Simba Salesforce ODBC Driver

User Guide

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Introduction

The Simba Salesforce ODBC Driver is used to access Salesforce.com. It enables Business Intelligence (BI), analytics and reporting on Salesforce.com data.

ODBC is one the most established and widely supported APIs for connecting to and working with databases. At the heart of the technology is the ODBC driver, which connects an application to the database. For more information about ODBC, see http://www.simba.com/odbc.htm. For complete information on the ODBC 3.52 specification, see the MSDN ODBC Programmer's Reference, available from the Microsoft web site at http://msdn.microsoft.com/en-us/library/ms714562(VS.85).aspx

Windows Driver

System requirements

- Windows® XP with SP3, Windows® Vista, Windows® 7 Professional or Windows® 2008 R2. Both 32-bit and 64-bit editions are supported.

- 30 MB of available disk space.

  Installing the driver requires administrator privileges.

  The Simba Salesforce ODBC Driver requires a Salesforce account. Also, your organization must use Enterprise Edition, Unlimited Edition, or Developer Edition. If you are an existing Salesforce customer and want to upgrade to either Enterprise or Unlimited Edition, contact your Salesforce account representative.

Installation

There are two versions of the driver for Windows:

- SimbaSalesforceODBC32.msi for 32-bit editions of Windows

- SimbaSalesforceODBC64.msi for 64-bit editions of Windows

The version of the driver that you select should match the bitness of the application. For example, if the application is 64-bit then you should install the 64-bit driver. It is allowable to install both versions of the driver.

The following document explains how to use ODBC on 64-bit editions of Windows: http://www.simba.com/docs/HOW-TO-32-bit-vs-64-bit-ODBC-Data-Source-Administrator.pdf.

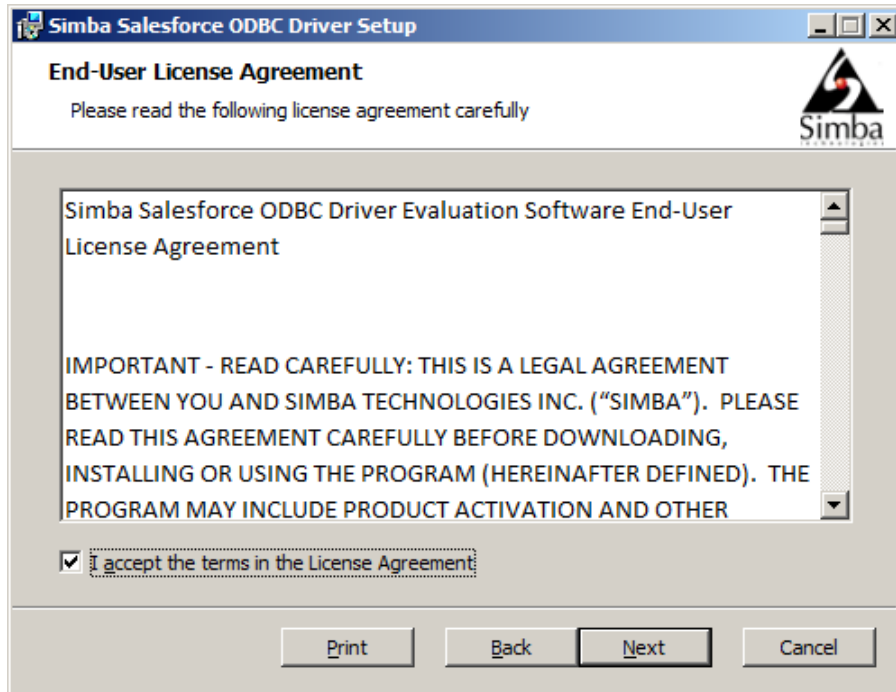To install the Simba Salesforce ODBC driver:

