



Informatica® PowerExchange for Salesforce  
Analytics

10.2 HotFix 1

# User Guide for PowerCenter

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# Preface

The *PowerExchange® for Salesforce Analytics User Guide for PowerCenter®* provides information to build Salesforce Analytics mappings and load data into Salesforce Analytics objects. It is written for developers who are responsible for loading data into Salesforce Analytics objects.

This book assumes that you have knowledge of web services concepts, relational database concepts, PowerCenter, Salesforce, and Salesforce Analytics. You must also be familiar with the interface requirements for other supporting applications.

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## CHAPTER 1

# Introduction to PowerExchange for Salesforce Analytics

This chapter includes the following topics:

- [PowerExchange for Salesforce Analytics Overview, 9](#)
- [Introduction to Salesforce Analytics, 9](#)

## PowerExchange for Salesforce Analytics Overview

PowerExchange for Salesforce Analytics provides connectivity between PowerCenter and Salesforce Analytics. You can use PowerExchange for Salesforce Analytics to write data to Salesforce Analytics. You can then run queries on the Salesforce Analytics database to analyze the data.

Salesforce Analytics target represent objects in the Salesforce Analytics object model. Salesforce Analytics objects are tables that correspond to tabs and other user interface elements on the Salesforce Analytics web site.

### Example

You work for a social media organization that tracks users website activity. You use Salesforce Analytics to store the users online activity. You can then analyze the activity through Salesforce Analytics to identify trends such as the top users for a period.

## Introduction to Salesforce Analytics

Salesforce Analytics is a cloud-based platform that connects data from multiple sources, creates interactive views of that data, and displays those views in dashboards. Business users can use Salesforce Analytics reports to understand and act on real-time information.

You can use Salesforce Analytics to get instant access to analytics data and explore data of any data source.

## CHAPTER 2

# Configuration

This chapter includes the following topics:

- [Prerequisites, 10](#)
- [Plug-in Registration, 10](#)
- [Java Heap Size Configuration, 11](#)

## Prerequisites

Before you can use PowerExchange for Salesforce Analytics, perform the following tasks:

- Install or upgrade PowerCenter.
- Verify that you have read and write permissions on the following directories on each machine that runs the PowerCenter Integration Service and PowerCenter Repository Service:

```
<Informatica Installation Directory>\server\bin\plugin  
<Informatica Installation Directory>\server\bin\native  
<Informatica Installation Directory>\server\bin\javalib
```

The installer must be able to add and overwrite files in these directories.

- Verify that you have read and write permissions on the following directories of each PowerCenter Client machine:

```
<Informatica Installation Directory>\clients\PowerCenterClient\client\bin  
<Informatica Installation Directory>\clients\PowerCenterClient\client\bin\Help  
<Informatica Installation Directory>\clients\PowerCenterClient\client\bin\Help  
\<language>  
<Informatica Installation Directory>\clients\PowerCenterClient\client\bin\javalib
```

The installer must be able to add and overwrite files in these directories.

## Plug-in Registration

After you install PowerExchange for Salesforce Analytics or upgrade it from a previous version, it is mandatory to register the PowerExchange for Salesforce Analytics plug-in with the PowerCenter repository.

A plug-in is an XML file that defines the functionality of PowerExchange for Salesforce Analytics. To register the plug-in, the repository must be running in exclusive mode. Use the Informatica Administrator or the *pmrep* RegisterPlugin command to register the plug-in.

The plug-in file for PowerExchange for Salesforce Analytics is `AnalyticsPlugin.xml`. When you install the Repository component, the installer copies `AnalyticsPlugin.xml` to the following directory:

`<Informatica installation directory>/server/bin/plugin`

**Note:** If you do not have the correct privileges to register the plug-in, contact the user who manages the PowerCenter Repository Service.

## Java Heap Size Configuration

For the Salesforce Analytics session to successfully perform the read operation, configure the memory for the Java heap size in the node that runs the PowerCenter Integration Service.

1. In the Administrator Console, navigate to the PowerCenter Integration Service for which you want to change the Java heap size.
2. Click the **Processes** tab.
3. Click **Custom Properties**.

