Simba Technologies Inc.

Version 1.1.6
September 26, 2017
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About This Guide

Purpose

The Simba Oracle ODBC Driver Installation and Configuration Guide explains how to install and configure the Simba Oracle ODBC Driver. The guide also provides details related to features of the driver.

Audience

The guide is intended for end users of the Simba Oracle ODBC Driver, as well as administrators and developers integrating the driver.

Knowledge Prerequisites

To use the Simba Oracle ODBC Driver, the following knowledge is helpful:

- Familiarity with the platform on which you are using the Simba Oracle ODBC Driver
- Ability to use the data source to which the Simba Oracle ODBC Driver is connecting
- An understanding of the role of ODBC technologies and driver managers in connecting to a data source
- Experience creating and configuring ODBC connections
- Exposure to SQL

Document Conventions

*Italic*cs are used when referring to book and document titles.

*Bold* is used in procedures for graphical user interface elements that a user clicks and text that a user types.

*Monospace font* indicates commands, source code, or contents of text files.

✍ Note:

A text box with a pencil icon indicates a short note appended to a paragraph.
\textbf{Important:}

A text box with an exclamation mark indicates an important comment related to the preceding paragraph.
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About the Simba Oracle ODBC Driver

The Simba Oracle ODBC Driver enables Business Intelligence (BI), analytics, and reporting on data that is stored in Oracle databases. The driver complies with the ODBC 3.52 data standard and adds important functionality such as Unicode, as well as 32- and 64-bit support for high-performance computing environments on all platforms.

ODBC is one of 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 the Data Access Standards Glossary: http://www.simba.com/resources/data-access-standards-library. For complete information about the ODBC specification, see the ODBC API Reference: http://msdn.microsoft.com/en-us/library/windows/desktop/ms714562(v=vs.85).aspx.

The Installation and Configuration Guide is suitable for users who are looking to access data residing within Oracle from their desktop environment. Application developers might also find the information helpful. Refer to your application for details on connecting via ODBC.

Note:

For information about how to use the driver in various BI tools, see the Simba ODBC Drivers Quick Start Guide for Windows: http://cdn.simba.com/docs/ODBC_QuickstartGuide/content/quick_start/intro.htm.
Windows System Requirements

Install the driver on client machines where the application is installed. Each machine that you install the driver on must meet the following minimum system requirements:

- One of the following operating systems:
  - Windows 7, 8.1, or 10
  - Windows Server 2008 or later
- 150 MB of available disk space
- Visual C++ Redistributable for Visual Studio 2013 installed (with the same bitness as the driver that you are installing).
- Oracle Instant Client library files installed in the \lib subfolder in the driver’s installation directory. For more information, see Installing the Oracle Instant Client on Windows on page 9.

To install the driver, you must have Administrator privileges on the machine.

Installing the Driver on Windows

On 64-bit Windows operating systems, you can execute both 32- and 64-bit applications. However, 64-bit applications must use 64-bit drivers, and 32-bit applications must use 32-bit drivers. Make sure that you use the version of the driver that matches the bitness of the client application:

- Simba Oracle 1.1 32-bit.msi for 32-bit applications
- Simba Oracle 1.1 64-bit.msi for 64-bit applications

You can install both versions of the driver on the same machine.

To install the Simba Oracle ODBC Driver on Windows:

1. Depending on the bitness of your client application, double-click to run Simba Oracle 1.1 32-bit.msi or Simba Oracle 1.1 64-bit.msi.
2. Click Next.
3. Select the check box to accept the terms of the License Agreement if you agree, and then click Next.
4. To change the installation location, click Change, then browse to the desired folder, and then click OK. To accept the installation location, click Next.
5. Click **Install**.
6. When the installation completes, click **Finish**.
7. If you received a license file through email, then copy the license file into the \lib subfolder of the installation folder you selected above. You must have Administrator privileges when changing the contents of this folder.
8. After installing the Simba Oracle ODBC Driver, you must install the library files for the Oracle Instant Client. For instructions, see **Installing the Oracle Instant Client on Windows** on page 9.

**Installing the Oracle Instant Client on Windows**

After installing the Simba Oracle ODBC Driver, you need to install the library files for the Oracle Instant Client.

**To install the Oracle Instant Client on Windows:**

2. Download the version of the Oracle Instant Client that matches the bitness of your platform and the version of Oracle that you are connecting to.
3. Extract the archive that you downloaded to a temporary location.
4. Copy the files from the temporary location to the \lib subfolder of the installation folder that you selected when installing the driver.

**Creating a Data Source Name on Windows**

Typically, after installing the Simba Oracle ODBC Driver, you need to create a Data Source Name (DSN).

Alternatively, for information about DSN-less connections, see **Using a Connection String** on page 35.

**To create a Data Source Name on Windows:**

1. Open the ODBC Administrator:
   - If you are using Windows 7 or earlier, click **Start** 🌍 > **All Programs** > **Simba Oracle Driver 1.1** > **ODBC Administrator**.
   - Or, if you are using Windows 8 or later, on the Start screen, type **ODBC administrator**, and then click the **ODBC Administrator** search result.

   ▶ Note:
   
   Make sure to select the ODBC Data Source Administrator that has the same bitness as the client application that you are using to connect to Oracle.
2. In the ODBC Data Source Administrator, click the **Drivers** tab, and then scroll down as needed to confirm that the Simba Oracle ODBC Driver appears in the alphabetical list of ODBC drivers that are installed on your system.

3. Choose one:
   - To create a DSN that only the user currently logged into Windows can use, click the **User DSN** tab.
   - Or, to create a DSN that all users who log into Windows can use, click the **System DSN** tab.

   **Note:**
   It is recommended that you create a System DSN instead of a User DSN. Some applications load the data using a different user account, and might not be able to detect User DSNs that are created under another user account.

