#).
 2. Click **Downloads > Hotfixes**.
 3. On the Available Hotfixes page, expand **AvailableDownloads, Spotfire, and Server**.
 4. Select the .zip files containing the hotfixes for your Spotfire Server version (if you are upgrading, select the hotfixes for your new version), and click **Download**. (The .md5 files verify the integrity of the files and do not need to be downloaded.)



The hotfixes are cumulative, so you only have to download the latest one.

5. When the download is complete, unzip the folder's contents.

What to do next

[Collect required information](#)

Collecting required information

To set up the Spotfire database, and install and configure Spotfire Server, you must have certain information about the IT system at your site and how you want Spotfire Server to interact with the existing system.

Prerequisites

- A database server must be up and running before you can install Spotfire Server, preferably on a separate computer. The Spotfire Server installer will not install a database server. Spotfire supports Microsoft SQL Server and Oracle Database server.

Procedure

1. Collect the following information about your **database server**:



You may need to contact your database administrator.

Required information	Notes	Your information
Database server type	Either MSSQL or Oracle	
Database server hostname		
Administrator user name		
Administrator password		
Connection identifier	For Oracle only	
Instance name	For MSSQL only	

2. Decide on the following information for the **Spotfire database**:

Required information	Notes	Your information
Spotfire database name	For MSSQL only. The default is spotfire_server.	
Spotfire database user name	If the databases uses Integrated Windows authentication, note this user. If you use Integrated authentication, Spotfire Server must run as this Windows Domain user.	
Spotfire database password		

3. Decide on the following for **Spotfire Server**:

Required information	Notes	Your information
Spotfire Server front-end port	<p>Used for communication with Spotfire clients.</p> <p>The default is 80. If another application on the same computer uses port 80, select a different port number.</p>	
Back-end registration port	<p>Used for key exchange to set up trusted communication between the Spotfire Server and nodes.</p> <p>The default is 9080.</p>	
Back-end communication port (TLS)	<p>Used for encrypted traffic between nodes.</p> <p>The default is 9443.</p>	
Spotfire Server login method	<p>Knowledge about your organization's IT infrastructure is required to set up any login method other than Spotfire database.</p> <p>Available login methods:</p> <ul style="list-style-type: none"> • Username and password: Spotfire database, LDAP, Custom JAAS, Windows NT Domain • Single sign-on: NTLM, Kerberos, X.509 Client Certificate, web authentication 	

Required information	Notes	Your information
Spotfire Server user directory	Knowledge about your organization's IT infrastructure is required to set up any user directory other than Spotfire database. Valid options are: Spotfire database, LDAP, and Windows NT Domain.	
Spotfire Server operating system		
Spotfire Servers hostnames		
Hostname of load balancer, if applicable		

What to do next

[Set up the Spotfire database \(Oracle\)](#)

[Set up the Spotfire database \(SQL Server\)](#)

[Set up the Spotfire database \(SQL Server with Integrated Windows authentication\)](#)

Setting up the Spotfire database (Oracle)

If you are running Oracle Database, follow these steps to set up the Spotfire database before you run the Spotfire Server installer.

Prerequisites

- You have downloaded the Spotfire Server installation kit from the TIBCO eDelivery web site; for instructions, see [Downloading required software](#).
- The following settings must be configured on the Oracle Database server:

- User name and password authentication.
- National Language Support (NLS) to match the language of the data you will bring into Spotfire.



If the database server NLS cannot be set to match the language of your data, Oracle provides other methods of setting NLS to a specific database or user. For more information, consult your database administrator or see the Oracle database documentation.

- You must also have access to the Oracle Database server. You may need assistance from your database administrator to copy the `install` directory to the database and to provide the database details for the script.






The command-line database tools (for example, `sqlplus`) must be in the system path of the Oracle Database server.

Procedure

1. Extract the files from the `TIB_sfire_server_version number_win.zip` or `TIB_sfire_server_version number_linux.tar` file to a directory on your desktop.
2. Copy the `oracle_install` directory from the `scripts` directory to the computer running Oracle Database server.
3. On the Oracle Database computer, open the `oracle_install` directory, and then, in a text editor, open the `create_databases` script that corresponds to your platform:
 - Windows: `create_databases.bat`
 - Linux: `create_databases.sh`
 - Windows (Oracle Database running on Amazon RDS): `create_databases_rds.bat`
 - Linux (Oracle Database running on Amazon RDS): `create_databases_rds.sh`
4. In the section under "Set these variables to reflect the local environment", edit the `create_databases` script by providing the appropriate database server details.

Definitions of the variables in `create_databases`

Variable	Description
ROOTFOLDER	<p>Location where the tablespaces will be created. It must be a directory that is writable for the Oracle instance, usually <code>oracle_install dir/oradata/SID</code> or <code>oracle_install dir/oradata/PDBNAME</code>.</p> <div>  Do not add a slash or backslash after the <SID>. </div> <div>  This variable is not applicable for the Amazon RDS <code>create_databases</code> scripts. </div>
CONNECTIDENTIFIER	Oracle TNS name/SID of the database/service name, for example <code>ORCL</code> or <code>//localhost/pdborcl.example.com</code> .
ADMINNAME	Name of a user with Oracle Database administrator privileges for the database identified in the <code>CONNECTIDENTIFIER</code> , for example "system".
ADMINPASSWORD	Password of the <code>ADMINNAME</code> user.
SERVERDB_USER	Name of the user that will be created to set up the Spotfire database.
SERVERDB_PASSWORD	Password for <code>SERVERDB_USER</code> .
SERVER_DATA_TABLESPACE	Name of the tablespace that will be created. The default value works for most systems.

Variable	Description
SERVER_TEMP_TABLESPACE	<p>Name of the temporary tablespace that will be created. The default value works for most systems.</p> <div>  <p>Conflicting tablespaces can occur if you are creating the Spotfire tablespaces on a database server that is already hosting an Analytics Server or a previous version of Spotfire Server. Make sure that you do not select any names for the new tablespaces and users that conflict with the already hosted tablespaces and users.</p> </div>
INSTALL_DEMODATA	<p>Set to "yes" if you want to install the demo database. The demo database contains example data for learning about Spotfire.</p> <p>If you install the demo database, you must later perform additional steps to make the data available to the users; see "Enabling demo database use" in the Spotfire Server help.</p>
DEMODB_USER	Name of the user who will access the demo database. If you change the default user name, the corresponding information layer must be redirected in Information Designer.
DEMODB_PASSWORD	Password for DEMODB_USER.