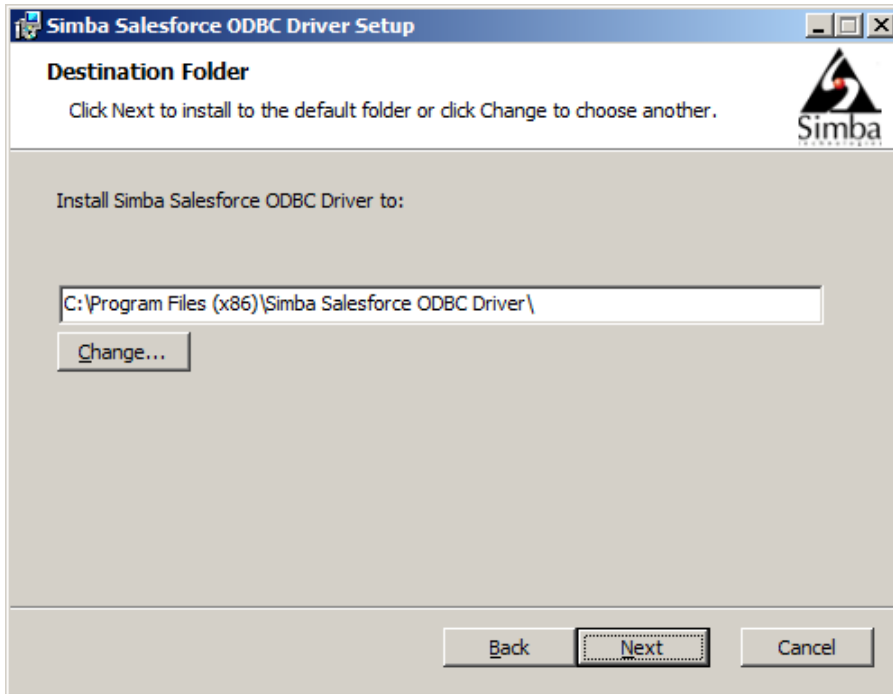1. Double-click the Simba Salesforce ODBC MSI file.
   The Simba Salesforce ODBC Driver Setup window opens.
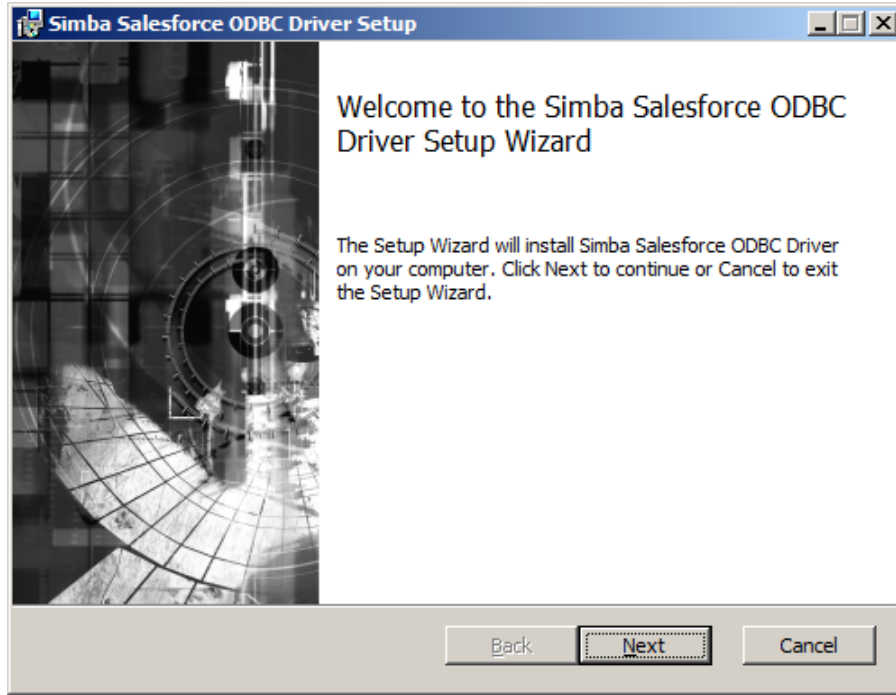
2. Click **Next**.
   The End-User License Agreement page is displayed.

3. Select the "I accept the terms in the License Agreement" checkbox and then, click **Next**.
    The Destination Folder page is displayed.