4. Click **Add**.
5. In the Create New Data Source dialog box, select **Simba Oracle ODBC Driver** and then click **Finish**. The Simba Oracle ODBC Driver DSN Setup dialog box opens.

6. In the **Data Source Name** field, type a name for your DSN.
7. Optionally, in the **Description** field, type relevant details about the DSN.
8. Depending on whether you are connecting using SSL, do one of the following to specify the necessary connection information:
   - To connect using SSL, select the **Use TNS Service Name** check box and then, in the **TNS Name** field, type the TNS name as defined by your `tnsnames.ora` file. For more information, see Configuring SSL Verification on a Windows Machine on page 11.
   - Or, to connect without using SSL, do the following:
     a. In the **Host** field, type the name or IP address of the Oracle server.
     b. In the **Port** field, type the number of the TCP port that the server uses to listen for client connections.

   **Note:**
   The default port used by Oracle is 1521.

   c. In the **Service Name** field, type the service name of the Oracle database that you want to access.
9. In the **User** field, type your user name for accessing the database.
10. In the **Password** field, type the password corresponding to the user name you typed above.
11. Optionally, to configure the driver to recognize table type information from the data source, select the **Enable Table Types** checkbox. For more information, see **Enable Table Types** on page 40.

12. To configure logging behavior for the driver, click **Logging Options**. For more information, see **Configuring Logging Options on Windows** on page 12.

13. To test the connection, click **Test**. Review the results as needed, and then click **OK**.

```markdown
Note:
If the connection fails, then confirm that the settings in the Simba Oracle ODBC Driver DSN Setup dialog box are correct. Contact your Oracle server administrator as needed.
```

14. To save your settings and close the Simba Oracle ODBC Driver DSN Setup dialog box, click **OK**.

15. To close the ODBC Data Source Administrator, click **OK**.

### Configuring SSL Verification on a Windows Machine

If you are connecting to an Oracle database that has Secure Sockets Layer (SSL) enabled, you can configure the driver to connect to an SSL-enabled socket. To do this, you need to provide the TNS name defined in the Oracle client configuration file named `tnsnames.ora`.

**To configure SSL verification on a Windows machine:**

1. Configure SSL authentication on your Oracle database, and make sure that the `tnsnames.ora` file is configured as needed. For more information, see "Configuring Secure Sockets Layer Authentication" in the *Oracle Database Security Guide*:
   https://docs.oracle.com/database/121/DBSEG/asossl.htm#DBSEG070.

2. To access the SSL options for a DSN, open the ODBC Data Source Administrator where you created the DSN, then select the DSN, and then click **Configure**.

3. Select the **Use TNS Service Name** check box.

4. In the **TNS Name** field, type the TNS name as defined by your `tnsnames.ora` file.

```markdown
Note:
If you specify a TNS name, then you do not need to set the Host, Port, and Service Name options for your DSN.
```
Configuring Logging Options on Windows

To help troubleshoot issues, you can enable logging. In addition to functionality provided in the Simba Oracle ODBC Driver, the ODBC Data Source Administrator provides tracing functionality.

**Important:**

Only enable logging or tracing long enough to capture an issue. Logging or tracing decreases performance and can consume a large quantity of disk space.

The settings for logging apply to every connection that uses the Simba Oracle ODBC Driver, so make sure to disable the feature after you are done using it.

To enable driver logging on Windows:

1. To access logging options, open the ODBC Data Source Administrator where you created the DSN, then select the DSN, then click **Configure**, and then click **Logging Options**.
2. From the **Log Level** drop-down list, select the logging level corresponding to the amount of information that you want to include in log files:

<table>
<thead>
<tr>
<th>Logging Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Disables all logging.</td>
</tr>
<tr>
<td>FATAL</td>
<td>Logs severe error events that lead the driver to abort.</td>
</tr>
<tr>
<td>ERROR</td>
<td>Logs error events that might allow the driver to continue running.</td>
</tr>
<tr>
<td>WARNING</td>
<td>Logs events that might result in an error if action is not taken.</td>
</tr>
<tr>
<td>INFO</td>
<td>Logs general information that describes the progress of the driver.</td>
</tr>
<tr>
<td>DEBUG</td>
<td>Logs detailed information that is useful for debugging the driver.</td>
</tr>
<tr>
<td>TRACE</td>
<td>Logs all driver activity.</td>
</tr>
</tbody>
</table>

3. In the **Log Path** field, specify the full path to the folder where you want to save log files.
4. If requested by Technical Support, type the name of the component for which to log messages in the **Log Namespace** field. Otherwise, do not type a value in the field.

5. In the **Max Number Files** field, type the maximum number of log files to keep.

   **Note:**
   After the maximum number of log files is reached, each time an additional file is created, the driver deletes the oldest log file.

6. In the **Max File Size** field, type the maximum size of each log file in megabytes (MB).

   **Note:**
   After the maximum file size is reached, the driver creates a new file and continues logging.

7. Click **OK**.
8. Restart your ODBC application to make sure that the new settings take effect.

The Simba Oracle ODBC Driver produces a log file named `oracle_driver.log` at the location that you specify in the Log Path field.

If you enable the **UseLogPrefix** connection property, the driver prefixes the log file name with the user name associated with the connection and the process ID of the application through which the connection is made. For more information, see **UseLogPrefix** on page 47.

**To disable driver logging on Windows:**

1. Open the ODBC Data Source Administrator where you created the DSN, then select the DSN, then click **Configure**, and then click **Logging Options**.
2. From the **Log Level** drop-down list, select **LOG_OFF**.
3. Click **OK**.
4. Restart your ODBC application to make sure that the new settings take effect.