Example

This is an example of how the file section might look after modification:

```
rem Set these variables to reflect the local environment:
rem Where should the data be stored on the database server:
set ROOTFOLDER=C:\oracle\app\orcl
rem A connect identifier to the container database or the pluggable database
rem for a pluggable database a service name like //localhost/pdborcl.example.com
rem could be the SID for Oracle 11 or earlier, TNSNAME etc,
rem see the documentation for sqlplus
set CONNECTIDENTIFIER=//localhost/pdborcl.example.com
rem a username and password for an administrator in this (pluggable) database
set ADMINNAME=system
set ADMINPASSWORD=admin123
rem Username and password for the Spotfire instance this user will be created,
rem remember that the password is written here in cleartext,
rem you might want to delete this sensitive info once the script is run
set SERVERDB_USER=spotfire_db
set SERVERDB_PASSWORD=spotfire_db123
rem The spotfire tablespaces, alter if you want to run multiple instances in the
rem same database
set SERVER_DATA_TABLESPACE=SPOTFIRE_DATA
set SERVER_TEMP_TABLESPACE=SPOTFIRE_TEMP
rem Demo data parameters, should it be installed at all
set INSTALL_DEMODATA=no
rem Username and password for the demodata
set DEMODB_USER=spotfire_demodata
set DEMODB_PASSWORD=spotfire_demodata123
```

5. Save the file and close the text editor.
6. Open a command line and go to the directory where you placed the scripts.
7. Type `create_databases.bat` or `create_databases.sh` and press Enter.
If the parameters are correct, text that is similar to the following text appears in the command-line interface:

```
C:\scripts\oracle\install>create_databases.bat
Creating Spotfire Server tables
Populating Spotfire Server tables
Creating Spotfire Server database user
Spotfire Server demo database user and data will not be created
-----
Please review the log file <log.txt> for any errors or warnings!
C:\scripts\oracle\install
```



The `log.txt` file is created in the same directory as the `create_databases` file. Also, if you indicated that you want to download the demo database, log files from the creation of the Spotfire demo data are created. Examine these files to verify that no errors occurred, and retain the logs for future reference.



Because the scripts contain sensitive information, it is good practice to remove them after your Spotfire environment has been installed.

What to do next

[Install Spotfire Server](#)

Setting up the Spotfire database (SQL Server)

If you are running Microsoft SQL Server, follow these steps to set up the Spotfire database before you run the Spotfire Server installer.

Prerequisites



If you plan to configure Integrated Windows authentication (IWA) between Spotfire Server and the Spotfire database in SQL, see [Setting up the Spotfire database \(SQL Server with Integrated Windows authentication\)](#).

- You have downloaded the Spotfire Server installation kit from the TIBCO eDelivery web site; for instructions, see [Downloading required software](#).
- The following settings must be configured on SQL Server:
 - TCP/IP communication.
 - A TCP/IP listener port (the default is 1433).
 - Case-insensitive collation (at least for the Spotfire database).



If your installation of SQL Server uses a case-sensitive collation by default, you must edit the `create_server_db.sql` script before running the `create_databases.bat` script. See step 3.

- Collation must match the language of your data.
- You must also have access to the SQL Server, or use any computer that can run Microsoft SQL tools and can communicate with the SQL Server.



The command-line database tools (for example, `sqlcmd`) must be in the system path of the SQL Server.

Procedure

1. Extract the files from the `TIB_sfire_server_<version number>.win.zip` or `TIB_sfire_server_<version number>.linux.tar` file to a directory on your desktop.

2. Copy the `mssql_install` directory from the `/scripts` directory to the computer running SQL Server.
3. Optional: If your installation of SQL Server uses a case-sensitive collation by default, follow these steps to specify case-insensitivity for the Spotfire database:
 - a) On the SQL Server computer, open the `mssql_install` directory, and then open the `create_server_db.sql` script in a text editor.
 - b) Locate the line `--create database $(SERVERDB_NAME) collate Latin1_General_CI_AS;`
 - c) Remove the leading dashes (`--`).
 - d) Replace the case-insensitive (CI) collation `Latin1_General_CI_AS` with the name of another CI collation. See the SQL Server documentation for information about available collations.
 - e) Comment out the following line by inserting leading dashes (`--`), so that the line looks like this:
`--create database $(SERVERDB_NAME)`
 - f) Save the file and close the text editor.
4. On the SQL Server computer, open the `mssql_install` directory, and then open the `create_databases.bat` script in a text editor. If your SQL Server is running on Amazon RDS, open the `create_databases_rds.bat` script in a text editor.
5. In the section under "Set these variables to reflect the local environment", edit the `create_databases.bat` script by providing the appropriate database server details.

Definitions of the variables in `create_databases`

Variable	Description
CONNECTIDENTIFIER	Replace <i>SERVER</i> with the name of the server running the SQL Server instance, and replace <i>MSSQL_INSTANCENAME</i> with the name of the SQL Server instance.
ADMINNAME	Name of a user with SQL database administrator privileges, usually "sa".
ADMINPASSWORD	Password of the <i>ADMINNAME</i> user.
SERVERDB_NAME	Name of the Spotfire database that will be created; <i>spotfire_server</i> is the default.
SERVERDB_USER	Name of the user that will be created to set up the Spotfire database.
SERVERDB_PASSWORD	Password for <i>SERVERDB_USER</i> .
INSTALL_DEMODATA	Set to "yes" if you want to install the demo database. The demo database contains example data for learning about Spotfire. If you install the demo database, you must later perform additional steps to make the data available to the users; see "Enabling demo database use" in the Spotfire Server help.
DEMODB_NAME	Name of the demo database. If you change the default database name, the corresponding information layer needs to be redirected in Information Designer.
DEMODB_USER	Name of the user that will access the demo database.

Variable	Description
DEMODB_PASSWORD	Password for DEMODB_USER.