The Edit Custom Properties dialog box appears.

4. Click **New** to add a new custom property.
5. Specify the property name and value.

The following table lists the property names and sample values:

Property Name	Property Value	Sample Value
JVMOption1	-Xmx<memory_size> to set the maximum heap size	-Xmx1024m
JVMOption2	-Xms<memory_size> to set the minimum heap size	-Xms512m

**Note:** Specify the maximum and minimum heap size based on the data you want to process.

6. Restart the PowerCenter Integration Service.

## CHAPTER 3

# Salesforce Analytics Targets

This chapter includes the following topics:

- [Salesforce Analytics Targets Overview, 12](#)
- [Generating a JSON File, 12](#)
- [Manually Creating a JSON File, 13](#)
- [Importing a Salesforce Analytics Target Definition, 13](#)

## Salesforce Analytics Targets Overview

Use the Designer to import Salesforce Analytics target definitions into the PowerCenter repository.

Salesforce Analytics does not contain predefined metadata. Salesforce Analytics uses the JSON file format to describe the metadata. You must create a JSON file that contains metadata in the Salesforce Analytics schema format.

To create a JSON file, create a .csv file that contains the data that you want to load into Salesforce Analytics. Use the Salesforce `datasetloader.jar` file to convert the .csv file into a JSON file.

You can also manually create the JSON file based on the Salesforce Analytics schema format.

After you create the JSON files, store the JSON files in a directory on the Windows machine where you have installed the PowerExchange for Salesforce Analytics client component.

## Generating a JSON File

You must create a JSON file before you can import the file into the Designer.

Before you create a JSON file, you must download the `datasetloader.jar` from the following location:

[https://marketplace.informatica.com/solutions/salesforce\\_analytics\\_schema\\_creator](https://marketplace.informatica.com/solutions/salesforce_analytics_schema_creator)

1. Create a .csv file with the supported data types and data.
2. From the command prompt, run the command: `java -jar datasetloader.jar <filename>.csv.`

A JSON file is created in the Salesforce Analytics schema format.

# Manually Creating a JSON File

1. Open a text editor and enter the data in the following Salesforce Analytics schema format:

```
{
  "name" : "AmountWithoutOwnerAdjustment",
  "type" : "Numeric",
  "precision" : 18,
  "scale" : 0
},
{
  "name" : "CurrencyIsoCode",
  "type" : "Text"
}
```

If the type is not text, specify the data type and precision details in the field name.

2. Save the JSON file with a file name that ends with `_schema` and close the file. For example, `MyDataset_schema.json`.

## Importing a Salesforce Analytics Target Definition

1. In the Target Designer, click **Targets > Import from SFDC Analytics**.
2. In the Import Tables from Salesforce Analytics dialog box, enter the following information:

Import Attribute	Description
User Name	Salesforce Analytics user name.
Password	Password for the Salesforce Analytics user name. The password is case sensitive.
Service URL	URL of the Salesforce Analytics service that you want to access. In a test or development environment, you might want to access the Salesforce Analytics Sandbox testing environment. For more information about the Salesforce Analytics Sandbox, see the Salesforce documentation.
Security Token	The token used to log in to Salesforce Analytics from an untrusted network.
Temp Folder Name	The directory where the JSON files are stored.
Default Date Format	The date format to read date columns in the JSON file. Use the hyphen (-) delimiter for the Windows platform, and the forward slash (/) delimiter for the Linux platform.

3. Click **Connect**.
4. Click **Next**.

The Designer displays a list of JSON metadata files to import.

**Note:** If the connection wizard does not refresh the file listings in the directory, click the Back button, connect again, and click Next to refresh the list of JSON files.