**Verifying the Driver Version Number on Windows**

If you need to verify the version of the Simba Oracle ODBC Driver that is installed on your Windows machine, you can find the version number in the ODBC Data Source Administrator.
To verify the driver version number on Windows:

1. Open the ODBC Administrator:
   - If you are using Windows 7 or earlier, click **Start 🌍 > All Programs > Simba Oracle Driver 1.1 > ODBC Administrator**.
   - Or, if you are using Windows 8 or later, on the Start screen, type **ODBC administrator**, and then click the **ODBC Administrator** search result.

   ✏️ **Note:**
   Make sure to select the ODBC Data Source Administrator that has the same bitness as the client application that you are using to connect to Oracle.

2. Click the **Drivers** tab and then find the Simba Oracle ODBC Driver in the list of ODBC drivers that are installed on your system. The version number is displayed in the **Version** column.
macOS Driver

macOS System Requirements

Install the driver on client machines where the application is installed. Each machine that you install the driver on must meet the following minimum system requirements:

- macOS version 10.9, 10.10, or 10.11
- 250 MB of available disk space
- iODBC 3.52.7 or later
- Oracle Instant Client library files installed in the /lib subfolder in the driver's installation directory. For more information, see Installing the Oracle Instant Client on macOS on page 16.

Installing the Driver on macOS

The Simba Oracle ODBC Driver is available for macOS as a .dmg file named Simba Oracle 1.1.dmg. The driver supports both 32- and 64-bit client applications.

To install the Simba Oracle ODBC Driver on macOS:

1. Double-click **Simba Oracle 1.1.dmg** to mount the disk image.
2. Double-click **Simba Oracle 1.1.pkg** to run the installer.
3. In the installer, click **Continue**.
4. On the Software License Agreement screen, click **Continue**, and when the prompt appears, click **Agree** if you agree to the terms of the License Agreement.
5. Optionally, to change the installation location, click **Change Install Location**, then select the desired location, and then click **Continue**.

> **Note:** By default, the driver files are installed in the
> /Library/simba/oracleodbc directory.

6. To accept the installation location and begin the installation, click **Install**.
7. When the installation completes, click **Close**.
8. If you received a license file through email, then copy the license file into the /lib subfolder in the driver installation directory. You must have root privileges when changing the contents of this folder.

For example, if you installed the driver to the default location, you would copy the license file into the /Library/simba/oracleodbc/lib folder.
9. After installing the Simba Oracle ODBC Driver, you must install the library files for the Oracle Instant Client. For instructions, see Installing the Oracle Instant Client on macOS on page 16.

Next, configure the environment variables on your machine to make sure that the ODBC driver manager can work with the driver. For more information, see Configuring the ODBC Driver Manager on Non-Windows Machines on page 22.

### Installing the Oracle Instant Client on macOS

After installing the Simba Oracle ODBC Driver, you need to install the library files for the Oracle Instant Client.

**To install the Oracle Instant Client on macOS:**

2. Download both the 32-bit and 64-bit versions of the Oracle Instant Client for Oracle 12.1.
3. Extract each archive that you downloaded to a temporary location. For example, `/home/instantclient_12_1/32` for the 32-bit version and `/home/instantclient_12_1/64` for the 64-bit version.
4. For each `.dylib` library file that is used in both versions of the Oracle Instant Client, build a universal binary:
   a. Open a Terminal window.
   b. In the Terminal window, run the following commands:

```
cd /home/instantclient_12_1

lipo ./32/libclntshcore.dylib.12.1 ./64/libclntshcore.dylib.12.1 -output ./libclntshcore.dylib.12.1 -create

lipo ./32/libclntsh.dylib.12.1 ./64/libclntsh.dylib.12.1 -output ./libclntsh.dylib.12.1 -create

lipo ./32/libnnz12.dylib ./64/libnnz12.dylib -output ./libnnz12.dylib -create

lipo ./32/libocci.dylib.12.1 ./64/libocci.dylib.12.1 -output ./libocci.dylib.12.1 -create
```
In the above example, the new binary files are created in the folder
/home/instantclient_12.1.

5. Copy the new universal binary files that you created to the /lib subfolder of the
installation folder that you selected when installing the driver.

⚠️ Note:
By default, the driver files are installed in the
/Library/simba/oracleodbc directory.

Verifying the Driver Version Number on macOS

If you need to verify the version of the Simba Oracle ODBC Driver that is installed on
your macOS machine, you can query the version number through the Terminal.

To verify the driver version number on macOS:

➤ At the Terminal, run the following command:

```
pkgutil --info com.simba.oracleodbc
```

The command returns information about the Simba Oracle ODBC Driver that is
installed on your machine, including the version number.
The Linux driver is available as an RPM file and as a tarball package.

**Linux System Requirements**

Install the driver on client machines where the application is installed. Each machine that you install the driver on must meet the following minimum system requirements:

- One of the following distributions:
  - Red Hat® Enterprise Linux® (RHEL) 6 or 7
  - CentOS 6 or 7
  - SUSE Linux Enterprise Server (SLES) 11
- 270 MB of available disk space
- One of the following ODBC driver managers installed:
  - iODBC 3.52.7 or later
  - unixODBC 2.2.12 or later
- Oracle Instant Client library files installed in the /lib subfolder in the driver's installation directory. For more information, see Installing the Oracle Instant Client on Linux on page 20.

To install the driver, you must have root access on the machine.

**Installing the Driver Using the RPM File**

On 64-bit editions of Linux, you can execute both 32- and 64-bit applications. However, 64-bit applications must use 64-bit drivers, and 32-bit applications must use 32-bit drivers. Make sure to install and use the version of the driver that matches the bitness of the client application:

- `simbaoracle-[Version]-[Release].i686.rpm` for the 32-bit driver
- `simbaoracle-[Version]-[Release].x86_64.rpm` for the 64-bit driver

You can install both versions of the driver on the same machine.