Example

This is how the `create_databases.bat` file section might look after modification:

```
rem Set these variable to reflect the local environment:
set CONNECTIDENTIFIER=DBSERVER\MSSQL
set ADMINNAME=sa
set ADMINPASSWORD=admin123
set SERVERDB_NAME=spotfire_server
set SERVERDB_USER=spotfire_db
set SERVERDB_PASSWORD=spotfire_db123

rem Demo data parameters
set INSTALL_DEMODATA=no
set DEMODB_NAME=spotfire_demodata
set DEMODB_USER=spotfire_demodata
set DEMODB_PASSWORD=spotfire_demodata123
```

6. Save the file and close the text editor.
 7. Open a command line as an administrator and go to the directory where you placed the scripts.
 8. Type `create_databases.bat` and press Enter.
- If the parameters are correct, text that is similar to the following text is displayed at the command line:

```
C:\scripts\mssql_install>create_databases.bat
Creating Spotfire Server tables
Populating Spotfire Server tables
Creating Spotfire Server database user
Spotfire Server demo database user and data will not be created
-----
Please review the log file (log.txt) for any errors or warnings!
C:\scripts\mssql_install>
```



Log files are created in the same directory as the `create_databases` file. Examine these files to verify that no errors occurred and retain the logs for future reference.



Because the scripts contain sensitive information, it is good practice to remove them after your Spotfire environment has been installed.

What to do next

[Install Spotfire Server](#)

Setting up the Spotfire database (SQL Server with Integrated Windows authentication)

If you are running Microsoft SQL Server and plan to use Integrated Windows authentication between Spotfire Server and the Spotfire database in SQL, follow these steps to set up the database before you run the Spotfire Server installer.

Prerequisites

- You have downloaded the Spotfire Server installation kit from the TIBCO eDelivery web site; for instructions, see [Downloading required software](#).

- The following settings must be configured on SQL Server:

- TCP/IP communication.
- A TCP/IP listener port (the default is 1433).
- Case-insensitive collation (at least for the Spotfire database).



If your installation of SQL Server uses a case-sensitive collation by default, you must edit the `create_server_db.sql` script before running the `create_databases_ia.bat` script. See step 3.

- Collation must match the language of your data.

- You must also have access to the SQL Server, or use any computer that can run Microsoft SQL tools and can communicate with the SQL Server.



The command line database tools (`sqlcmd`, etc.) must be in the system path of the SQL Server.

The database must accept identities from Windows. The scripts will run as the current user, so the current user must have administrative privileges on the database. Note that the created databases will get the 'dbo' user created with this login. So later the created databases will be possible to administrate with integrated authentication when running as the current user.

There must exist another Windows login in the domain. The Spotfire Server process should be started with this login to enable the integrated authentication.

The scripts will work out of the box under these assumptions.



If the login already exists on the database server, the "create_server_user_ia.sql" must be edited. The following rows should be commented out:

```
use master
GO
CREATE LOGIN [$(WINDOWS_LOGIN_ACCOUNT)] FROM WINDOWS WITH
DEFAULT_DATABASE=[$(SERVERDB_NAME)],DEFAULT_LANGUAGE=[us_english]
GO
ALTER LOGIN [$(WINDOWS_LOGIN_ACCOUNT)] ENABLE
GO
DENY VIEW ANY DATABASE
TO [$(WINDOWS_LOGIN_ACCOUNT)]
```

Setting "WINDOWS_LOGIN_ACCOUNT" to the user that is running the scripts creates a problem because the user running the scripts will be associated with the dbo user in the created database. The user running the scripts also has high-level permissions, so this is not recommended. If you want to do it anyway, you must comment out the following lines from "create_server_user_ia.sql":

```
CREATE USER [$(SERVERDB_USER)] FOR LOGIN [$(WINDOWS_LOGIN_ACCOUNT)]
GO
```

And if you have enabled the creation of demodata, the following rows in "create_demo_user_ia.sql" must be commented out:

```
CREATE USER [$(DEMODB_USER)] FOR LOGIN [$(WINDOWS_LOGIN_ACCOUNT)]
GO
```

Procedure

1. Extract the files from the `TIB_sfire_server_<version number>.win.zip` file to a directory on your desktop.
2. Copy the `mssql_install` directory from the `/scripts` directory to the computer running SQL Server.
3. If your installation of SQL Server uses a case-sensitive collation by default, follow these steps to specify case-insensitivity for the Spotfire database:

- a) On the SQL Server computer, open the `mssql_install` directory, and then open the `create_server_db.sql` script in a text editor.
 - b) Locate the line `--create database $ (SERVERDB_NAME) collate Latin1_General_CI_AS;`
 - c) Remove the leading dashes (--).
 - d) Replace the case-insensitive (CI) collation `Latin1_General_CI_AS` with the name of another CI collation. See the SQL Server documentation for information about available collations.
 - e) Comment out the line below it by inserting leading dashes (--), so that the line looks like this: `-- create database $(SERVERDB_NAME)`
 - f) Save the file and close the text editor.
4. On the SQL Server computer, open the `mssql_install` directory, and then open `create_databases.ia.bat` in a text editor.
 5. In the section under "Set these variables to reflect the local environment", edit the `create_databases.ia.bat` script by providing the appropriate database server details. The definitions of the variables are listed at the top of the script.

Definitions of the variables in `create_databases.ia.bat`

Variable	Description
CONNECTIDENTIFIER	Replace <i>SERVER</i> with the name of the server running the SQL Server instance, and replace <i>MSSQL_INSTANCENAME</i> with the name of the SQL Server instance.
WINDOWS_LOGIN_ACCOUNT	The Windows Login Account that should be created as a login on the database server. The server process must run as this user.
SERVERDB_NAME	Name of the Spotfire database that will be created; <code>spotfire_server</code> is the default.
SERVERDB_USER	Name of the user that will be created to set up the Spotfire database.
INSTALL_DEMODATA	Set to "yes" if you want to install the demo database. The demo database contains example data for learning about Spotfire. If you install the demo database, you must later perform additional steps to make the data available to the users; see "Enabling demo database use" in the Spotfire Server help.
DEMO_DB_NAME	Name of the demo database. If you change the default database name, the corresponding information layer needs to be redirected in Information Designer.
DEMO_DB_USER	Name of the user that will access the demo database.

Example

This is how the `create_databases.ia.bat` file section might look after modification:

```
rem Set these variable to reflect the local environment:
set CONNECTIDENTIFIER=DBSERVER\MSSQL
set WINDOWS_LOGIN_ACCOUNT=example.com\win_user
set SERVERDB_NAME=spotfire_server
set SERVERDB_USER=spotfire_user

rem Demo data parameters
set INSTALL_DEMODATA=no
set DEMO_DB_NAME=spotfire_demodata
set DEMO_DB_USER=spotfire_demodata
```

6. Save the file and close the text editor.
7. Open a command line as an administrator and go to the directory where you placed the scripts.
8. Type `create_databases_ia.bat` and press Enter.
If the parameters are correct, text that is similar to the following text is displayed at the command prompt:

```
C:\scripts\mssql_install>create_databases_ia.bat
Creating Spotfire Server tables
Populating Spotfire Server tables
Creating Spotfire Server database user
Spotfire Server demo database user and data will not be created
-----
Please review the log file (log.txt) for any errors or warnings!
C:\scripts\mssql_install>
```



Log files are created in the same directory as the `create_databases_ia` file. Examine these files to verify that no errors occurred, and retain the logs for future reference.