5. Select the files that you want to import, and click **Finish**.

## CHAPTER 4

# Salesforce Analytics Mappings

This chapter includes the following topics:

- [Salesforce Analytics Mappings Overview, 15](#)
- [Salesforce Analytics Mapping Example, 15](#)

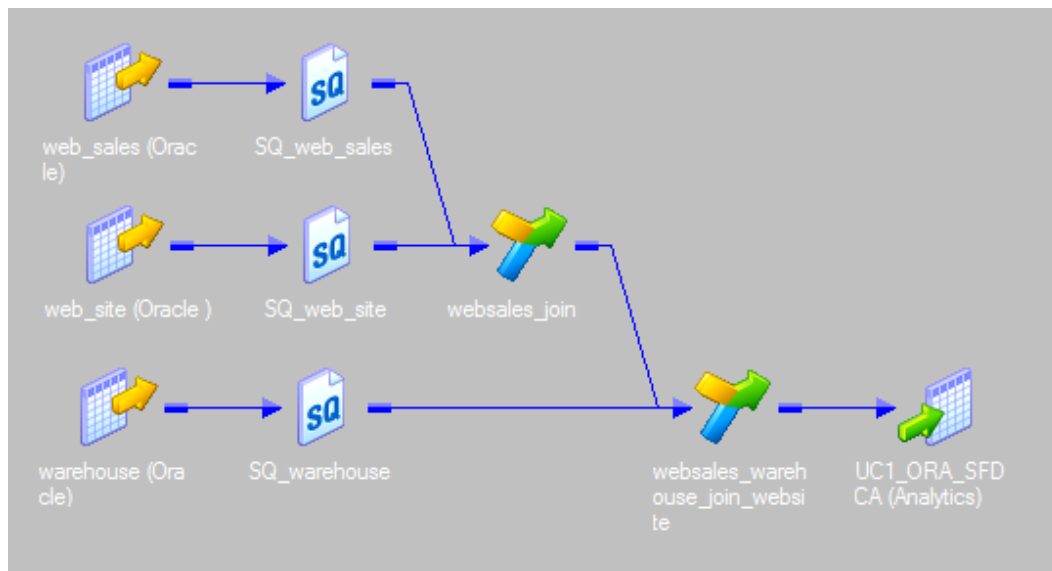
# Salesforce Analytics Mappings Overview

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

## Salesforce Analytics Mapping Example

You work for an organization that sells electronic products through multiple websites and warehouses. You want to determine the sales details for a particular warehouse and write the sales information to Salesforce Analytics.

The following image shows the Salesforce Analytics mapping example:



The Salesforce Analytics mapping contains the following objects:

### Sources

The mapping contains the following flat file sources:

- Contains details of the sales placed through websites and warehouses.
- Contains details of the warehouses from where the products are shipped.
- Contains details of the websites through which customers can place orders for products.

### Transformations

The websales\_join Joiner transformation joins the sales details with the website details. The sales record contains the website key. The transformation uses the website key to retrieve web site details from the web\_site source.

The websales\_warehouse\_join\_website Joiner transformation joins the output of the websales\_join Joiner transformation with the warehouse details.

### Target

The target named SFDCA is a Salesforce Analytics target.

When you run the session, the PowerCenter Integration Service writes the sales information of the specified warehouse to Salesforce Analytics. You can then run queries on Salesforce Analytics to analyze the data.



## CHAPTER 5

# Salesforce Analytics Sessions

This chapter includes the following topics:

- [Salesforce Analytics Sessions Overview, 17](#)
- [Salesforce Analytics Connections, 17](#)
- [Session Configuration for Salesforce Analytics Targets, 18](#)

## Salesforce Analytics Sessions Overview

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

When you configure a Salesforce Analytics session, you create connections to write data to Salesforce Analytics. You can also define properties in a session to determine how the PowerCenter Integration Service writes data to a Salesforce Analytics target.

## Salesforce Analytics Connections

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

When you configure a Salesforce Analytics application connection, you specify connection attributes the PowerCenter Integration Service uses to connect to Salesforce Analytics. A connection object stores the Salesforce Analytics user ID, password, and the service URL information for the run-time connection.

## Configuring a Salesforce Analytics Connection

1. In the Workflow Manager, connect to a PowerCenter repository.
2. Click **Connections > Application**.  
The Application Connection Browser dialog box appears.
3. From Select Type, select **Analytics**.
4. Click **New**.