The placeholders in the file names are defined as follows:

- `[Version]` is the version number of the driver.
- `[Release]` is the release number for this version of the driver.
To install the Simba Oracle ODBC Driver using the RPM File:

1. Log in as the root user, and then navigate to the folder containing the RPM package for the driver.
2. Depending on the Linux distribution that you are using, run one of the following commands from the command line, where [RPMFileName] is the file name of the RPM package:
   - If you are using Red Hat Enterprise Linux or CentOS, run the following command:
     ```
     yum --nogpgcheck localinstall [RPMFileName]
     ```
   - Or, if you are using SUSE Linux Enterprise Server, run the following command:
     ```
     zypper install [RPMFileName]
     ```

   The Simba Oracle ODBC Driver files are installed in the /opt/simba/oracleodbc directory.
3. If you received a license file through email, then copy the license file into the /opt/simba/oracleodbc/lib/32 or /opt/simba/oracleodbc/lib/64 folder, depending on the version of the driver that you installed. You must have root privileges when changing the contents of this folder.
4. After installing the Simba Oracle ODBC Driver, you must install the library files for the Oracle Instant Client. For instructions, see Installing the Oracle Instant Client on Linux on page 20.

Next, configure the environment variables on your machine to make sure that the ODBC driver manager can work with the driver. For more information, see Configuring the ODBC Driver Manager on Non-Windows Machines on page 22.

Installing the Driver Using the Tarball Package

The Simba Oracle ODBC Driver is available as a tarball package named SimbaOracleODBC-[Version]-[Release]-Linux.tar.gz, where [Version] is the version number of the driver and [Release] is the release number for this version of the driver. The package contains both the 32-bit and 64-bit versions of the driver.

On 64-bit editions of Linux, you can execute both 32- and 64-bit applications. However, 64-bit applications must use 64-bit drivers, and 32-bit applications must use 32-bit drivers. Make sure that you use the version of the driver that matches the bitness of the client application. You can install both versions of the driver on the same machine.
To install the Simba Oracle ODBC Driver using the tarball package:

1. Log in as the root user, and then navigate to the folder containing the tarball package.
2. Run the following command to extract the package and install the driver:

   ```
   tar --directory=/opt -zxvf [TarballName]
   ```

   Where `[TarballName]` is the name of the tarball package containing the driver.

   The Simba Oracle ODBC Driver files are installed in the `opt/simba/oracleodbc` directory.

3. If you received a license file through email, then copy the license file into the `opt/simba/oracleodbc/lib/32` or `opt/simba/oracleodbc/lib/64` folder, depending on the version of the driver that you installed. You must have root privileges when changing the contents of this folder.

4. After installing the Simba Oracle ODBC Driver, you must install the library files for the Oracle Instant Client. For instructions, see Installing the Oracle Instant Client on Linux on page 20.

Next, configure the environment variables on your machine to make sure that the ODBC driver manager can work with the driver. For more information, see Configuring the ODBC Driver Manager on Non-Windows Machines on page 22.

**Installing the Oracle Instant Client on Linux**

After installing the Simba Oracle ODBC Driver, you need to install the library files for the Oracle Instant Client.

To install the Oracle Instant Client on Linux:

2. Download the version of the Oracle Instant Client that matches the bitness of your platform and the version of Oracle that you are connecting to.
3. Extract the archive that you downloaded to a temporary location.
4. Copy the files from the temporary location to the `/lib` subfolder of the installation folder that you selected when installing the driver.

**Verifying the Driver Version Number on Linux**

If you need to verify the version of the Simba Oracle ODBC Driver that is installed on your Linux machine, you can query the version number through the command-line...
interface if the driver was installed using an RPM file.

To verify the driver version number on Linux:

> Depending on your package manager, at the command prompt, run one of the following commands:

- `yum list | grep SimbaOracleODBC`
- `rpm -qa | grep SimbaOracleODBC`

The command returns information about the Simba Oracle ODBC Driver that is installed on your machine, including the version number.
Configuring the ODBC Driver Manager on Non-Windows Machines

To make sure that the ODBC driver manager on your machine is configured to work with the Simba Oracle ODBC Driver, do the following:

- Set the library path environment variable to make sure that your machine uses the correct ODBC driver manager. For more information, see Specifying ODBC Driver Managers on Non-Windows Machines on page 22.
- If the driver configuration files are not stored in the default locations expected by the ODBC driver manager, then set environment variables to make sure that the driver manager locates and uses those files. For more information, see Specifying the Locations of the Driver Configuration Files on page 23.

After configuring the ODBC driver manager, you can configure a connection and access your data store through the driver. For more information, see Configuring ODBC Connections on a Non-Windows Machine on page 25.

Specifying ODBC Driver Managers on Non-Windows Machines

You need to make sure that your machine uses the correct ODBC driver manager to load the driver. To do this, set the library path environment variable.

macOS

If you are using a macOS machine, then set the DYLD_LIBRARY_PATH environment variable to include the paths to the ODBC driver manager libraries. For example, if the libraries are installed in /usr/local/lib, then run the following command to set DYLD_LIBRARY_PATH for the current user session:

```
export DYLD_LIBRARY_PATH=$DYLD_LIBRARY_PATH:/usr/local/lib
```

For information about setting an environment variable permanently, refer to the macOS shell documentation.

Linux

If you are using a Linux machine, then set the LD_LIBRARY_PATH environment variable to include the paths to the ODBC driver manager libraries. For example, if the libraries are installed in /usr/local/lib, then run the following command to set LD_LIBRARY_PATH for the current user session:
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/usr/local/lib

For information about setting an environment variable permanently, refer to the Linux shell documentation.

**Specifying the Locations of the Driver Configuration Files**

By default, ODBC driver managers are configured to use hidden versions of the odbc.ini and odbcinst.ini configuration files (named .odbc.ini and .odbcinst.ini) located in the home directory, as well as the simba.oracleodbc.ini file in the lib subfolder of the driver installation directory. If you store these configuration files elsewhere, then you must set the environment variables described below so that the driver manager can locate the files.