Because the scripts contain sensitive information, it is good practice to remove them after your Spotfire environment has been installed.

What to do next

[Install Spotfire Server](#)

Installation

The Spotfire Server installer adds three major components to your system: A Java environment (JDK), a Tomcat application server, and a Spotfire Server web application.



The Spotfire Server should run in an English (United States) language setting, as stated on the TIBCO Spotfire Server System Requirements page, http://support.spotfire.com/sr_spotfireserver.asp.

The JAVA_HOME of the Apache Tomcat is set to the path of the installed JDK.



For increased security, you may want to install the Java Cryptography Extension (JCE) unlimited strength jurisdiction policy files. It is the user's responsibility to verify that these files are allowed under local regulations.

Installing the Spotfire Server files (interactively on Windows)

Running the Spotfire Server installer is the second step in the Spotfire Server installation process, after setting up the database.

Prerequisites


The Spotfire database has been set up on your Oracle or SQL Server database; for instructions, see [Setting up the Spotfire database on Oracle](#) or [on SQL Server](#).




For security and product performance reasons, it is recommended that you install Spotfire Server on a different computer than the database.

Procedure


1. In the server installation kit that you downloaded from the TIBCO eDelivery site, double-click `setup-win64.exe`.



If you use Microsoft SQL Server with Windows Integrated Authentication, install Spotfire Server as the Domain User that you set up with the script `create_databases_ia.bat`. Also make sure that Spotfire Server always runs as this Domain User. Confirm with the logs that Spotfire Server starts.
2. In the installation wizard Welcome dialog, click **Next**.
3. In the License dialog, read the agreement, select the appropriate radio button, and then click **Next**.
4. In the Third Party Components dialog, if you plan to configure the system for NTLM and you currently have access to the internet, select **Download and install** and then click **Next**.
5. In the Destination Folder dialog you can change the location if you want to, and then click **Next**.
6. In the Windows Service dialog, select the option you want and then click **Next**.
7. In the Spotfire Server Port dialog you can specify the front-end port, and then click **Next**.



To check whether a port is in use, open a command prompt, type `netstat -na`, and press Enter.



The ports selected during installation for front-end, back-end communication, and back-end registration ports must be open in the firewall. (The defaults are 80, 9443, and 9080.)
8. In the Backend Communication Ports dialog you can specify the back-end ports, and then click **Next**.
9. In the Node Manager Hosts dialog, select the computer names that can be used by back-end trust. In general you can leave all the listed names as they are.

10. In the Ready to Install dialog, click **Install**.
The Installing dialog tracks the progress of the installation.
11. When the installation is completed, select **Launch the configuration tool** to open the configuration tool, or **Launch the upgrade tool** if you are upgrading.

What to do next

Apply any available hotfixes for Spotfire Server: [Applying hotfixes](#)

Installing the Spotfire Server files (RPM Linux)

If you have root access to the Linux computer on which you want to install Spotfire Server, you can use the RPM-based installer. If you do not have root access, use the Tarball installer instead.

Prerequisites

The Spotfire database has been set up within your Oracle or SQL Server database; for instructions, see [Setting up the Spotfire database on Oracle](#) or [on SQL Server](#).



For security and product performance reasons, it is recommended that you install Spotfire Server on a different computer than the database.

Procedure

1. Open a command line and run the following script: `rpm -ivh tss-<version number>.x86_64.rpm`
As the script runs it prompts you for any missing arguments.
2. On the command line, run the post-installation script: `/usr/local/bin/tibco/tss/<version number>/configure [-d] [-s] [-r] [-b]` where:
 - `-d` disables the download of third-party components.
 - `-s` specifies the server front-end port.
 - `-r` specifies the back-end registration port.
 - `-b` specifies the back-end communication port.

What to do next

Apply any available hotfixes for Spotfire Server: [Applying hotfixes](#)

Installing the Spotfire Server files (Tarball Linux)

If you do not have root access to the Linux computer on which you want to install Spotfire Server, use the Tarball installer rather than the RPM installer. Both the installation script and a post-installation script are run from the command line.

Prerequisites

The Spotfire database has been set up within your Oracle or SQL Server database; for instructions, see [Setting up the Spotfire database on Oracle](#) or [on SQL Server](#).



For security and product performance reasons, it is recommended that you install Spotfire Server on a different computer than the database.

Procedure

1. Open a command-line interface, go to the directory where you want to install Spotfire Server, and unpack and run the tar file by running the following command: `tar xzf tss-<version number>.x86_64.tar.gz`



The directory must contain the string "tss" in order for start and stop scripts to work.

As the script runs it prompts you for any missing arguments.

2. In the command-line interface, run the post-installation script in the directory where the tar file was unpacked: `./configure [-d] [-s] [-r] [-b]`, where:
 - `-d` disables the download of third-party components.
 - `-s` specifies the server front-end port.
 - `-r` specifies the back-end registration port.
 - `-b` specifies the back-end communication port.
3. Optional: If you have root access to the computer, configure the server to start when the computer starts by running this command: `./configure-boot`

What to do next

Apply any available hotfixes for Spotfire Server: [Applying hotfixes](#)

Database drivers

DataDirect database drivers work well for test environments, but for production environments, drivers from Oracle or Microsoft SQL are strongly recommended.

Spotfire Server ships with the following database drivers:

- DataDirect drivers for Oracle and Microsoft SQL
- Microsoft SQL Server driver

Spotfire supports the Oracle driver as well, available from the Oracle web site.

Installing the Oracle database driver

If your implementation uses Oracle Database server, it is recommended that you install an Oracle driver (JDBC) for your production environments.

Procedure

1. Download the database driver from the Oracle website.
2. Place the driver in the following directory: `<installation_dir>/tomcat/lib`.

Applying hotfixes to the server

Before you begin configuring Spotfire Server, you must install any available hotfix for this version of the server.