4. Click **Next**.
    The Ready to install Simba Salesforce ODBC Driver page is displayed.

5. Click **Install**. The Windows User Account Control window appears.

6. Click **Yes**.
    When the installation is finished, the Completed the Simba Salesforce ODBC Driver Setup Wizard page is displayed.
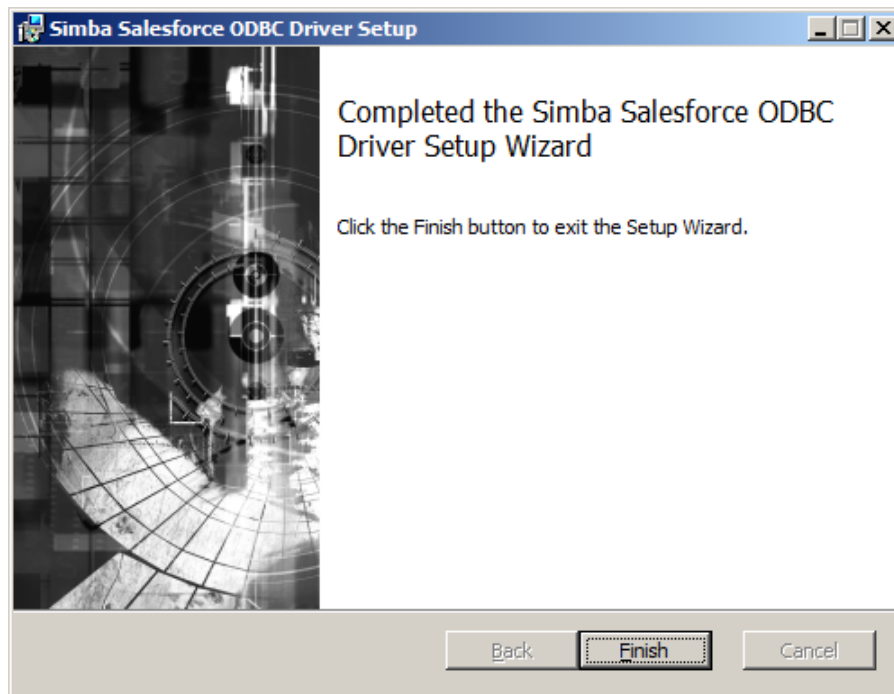
7. Click **Finish**.
    The Simba Salesforce ODBC Driver installation is complete. The next step is to create a Data Source Name.

Configuration

Either you can configure the "Sample Simba Salesforce DSN" that was created by the installer or you can create a new data source name.

Open the ODBC Data Source Administrator

1. Click the Start button .

2. Click **All Programs**.

3. Click the **Simba Salesforce ODBC Driver 1.0 (64-bit)** or the **Simba Salesforce ODBC Driver 1.0 (32-bit)** program group. Because DSNs are bit-specific, select the version that matches the bitness of your application. For example, a DSN that is defined for the 32-bit driver will only be accessible from 32-bit applications.
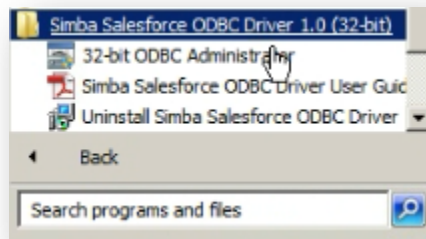
If you installed both versions of the driver, you will see two program groups.

4. Click **64-bit ODBC Administrator** or **32-bit ODBC Administrator**.
   The ODBC Data Source Administrator window opens.
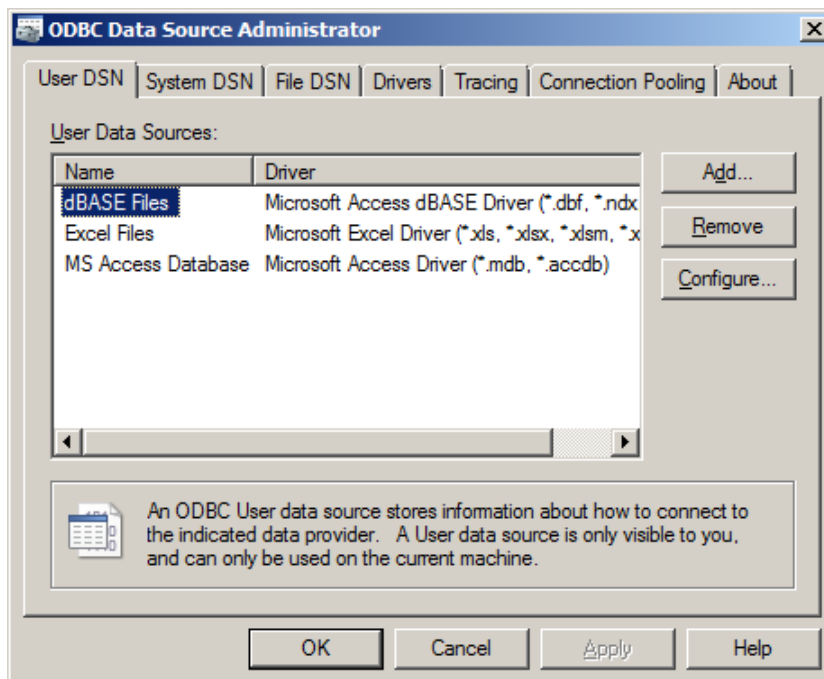
Configure a Data Source Name (DSN)

1. Open the ODBC Data Source Administrator.

2. When the Simba Salesforce ODBC Driver installer ran, it created a sample system DSN called "Sample Simba Salesforce DSN". To configure this DSN, click the **System DSN** tab.

