



Informatica® PowerExchange for Tableau V3
10.5.6

User Guide for PowerCenter

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Preface

Use the *Informatica® PowerExchange® for Tableau V3 User Guide* to learn how to read from multiple sources, generate a Tableau `.hyper` output file, and write the data to Tableau by using PowerCenter Client. Learn to create a Tableau V3 connection, develop mappings, and run sessions in an Informatica domain.

Informatica Resources

Informatica provides you with a range of product resources through the Informatica Network and other online portals. Use the resources to get the most from your Informatica products and solutions and to learn from other Informatica users and subject matter experts.

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- View product availability information.
- Create and review your support cases.
- Find your local Informatica User Group Network and collaborate with your peers.

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To find online support resources on the Informatica Network, visit <https://network.informatica.com> and select the eSupport option.

CHAPTER 1

Introduction to PowerExchange for Tableau V3

This chapter includes the following topics:

- [PowerExchange for Tableau V3 Overview, 7](#)
- [Introduction to Tableau, 8](#)
- [Tableau Packaged Workbook File, 8](#)
- [PowerExchange for Tableau V3 Implementation, 8](#)
- [PowerExchange for Tableau V3 Example, 9](#)

PowerExchange for Tableau V3 Overview

You can use PowerExchange for Tableau V3 to connect to Tableau from Informatica.

You can integrate and transform data from sources, such as flat files, databases, and applications to generate a Tableau `.hyper` file. You can also create a Tableau packaged workbook (TWBX) and publish the generated TWBX file to Tableau.

When you connect to sources from Tableau, you have to rely on the speed of the underlying data sources. For faster turnaround, offline access, and sharing centralized data with multiple users, you can eliminate accessing other data sources directly from Tableau and use the portable `.hyper` file instead.

A Tableau `.hyper` file contains data extracted from an external data source. The `.hyper` file is a high performance Tableau-specific file format with `.hyper` extension that is used to analyze huge amount of data sets quickly.

The `.hyper` and the TWBX files are compatible with Tableau products version 10.5 or later. Use the `.hyper` or the TWBX file in Tableau Desktop to visualize the data and identify patterns and trends. You can also use the Tableau V3 connection in a mapping to publish the `.hyper` or TWBX file directly to Tableau Server or Tableau Online.

When you use PowerExchange for Tableau V3 on Linux, ensure that the version of Red Hat Enterprise Linux is 7 or higher. If the version of Red Hat Enterprise Linux is less than 7, the Tableau V3 connections along with all the other connections might fail.

You cannot configure a PowerExchange for Tableau V3 mapping with multiple sessions in parallel, ensure that all the sessions are configured in a sequence.

Note: Informatica recommends that you use PowerExchange for Tableau if you want to generate a `.tde` output file. For more information about using PowerExchange for Tableau, see the PowerExchange for Tableau for PowerCenter documentation.

Introduction to Tableau

Tableau software delivers fast analytics, visualization, and rapid-fire business intelligence.

You can use Tableau Desktop to connect to any data, query the data, see patterns, identify trends, and discover visual insights in seconds. You can create interactive visualizations, reports, and dashboards without the need for programming.

Tableau Server is business intelligence that provides browser-based and mobile analytics. You can publish dashboards to Tableau Server, so that other users can interact with the data in a browser or tablet.

Tableau Online is a hosted version of Tableau Server. You can share dashboards with your organization and customers in minutes. The live, interactive views of data in Tableau Online helps you answer your questions in a web browser or tablet.

Tableau Packaged Workbook File

The Tableau packaged workbook file is a data file with `.twbx` extension.

The packaged workbooks contain a Tableau workbook along with supporting local file data sources, custom shapes, `.hyper` files, text files, Microsoft Access or Excel files, or background images grouped together in one package. You can publish a packaged workbook from PowerCenter Integration to Tableau. A workbook can either contain a worksheet or a dashboard.

When you extract data from the source into a `.hyper` file, you can apply a predefined Tableau workbook (TWB) template to the extracted data to create a Tableau packaged workbook (TWBX). The TWB template file is custom made to perform specific analysis on the extracted source data and populates graphs and charts to represent the data. You can publish the TWBX file to Tableau and further modify the generated graphs according to your business needs.

PowerExchange for Tableau V3 Implementation

To generate a `.hyper` file from the source data, create a Tableau V3 data object and include the data object as a target in a mapping. You can run the mapping or add the mapping to a workflow to process the data, generate the `.hyper` file, and publish the file to Tableau.

When you specify a Tableau workbook template (TWB) for a Tableau target, the PowerCenter Integration Service applies the TWB template to the `.hyper` file and generates a Tableau packaged workbook (TWBX) file.

The PowerCenter Integration Service integrates with the Tableau `.hyper` API to generate the `.hyper` or TWBX file.