Prerequisites

- You have installed Spotfire Server.
- You have downloaded the latest hotfix for your version of Spotfire Server; for instructions, see [Downloading required software](#), step 6.

Procedure

- Follow the instructions in the `Installation_Instructions.htm` file that was included in the hotfix package that you downloaded.
For more information, see [Overview of hotfixes for TIBCO Spotfire](#) in the TIBCO Community.

What to do next

Configure Spotfire Server; see [Initial configuration](#).

Initial configuration

It is recommended that Spotfire administrators configure a successful basic installation of Spotfire Server before configuring more advanced implementations.



Multiple configurations can be stored in the Spotfire database, but only one can be active

Configuration using the configuration tool

The Spotfire Server configuration tool provides a clear path to a basic installation, and offers the most frequently used configuration options.

The configuration tool must be run by a Spotfire administrator. If the Spotfire administrator does not have access to the computer running Spotfire Server, or if the server cannot display graphics, the configuration tool can be run from a local computer.

Opening the configuration tool

You can use the Spotfire Server configuration tool for the initial configuration of your Spotfire implementation, or for updating your configuration later on.

Procedure

- There are three ways to open the configuration tool:
 - Select the **Launch the Configuration Tool** check box on the last screen of the Spotfire Server installation wizard.
 - On the computer running Spotfire Server, click **Start**, go to the Spotfire Server folder, and click **Configure TIBCO Spotfire Server**.
 - Run the `uiconfig.bat` file (`uiconfig.sh` on Linux). These files are located in the `<installation_dir>\tomcat\bin` directory.



If you cannot run the configuration tool on the Spotfire Server computer, see [Running the configuration tool on a local computer](#).

Running the configuration tool on a local computer

If running the configuration tool on the Spotfire Server computer is impossible or inconvenient, you can run the tool on a local computer.

Prerequisites

Java 8 runtime must be installed on the local computer.

Procedure

1. From the computer where Spotfire Server is installed, copy the `<installation_dir>\tomcat\webapps\spotfire\tools\spotfireconfigtool.jar` file to the local computer.



If Spotfire Server is up and running, you can also access the `spotfireconfigtool.jar` file on the **Server Tools** page.

2. On the local computer, unpack the `.jar` file by doing one of the following:
 - Double-click the `spotfireconfigtool.jar` file.
 - If your system does not recognize the file type, follow these steps:

1. On the local computer, open a command line and go to the directory that contains the `spotfireconfigtool.jar` file.
2. On the command line, enter the following command:

```
java -jar spotfireconfigtool.jar
```

A `spotfireconfigtool` directory is created in the same directory as the `.jar` file.

3. In the newly-created directory, double-click `uiconfig.bat` (Windows) or `uiconfig.sh` (Linux) to open the configuration tool.

Creating the bootstrap.xml file

The `bootstrap.xml` file configures the database connection.

Prerequisites

Spotfire Server is installed.





For Integrated Windows authentication (IWA) between Spotfire Server and the Spotfire database, see [Setting up the Spotfire Server bootstrap file for Integrated Windows authentication](#).

Procedure

1. If the configuration tool is not open, open it; for instructions see [Opening the configuration tool](#). The configuration tool opens to the System Status page, which lists the necessary configuration steps.
2. Click **Create new bootstrap file**. The Bootstrap page is displayed.
3. Enter the following information in the fields:

Path	You may leave the default path as is.
Driver template	Select a template that is compatible with your database server.
Hostname	The Spotfire database host name (the address of the computer on which the SQL or Oracle database is installed).
Port	The Spotfire database port.
Identifier (SID/database/service)	The Server ID (for Oracle) or the database name (for MS SQL) of the Spotfire database that was created; <code>spotfire_server</code> is the default.
Username	The name of the database account used by Spotfire Server to connect to the Spotfire database. In the <code>create_databases.bat</code> file, this is the value for <code>ADMINNAME</code> .
Password	The password of the database account. Enter correct database login details, as specified earlier. In the <code>create_databases.bat</code> file, this is the value for <code>ADMINPASSWORD</code> .
URL	The JDBC connection URL. This field is pre-populated from selections made but can be edited.
Driver class	This field is pre-populated from selections made, and cannot be edited. To be able to select Oracle, you must also download the JDBC driver.
Configuration tool password	Enter a configuration tool password of your choice. This will be used to protect the server configuration from unauthorized access.

	 The configuration tool password will be required when running the configuration tool.
Server alias	Enter any unique name for the Spotfire Server.
Encryption password (optional)	Enter an encryption password of your own choice. This will be used for encrypting other passwords stored in the Spotfire database. The passwords are encrypted with a static key if no encryption password is specified here.
Addresses	<p>These values should match actual hostnames, fully qualified domain names (FQDN), and IP addresses (IPv4 or IPv6) at which the Spotfire Server can be reached by other Spotfire Servers and nodes.</p> <p>If any of these values do not describe the server, or are on a network that will not be used for back-end communication, you should remove them.</p> <p>If you changed the hostname, domain, or IP address, add the new values.</p>  Valid hostnames may only contain alphabetic characters, numeric characters, hyphen and period.
Site	For a basic installation, leave Default as the selection.

4. Click **Save Bootstrap**.

The configuration tool checks that database drivers are installed and that the database is running. It also checks that the database accepts the given credentials. A message indicates whether the bootstrap file was successfully created. After it is created, the Configuration page of the configuration tool is displayed.

Setting up the Spotfire Server bootstrap file for Integrated Windows authentication

To configure Integrated Windows authentication (IWA) between Spotfire Server and the Spotfire database in SQL, follow these steps.

Prerequisites

You've followed the steps in [Setting up the Spotfire database \(SQL Server with Integrated Windows authentication\)](#).

