



TIBCO® Data Virtualization

Custom Java Procedures Adapter Guide

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TDV Custom Java Procedures

Introduction

Java procedures are programs that you write in Java to access and use TDV resources. You can add these procedures as TDV Server data sources, execute them against a data source, use them in views or procedures, and publish them as TDV database tables or Web services.

TDV has a JDBC interface and provides a bridge interface so that you can connect to a data source that is not currently supported. You can create a driver adapter that connects to that interface.

TDV supports custom procedures written in Java created to interface with other data sources. TDV provides APIs to create custom procedures. For details about the TDV APIs for Custom Java procedures and examples of Java procedures, see “Java APIs for Custom Procedures” and “Java for Custom Procedures Examples” in the *TDV Reference Guide*.

For more details about Java Procedures, refer to section “Procedures” in the *TDV User Guide*.

About Export and Import of Custom Java Procedures

Custom Java Procedure JARs are exported with a TDV full server backup (and when using the backup_export), although the tool backup_export -excludejars option can be used to omit those files when required.

An export exception: If the Custom Java Procedure makes use of one or more classpaths referring to other JAR files, those files must be backed-up or migrated separately because they are not picked up and replicated during export.

When a data source is exported, the adapter from which the data source was created is exported as well. In particular, all the files in the data source directory are included in the CAR file.

Custom Java Procedures (CJP) are normally imported into the directory `conf/customjars/` when restoring TDV from the full server backup CAR.

The CJP cluster propagation is immediately propagated across the cluster along with its CJP library. Unlike other TDV-defined resources, those resources that can be referred to by a CJP data source's classpath are not propagated. Such resources must be manually distributed to all cluster nodes.

Adding a Custom Java Procedure

A CJP library is a JAR file containing the Java classes implementing a set of Custom Java Procedures (CJPs) and other resources used by the CJPs. A CJP data source is a TDV custom data source that is created in Studio by specifying the signature of the CJP, a CJP library, and, optionally, a classpath. The classpath is needed only if the CJPs need resources that were not included in the CJP library.

For more details on TDV APIs to create custom Java procedures, see “JAVA APIs for Custom Procedures” in the *TDV Reference Guide*.

One adapter is sufficient to connect to any number of the same type of data sources. After it has been uploaded, the JDBC adapter functions like any other JDBC adapter, such as those used by Oracle, SQL Server, or MySQL. Customizations can be made to further change the adapter behavior.

You add a custom Java procedure to TDV Server as you would add a new data source. You must supply the specific JDBC driver and direct the server to the custom procedure JAR location so that TDV can upload it. The TDV server assumes that the JDBC adapter is implemented correctly. The server does not make any accommodations for JDBC adapters that do not supply correct metadata about the data source and it does not retrieve result sets that are not consistent with the metadata.

Note: If you need to export or import previously created custom Java procedures, see [About Export and Import of Custom Java Procedures](#).

To add a custom Java procedure

1. Make sure that you have the Java code for the procedure.

2. Compile the Java code and put the compiled code into a JAR file.

Your classpath should point at <TDV_install_dir>\apps\extension\lib\csext-xxx.jar, where 'xxx' is your most recent patch level.

For instance, if TDV server is installed under C:\Apps\cis8.5 and you are running 8.5.2, then you would use:

```
javac -classpath C:\Apps\cis8.5\apps\extension\lib\csext-002.jar TestCJP.java
```

3. Add the class to a JAR file. For example:

```
jar -cvf TestCJP.jar TestCJP.class
```

4. Place the JAR file on the machine where TDV Server is running.
5. Right-click at a location in the Studio resource tree where you want this data source to reside, and select New Data Source.
6. In the New Physical Data Source dialog, select Custom Java Procedure as the Data Source Adapter and click Next.
7. Supply the information for a custom Java procedure data source:

- Name—Name for the data source.
- Custom procedure jar location—Use the Browse button to locate the path to the JAR file containing the procedures on the server, or type the full path to the JAR file.

For example: file:///C:\myExamples\myProcedures.jar.

The JAR can be uploaded only from a file location that is visible to the TDV Server.

- Additional classpath—Optionally, specify any classpath that might be needed by the Java custom procedure class. To specify multiple classpaths, separate them with semicolons.

For example, if the Java custom procedure uses classes contained in Widget.jar, you can type the path to Widget.jar, as follows:

```
C:/composite/Widget.jar
```

8. Click one of these buttons:
 - Create & Introspect—To proceed immediately with introspection.
 - Create & Close—To create the data source; you can introspect at a later time.
9. Refer the *User Guide*, Chapter *Retrieving Data Source Metadata* for how to introspect now or later.

Server Configuration to run Custom Java Procedure

In order to run a Custom Java Procedure, you need to set the following Server Configuration to True:

Administration -> Configuration -> Data Sources -> CJP -> Enable the ability to run Custom Java Procedures

By default this is set to False. If you set this to True, make sure you fully trust the JAR files used for Custom Java Procedures.

Note: The Custom Java Procedure JAR file must exist within the directory specified in the Custom Jar Import Directory server configuration (Administration -> Configuration -> Server -> Configuration -> Files -> Custom Jar Import Directory) and must have a .jar extension in the file name.

For more details about executing a Java procedure, refer to the section “Procedures” in the *TDV User Guide*.

TIBCO Product Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, and join the TIBCO Community.

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.

Product-Specific Documentation

The following documentation for this product is available on the [TIBCO® Data Virtualization](#) page.

- **Users**
 - TDV Getting Started Guide
 - TDV User Guide
 - TDV Web UI User Guide
 - TDV Client Interfaces Guide
 - TDV Tutorial Guide
 - TDV Northbay Example
- **Administration**
 - TDV Installation and Upgrade Guide
 - TDV Administration Guide
 - TDV Active Cluster Guide
 - TDV Security Features Guide
- **Data Sources**

TDV Adapter Guides

TDV Data Source Toolkit Guide (Formerly Extensibility Guide)

- **References**

TDV Reference Guide

TDV Application Programming Interface Guide

- **Other**

TDV Business Directory Guide

TDV Discovery Guide

- *TIBCO TDV and Business Directory 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.

How to Contact TIBCO Support

Get an overview of [TIBCO Support](#). You can contact TIBCO Support in the following ways:

- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the [TIBCO Support](#) website.
- 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 [TIBCO Support](#) website. If you do not have a user name, you can request one by clicking **Register** on the website.

Release Version Support

TDV 8.5 is designated as a Long Term Support (LTS) version. Some release versions of TIBCO® Data Virtualization products are selected to be long-term support (LTS) versions. 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/tdv/general/LTS/tdv_LTS_releases.htm.

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, visit [TIBCO Community](#).

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