The PowerCenter Integration Service uses the Tableau V3 connection to write the `.hyper` or TWBX file to a directory on the machine where the PowerCenter Integration Service runs. You can publish the `.hyper` or TWBX file to Tableau Server or Tableau Online. The Tableau Rest APIs publish the `.hyper` or TWBX file to Tableau Server or Tableau Online. When you publish the `.hyper` or TWBX file, the file is available for analysis to multiple users within an organization. You can interact with the data, create reports and dashboards from the data, and visually represent the data.

If you do not want to publish the data to Tableau Server or Tableau Online, you can manually import the `.hyper` or TWBX file from the PowerCenter Integration Service machine to Tableau Desktop. You can edit the `.hyper` or TWBX file in Tableau Desktop and later publish the data to Tableau Server or Tableau Online.

PowerExchange for Tableau V3 Example

You are a sales analyst in an enterprise who can access data warehouses or flat files from Tableau Desktop to analyze the data. You want to track the overall growth trend in sales, geographic distribution of sales, and top customers, and present a snapshot of the sales distribution to senior executives.

You can integrate data from multiple sources, filter the data, and perform data transformation. You can then use PowerExchange for Tableau V3 to make the data available as a `.hyper` file for analysis in Tableau. You can import the `.hyper` file in Tableau Desktop to create interactive, real-time dashboards. The visual representation helps you understand the profitability, with views presented by geography, product category, and customer segment. You can also publish the `.hyper` file to Tableau Server to share a live and interactive dashboard with all the executives in the organization.

CHAPTER 2

PowerExchange for Tableau V3 Configuration

This chapter includes the following topics:

- [PowerExchange for Tableau Configuration Overview, 10](#)
- [Prerequisites, 10](#)
- [PowerExchange for Tableau V3 Plug-in Registration, 11](#)
- [Configuring PowerExchange for Tableau V3, 12](#)

PowerExchange for Tableau Configuration Overview

PowerExchange for Tableau V3 installs with PowerCenter.

Prerequisites

Before you use PowerExchange for Tableau V3, you must perform the following tasks:

- Register the plug-in with the repository.
- Configure the PowerCenter Client and the PowerCenter Server.
- Ensure that the version of Red Hat Enterprise Linux is 7 or later for the PowerCenter Integration Service that runs on the Linux operating system.

Note: If the version of Red Hat Enterprise Linux is less than 7, the Tableau V3 connections along with all the other connections might fail.

PowerExchange for Tableau V3 Plug-in Registration

After you complete the installation, register the plug-in with the repository.

To register the plug-in, the repository must be running in exclusive mode. Use the Administrator tool or the `pmrep RegisterPlugin` command line program to register the plug-in. If you do not have the correct privileges to register the plug-in, contact the user who manages the PowerCenter Repository Service.

The plug-in file is an `.xml` file that defines the functionality of the adapter. When you install the server component, the installer copies the plug-in file to the following directory: `<PowerCenter installation directory>/server/bin/plugin`

The name of the plug-in file for PowerExchange for Tableau V3 is `tableauV3Plugin.xml`.

Registering the Plug-in from the Administrator Tool

Register a repository plug-in to add its functionality to the repository.

1. Run the PowerCenter Repository Service in exclusive mode.
2. In the **Navig ator**, select the PowerCenter Repository Service to which you want to add the plug-in.
3. In the **Contents** panel, click the **Plug-ins** view.
4. In the **Actions** menu of the **Domain** tab, select **Register Plug-in**.
5. On the **Register Plugin** page, click the **Browse** button to locate the plug-in file.
6. Enter your user name, password, and security domain.

The **Security Domain** field appears when the Informatica Domain contains an LDAP security domain.

7. Click **OK**.

The PowerCenter Repository Service registers the plug-in with the repository. The results of the registration operation appear in the activity log.

8. Run the PowerCenter Repository Service in normal mode.

Registering the Plug-in from the Command Line Interface

You can use the `pmrep RegisterPlugin` command to register the plug-in from the command line interface.

1. Run the PowerCenter Repository Service in exclusive mode.
2. Run the `pmrep Connect` command to connect to the Repository Service using a user account with Administrator Repository privilege.

The `RegisterPlugin` command uses the following syntax:

```
pmrep connect -r <repository name> -d <domain_name> -n <domain user name> -x  
<domain_password>
```

3. Find `<adaptername>.xml` in the following directory:

```
$INFA_HOME\server\bin\Plugin
```

4. Run the `pmrep RegisterPlugin` command to update the repository.

The `RegisterPlugin` command uses the following syntax:

```
pmrep registerplugin -i <$INFA_HOME\server\bin\Plugin\<adaptername>.xml -e
```

Configuring PowerExchange for Tableau V3

After you install PowerExchange for Tableau V3, you must configure the PowerCenter Client and the PowerCenter Server.

Configuring PowerExchange for Tableau V3 on PowerCenter Client

Before you use PowerExchange for Tableau V3, you must configure the PowerCenter Client.