Procedure

1. Check that the `sqljdbc4.jar` file with Microsoft's vendor JDBC drivers is in the following Spotfire Server folder: `<installation_dir>\tomcat\lib`.
2. Copy the `sqljdbc_auth.dll` file from the `<installation_dir>\tomcat\bin` folder to the `c:\windows\SysWOW64` folder.
3. Change the login for the service to use the Windows account that has login rights to the Spotfire database.
4. In the bootstrap command, described in the "Command-line reference" section in the TIBCO Spotfire Server and Environment Installation and Administration help, use the following database connection string, substituting actual values for `<db_server>`, `<port>`, and `<instance>`:

```
jdbc:sqlserver://
<db_server>:<port>;DatabaseName=<instance>;integratedSecurity=true
```


Saving basic configuration data (authentication towards Spotfire database)

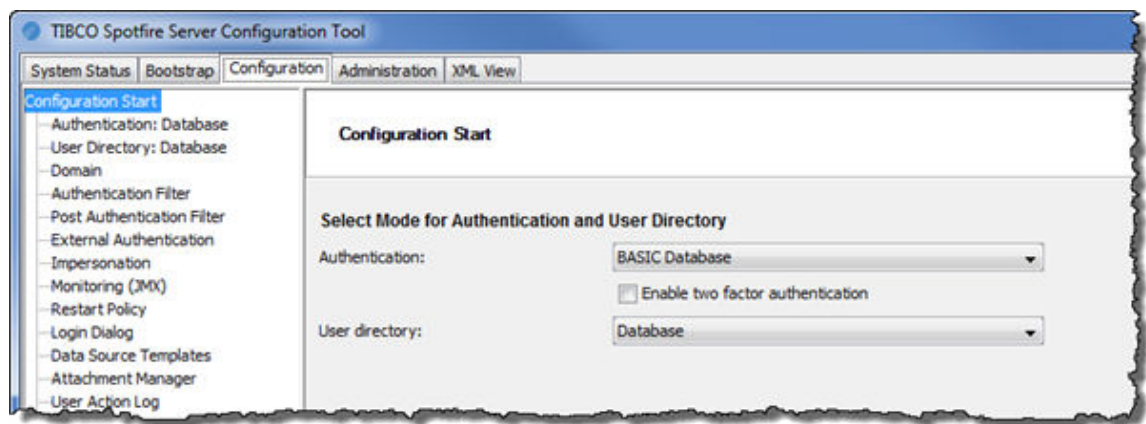
The Configuration page of the configuration tool contains the name of the authentication mode and the user directory for your installation. These instructions are for using the Spotfire database to authenticate users.

Prerequisites

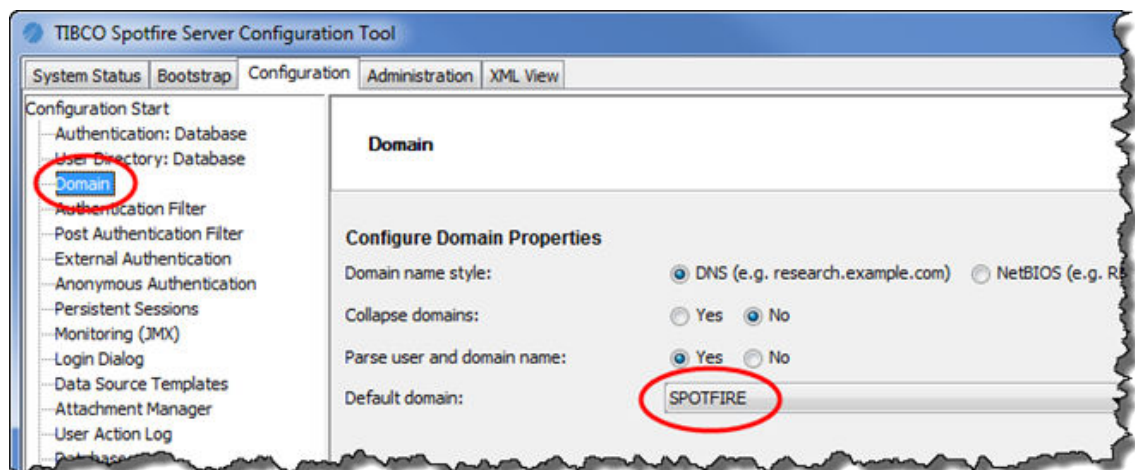
A `bootstrap.xml` file has been successfully saved in the configuration tool (for instructions, see [Creating the bootstrap.xml file](#)).

Procedure

1. On the Configuration page of the configuration tool, verify that **BASIC Database** is selected for **Authentication** and that **Database** is selected for **User directory**.



2. In the left panel of the page click **Domain**, and then verify that **SPOTFIRE** is selected next to **Default domain**.



3. At the bottom of the page, click **Save configuration**.
The Save Configuration wizard is displayed. **Database** is pre-selected as the destination for Spotfire files in the system.
4. Click **Next**.
You are prompted to enter a comment.

5. Enter a comment, and then click **Finish**.

Creating an administrator user

To continue the installation process, the administrator must create an administrator user who has access to all the functionality in the Spotfire implementation.

Prerequisites

Basic configuration data—the authentication mode and user directory for the system—have been saved on the **Configuration** tab of the configuration tool.

Procedure

1. On the Administration page of the configuration tool, under **Create new user**, enter a username and password, and click **Create**.
The new user is displayed in the Users column.
2. Select the new user name and then click **Promote** to add that user to the Administrators group.

What to do next

[Start Spotfire Server](#)

Start or stop Spotfire Server

You must start Spotfire Server after completing initial configuration of the server, before deploying client packages. In addition, you must restart Spotfire Server any time that you change its configuration. The restart causes the server to retrieve a fresh copy of the `configuration.xml` file from the database.

Starting or stopping Spotfire Server (as a Windows service)

After configuring Spotfire Server, you must start it.

Prerequisites

You have successfully completed the initial configuration steps so that the System Status page of the configuration tool shows check marks before the following steps:

- Connect to Database
- Specify Configuration
- Configure Spotfire Server Settings
- Specify Server Administrator

Procedure

1. Log in to the Spotfire Server computer as an administrator.
2. Go to **Control Panel > Administrative Tools > Services** and then, in the Services dialog, locate and select the service called **TIBCO Spotfire Server**.
3. To the left of the services list, click **Start** in the phrase "Start the service".



To stop the service, click **Stop** to the left of the services list.

Result

"Started" appears in the Status column.

What to do next

- Deploy the latest client package to Spotfire Server; for instructions, see [Deploying client packages to Spotfire Server](#).

Starting or stopping Spotfire Server (Windows, no service)

If you did not install a Windows service you must start Spotfire Server manually.

Prerequisites

You have successfully completed the initial configuration steps so that the System Status page of the configuration tool contains four green check marks.

Procedure

1. Log in to the Spotfire Server computer as an administrator.
2. Open a command prompt and go to the following folder: `<installation_dir>/tomcat/bin`.

3. Run the `startup.bat` file.

Result

Spotfire Server starts.



The server will stop running if you close the command prompt or log off from the computer.