If you are using iODBC, do the following:

- Set ODBCINI to the full path and file name of the odbc.ini file.
- Set ODBCINSTINI to the full path and file name of the odbcinst.ini file.
- Set SIMBAINI to the full path and file name of the simba.oracleodbc.ini file.

If you are using unixODBC, do the following:

- Set ODBCINI to the full path and file name of the odbc.ini file.
- Set ODBC_SYSINI to the full path of the directory that contains the odbcinst.ini file.
- Set SIMBAINI to the full path and file name of the simba.oracleodbc.ini file.

For example, if your odbc.ini and odbcinst.ini files are located in /usr/local/odbc and your simba.oracleodbc.ini file is located in /etc, then set the environment variables as follows:

For iODBC:

```bash
export ODBCINI=/usr/local/odbc/odbc.ini
export ODBCINSTINI=/usr/local/odbc/odbcinst.ini
export SIMBAINI=/etc/simba.oracleodbc.ini
```

For unixODBC:

```bash
export ODBCINI=/usr/local/odbc/odbc.ini
export ODBC_SYSINI=/usr/local/odbc
```
To locate the `simba.oracleodbc.ini` file, the driver uses the following search order:

1. If the `SIMBAINI` environment variable is defined, then the driver searches for the file specified by the environment variable.
2. The driver searches the directory that contains the driver library files for a file named `simba.oracleodbc.ini`.
3. The driver searches the current working directory of the application for a file named `simba.oracleodbc.ini`.
4. The driver searches the home directory for a hidden file named `.simba.oracleodbc.ini` (prefixed with a period).
5. The driver searches the `/etc` directory for a file named `simba.oracleodbc.ini`.

```bash
eexport SIMBAINI=/etc/simba.oracleodbc.ini
```
Configuring ODBC Connections on a Non-Windows Machine

The following sections describe how to configure ODBC connections when using the Simba Oracle ODBC Driver on non-Windows platforms:

- Creating a Data Source Name on a Non-Windows Machine on page 25
- Configuring a DSN-less Connection on a Non-Windows Machine on page 28
- Configuring SSL Verification on a Non-Windows Machine on page 30
- Configuring Logging Options on a Non-Windows Machine on page 30
- Testing the Connection on a Non-Windows Machine on page 32

Creating a Data Source Name on a Non-Windows Machine

When connecting to your data store using a DSN, you only need to configure the odbc.ini file. Set the properties in the odbc.ini file to create a DSN that specifies the connection information for your data store. For information about configuring a DSN-less connection instead, see Configuring a DSN-less Connection on a Non-Windows Machine on page 28.

If your machine is already configured to use an existing odbc.ini file, then update that file by adding the settings described below. Otherwise, copy the odbc.ini file from the Setup subfolder in the driver installation directory to the home directory, and then update the file as described below.

To create a Data Source Name on a non-Windows machine:

1. In a text editor, open the odbc.ini configuration file.

   📘 Note:
   If you are using a hidden copy of the odbc.ini file, you can remove the period (.) from the start of the file name to make the file visible while you are editing it.

2. In the [ODBC Data Sources] section, add a new entry by typing a name for the DSN, an equal sign (=), and then the name of the driver.

   For example, on a macOS machine:

   ```
   [ODBC Data Sources]
   ```
Sample DSN=Simba Oracle ODBC Driver

As another example, for a 32-bit driver on a Linux machine:

[ODBC Data Sources]
Sample DSN=Simba Oracle ODBC Driver 32-bit

3. Create a section that has the same name as your DSN, and then specify configuration options as key-value pairs in the section:

   a. Set the Driver property to the full path of the driver library file that matches the bitness of the application.

      For example, on a macOS machine:

      ```
      Driver=/Library/simba/oracleodbc/lib/liboracleodbc_sbu.dylib
      ```

      As another example, for a 32-bit driver on a Linux machine:

      ```
      Driver=/opt/simba/oracleodbc/lib/32/liboracleodbc_sb32.so
      ```

   b. Depending on whether you are connecting using SSL, do one of the following to specify the necessary connection information:

      - To connect using SSL, set the TNS property to the TNS name as defined by your tnsnames.ora file. For more information, see Configuring SSL Verification on a Non-Windows Machine on page 30.

      - Or, to connect without using SSL, set the Host property to the IP address or host name of the server, then set the Port property to the number of the TCP port that the server uses to listen for client connections, and then set the SVC property to the service name of the database that you want to access.

      For example:

      ```
      Host=192.168.222.160
      Port=1521
      SVC=ORCL
      ```

   c. To configure authentication, set the UID property to an appropriate user name for accessing the Oracle server, and then set the PWD property to the password corresponding to the user name you provided.

      For example:
d. If you want to connect to the server through SSL, set the **TNS** connection property to the TNS name defined in the **tnsnames.ora** file on your Oracle server. For more information, see Configuring SSL Verification on a Non-Windows Machine on page 30.

e. Optionally, set additional key-value pairs as needed to specify other optional connection settings. For detailed information about all the configuration options supported by the Simba Oracle ODBC Driver, see Driver Configuration Options on page 40.

4. Save the **odbc.ini** configuration file.

Note:

If you are storing this file in its default location in the home directory, then prefix the file name with a period (.) so that the file becomes hidden. If you are storing this file in another location, then save it as a non-hidden file (without the prefix), and make sure that the **ODBCINI** environment variable specifies the location. For more information, see Specifying the Locations of the Driver Configuration Files on page 23.