1. Open the `tableauv3.reg` file from the following location and execute the registry entry file:

```
<client installation location>\clients\PowerCenterClient\connectors\thirdparty\informatica.tableauv3\registry\tableauv3.reg
```

2. Add the following value in the `PATH` environment variable:

```
<PowerCenter client installation location>\clients\PowerCenterClient\connectors\thirdparty\informatica.tableauv3\bin
```

3. Restart the PowerCenter Client.

Configuring PowerExchange for Tableau V3 on PowerCenter Server

Before you use PowerExchange for Tableau V3, you must configure the PowerCenter Server.

Configuring PowerExchange for Tableau V3 on Windows

If you have installed the PowerCenter Server on Windows, you must delete the `tableau dlls` file.

1. Delete the `tableau dlls` file from the following location:

```
<server installation location>\server\bin
```

To delete the `tableau dlls` file, execute the following script:

```
@ECHO OFF
IF "%INFA_SERVER%"==" " (
    echo "INFA_SERVER not set"
    EXIT /B;
)
IF NOT EXIST %INFA_SERVER%\NUL (
    echo "INCORRECT INFA_SERVER VALUE"
    EXIT /B;
)
IF NOT EXIST %INFA_SERVER%\TableauV2_libs_backup\NUL (
    md %INFA_SERVER%\TableauV2_libs_backup
)
move /Y %INFA_SERVER%\server\bin\boost_chrono-vc120-mt-1_56.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\boost_date_time-vc120-mt-1_56.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\boost_system-vc120-mt-1_56.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\boost_thread-vc120-mt-1_56.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\capi.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\icudt44.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\icuin44.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\icuuc44.dll %INFA_SERVER%\TableauV2_libs_backup
```

```

move /Y %INFA_SERVER%\server\bin\libcurl.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\metrics2.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\msvcpl120.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\msvcr120.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\Qt5Core.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\Qt5Network.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\TableauCommon.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\TableauExtract.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\TableauServer.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\tablibeay32.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\tabssleay32.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\tabsys.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\tbb.dll %INFA_SERVER%\TableauV2_libs_backup
move /Y %INFA_SERVER%\server\bin\tdeserver64.exe %INFA_SERVER%\TableauV2_libs_backup

```

Note: Ensure that the value of the INFA_SERVER environment variable is set to the following location:

<server installation location>.

2. On the PowerCenter Server machine, add the following value for the PATH environment variable:

<server installation location>\connectors\thirdparty\informatica.tableauv3\bin;%PATH%

3. Recycle the PowerCenter Integration Service.

Configuring PowerExchange for Tableau V3 on Linux

If you have installed the PowerCenter Server on Linux, you must delete the tableau so file.

1. Delete the tableau so file from the following location:

<server installation location>/server/bin

To delete the tableau so file, execute the following script:

```

if [ -z "${INFA_SERVER}" ]; then
    echo INFA_SERVER not set
    exit -1
fi

if [ ! -d "$INFA_SERVER/server/bin" ]; then
    echo Incorrect INFA_SERVER value
    exit -1
fi

if [ ! -d "$INFA_SERVER/TableauV2_libs_backup" ]; then
    mkdir $INFA_SERVER/TableauV2_libs_backup
fi

mv $INFA_SERVER/server/bin/libboost_chrono.so $INFA_SERVER/TableauV2_libs_backup/
libboost_chrono.so
mv $INFA_SERVER/server/bin/libboost_chrono.so.1.56.0 $INFA_SERVER/
TableauV2_libs_backup/libboost_chrono.so.1.56.0
mv $INFA_SERVER/server/bin/libboost_date_time.so $INFA_SERVER/TableauV2_libs_backup/
libboost_date_time.so
mv $INFA_SERVER/server/bin/libboost_date_time.so.1.56.0 $INFA_SERVER/
TableauV2_libs_backup/libboost_date_time.so.1.56.0
mv $INFA_SERVER/server/bin/libboost_system.so $INFA_SERVER/TableauV2_libs_backup/
libboost_system.so
mv $INFA_SERVER/server/bin/libboost_system.so.1.56.0 $INFA_SERVER/
TableauV2_libs_backup/libboost_system.so.1.56.0
mv $INFA_SERVER/server/bin/libboost_thread.so $INFA_SERVER/TableauV2_libs_backup/
libboost_thread.so
mv $INFA_SERVER/server/bin/libboost_thread.so.1.56.0 $INFA_SERVER/
TableauV2_libs_backup/libboost_thread.so.1.56.0
mv $INFA_SERVER/server/bin/libcurl.so $INFA_SERVER/TableauV2_libs_backup/libcurl.so
mv $INFA_SERVER/server/bin/libcurl.so.4 $INFA_SERVER/TableauV2_libs_backup/