3. In the list of System Data Sources, select the Sample Simba Salesforce DSN and then click **Configure**.
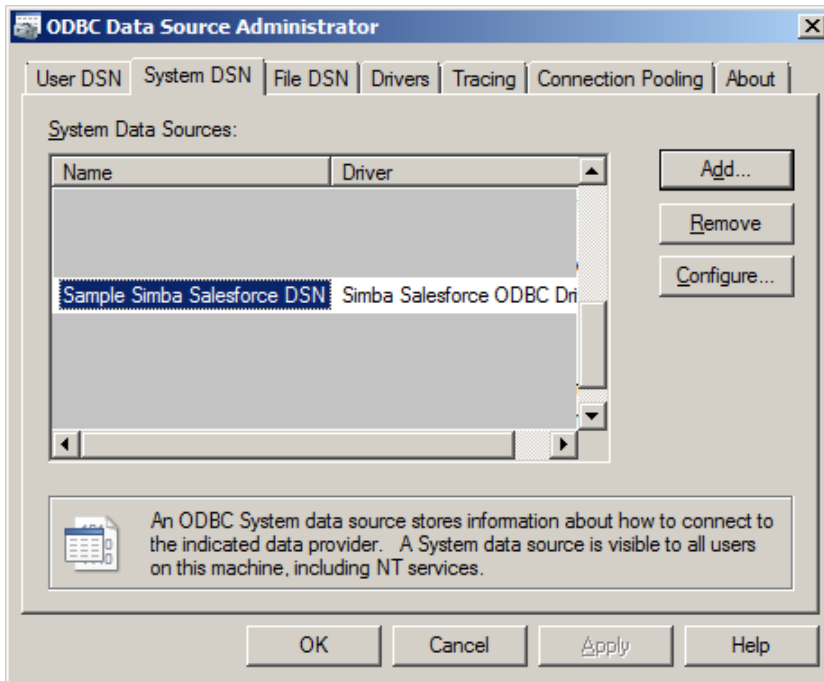
4. The Data Source Configuration window opens.
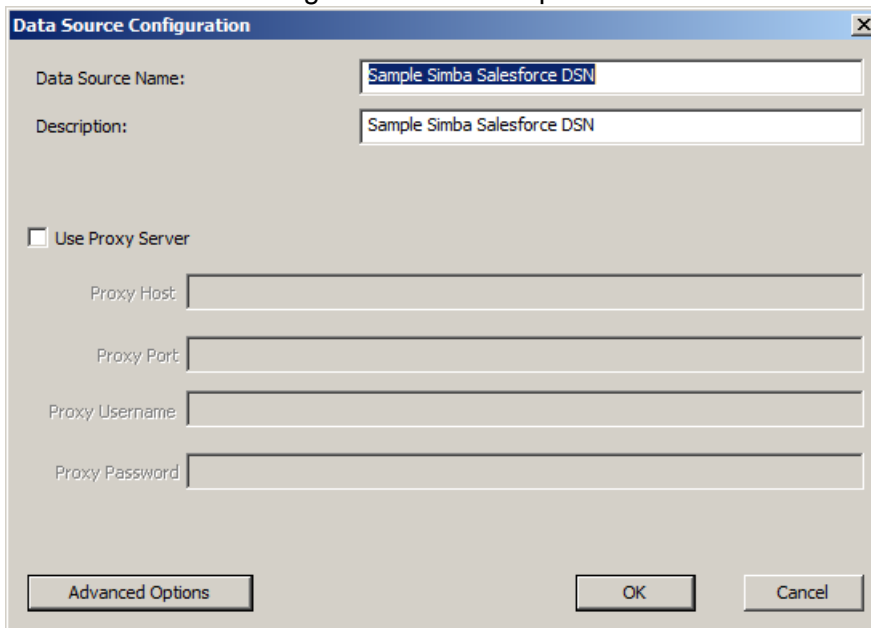
5. If you are using a proxy server, select the Use Proxy Server checkbox and then enter the proxy server host, port, username and password details.

6. Optionally, click **Advanced Options** to set advanced configuration settings. These settings are described in the section, Advanced options.