For example, the following is an **odbc.ini** configuration file for macOS containing a DSN that connects to Oracle:

```
[ODBC Data Sources]
Sample DSN=Simba Oracle ODBC Driver
[Sample DSN]
Driver=/Library/simba/oracleodbc/lib/liboracleodbc_sbu.dylib
Host=192.168.222.160
Port=1521
SVC=ORCL
UID=jsmith
PWD=simba123
```

As another example, the following is an **odbc.ini** configuration file for a 32-bit driver on a Linux machine, containing a DSN that connects to Oracle:

```
[ODBC Data Sources]
Sample DSN=Simba Oracle ODBC Driver 32-bit
[Sample DSN]
Driver=/opt/simba/oracleodbc/lib/32/liboracleodbc_sb32.so
Host=192.168.222.160
Port=1521
```
You can now use the DSN in an application to connect to the data store.

**Configuring a DSN-less Connection on a Non-Windows Machine**

To connect to your data store through a DSN-less connection, you need to define the driver in the odbcinst.ini file and then provide a DSN-less connection string in your application.

If your machine is already configured to use an existing odbcinst.ini file, then update that file by adding the settings described below. Otherwise, copy the odbcinst.ini file from the Setup subfolder in the driver installation directory to the home directory, and then update the file as described below.

**To define a driver on a non-Windows machine:**

1. In a text editor, open the odbcinst.ini configuration file.

   ![Note:](#)  
   If you are using a hidden copy of the odbcinst.ini file, you can remove the period (.) from the start of the file name to make the file visible while you are editing it.

2. In the [ODBC Drivers] section, add a new entry by typing a name for the driver, an equal sign (=), and then Installed.

   For example:

   ```
   [ODBC Drivers]
   Simba Oracle ODBC Driver=Installed
   ```

3. Create a section that has the same name as the driver (as specified in the previous step), and then specify the following configuration options as key-value pairs in the section:

   a. Set the Driver property to the full path of the driver library file that matches the bitness of the application.

   For example, on a macOS machine:

   ```
   Driver=/Library/simba/oracleodbc/lib/liboracleodbc_
   ```
As another example, for a 32-bit driver on a Linux machine:

Driver=/opt/simba/oracleodbc/lib/32/liboracleodbc_sb32.so

b. Optionally, set the Description property to a description of the driver.

For example:

Description=Simba Oracle ODBC Driver

4. Save the odbcinst.ini configuration file.

Note:

If you are storing this file in its default location in the home directory, then prefix the file name with a period (.) so that the file becomes hidden. If you are storing this file in another location, then save it as a non-hidden file (without the prefix), and make sure that the ODBCINSTINI or ODBC_SYSINI environment variable specifies the location. For more information, see Specifying the Locations of the Driver Configuration Files on page 23.

For example, the following is an odbcinst.ini configuration file for macOS:

[ODBC Drivers]
Simba Oracle ODBC Driver=Installed
[Simba Oracle ODBC Driver]
Description=Simba Oracle ODBC Driver
Driver=/Library/simba/oracleodbc/lib/liboracleodbc_sbu.dylib

As another example, the following is an odbcinst.ini configuration file for both the 32- and 64-bit drivers on Linux:

[ODBC Drivers]
Simba Oracle ODBC Driver 32-bit=Installed
Simba Oracle ODBC Driver 64-bit=Installed
[Simba Oracle ODBC Driver 32-bit]
Description=Simba Oracle ODBC Driver (32-bit)
Driver=/opt/simba/oracleodbc/lib/32/liboracleodbc_sb32.so
[Simba Oracle ODBC Driver 64-bit]
Description=Simba Oracle ODBC Driver (64-bit)
Driver=/opt/simba/oracleodbc/lib/64/liboracleodbc_sb64.so
You can now connect to your data store by providing your application with a connection string where the `Driver` property is set to the driver name specified in the `odbcinst.ini` file, and all the other necessary connection properties are also set. For more information, see "DSN-less Connection String Examples" in Using a Connection String on page 35.

For instructions about configuring SSL connections, see Configuring SSL Verification on a Non-Windows Machine on page 30.

For detailed information about all the connection properties that the driver supports, see Driver Configuration Options on page 40.

### Configuring SSL Verification on a Non-Windows Machine

If you are connecting to an Oracle database that has Secure Sockets Layer (SSL) enabled, you can configure the driver to connect to an SSL-enabled socket. To do this, you need to provide the TNS name defined in the Oracle client configuration file named `tnsnames.ora`.

You can set driver configuration options in a connection string or in a DSN (in the `odbc.ini` file). Settings in the connection string take precedence over settings in the DSN.

**To configure SSL verification on a non-Windows machine:**

1. Configure SSL authentication on your Oracle database, and make sure that the `tnsnames.ora` file is configured as needed. For more information, see "Configuring Secure Sockets Layer Authentication" in the Oracle Database Security Guide: https://docs.oracle.com/database/121/DBSEG/asossl.htm#DBSEG070.
2. In your `odbc.ini` configuration file or connection string, set the `TNS` property to the TNS name as defined by your `tnsnames.ora` file.

**Note:**

If you define the `TNS` property, then you do not need to define the `Host`, `Port`, or `SVC` properties.

### Configuring Logging Options on a Non-Windows Machine

To help troubleshoot issues, you can enable logging in the driver.
Important:

Only enable logging long enough to capture an issue. Logging decreases performance and can consume a large quantity of disk space.

Logging is configured through driver-wide settings in the `simba.oracleodbc.ini` file, which apply to all connections that use the driver.