```

```

libcurl.so.4
mv $INFA_SERVER/server/bin/libcurl.so.4.3.0 $INFA_SERVER/TableauV2_libs_backup/
libcurl.so.4.3.0
mv $INFA_SERVER/server/bin/libexpat.so $INFA_SERVER/TableauV2_libs_backup/libexpat.so
mv $INFA_SERVER/server/bin/libexpat.so.1 $INFA_SERVER/TableauV2_libs_backup/
libexpat.so.1
mv $INFA_SERVER/server/bin/libexpat.so.1.6.0 $INFA_SERVER/TableauV2_libs_backup/
libexpat.so.1.6.0
mv $INFA_SERVER/server/bin/libicudata.so.44 $INFA_SERVER/TableauV2_libs_backup/
libicudata.so.44
mv $INFA_SERVER/server/bin/libicudata.so.44.0 $INFA_SERVER/TableauV2_libs_backup/
libicudata.so.44.0
mv $INFA_SERVER/server/bin/libicui18n.so.44 $INFA_SERVER/TableauV2_libs_backup/
libicui18n.so.44
mv $INFA_SERVER/server/bin/libicui18n.so.44.0 $INFA_SERVER/TableauV2_libs_backup/
libicui18n.so.44.0
mv $INFA_SERVER/server/bin/libicuio.so.44 $INFA_SERVER/TableauV2_libs_backup/
libicuio.so.44
mv $INFA_SERVER/server/bin/libicuio.so.44.0 $INFA_SERVER/TableauV2_libs_backup/
libicuio.so.44.0
mv $INFA_SERVER/server/bin/libicuuc.so.44 $INFA_SERVER/TableauV2_libs_backup/
libicuuc.so.44
mv $INFA_SERVER/server/bin/libicuuc.so.44.0 $INFA_SERVER/TableauV2_libs_backup/
libicuuc.so.44.0
mv $INFA_SERVER/server/bin/libQt5Core.so.5 $INFA_SERVER/TableauV2_libs_backup/
libQt5Core.so.5
mv $INFA_SERVER/server/bin/libQt5Core.so.5.4.1 $INFA_SERVER/TableauV2_libs_backup/
libQt5Core.so.5.4.1
mv $INFA_SERVER/server/bin/libQt5Network.so.5 $INFA_SERVER/TableauV2_libs_backup/
libQt5Network.so.5
mv $INFA_SERVER/server/bin/libQt5Network.so.5.4.1 $INFA_SERVER/TableauV2_libs_backup/
libQt5Network.so.5.4.1
mv $INFA_SERVER/server/bin/libtabcrypto.so $INFA_SERVER/TableauV2_libs_backup/
libtabcrypto.so
mv $INFA_SERVER/server/bin/libtabcrypto.so.1.0.0 $INFA_SERVER/TableauV2_libs_backup/
libtabcrypto.so.1.0.0
mv $INFA_SERVER/server/bin/libTableauCommon.so $INFA_SERVER/TableauV2_libs_backup/
libTableauCommon.so
mv $INFA_SERVER/server/bin/libTableauExtract.so $INFA_SERVER/TableauV2_libs_backup/
libTableauExtract.so
mv $INFA_SERVER/server/bin/libTableauServer.so $INFA_SERVER/TableauV2_libs_backup/
libTableauServer.so
mv $INFA_SERVER/server/bin/libtabssl.so $INFA_SERVER/TableauV2_libs_backup/
libtabssl.so
mv $INFA_SERVER/server/bin/libtabssl.so.1.0.0 $INFA_SERVER/TableauV2_libs_backup/
libtabssl.so.1.0.0
mv $INFA_SERVER/server/bin/libtabsys.so $INFA_SERVER/TableauV2_libs_backup/
libtabsys.so
mv $INFA_SERVER/server/bin/libtabz.so $INFA_SERVER/TableauV2_libs_backup/libtabz.so
mv $INFA_SERVER/server/bin/libtabz.so.1 $INFA_SERVER/TableauV2_libs_backup/
libtabz.so.1
mv $INFA_SERVER/server/bin/libtabz.so.1.2.8 $INFA_SERVER/TableauV2_libs_backup/
libtabz.so.1.2.8
mv $INFA_SERVER/server/bin/libtbb.so.2 $INFA_SERVER/TableauV2_libs_backup/libtbb.so.2
mv $INFA_SERVER/server/bin/libtbbmalloc.so.2 $INFA_SERVER/TableauV2_libs_backup/
libtbbmalloc.so.2
mv $INFA_SERVER/server/bin/tdeserver64 $INFA_SERVER/TableauV2_libs_backup/tdeserver64
echo "Script execution SUCCESS"

```

Note: Ensure that the value of the `INFA_SERVER` environment variable is set to the following location:

<server installation location>.

2. In the **Administrator Console**, navigate to the PowerCenter Integration Service.
The **PowerCenter Integration Service** page appears.
3. Click the **Processes** tab.
The **Processes** page appears.
4. Click the pencil icon to edit the environment variables in the **Environment Variables** section.

The **Edit Environment Variables** dialog box appears.

5. Click **New** to add a new environment variable.

The **New Environment Variables** dialog box appears.