Starting or stopping Spotfire Server (Windows, service exists, Integrated Authentication for SQL Server)

If your database server uses Integrated Windows Authentication (IWA) for SQL Server, your Spotfire Server must run as a Windows Domain user that has permission to use the Spotfire database.

Prerequisites

You have successfully completed the initial configuration steps so that the System Status page of the configuration tool contains four green check marks.

Procedure

1. Click **Start > Control Panel > Administrative Tools > Services**.
2. Double-click the service called **TIBCO Spotfire Server**.
The Properties dialog opens.
3. In the Properties dialog, click the **Log On** tab.
4. Select the **This account** radio button and enter the user credentials of the Domain User that was set up with the database preparation script `create_databases_ia.bat`.
5. Click **OK**.
6. Start or stop the service.

Starting or stopping Spotfire Server (Windows, no service, Integrated Authentication for SQL Server)

If your database server uses Integrated Windows Authentication (IWA) for SQL Server, your Spotfire Server must run as a Windows Domain user that has permission to use the Spotfire database.

Prerequisites

You have successfully completed the initial configuration steps so that the System Status page of the configuration tool contains four green check marks.

Procedure

1. Log in to the Spotfire Server computer as the Domain User that was set up with the database preparation script `create_databases_ia.bat`.
2. Open a command prompt and go to the following folder: `<installation_dir>/tomcat/bin`.
3. Run the `startup.bat` file.

Result

Spotfire Server starts.



The server will stop running if you close the command prompt or log off from the computer.

Starting or stopping Spotfire Server (Linux)

On Red Hat and SUSE systems, the Spotfire Server service starts on system startup. Only a user with root user privileges can start and stop the server.

Prerequisites

You have successfully completed the initial configuration steps so that the System Status page of the configuration tool contains four green check marks.

Procedure

1. Log in as root or run with `sudo -s`.
2. Enter the command `/etc/init.d/tss-<version number> start`.



To stop the server, enter the command `/etc/init.d/tss-<version number> stop`.

Deploying client packages to Spotfire Server

To install and use the Spotfire Analyst client and Spotfire web client, you must first deploy the following distribution file (.sdn file) to Spotfire Server: `Spotfire.Dxp.sdn`.

Prerequisites

- A Spotfire Server administrator has been created. For instructions, see [Creating an administrator user](#).
- You downloaded the `Spotfire.Dxp.sdn` file from the TIBCO eDelivery site. For details, see [Downloading required software](#).

Procedure

1. Log in to Spotfire Server by going to `http://servername:port/spotfire`, where *port* is the server front-end port (specified in step 7 of [Installing the Spotfire Server files \(interactively on Windows\)](#)).
2. Click **Deployments & Packages**.
3. On the Deployments & Packages page, under **Deployment areas**, select the area you are currently using.
4. In the "Software packages" pane, click **Add packages**.
5. In the "Add packages" dialog, click **Choose File**.
6. Browse to and then double-click the `Spotfire.Dxp.sdn` file.
7. In the "Add packages" dialog, click **Upload**.
After the packages are uploaded to the server (this may take a while), the new software packages are displayed in the "Software packages" pane.
8. At the top of the "Software packages" pane, click **Validate** to check the deployment, and then click **Save**.
9. In the "Save deployment" dialog that opens, verify or edit the details and then click **Save**.

Node manager installation

To be able to run services, you must first install and trust one or several node managers, depending on the expected workload. Node managers should not be installed on computers that are running Spotfire Server.

Currently the node manager is capable of running services with two different capabilities: Spotfire Web Player and Spotfire Automation Services.

The installation of the node manager creates a Windows service that runs as the LocalSystem account.



If you change the node manager service account, make sure that the account is a local administrator and that it has read and write access to the node manager installation directory and subdirectories.

For more information, see [Nodes and services introduction](#).

Installing a node manager interactively

To make Spotfire Web Player and Spotfire Automation Services available to end users, you first must install a node manager. A Spotfire implementation can contain several nodes, but each one must be installed on a different computer.

Prerequisites

- Spotfire Server is installed and running.
- In the firewall of the computer on which you are installing the node manager, open the ports that will be used for the node manager and the services. (See [step 5](#) below for information on how these ports are used.)

Procedure

1. Double-click `nm-setup.exe`.



You may be prompted to install Microsoft .NET Framework at this point.

2. On the installation wizard Welcome page, click **Next**.
3. On the License page, read the agreement, select **I accept**, and then click **Next**.
4. On the Destination Folder page you can change the location if you want to, and then click **Next**.



The directory path must not contain spaces.

The Node Manager Ports page opens.

5. On the Node Manager Ports page, enter numbers (or leave the defaults) for the following ports:
 - **Node Manager registration port**—The port that is used to set up secure internal communication channels.



If you are installing the node manager on the same computer as Spotfire Server, this port must be different than the Spotfire Server back-end registration port. The default for the Spotfire Server port is 9080.

- **Node Manager communication port (TLS)**—The port that is used for secure (TLS) communication within the implementation.



If you are installing the node manager on the same computer as Spotfire Server, this port must be different than the Spotfire Server back-end communication port. The default for the Spotfire Server port is 9443.



The selected ports must be available and not blocked by a firewall.



To check whether a port is in use, on a command line enter `netstat -na`.

6. Click **Next**.

The Spotfire Server page opens.

7. On the Spotfire Server page, enter the following information, and then click **Next**.



These values must match the values you used when installing the Spotfire Server files.

- **Server name**—The hostname of Spotfire Server.



Valid hostnames may contain only alphabetic characters, numeric characters, hyphens, and periods.

- **Server backend registration port**—The registration port that you specified during Spotfire Server installation.
- **Server backend communication port (TLS)**—The back-end communication port that you specified during Spotfire Server installation.

8. On the Network Names page, select the computer names that can be used by back-end trust. In general you can leave all the listed names as they are.
9. On the Ready to Install page, click **Install**.

What to do next

After the installation wizard finishes running, you must start the new node manager manually; see [Starting or stopping a node manager \(as a Windows service\)](#).

Trusting a node

After installing the node manager, you must indicate in Spotfire Server that you trust the node.

Prerequisites

- You have followed the procedure [Installing a node manager](#).
- Both Spotfire Server and the newly-installed node manager are running.

Procedure

1. Log in to Spotfire Server. (For instructions on accessing the server, see [Starting Spotfire Server](#).)
2. Click **Nodes & Services**, and then click the **Untrusted nodes** tab.
3. Under **Untrusted nodes**, select the check box next to the new node manager and then click **Trust nodes**.
4. In the "Trust node" dialog, click **Trust**.