5. In the **Connection Object Definition** dialog box, enter the following information:

Attribute Name	Description
Username	Salesforce Analytics user name for the application connection.
Password	Password for the Salesforce Analytics user name. The password is case sensitive.
Security Token	The token used to login to Salesforce Analytics from an untrusted network.
Service URL	URL of the Salesforce Analytics service that you want to access. In a test or development environment, you might want to access the Salesforce Analytics Sandbox testing environment. For more information about the Salesforce Analytics Sandbox, see the Salesforce documentation.
Temp Folder Name	The directory where the JSON files are stored.
Default Date Format	The date format to read date columns in the JSON file. Use the hyphen (-) delimiter for the Windows platform, and the forward slash (/) delimiter for the Linux platform.

6. Click **OK**.

The application connection appears in the Application Object Browser.

## Session Configuration for Salesforce Analytics Targets

You can configure the session properties for a Salesforce Analytics target on the Mapping tab. Define the properties for each target instance in the session.

The following table describes the session properties that you can configure for a Salesforce Analytics target:

### Target Load Type

You can choose Normal mode or Bulk mode.

Default is Normal mode.

### INSERT

Inserts a row to the Salesforce Analytics database.

### DELETE

Deletes a row from the Salesforce Analytics database.

When you enable **DELETE**, the PowerCenter Integration Service deletes all rows flagged for delete and rejects all rows flagged when you disable **DELETE**.

### UPSERT

When you enable **UPSERT**, the PowerCenter Integration Service upserts records, links the external ID to the external ID field from the source through the transformations in the target definition. Salesforce uses **UPSERT** to identify the records that must be upserted.

**Success File Directory**

Path to the success log files that the PowerCenter Integration Service generates.

**Error File Directory**

Path to the error log files that the PowerCenter Integration Service generates.

For a Salesforce Analytics target, you cannot configure the UPDATE operation.

## Success and Error Logs

The PowerCenter Integration Service can generate record-level logs for each session that writes data to a Salesforce Analytics target.

The PowerExchange for Salesforce Analytics success and error logs are different from the PowerCenter session logs. The PowerExchange for Salesforce Analytics success and error logs contain record-level details that are specific to sessions with Salesforce Analytics targets.

The PowerCenter Integration Service can generate the following types of Salesforce Analytics logs:

**Success log**

The success log contains an entry for each record that successfully loads data into the Salesforce Analytics. Each entry contains the values loaded for all fields of the record. Use this file to understand what data is loaded into the Salesforce Analytics target. The naming convention for the success log is: <session name><timestamp>\_success.csv.

**Error log**

The error log contains an entry for each data error. Each log entry contains the values for all fields of the record and the error message. The error log displays error messages from Salesforce Analytics and PowerCenter. Use this file to understand why records did not load data into Salesforce Analytics. The naming convention for the error log is: <session name><timestamp>\_error.csv.

To configure the PowerCenter Integration Service to generate success and error logs for a session that writes data into Salesforce Analytics, configure the Success File and Error File Directory session properties.

# APPENDIX A

## Data Type Reference

This appendix includes the following topics:

- [Data Type Reference Overview, 20](#)
- [Salesforce Analytics and Transformation Data Types, 20](#)

### Data Type Reference Overview

When the PowerCenter Integration Service loads data into a Salesforce Analytics object, it converts each PowerCenter transformation data type to a compatible Salesforce Analytics data type.

PowerExchange for Salesforce Analytics uses the following data types:

#### **Salesforce Analytics data types**

Salesforce Analytics data types appear in Salesforce Analytics definitions in a mapping.

#### **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. They appear in all transformations in a mapping.

### Salesforce Analytics and Transformation Data Types

When the PowerCenter Integration Service writes data to a Salesforce Analytics target, it converts the data based on the native data types in the target.

The following table shows the conversion between Salesforce Analytics data types and transformation data types:

Salesforce Analytics Data Type	Transformation Data Type	Range and Description
DateTime	Date/Time	Jan 1, 0001 A.D. to Dec 31, 9999 A.D. (precision to nanosecond)
Int	Integer	Precision 10, scale 0
String	String	1 to 104,857,600 characters

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