6. Enter the value of the **Name** field as `LD_LIBRARY_PATH`.

7. Enter the following path in the **Value** field:

```
<server installation location>/connectors/thirdparty/informatica.tableauv3/bin/  
tableausdk: <server installation location>/connectors/thirdparty/  
informatica.tableauv3/bin/bin:<server installation location>/server/bin:$LD_LIBRARY_PATH
```

8. Click **OK**.

9. Click **New** to add a new environment variable.

The **New Environment Variables** dialog box appears.

10. Enter the value of the **Name** field as `PATH`.

11. Enter the following path in the **Value** field:

```
<server installation location>/connectors/thirdparty/informatica.tableauv3/bin/  
tableausdk: <server installation location>/connectors/thirdparty/  
informatica.tableauv3/bin/bin:<server installation location>/server/bin:$PATH
```

12. Click **OK**.

13. Provide the read and execute permissions to the `tableauv3` `so` file in the following location:

```
<server installation location>/connectors/thirdparty/informatica.tableauv3/bin
```

14. Recycle the PowerCenter Integration Service.

CHAPTER 3

Tableau V3 Targets

This chapter includes the following topics:

- [Tableau V3 Targets Overview, 16](#)
- [Importing Tableau V3 Target Definitions, 16](#)

Tableau V3 Targets Overview

Tableau target definitions represent metadata based on a Tableau resource.

Use the Target Designer to import Tableau target definitions into the PowerCenter repository. Before you import a Tableau target definition, you need a `.hyper` file to import the metadata.

When you update a `.hyper` file, you can either overwrite the file or append data to the existing file. When you append data to a `.hyper` file, ensure that the column metadata in the `.hyper` file and the Tableau data source are the same. Select the insert option when you edit the Tableau data session properties for Tableau targets so that PowerCenter Integration Service inserts all the rows into the target. You can publish the generated `.hyper` file to Tableau Server or Tableau Online.

Importing Tableau V3 Target Definitions

Import a Tableau target definition from Tableau.

1. In the **Target Designer**, click **Targets > Import from Tableau**.
The **Import from Tableau** dialog box appears.
2. Enter a valid metadata file directory where you want to import the `.hyper` file.
Include the full path and the file name. For example, you can specify the following directory:
`C:\Tableau_Files\HYPER_Files\Extract.hyper`
3. Click **Connect**, and then click **Next**.
4. From the list of Tableau data extracts, select the record **Extract** to view the fields inside the target.
5. Click **Finish**.
If you do not specify a file name, the target definition name remains the same as the `.hyper` file name.

CHAPTER 4

Tableau V3 Mappings

This chapter includes the following topics:

- [Tableau V3 Mappings Overview, 17](#)
- [Tableau V3 Mapping Example , 17](#)

Tableau V3 Mappings Overview

After you import a Tableau V3 target definition into the PowerCenter repository, create a mapping to write data to the Tableau V3 target.

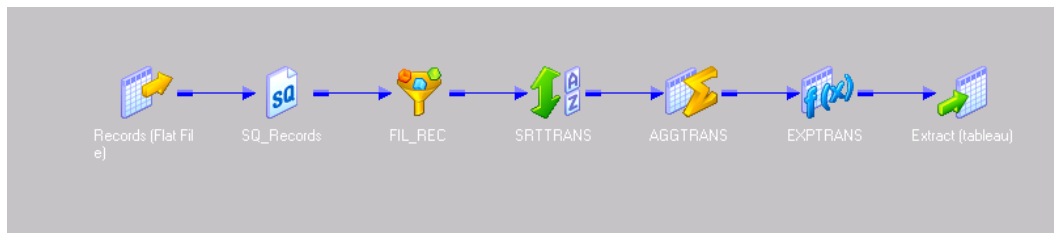
You can read data from multiple sources, write data to the Tableau data extract file, and then publish the file to Tableau Online or Tableau Server.

Tableau V3 Mapping Example

You work in the retail industry, and business analysts in your enterprise need to analyze product sales trends based on region.

Sales record files contain information about products that are sold in multiple outlets and regions. Analysts use flat files to store the sales details. You can consolidate the data in the sales record files that you receive through the day. You can then perform transformations based on your requirements.

The following image shows the Tableau V3 mapping example:



You can use the following objects in a Tableau V3 mapping:

Sources

The mapping contains the records flat file source that contains the product sales data, such as Region ID, Product ID, Quantity, and Cost.

Transformations

The FIL_REC Filter transformation filters the data in the sales record files based on the value you specify for the region ID. The PowerCenter Integration Service returns the rows that meet the filter condition.

The SRTTRANS Sorter transformation sorts the data in ascending order based on the region ID.

The AGGTRANS Aggregator transformation collects statistics about product sales for a particular region. Use the result of the Sorter transformation as an input to the Aggregator transformation. You can increase Aggregator transformation performance with the sorted input option.

The EXPTRANS Expression transformation formats the data before you generate the Tableau data extract file.