7. Click **OK** to finish the configuration and close the Data Source Configuration window.

8. Click **OK** to close the ODBC Data Source Administrator window.

Create a Data Source Name (DSN)

1. Open the ODBC Data Source Administrator.

2. Click the **System DSN** tab to create a system DSN.
   -or-
   Click the **User DSN** tab to create a user DSN.

   Note: All users who login to a workstation can see a system DSN whereas a user DSN is specific to a user on the workstation and only the user who creates it can see it.

3. Click **Add**.
   The Create New Data Source window opens.

4. In the list, select Simba Salesforce ODBC Driver and then click **Finish**.
    The Data Source Configuration window opens.

5. In the Data Source Name text box, type a name for your DSN.

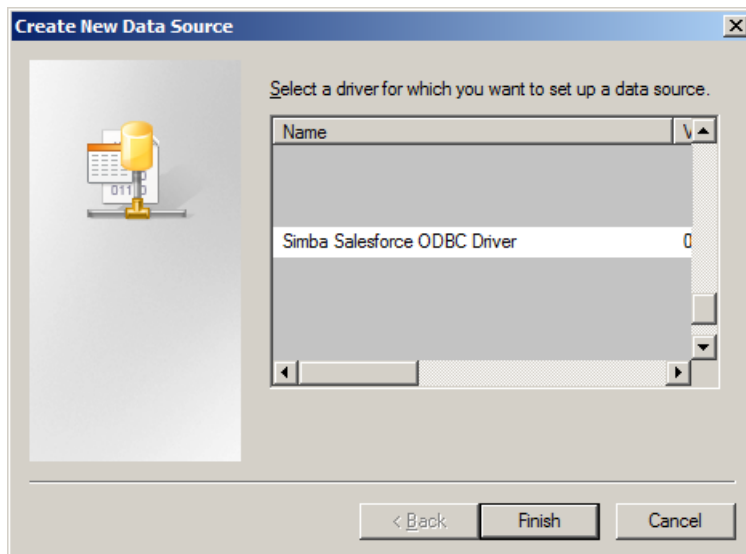6. Optionally, in the Description text box, enter a description.

7. If you are using a proxy server, select the Use Proxy Server checkbox and then enter the proxy server host, port, username and password details.

8. Optionally, click **Advanced Options** to set advanced configuration settings. These settings are described in the section, Advanced options.

9. Click **OK** to finish the configuration and close the Data Source Configuration window.

10. Click **OK** to close the ODBC Data Source Administrator window.

Advanced options

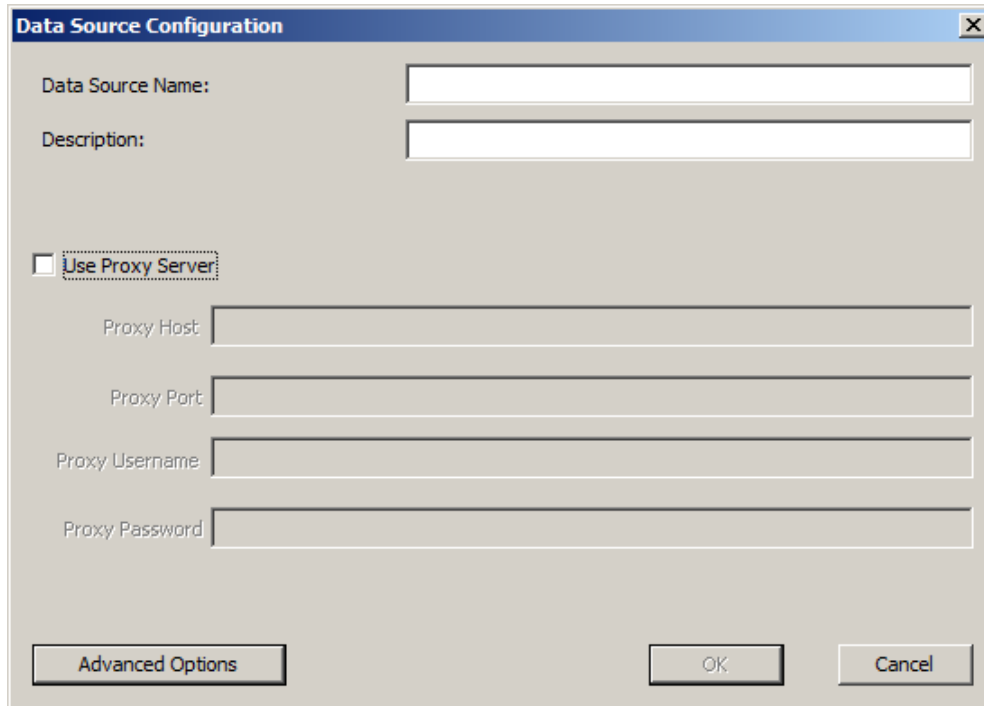The advanced configuration settings can be set any of the following ways:

- with the ODBC Data Source Administrator window

- with the database connection string

- with the Salesforce Connection Dialog

- with registry settings

The following advanced options are available:

- Parse Method
- Metadata Optimization

Parse Method (ParseMethod attribute)

The ParseMethod attribute specifies which query language is used to parse queries. SOQL is the Salesforce Object Query Language. For more information about SOQL, please refer to the Appendix, Salesforce Object Query Language. The valid values for the ParseMethod attribute are as follows:

Attribute Value	UI Text	Default
SOQL_FIRST	Attempt to parse queries as SOQL first, then SQL	This is the default value.
SQL_FIRST	Attempt to parse queries as SQL first, then SOQL	
SOQL_ONLY	Attempt to parse queries as SOQL only	
SQL_ONLY	Attempt to parse queries as SQL only	

Metadata Optimization (MetadataLevel attribute)

The MetadataLevel attribute specifies the level of metadata inference that the ODBC driver performs for reports and stored procedures. The valid values for the MetadataLevel attribute are as follows:

Attribute Value	Description
FULL	The "Enable report metadata optimization" checkbox is unselected. Metadata is inferred based on all of the data. This is slower but more accurate. This is the default value.
LIGHT	The "Enable report metadata optimization" checkbox is selected. Metadata is inferred based on a small sampling of the data. This is faster but less accurate.

Set advanced options using the ODBC Data Source Administrator

1. Follow the steps described in the section, Configure a Data Source Name (DSN).

2. Click **Advanced Options**.
   The Advanced Options window opens.
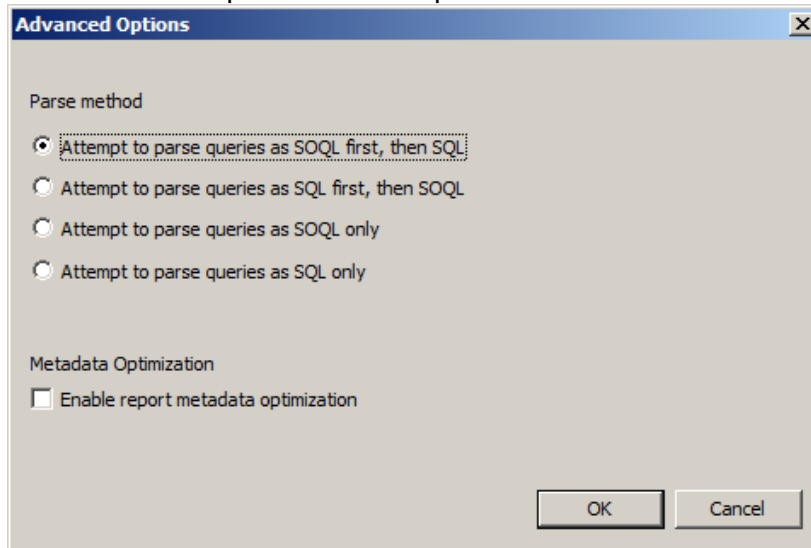
3. Select a Parse Method. The options are described in more detail in the section, Parse Method (ParseMethod attribute).

4. Set the Metadata Optimization level. This option is described in more detail in the section, Metadata Optimization (MetadataLevel attribute).

5. Click **OK**.

Set advanced options using the database connection string

The advanced configuration settings can be set using the database connection string. An example of a connection string that sets the ParseMethod and MetadataLevel options is as follows:

```
DSN=Sample Simba Salesforce DSN;uid=email@company.com;pwd=<password>;
MetadataLevel=FULL;ParseMethod=SQL_ONLY
```

Note: Connection string settings override registry settings.

Set advanced options using Windows registry settings

The entry names are MetadataLevel and ParseMethod. They are located in the following location in the Windows registry:

For 32-bit drivers on 32-bit Windows and 64-bit drivers on 64-bit Windows:`HKEY_LOCAL_MACHINE/SOFTWARE/ODBC/ODBC.INI/[DSN Name]`

For 32-bit drivers on 64-bit Windows:`HKEY_LOCAL_MACHINE/SOFTWARE/WOW6432NODE/ODBC/ODBC.INI/[DSN Name]`

