

# **TIBCO ActiveMatrix® BPM Spotfire Visualizations**

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# TIBCO Documentation and Support Services

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

<https://docs.tibco.com>

## Product-Specific Documentation

Documentation for TIBCO products is not bundled with the software. Instead, it is available on the TIBCO Documentation site. To directly access documentation for this product, double-click the following file:

`TIBCO_HOME/release_notes/TIB_amx-bpm_version_docinfo.html`

where *TIBCO\_HOME* is the top-level directory in which TIBCO products are installed. On Windows, the default *TIBCO\_HOME* is `C:\tibco`. On UNIX systems, the default *TIBCO\_HOME* is `/opt/tibco`.

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

- TIBCO ActiveMatrix BPM SOA Concepts
- TIBCO ActiveMatrix BPM Concepts
- TIBCO ActiveMatrix BPM Developer's Guide
- TIBCO ActiveMatrix BPM Web Client Developer's Guide
- TIBCO ActiveMatrix BPM Tutorials
- TIBCO ActiveMatrix BPM Business Data Services Developer Guide
- TIBCO ActiveMatrix BPM Case Data User Guide
- TIBCO ActiveMatrix BPM Event Collector Schema Reference
- TIBCO ActiveMatrix BPM - Integration with Content Management Systems
- TIBCO ActiveMatrix BPM SOA Composite Development
- TIBCO ActiveMatrix BPM Java Component Development
- TIBCO ActiveMatrix BPM Mediation Component Development
- TIBCO ActiveMatrix BPM Mediation API Reference
- TIBCO ActiveMatrix BPM WebApp Component Development
- TIBCO ActiveMatrix BPM Administration
- TIBCO ActiveMatrix BPM Performance Tuning Guide
- TIBCO ActiveMatrix BPM SOA Administration
- TIBCO ActiveMatrix BPM SOA Administration Tutorials
- TIBCO ActiveMatrix BPM SOA Development Tutorials
- TIBCO ActiveMatrix BPM Client Application Management Guide
- TIBCO ActiveMatrix BPM Client Application Developer's Guide
- TIBCO Openspace User's Guide
- TIBCO Openspace Customization Guide
- TIBCO ActiveMatrix BPM Organization Browser User's Guide (Openspace)
- TIBCO ActiveMatrix BPM Organization Browser User's Guide (Workspace)

- TIBCO ActiveMatrix BPM Spotfire Visualizations
- TIBCO Workspace User's Guide
- TIBCO Workspace Configuration and Customization
- TIBCO Workspace Components Developer Guide
- TIBCO ActiveMatrix BPM Troubleshooting Guide
- TIBCO ActiveMatrix BPM Deployment
- TIBCO ActiveMatrix BPM Hawk Plug-in User's Guide
- TIBCO ActiveMatrix BPM Installation: Developer Server
- TIBCO ActiveMatrix BPM Installation and Configuration
- TIBCO ActiveMatrix BPM Log Viewer
- TIBCO ActiveMatrix BPM Single Sign-On
- Using TIBCO JasperReports for ActiveMatrix BPM

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# BPM Spotfire Visualizations

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TIBCO Spotfire enables you to take data from the BPM database and create visualizations, for example, bar charts and scatter plots, based on the data. This enables you to quickly and easily identify trends, patterns and relationships in your data. You can use, either the BPM Spotfire Analysis file or, the BPM Spotfire Information Library to access template Spotfire visualizations that have been created based on data from TIBCO ActiveMatrix BPM.

## BPM Spotfire Visualizations and Event Collector

The BPM Spotfire template visualizations use the Event Collector tables of the BPM database schema. The Event Collector is a component of TIBCO ActiveMatrix BPM. It collects and correlates data on business process events. The two tables that are used by the BPM Spotfire Template visualizations are:

- ec\_wi\_status table
- ec\_pe\_status table



In the BPM Spotfire Templates, these tables are called something different.

- The ec\_wi\_status table is called `WI_STATUS_IL`.
- The ec\_pe\_status table is called `PE_STATUS_IL`.

For more information about the data contained in these tables, see *TIBCO ActiveMatrix BPM Event Collector Schema Reference*.

## BPM Spotfire Analysis File

You can use the BPM Spotfire analysis file to access the BPM Spotfire template visualizations. The BPM Spotfire Analysis file contain the analysis material, information links, and data sources, for the BPM template visualizations.