Target

The target extract named tableau is a Tableau data extract file. Select Publish to Server and specify the server details to publish the Tableau data extract file to Tableau Server in the session properties.

When you run the session, the PowerCenter Integration Service writes the sales information to a target `.hyper` file and publishes the `.hyper` file to Tableau Server. You can then visualize the sales data categorized by region in Tableau Server.

CHAPTER 5

Tableau V3 Sessions

This chapter includes the following topics:

- [Tableau V3 Session Overview, 19](#)
- [Tableau V3 Connection Properties, 19](#)
- [Configuring a Tableau V3 Connection, 22](#)
- [Session Configuration for Tableau V3 Targets, 22](#)

Tableau V3 Session Overview

After you create mappings, you can create a session and use the session in a workflow to extract, transform, and load data. Create sessions and workflows in the Workflow Manager.

To configure the session, perform the following tasks:

- Define the sources from where you consolidate data.
- Configure an application connection for Tableau V3 targets in the Workflow Manager to write data to a `.hyper` file. Provide the Tableau product type to which you want to publish the `.hyper` file.
- Define properties in a session to determine how the PowerCenter Integration Service writes data to a Tableau target `.hyper` file.
- You can apply the Tableau workbook template to the `.hyper` file if you want to create a Tableau packaged workbook (TWBX) file.
- You can configure the session properties for the Tableau V3 target to save the generated `.hyper` or TWBX file to the local machine or to publish the `.hyper` file to Tableau Online or Tableau Server.

Tableau V3 Connection Properties

Before the PowerCenter Integration Service can connect to Tableau, you must configure a Tableau application connection in the Workflow Manager.

When you configure a Tableau application connection, you specify connection attributes that the PowerCenter Integration Service uses to connect to Tableau. You can specify the Tableau product that you want to connect to.

PowerExchange for Tableau V3 Connections

When you set up a Tableau V3 connection, you must configure the connection properties.

The following table describes the Tableau V3 connection properties:

| Property | Description |
|-------------|---|
| Name | Name of the Tableau V3 connection. |
| ID | String that the PowerCenter Integration Service uses to identify the connection. The ID is not case sensitive. It must be 255 characters or less and must be unique in the domain. You cannot change this property after you create the connection. Default value is the connection name. |
| Description | Description of the connection. The description cannot exceed 765 characters. |
| Location | The Informatica domain where you want to create the connection. |
| Type | Type of connection. Select Tableau V3. |

The following table describes the properties to connect to Tableau:

| Connection Property | Description |
|---------------------|---|
| Tableau Product | <p>The name of the Tableau product to which you want to connect.</p> <p>You can choose one of the following Tableau products to publish the <code>.hyper</code> or TWBX file:</p> <p>Tableau Desktop</p> <p>Creates a <code>.hyper</code> file in the PowerCenter Integration Service machine. You can then manually import the <code>.hyper</code> file to Tableau Desktop.</p> <p>Tableau Server</p> <p>Publishes the generated <code>.hyper</code> or TWBX file to Tableau Server.</p> <p>Tableau Online</p> <p>Publishes the generated <code>.hyper</code> or TWBX file to Tableau Online.</p> |
| Connection URL | <p>The URL of Tableau Server or Tableau Online to which you want to publish the <code>.hyper</code> or TWBX file.</p> <p>Enter the URL in the following format: <code>http://<Host name of Tableau Server or Tableau Online>:<port></code></p> |
| User Name | The user name of the Tableau Server or Tableau Online account. |
| Password | The password for the Tableau Server or Tableau Online account. |

| Connection Property | Description |
|---------------------|--|
| Site ID | The ID of the site on Tableau Server or Tableau Online where you want to publish the or TWBX file. Note: Contact the Tableau administrator to provide the site ID. |
| Schema File Path | <p>The path to a sample .hyper file from where the PowerCenter Integration Service imports the Tableau metadata.</p> <p>Enter one of the following options for the schema file path:</p> <ul style="list-style-type: none"> - Absolute path to the .hyper file. - Directory path for the .hyper files. - Empty directory path. <p>The path you specify for the schema file becomes the default path for the target .hyper file. If you do not specify a file path, the PowerCenter Integration Service uses the following default file path for the target .hyper file:</p> <pre><PowerCenter Integration Service installation directory>/apps/PowerCenter_Integration_Server/<latest version>/bin/rtdm</pre> |

Site ID

You can specify the name of the site ID to point to a specific site on Tableau Server or Tableau Online where you want to publish the .hyper file. Specify the site name in the Tableau V3 connection properties.

Enter the site ID in the following format:

```
http://<Host name of Tableau Server or Tableau Online>:<port> /#/site/<Name of the site ID>/View in Tableau Server or Tableau Online>
```

For example, if you create a site called *infa* on Tableau Server, the site ID for the site on Tableau Server is:

```
https://10.50.100.100:6000/#/site/infa/workbooks
```

The value you specify for the site ID in the Tableau V3 connection properties is *Infa*.