To enable logging on a non-Windows machine:

1. Open the `simba.oracleodbc.ini` configuration file in a text editor.
2. To specify the level of information to include in log files, set the `LogLevel` property to one of the following numbers:

<table>
<thead>
<tr>
<th>LogLevel Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Disables all logging.</td>
</tr>
<tr>
<td>1</td>
<td>Logs severe error events that lead the driver to abort.</td>
</tr>
<tr>
<td>2</td>
<td>Logs error events that might allow the driver to continue running.</td>
</tr>
<tr>
<td>3</td>
<td>Logs events that might result in an error if action is not taken.</td>
</tr>
<tr>
<td>4</td>
<td>Logs general information that describes the progress of the driver.</td>
</tr>
<tr>
<td>5</td>
<td>Logs detailed information that is useful for debugging the driver.</td>
</tr>
<tr>
<td>6</td>
<td>Logs all driver activity.</td>
</tr>
</tbody>
</table>

3. Set the `LogPath` key to the full path to the folder where you want to save log files.
4. Set the `LogFileCount` key to the maximum number of log files to keep.

Note:

After the maximum number of log files is reached, each time an additional file is created, the driver deletes the oldest log file.
5. Set the LogFileSize key to the maximum size of each log file in megabytes (MB).

Note:
After the maximum file size is reached, the driver creates a new file and continues logging.

6. Optionally, to prefix the log file name with the user name and process ID associated with the connection, set the UseLogPrefix property to 1.

7. Save the simba.oracleodbc.ini configuration file.

8. Restart your ODBC application to make sure that the new settings take effect.

The Simba Oracle ODBC Driver produces a log file named oracle_driver.log at the location you specify using the LogPath key.

If you set the UseLogPrefix property to 1, then each file name is prefixed with [UserName]_[ProcessID], where [UserName] is the user name associated with the connection and [ProcessID] is the process ID of the application through which the connection is made.

To disable logging on a non-Windows machine:

1. Open the simba.oracleodbc.ini configuration file in a text editor.
2. Set the LogLevel key to 0.
3. Save the simba.oracleodbc.ini configuration file.
4. Restart your ODBC application to make sure that the new settings take effect.

Testing the Connection on a Non-Windows Machine

To test the connection, you can use an ODBC-enabled client application. For a basic connection test, you can also use the test utilities that are packaged with your driver manager installation. For example, the iODBC driver manager includes simple utilities called iodbctest and iodbctestw. Similarly, the unixODBC driver manager includes simple utilities called isql and iusql.

Using the iODBC Driver Manager

You can use the iodbctest and iodbctestw utilities to establish a test connection with your driver. Use iodbctest to test how your driver works with an ANSI application, or use iodbctestw to test how your driver works with a Unicode application.
Note:
There are 32-bit and 64-bit installations of the iODBC driver manager available. If you have only one or the other installed, then the appropriate version of iodbctest (or iodbctestw) is available. However, if you have both 32- and 64-bit versions installed, then you need to make sure that you are running the version from the correct installation directory.

For more information about using the iODBC driver manager, see http://www.iodbc.org.

To test your connection using the iODBC driver manager:

1. Run iodbctest or iodbctestw.
2. Optionally, if you do not remember the DSN, then type a question mark (?) to see a list of available DSNs.
3. Type the connection string for connecting to your data store, and then press ENTER. For more information, see Using a Connection String on page 35.

If the connection is successful, then the SQL> prompt appears.

Using the unixODBC Driver Manager

You can use the isql and iusql utilities to establish a test connection with your driver and your DSN. isql and iusql can only be used to test connections that use a DSN. Use isql to test how your driver works with an ANSI application, or use iusql to test how your driver works with a Unicode application.

Note:
There are 32-bit and 64-bit installations of the unixODBC driver manager available. If you have only one or the other installed, then the appropriate version of isql (or iusql) is available. However, if you have both 32- and 64-bit versions installed, then you need to make sure that you are running the version from the correct installation directory.

For more information about using the unixODBC driver manager, see http://www.unixodbc.org.

To test your connection using the unixODBC driver manager:

- Run isql or iusql by using the corresponding syntax:
  - isql [DataSourceName]
  - iusql [DataSourceName]

[DataSourceName] is the DSN that you are using for the connection.
If the connection is successful, then the SQL> prompt appears.

Note:
For information about the available options, run isql or iusql without providing a DSN.
Using a Connection String

For some applications, you might need to use a connection string to connect to your data source. For detailed information about how to use a connection string in an ODBC application, refer to the documentation for the application that you are using.

The connection strings in the following sections are examples showing the minimum set of connection attributes that you must specify to successfully connect to the data source. Depending on the configuration of the data source and the type of connection you are working with, you might need to specify additional connection attributes. For detailed information about all the attributes that you can use in the connection string, see Driver Configuration Options on page 40.

DSN Connection String Example

The following is an example of a connection string for a connection that uses a DSN:

```
DSN=[DataSourceName]
```

[DataSourceName] is the DSN that you are using for the connection.

You can set additional configuration options by appending key-value pairs to the connection string. Configuration options that are passed in using a connection string take precedence over configuration options that are set in the DSN.

DSN-less Connection String Examples

Some applications provide support for connecting to a data source using a driver without a DSN. To connect to a data source without using a DSN, use a connection string instead.

The placeholders in the examples are defined as follows, in alphabetical order:

- **[DBService]** is service name of the database that you want to access.
- **[PortNumber]** is the number of the TCP port that the Oracle server uses to listen for client connections.
- **[Server]** is the IP address or host name of the Oracle server to which you are connecting.
- **[TNSName]** is the TNS name as defined by your `tnsnames.ora` file, for connecting to Oracle using SSL. For more information, see Configuring SSL Verification on a Non-Windows Machine on page 30.
- [YourPassword] is the password corresponding to your user name.
- [YourUserName] is the user name that you use to access the Oracle server.