Test the Salesforce data source

To test the Salesforce data source you can use a client application like Excel or Crystal Reports. Another way to test the data source is to use the ODBC Test tool, which is available in the Microsoft Data Access (MDAC) 2.8 Software Development Kit (SDK). To download the SDK, visit the following Microsoft Web site:
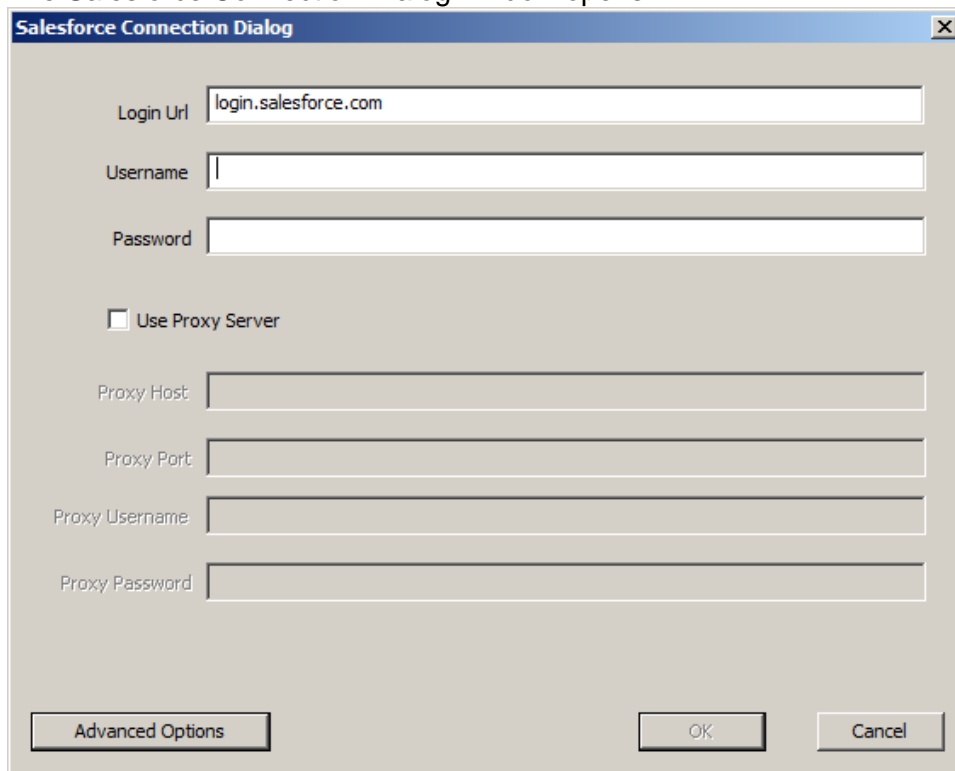http://www.microsoft.com/downloads/details.aspx?FamilyID=5067faf8-0db4-429a-b502-de4329c8c850&displaylang=en

1. Start the ODBC Test tool. By default, the ODBC Test application is installed in the following folder: `C:\Program Files (x86)\Microsoft Data Access SDK 2.8\Tools\`

   Navigate to the folder that corresponds to your machine's architecture (amd64, ia64 or x86) and then click `odbcte32.exe` to launch the ANSI version or click `odbct32w.exe` to launch the Unicode version.
   Note: It is important to run the correct version of the ODBC Test tool for ANSI or Unicode and 32-bit or 64-bit.

2. In the ODBC Test tool, select **Conn > Full Connect**.
   The Full Connect window opens.

3. Select your Salesforce data source from the list of data sources and then click **OK**.
   If you do not see your data source in the list, make sure that you are running the version of the ODBC Test tool that corresponds to the version of the data source that you created. In other words, if you created a 32-bit data source then you should be using the 32-bit version of the ODBC Test tool.

4. The Salesforce Connection Dialog window opens.

5. Type your username and password.

6. If you are using a proxy server and want to override your proxy server settings, select the Use Proxy Server checkbox and enter proxy server information.

7. Click **OK**.
   If the connection is successful, you will see a message in the ODBC Test window that says "Successfully connected to DSN". The message will look something like this:

   ```
   Full Connect(Default)

   Env. Attr. SQL_ATTR_ODBC_VERSION set to SQL_OV_ODBC3

   Successfully connected to DSN 'MySalesforceDSN'.
   ```

Show a list of Salesforce reports

Note: Because reports are implemented as stored procedures, reports are only supported when queries are being parsed as SQL. In other words, the parse method cannot be set to SOQL_ONLY. For more information about configuring the parse method, refer to the section, Parse Method (ParseMethod attribute).