To specify an existing site ID on Tableau Server or Tableau Online where you want to publish the Tableau .hyper file, contact the Tableau Server or Tableau Online administrator.

Schema File Path

When you create a Tableau V3 connection, you can specify the path to a sample .hyper file from where the PowerCenter Integration Service imports the Tableau metadata.

The PowerCenter Integration Service generates the target object .hyper file from the source object based on the data representation in the specified Tableau schema file. The path you specify for the schema file in the connection properties becomes the default path for the generated target .hyper file.

You can use one of the following options for the schema file path:

Absolute path to the .hyper file

Enter a directory path along with the .hyper file name. For example, enter the following absolute path to a .hyper file: C:\tableauv3\abc.hyper

Directory path for the .hyper files

Enter a directory path that contains the .hyper files. For example, enter the following directory path: C:\tableauv3

Empty directory path

If you do not want to use a template file, enter an empty directory path. For example, enter the following directory path: `C:\tableauv3`

Configuring a Tableau V3 Connection

Before you run a Tableau V3 session, create a Tableau V3 connection.

1. In the Workflow Manager, connect to a repository.
2. Click **Connections > Application**.
The **Application Connection Browser** dialog box appears.
3. Click **New**.
The **Select Subtype** dialog box appears.
4. To create a Tableau V3 connection, select **Tableau V3** from the **Select Subtype** list.
5. Click **OK**.
The **Connection Object Definition** dialog box appears.
6. Enter the connection properties.
7. Click **OK**.
The Tableau V3 connection appears in the **Connection Browser** list.

Session Configuration for Tableau V3 Targets

You can configure the session properties for a Tableau V3 target in the **Transformations** view on the **Mapping** tab. Define the properties for the target instance in the session.

The following table describes the session properties that you can configure for Tableau V3 targets:

Target Operation

Creates, overwrites, or appends the `.hyper` file on the local machine, Tableau Server, or Tableau Online.

Select one of the following options to publish the `.hyper` file:

- **Create**. Creates a `.hyper` file. Ensure that a `.hyper` file with the same name does not exist.
- **Append**. Adds data to an existing `.hyper` file.
- **Overwrite**. Deletes the existing `.hyper` file and creates a new `.hyper` file.

Note: The append operation works only if there is an existing `.hyper` file.

Extract File Path

The file path where you want to save the generated Tableau data extract file.

Default is `<INFA_HOME>/server/bin`. Ensure that the file location is on the machine where the PowerCenter Integration Service runs. You require the write permissions on the `<INFA_HOME>/server/bin` file location.

If you have specified the schema file path in the Tableau V3 connection properties but not an extract file path, the PowerCenter Integration Service considers the schema file path as the extract file path.

Extract File Name

Name of the `.hyper` file with the `.hyper` extension. Default is `Extract.hyper`.

If the operation is for Tableau Server or Tableau Online, the PowerCenter Integration Service deletes the file after publishing the `.hyper` file to Tableau Server or Tableau Online.

Project Name

Name of the project within a specific site on Tableau Server or Tableau Online where you want to publish the `.hyper` file. By default, PowerExchange for Tableau V3 publishes the `.hyper` file to the default project on the site that you specify.

Data Source

Name of the Tableau data extract that you want to publish to Tableau Server or Tableau Online. If you do not specify a data source name, the default Tableau data extract file name remains the source name.

Workbook Template File name

Name of the predefined Tableau workbook template (TWB) file name that you want to apply to the `.hyper` file to generate a Tableau packaged workbook file (TWBX). You must provide the TWB name if you want to publish the TWBX file.

Note: When you create a Tableau workbook template (TWB) file, ensure that the version of the TWB file is the same as Tableau.

Workbook Name

Name for the workbook that you want to publish to Tableau. If you do not specify a workbook name, the name of the TWB template file remains the workbook name.

INSERT

Inserts all the rows to the target `.hyper` file. You must select the INSERT option before you run a session.

DELETE

Not applicable.

UPDATE

Not applicable.

Success File Directory

Name of the directory for the Tableau V3 success file.

Specify a directory on the machine that hosts the PowerCenter Integration Service.

Error File Directory

Name of the directory for the Tableau V3 error file.

Specify a directory on the machine that hosts the PowerCenter Integration Service.

CHAPTER 6

Data Type Reference

This chapter includes the following topics:

- [Data Type Reference Overview, 24](#)
- [Tableau V3 and Transformation Data Types, 25](#)
- [Decimal Data Type, 26](#)
- [Duration Data Type, 27](#)

Data Type Reference Overview

Informatica Developer PowerCenter uses the following data types in Tableau V3 mappings:

Tableau native data types

Tableau data types appear in the physical data object column properties.

Transformation data types

Set of data types that appear in the transformations. They are internal data types based on ANSI SQL-92 generic data types, which the PowerCenter Integration Service uses to move data across platforms. Transformation data types appear in all transformations in a mapping.