The BPM Analysis file uses embedded data and the information link for direct connection to the BPM database. Using information link you can fetch latest data from the BPM database to the analysis file. See [Replacing Data in the BPM Spotfire Analysis File](#) for more details on how to create the information link and replace the data in the analysis file.

## Pre-requisites for Using BPM Spotfire Template Visualizations

Before using the BPM Spotfire analysis file or BPM Spotfire Information Library, you must install the correct software.

You must have:

- installed:
  - TIBCO Spotfire Professional
  - TIBCO Spotfire Server
- created some user accounts on your TIBCO Spotfire Server. See the *TIBCO Spotfire Deployment and Administration Guide* for more information.

## Opening the BPM Spotfire Analysis File

To load the template visualizations from the BPM Spotfire Analysis file, you must open the file in TIBCO Spotfire.

### Procedure

1. Copy `spotfire.zip` from the location where you installed TIBCO ActiveMatrix BPM (for example, `C:\Program Files (x86)\tibco\amx-bpm\bpm\1.1\samples` where `1.1` is the version number of the BPM runtime you installed) and extract the `TIBCO AMXBPM Template EMBEDDED.dxp` file that it contains.
2. Depending on the type of database you are using for your BPM database, configure the machine where TIBCO Spotfire is installed to connect to your BPM database. The following table describes this:

Database	Description
DB2	You must install an IBM DB2 ODBC Driver.
Oracle	You must: <ul style="list-style-type: none"> <li>• install an Oracle 11g Release 2 Client.</li> <li>• configure a service name in Oracle Net Manager. Refer to your Oracle documentation for information on how to do this.</li> </ul>
SQL Server	No extra configuration is required.

3. To open the BPM Spotfire analysis file, do the following:
  - a) Login to your TIBCO Spotfire Client.
  - b) Click **File > Open**. The **Open File** dialog displays.
  - c) Browse to the location of your BPM Spotfire Analysis File. For example, `c:\temp\`
  - d) Select the `TIBCO AMXBPM Template EMBEDDED.dxp` file and click **Open**. The BPM Spotfire template visualizations display.

## Replacing Data in the BPM Spotfire Analysis File

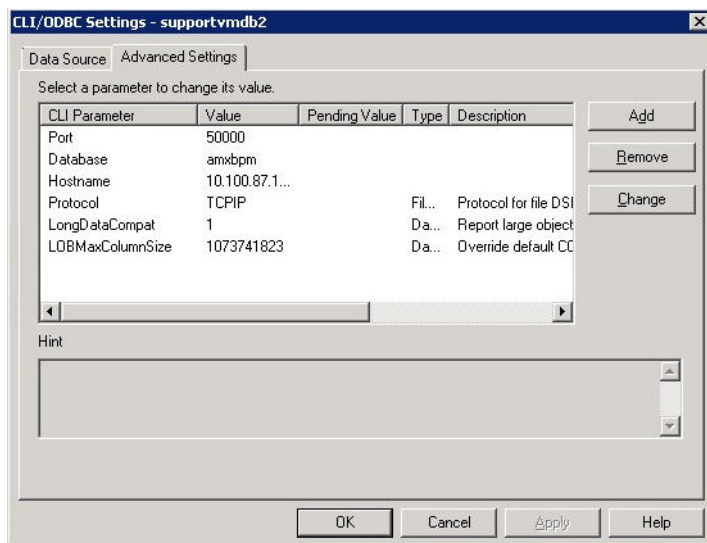
You can replace the embedded data in the BPM visualizations in the BPM Spotfire analysis file with new data from the BPM database using the information link. This enables you to update the visualizations with current data. You can only update one table at a time so you need to repeat these steps for each table you want to update.



The new data must be structured in the same way as the tables in the existing visualization.

(Only applies if you are using DB2) The `ec_wi_status` table contains columns of type clob. However, the DB2 ODBC Driver does not support clobs. Therefore, you must set the following CLI Parameter values on the **Advanced Settings** tab of the DB2 CLI/ODBC Driver Settings dialog to replace data in the `ec_wi_status` table:

- LongDataCompat=1
- LOBMaxColumnSize=1073741823



## Procedure

Create an information link in Spotfire.