1. In the ODBC Test menu, select **Catalog > SQL Procedures**.
   The SQLProcedures window opens.
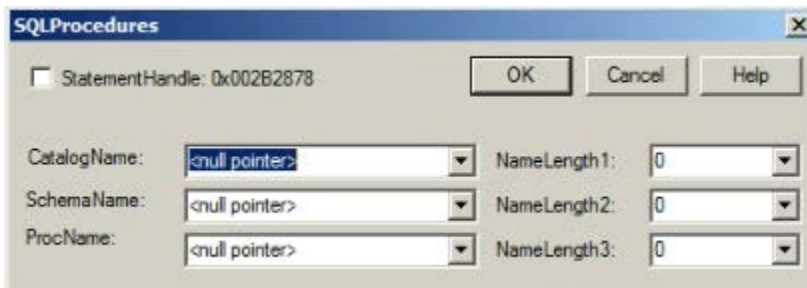
   Click **OK**. In the output window, you will see something like this:
   ```
   SQLProcedures:

   In: StatementHandle = 0x002B2878, CatalogName = SQL_NULL_HANDLE,

   NameLength1 = 0, SchemaName = SQL_NULL_HANDLE, NameLength2 = 0, ProcName =

   SQL_NULL_HANDLE, NameLength3 = 0

   Return:  SQL_SUCCESS=0
   ```

2. Select **Results > Get Data All** to list all of the procedures. These procedures correspond to Salesforce reports. Both the standard, built-in Salesforce reports and your custom-created Salesforce reports are listed. In the output window, you will see something like this:

   ```
   Get Data All:
   "PROCEDURE_CAT", "PROCEDURE_SCHEM", "PROCEDURE_NAME", "NUM_INPUT_PARAMS",
   "NUM_OUTPUT_PARAMS", "NUM_RESULT_SETS", "REMARKS", "PROCEDURE_TYPE"
   "Simba Technologies", "Simba Technologies", "API Usage Last 7 Days", -1,
   -1, -1, <Null>, 1
   "Simba Technologies", "Simba Technologies", "Account History Report", -1,
   -1, -1, <Null>, 1
   ```

```
...
"Simba Technologies", "Simba Technologies", "Web Lead Source", -1, -1, -
1, <Null>, 1
"Simba Technologies", "Simba Technologies", "Web Lead Source by Date", -
1, -1, -1, <Null>, 1
105 rows fetched from 8 columns.
```

Display the results of a Salesforce report

1. You call a report in the same way that you would execute a stored procedure. For example, to execute the report named "API Usage Last 7 Days", you would type the following command into the ODBC Test input window:

   ```
   {call "API Usage Last 7 Days"}
   ```

2. Click the **SQLExecDirect** (red exclamation mark) button.
   The output will look something like this:

   ```
   SQLExecDirect:
   In: hstmt = 0x002B2878, szSqlStr = "{call "API Usage Last 7 Days"}",
   cbSqlStr = -3
   Return: SQL_SUCCESS=0
   ```

3. Click **Results > Get Data All** to display the contents of the report. In our example report, the following information is displayed in the ODBC Test output window:

   ```
   Get Data All:
   "Name", "Client Id", "Day Of Week", "Call Count", "Username", "E-mail""
   "test", "", "Wednesday", 2352, "test@test.com", "test@test.com ""
   "test2", "", "Thursday", 134, " test2@test.com ", "test2@test.com ""
   "test3", "", "Friday", 4055, " test3@test.com ", "test3@test.com ""
   3 rows fetched from 6 columns.
   ```

Appendix A: Salesforce Object Query Language

For more information about the Salesforce Object Query Language (SOQL), refer to the Force.com SOQL reference at:
http://www.salesforce.com/us/developer/docs/soql_sosl/index.htm.

The Simba Salesforce ODBC Driver is based on version 23 of the SOQL API.

Unsupported SOQL features

- Typeof
- Offset
- With
- Aliases

Known issues

Queries that contain errors in the following clauses could potentially succeed the prepare step and not fail until executed

- Restrictions using ToLabel() in filter clause.
- Restrictions using fields in HAVING clause.
- Data Type limitations: restrictions on Salesforce data types cannot be enforced at prepare time. For example, ORDER BY is not supported for: multi-select picklist, rich text area, long text area, and encrypted.

GroupBy returning large result sets

When a query that contains a GroupBy clause returns a large result set that exceeds 2000 rows, then you must change the filtering conditions to query data in smaller chunks. This is for efficiency because the driver will use the queryMore() call and a server-side cursor to retrieve additional rows in 200-row chunks. However, if a query includes a GROUP BY clause, you can't use queryMore().

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libcurl

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