When the PowerCenter Integration Service reads source data, it converts the native data types to the comparable transformation data types before transforming the data. When the PowerCenter Integration Service writes to a target, it converts the transformation data types to the comparable native data types.

Tableau V3 and Transformation Data Types

The following table lists the Tableau V3 data types that the PowerCenter Integration Service supports and the corresponding transformation data types:

| Tableau V3 Data Type | Transformation Data Type | Range and Description |
|----------------------|----------------------------------|--|
| Integer | Integer | -2,147,483,648 to 2,147,483,647 Precision 10, scale 0 |
| Double | Double | Double-precision floating-point numeric value. Precision 15 |
| Date | Date/Time | Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Precision of 29, scale of 9 (precision to nanosecond) |
| DateTime | Date/Time | Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Precision of 29, scale of 9 (precision to nanosecond) |
| unicode_string | String, Text, Bigint, or Decimal | The PowerCenter Integration Service performs an implicit conversion of String, Text, Bigint, or Decimal to unicode_string: String: - 1 to 104,857,600 characters - Fixed-length or varying-length string Text: - 1 to 104,857,600 characters - Fixed-length or varying-length string Bigint: - 9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 - Precision of 19, scale of 0 - Integer value Decimal: - Precision 1 to 28 digits, scale 0 to 28 - Decimal value with declared precision and scale. Scale must be less than or equal to precision. |

| Tableau V3 Data Type | Transformation Data Type | Range and Description |
|----------------------|----------------------------------|---|
| char_string | String, Text, Bigint, or Decimal | <p>The PowerCenter Integration Service performs an implicit conversion of String, Text, Bigint, or Decimal to char_string:</p> <p>String:</p> <ul style="list-style-type: none"> - 1 to 104,857,600 characters - Fixed-length or varying-length string <p>Text:</p> <ul style="list-style-type: none"> - 1 to 104,857,600 characters - Fixed-length or varying-length string <p>Bigint:</p> <ul style="list-style-type: none"> - 9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 - Precision of 19, scale of 0 - Integer value <p>Decimal:</p> <ul style="list-style-type: none"> - Precision 1 to 28 digits, scale 0 to 28 - Decimal value with declared precision and scale. Scale must be less than or equal to precision. |
| boolean | String | 1 to 104,857,600 characters. Fixed-length or varying-length string. Valid values are True and False. |
| duration | String | Valid values for hours are integer values between 0 and 23. Valid values for minutes and seconds are integer values between 0 and 59. If there is no value for any field, specify 0. |

Decimal Data Type

When you read data as Decimal in the reader object, use String or Double instead of the Decimal data type for better performance.

As Tableau does not support the Decimal data type, you must change the Decimal data type to String data type that Tableau supports. Change the Decimal data type to String data type in the input wizard of the Tableau V3 data object and char_string or unicode_string in the output wizard of the Tableau data object.

To write the Decimal data type to Double data type supported by Tableau, change the Decimal data type to Double data type in the input wizard of the Tableau data object. The PowerCenter Integration Service performs an implicit conversion of Decimal data type to a comparable native data type, unicode or char_string, that Tableau supports.

Duration Data Type

Duration is specified in days, hours, minutes, seconds, and milliseconds. All the values must be integers. You must change the String data type that arrives from different source fields to a single string value and then map this string value to the Duration data type in the target operation.

For example, the PowerCenter Integration Service reads data from five different source fields of String data type, such as, 5 days, 10 hours, 21 minutes, and 35 seconds. Use the Expression transformation to concatenate the input string values to a single string value of comma-separated values, such as 5,10,21,35,0.

Map the string output received from the Expression transformation to Duration data type. Use the single string value as the input value and duration as the output value in the target operation of the mapping.

Duration is specified in days, hours, minutes, seconds, and milliseconds. All the values must be integers. You must change the string data type that arrives from different source fields to a single string value and then map this string value to the duration data type in the target.

For example, the PowerCenter Integration Service reads data from five different source fields of string data type, such as, 5 days, 10 hours, 21 minutes, and 35 seconds. Use the Expression transformation to concatenate the input string values to a single string value of comma-separated values, such as 5,10,21,35,0. In the target definition, map the string output received from the Expression transformation to duration data type. Use the single string value as the input value and duration as the output value in the target.

CHAPTER 7

Troubleshooting

This chapter includes the following topics:

- [Troubleshooting Overview, 28](#)
- [Troubleshooting for PowerExchange for Tableau V3, 28](#)

Troubleshooting Overview

Use the following sections to troubleshoot errors in PowerExchange for Tableau V3.

Troubleshooting for PowerExchange for Tableau V3

Can I retain PowerExchange for Tableau and PowerExchange for Tableau V3 adapters in the same organization?

Yes. For more information about retaining PowerExchange for Tableau and PowerExchange for Tableau V3 adapters in the same organization, see

<https://kb.informatica.com/howto/6/Pages/20/516319.aspx?myk=516319>.

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