



Informatica® PowerExchange for Salesforce  
Analytics

9.6.1 HotFix 2

# 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

# Installation and Configuration

This chapter includes the following topics:

- [Prerequisites, 10](#)
- [Installing and Configuring PowerExchange for Salesforce Analytics, 10](#)

## Prerequisites

Before you upgrade or install 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\javali
```

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\javali
```

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

## Installing and Configuring PowerExchange for Salesforce Analytics

To install and configure PowerExchange for Salesforce Analytics, perform the following tasks:

1. Verify the prerequisites.
2. Install PowerExchange for Salesforce Analytics.
3. Register the plug-in.

#### 4. Create connections.

After you install and configure PowerExchange for Salesforce Analytics, you can create connections to access Salesforce Analytics. Create connection objects in the Workflow Manager so the PowerCenter Integration Service can connect to Salesforce Analytics at run time.

## Installing PowerExchange for Salesforce Analytics

If you are installing or upgrading PowerExchange for Salesforce Analytics, you must run the product installer. When you install PowerExchange for Salesforce Analytics, you install the following components that allow PowerCenter to access Salesforce Analytics:

- Client component. Use the PowerCenter Client to import definitions, create mappings, and create connection objects.
- Server component. Use the PowerCenter Repository Service to store and access the Salesforce Analytics metadata in the repository and the PowerCenter Integration Service to run sessions.

## Installing the Client Component

Install the Client component on each PowerCenter Client machine where you want to access Salesforce Analytics metadata and create targets using the Salesforce Analytics metadata.

1. Run install.bat from the installation package.
2. Click **Next**.
3. Select the Informatica installation directory.

By default, the client is installed in the following location:

```
<Informatica installation directory>\clients\PowerCenterClient\client\bin
```

4. Click **Next**.
5. Click **Install** to begin the installation.
6. Click **Done** when the installation is complete.

The client component is installed.

## Installing the Server Component

The PowerExchange for Salesforce Analytics server component installs the PowerCenter Integration Service and PowerCenter Repository Service components.

If the PowerCenter Integration Service or PowerCenter Repository Service is configured to run on primary and backup nodes, install the PowerExchange for Salesforce Analytics server component on each node configured to run the PowerCenter Integration Service or PowerCenter Repository Service.

If the PowerCenter Integration Service is configured to run on a grid, install the PowerExchange for Salesforce Analytics server component on each node configured to run on the grid. If you cannot install the PowerExchange for Salesforce Analytics server component on each node in the grid, create a resource in the domain and assign it to each node where you installed the PowerExchange for Salesforce Analytics server component. When you create a session, configure the session to use the resource.

For example, create a custom resource called Salesforce Analytics. When you create a session, assign the resource as a required resource. The Load Balancer dispatches the Session task to a node that has the resource.

## Installing the Server Component on UNIX

Install the PowerExchange for Salesforce Analytics server component on UNIX when the PowerCenter Integration Service or PowerCenter Repository Service runs on UNIX.

To install the PowerExchange for Salesforce Analytics server component on the UNIX platforms that support graphical user interface, perform the same steps that you use to install the server components on Windows.

To install the PowerExchange for Salesforce Analytics server component on the UNIX platforms that use the command line interface, perform the following steps:

1. Enter `sh install.sh` at the prompt.
2. Enter the path to the Informatica installation directory.

By default, the server components are installed in the following location:

```
<User Home Directory>/Informatica/<version folder>
```

The PowerCenter Integration Service and PowerCenter Repository Service components are installed.

## Installing the Server Component on Windows

Install the PowerExchange for Salesforce Analytics server component on Windows when the PowerCenter Integration Service or PowerCenter Repository Service runs on Windows.

1. Run `install.bat` from the installation package.
2. Click **Next**.
3. Select the Informatica installation directory.

By default, the server components are installed in the following location:

```
C:\Informatica installation directory\<version folder>
```

4. Click **Next**.
5. Click **Install** to begin the installation.
6. Click **Done** when the installation is complete.

The PowerCenter Integration Service and PowerCenter Repository Service components are installed.

## Plug-in Registration

After you install PowerExchange for Salesforce Analytics, register the plug-in with the repository. If you are upgrading from a previous version, update the plug-in registration when you register the plug-in.

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 `pmsfdc.xml`. When you install the Repository component, the installer copies `AnalyticsPlugin.xml` to the following directory:

```
<PowerCenter 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.

## CHAPTER 3

# Salesforce Analytics Targets

This chapter includes the following topics:

- [Salesforce Analytics Targets Overview, 13](#)
- [Generating a JSON File, 13](#)
- [Importing a Salesforce Analytics Target Definition, 14](#)

## 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.

## 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`. Contact Salesforce for the `datasetloader.jar` file.

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.

3. Click **Connect**.
4. Click **Next**.  
The Designer displays a list of JSON metadata files to import.
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, 16](#)
- [Salesforce Analytics Mapping Example, 16](#)

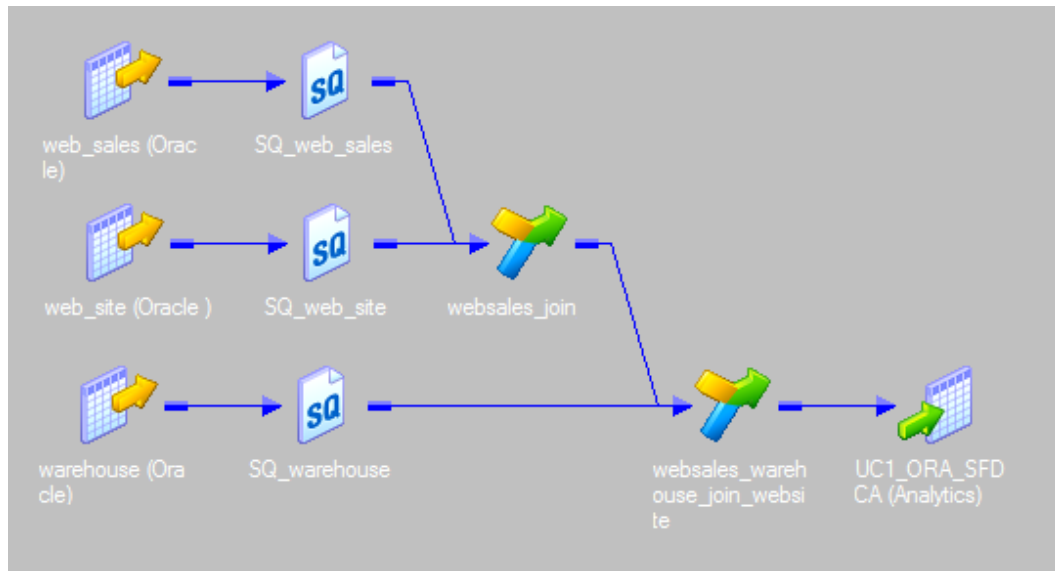
# Salesforce Analytics Mappings Overview

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, 18](#)
- [Salesforce Analytics Connections, 18](#)
- [Session Configuration for Salesforce Analytics Targets, 19](#)

## 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.

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.

## **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, 21](#)
- [Salesforce Analytics and Transformation Data Types, 21](#)

### 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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