Result

After a pause, the new node appears on the **Your network** page when you select the **Nodes** view.

What to do next

[Set up services on the node](#)

Starting or stopping a node manager (as a Windows service)

Start or stop the node manager Windows service from the Control Panel on the node manager computer.

Procedure

1. Log in as an administrator to the computer on which the node manager is installed.
2. Go to **Control Panel > Administrative Tools > Services** and then, in the Services dialog, locate and select the service called **TIBCO Spotfire Node Manager**.
3. To the left of the services list, click **Start** in the phrase "Start the service" to start the node manager Windows service.



To stop the service, click **Stop** to the left of the services list.

Result

"Started" appears in the Status column.

What to do next

After starting a node manager you must indicate to the server that you "trust" it; see [Trusting a node](#).

Service installation on a node

After installing and trusting a node manager, you configure and install services and service instances on the node.

For each service you install on the node, you select a capability, and the number of instances for that service, Spotfire Web Player or Spotfire Automation Services. For information on how to install a Spotfire Web Player service, see [Installing Spotfire Web Player instances](#). For information on how to install a Spotfire Automation Services service, see [Installing Spotfire Automation Services instances](#).

Installing Spotfire Web Player instances

After installing and authorizing a node manager, you install the Spotfire Web Player service and indicate the number of Spotfire Web Player instances that you want to make available. The Spotfire Web Player instances can then be accessed on any computer in the network.

Prerequisites

- You have installed and authorized a node manager; for instructions, see [Installing a node manager interactively](#) and [Trusting a node](#).
- Spotfire Server and the node manager are up and running.
- You have deployed client packages to Spotfire Server; for instructions, see [Deploying client packages to Spotfire Server](#).
- By default TLS 1.2 is not enabled on Windows Server 2008 R2. For communication to work between a service and Spotfire Server, TLS 1.2 must be enabled. To enable TLS 1.2 on Windows Server 2008 R2, see the section "For later versions of Windows" at <https://support.microsoft.com/en-us/kb/245030>. For more information about TLS settings in Windows, see <https://technet.microsoft.com/en-us/library/dn786418.aspx>.

Procedure

1. Log in to Spotfire Server and click **Nodes & Services**.
2. Under **Select a view**, select **Nodes**, and then select the node to which you want to add the Spotfire Web Player service. There should be a green circle with a check mark next to the selected node.
3. In the lower-right pane, click **Install new service**.
4. Make your selections in the "Install new service" dialog:
 - a) Under **Deployment area**, select the area you are using.

Administrators generally create a Test deployment area to use as a staging server.
 - b) Under **Capability**, select **Web Player**.
 - c) Under **Configuration**, select the service configuration that you want to apply to the service.
 - d) Under **Number of instances**, enter the number of instances of the service that you want to make available. For more information, see [Multiple service instances on one node](#).
 - e) Under **Port**, you can change the default of 9501 if you want to.
 - f) Enter a name for this service.
5. Click **Install and start**.
To view the progress of the installation, click the **Activity** tab.

What to do next

- If applicable, install Spotfire Automation Services.

- For information on the remaining setup tasks, see "Post-installation steps" in the Spotfire Server help.

Multiple service instances on one node

Adding more than one Spotfire Web Player instance could be beneficial, particularly on large computers with NUMA architecture.

For failover reasons, it is recommended to have more than one instance in your environment. However, for failover reasons the instances do not have to be on the same node.

There are two main reasons for adding more service instances on the same node:

- If there are unstable analyses that are suspected to result in issues for the process, these analyses can be routed to one dedicated service instance using file routing rules. This isolates the analyses from other instances.
- A very large .NET heap may lead to long duration blocking garbage collections. By distributing analyses that lead to a large .NET memory footprint over more than one service instance, the .NET heap becomes smaller, which leads to quicker garbage collections.

There are two reasons to avoid using too many service instances:

- Each service instance requires some overhead, mostly in terms of memory usage but also some CPU usage.
- There is no data or document sharing between service instances.

You may want to experiment with fewer or more service instances, especially on large computers.

Installing Spotfire Automation Services instances

After installing and authorizing a node manager, you can install Spotfire Automation Services and indicate the number of instances of this service that you want to make available. Spotfire Automation Services can then be accessed on any computer in the network.



All users that execute Automation Services jobs on the server, using the Job Builder or the Client Job Sender, must be members of the group Automation Services Users.

Prerequisites

- You have installed and authorized a node manager; for instructions, see [Installing a node manager](#) and [Trusting a node](#).
- Spotfire Server and the node manager are up and running.
- You have deployed client packages to Spotfire Server; for instructions, see [Deploying client packages to Spotfire Server](#).
- In Administration Manager in Spotfire Analyst you have assigned *licenses* required by the Automation Services jobs to the `automationservices@SPOTFIRESYSTEM` user, which is the account used to execute the jobs on the service instance.



For a description of the licenses, see the Administration Manager help.

- By default TLS 1.2 is not enabled on Windows Server 2008 R2. For communication to work between a service and Spotfire Server this must be enabled. To enable TLS 1.2 on Windows Server 2008 R2 see section "For later versions of Windows" on <https://support.microsoft.com/en-us/kb/245030>. For more information about TLS settings in windows see <https://technet.microsoft.com/en-us/library/dn786418.aspx>.

Procedure

1. Log in to Spotfire Server and click **Nodes & Services**.
2. In the **Nodes** view, select the node to which you want to add the Spotfire Automation Services service. There should be a green circle with a check mark next to the selected node manager. The words **Installed services** followed by the name of the node manager are displayed in the lower-right pane of the window.
3. Click **Install new service**.
4. Make your selections in the "Install new service" dialog:
 - a) Under **Deployment area**, select the area you are using.

Administrators generally create a Test deployment area to use as a staging server.
 - b) Under **Capability** select **Automation Services**.
 - c) Under **Configuration**, select the service configuration that you want to apply to the service.
 - d) Under **Number of instances**, enter the number of instances of the service that you want to make available.
 - e) Under **Port**, you can change the default of 9501 if you want to.
 - f) Enter a name for this service.
5. Click **Install and start**.

To view the progress of the installation, click the **Activity** tab.

What to do next

For information on the remaining setup tasks, see "Post-installation steps" in the Spotfire Server help.