1. Click **Tools > Information Designer**.  
The Information Designer window is displayed.
2. In the Information Designer window select **New > Datasource**.
3. In the new datasource, populate the database connection details based on your database and save the datasource.
4. Locate the EC Table in the created datasource, select either `ec_pe_status` (for process instance data) or `ec_wi_status` (for work item data). Right-click the table and select **Create Default Information Model**. Click **OK** on all the subsequent screens.  
The information link for the table is created.
5. Repeat the step above for the other table.
6. From your TIBCO Spotfire Client, open the `TIBCO AMX BPM Template EMBEDDED.dxp` file.
7. Click **File > Replace Data Table...**, then on the Replace Data Table - Select Data Table dialog select either:
  - WI STATUS IL to replace work item data
  - PE STATUS IL to replace process instance data
8. You must now add a Transformation to transform any currency values to the correct type. The next steps depend on the database you are using.


**For Oracle/MSSQL:**


- a) Select **Show transformations**.
- b) Select **Add**.
- c) Select **ATTRIBUTE16** in **Available columns**.
- d) From the **New data type** drop-down list, select **Real**. In the **Preview** pane, you will see that the data type for the columns have changed to **Real**.



- e) Select the first column in the list of **Available Columns** that has a data type of **Currency**.
- f) From the **New data type** drop-down list, select **Long Integer**. In the preview pane, you will see that the data type for the column you selected has changed to **Long Integer**.
- g) Repeat this step for all columns with a data type of **Currency**.

**For DB2:**

- a) Select **Show transformations**.
  - b) Select **Add**.
  - c) Select **ATTRIBUTE5** in **Available columns**.
  - d) From the **New data type** drop-down list, select **Real**. In the **Preview** pane, you will see that the data type for the columns have changed to **Real**.
  - e) Click **Show transformations**. The transformations part of the dialog displays.
  - f) From the **Transformations** drop-down list, select **Change data types**.
  - g) Click **Add**. The **Change Data Types** dialog displays. The **Change Data Types** dialog displays the columns that make up the table.
9. Click the **Select** drop-down icon, select the information link created for the table and click **OK**. The data is then reloaded from the database connection.
  10. Open the visualizations to check that the data has been updated.
- 

You can only update one table at a time so you need to repeat these steps each time you want to update a table with new data.
11. Click **File > Save As** to save your updated table to a new .dxp file.
- 

You could save the new .dxp file to a shared location so that all teams can have access to the new updated template.
12. The **Save** dialog is displayed.
  13. Click **Override these settings and embed all data**.
  14. Click **OK** to close the dialog.
  15. On the **Save Document As**, browse to the location where you want to save your new .dxp file.
  16. In the **File name:** box, type in the name of your new .dxp file and click **OK** to close the dialog.

## Displaying Work Item Facade Display Labels in BPM Spotfire Visualizations

When defining your BPM process in TIBCO Business Studio, you can specify display labels for your work item attributes. You can configure your BPM Spotfire visualizations to show the display labels for your work item attributes rather than their default names (attribute1, attribute 2 and so on).

### Procedure

1. Open your BPM Spotfire visualizations in TIBCO Spotfire.
  2. Click **Edit > Column Properties**.
  3. From the **Data Table** drop-down list, select **WI STATUS IL**.
  4. Select the work item column whose name you want to change.
  5. Click the **General** tab.
  6. In the **Name** box, enter the new name.
  7. Click **Apply**.
  8. Click **OK**.
- When you go back to the visualization, the new column name displays.

## BPM Spotfire Operational Visualizations

The BPM Spotfire template visualizations illustrate a typical use case scenario for a bank. Typically, a bank wants information about its current operations. For example, what work is there to do and how do they prioritize and organize resources for that work.

There are two visualizations you can use to analyze operations.

- **Operational Monitoring**

This visualization allows you to select a process, a task within that process, and its priority and then view how long it has been outstanding, whether there are any approaching SLAs (service level agreements), and what resources are working on it.

- **Operational Summary**

This visualization displays a summary of all tasks from all processes. It shows the outstanding tasks, their average duration and their first SLA.

## BPM Spotfire Performance Visualizations

The BPM Spotfire template visualizations illustrate a typical use case scenario for a bank. Typically, a bank wants information about its performance over time. For example, how do their processes perform end to end and how much time is spent on each task. This, in turn, helps the bank to address issues such as what activities are taking the most time and how can that time be shortened.

There are three visualizations that you can use to analyze performance.

- **Performance Tasks**

This template allows you to select a task and then displays:

- a summary of its duration.
- a summary of its execution by resource and priority.

- **Performance Resources**

This template allows you to select one or more resources and a time period. It then displays what tasks those resources have been working on and the duration of those tasks.

- **Process Analysis**

This template allows you to select a process. It then displays how many process instances there have been for that process and their duration.