### Connecting to Oracle Without SSL

The following is the format of a DSN-less connection string for a basic connection to a Oracle server:

Driver=Simba Oracle ODBC Driver;Host=[Server];Port=[PortNumber];SVC=[DBService];UID=[YourUserName];PWD=[YourPassword];

For example:

Driver=Simba Oracle ODBC Driver;Host=192.168.222.160;Port=1521;SVC=ORCL;UID=jsmith;PWD=simba123;

### Connecting to Oracle Using SSL

The following is the format of a DSN-less connection string for connecting to a Oracle server over SSL:

Driver=Simba Oracle ODBC Driver;TNS=[TNSName];UID=[YourUserName];PWD=[YourPassword];

For example:

Driver=Simba Oracle ODBC Driver;TNS=ssl-tns;UID=jsmith;PWD=simba123;

**Note:**

If you define the TNS property, then you do not need to define the Host, Port, or SVC properties.
Features

The Simba Oracle ODBC Driver supports all features that the Oracle Instant Client driver (11gR2) supports, along with these additional data types:

- Decimal
- Interval Day to Second
- Interval Year to Month
- Timestamp with Local Time
- Timestamp with Time Zone


Data Types

The Simba Oracle ODBC Driver supports many common data formats, converting between Oracle data types and SQL data types.

The table below lists the supported data type mappings.

<table>
<thead>
<tr>
<th>Oracle Type</th>
<th>SQL Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFILE</td>
<td>SQL_LONGVARBINARY</td>
</tr>
<tr>
<td>BINARY_DOUBLE</td>
<td>SQL_DOUBLE</td>
</tr>
<tr>
<td>BINARY_FLOAT</td>
<td>SQL_REAL</td>
</tr>
<tr>
<td>BLOB</td>
<td>SQL_LONGVARBINARY</td>
</tr>
<tr>
<td>CHAR</td>
<td>SQL_CHAR</td>
</tr>
<tr>
<td>CLOB</td>
<td>SQL_LONGVARCHAR</td>
</tr>
<tr>
<td>DATE</td>
<td>SQL_TYPE_TIMESTAMP</td>
</tr>
<tr>
<td>DECIMAL</td>
<td>SQL_DECIMAL</td>
</tr>
<tr>
<td>DOUBLE PRECISION</td>
<td>SQL_DOUBLE</td>
</tr>
<tr>
<td>Oracle Type</td>
<td>SQL Type</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>FLOAT</td>
<td>SQL_FLOAT</td>
</tr>
<tr>
<td>INTEGER</td>
<td>SQL_DECIMAL</td>
</tr>
<tr>
<td>INTERVAL DAY TO SECOND</td>
<td>SQL_INTERVAL_DAY_TO_SECOND</td>
</tr>
<tr>
<td>INTERVAL YEAR TO MONTH</td>
<td>SQL_INTERVAL_YEAR_TO_MONTH</td>
</tr>
<tr>
<td>NCHAR</td>
<td>SQL_WCHAR</td>
</tr>
<tr>
<td>NCLOB</td>
<td>SQL_WLONGVARCHAR</td>
</tr>
<tr>
<td>NUMBER</td>
<td>SQL_DECIMAL</td>
</tr>
<tr>
<td>NUMBER([1-38])</td>
<td>SQL_DECIMAL</td>
</tr>
<tr>
<td>NUMBER([1-38], [0-38])</td>
<td>SQL_DECIMAL</td>
</tr>
<tr>
<td>NVARCHAR2</td>
<td>SQL_WVARCHAR</td>
</tr>
<tr>
<td>RAW</td>
<td>SQL_VARBINARY</td>
</tr>
<tr>
<td>REAL</td>
<td>SQL_DOUBLE</td>
</tr>
<tr>
<td>ROWID</td>
<td>SQL_WCHAR</td>
</tr>
<tr>
<td>TIMESTAMP</td>
<td>SQL_TYPE_TIMESTAMP</td>
</tr>
<tr>
<td>TIMESTAMP WITH LOCAL TIMEZONE</td>
<td>SQL_TYPE_TIMESTAMP</td>
</tr>
<tr>
<td>TIMESTAMP WITH TIME ZONE</td>
<td>SQL_TYPE_TIMESTAMP</td>
</tr>
<tr>
<td>UROWID</td>
<td>SQL_WCHAR</td>
</tr>
<tr>
<td>VARCHAR</td>
<td>SQL_VARCHAR</td>
</tr>
<tr>
<td>VARCHAR2</td>
<td>SQL_VARCHAR</td>
</tr>
</tbody>
</table>
Security and Authentication

To protect data from unauthorized access, Oracle data stores require connections to be authenticated with user credentials and sometimes the SSL protocol. The Simba Oracle ODBC Driver provides full support for these authentication protocols.

**Note:**

In this documentation, "SSL" refers to both TLS (Transport Layer Security) and SSL (Secure Sockets Layer).

The driver provides a mechanism that enables you to authenticate your connection using your Oracle user name and password. For detailed configuration instructions, see Creating a Data Source Name on Windows on page 9 or Creating a Data Source Name on a Non-Windows Machine on page 25.

Additionally, if you specify a TNS service name in your connection information, then the driver can establish an SSL connection based on the configuration information associated with that TNS service name. The Simba Oracle ODBC Driver supports the same SSL versions as Oracle Call Interface (OCI) 12.1, and uses the highest SSL version that is supported by both the driver and the server. For information about SSL support in OCI 12.1, see "SSL Cipher Suite Authentication, Encryption, Integrity, and TLS Versions" in the Oracle Database Security Guide:


**Note:**

If you try to establish an SSL connection to a server that is using an earlier version of OCI, the connection might fail due to differences in the supported SSL features.

It is recommended that you use SSL whenever you connect to a server that is configured to support it. SSL encryption protects data and credentials when they are transferred over the network, and provides stronger security than authentication alone. For detailed configuration instructions, see Configuring SSL Verification on a Windows Machine on page 11 or Configuring SSL Verification on a Non-Windows Machine on page 30.
Driver Configuration Options

Driver Configuration Options lists the configuration options available in the Simba Oracle ODBC Driver alphabetically by field or button label. Options having only key names, that is, not appearing in the user interface of the driver, are listed alphabetically by key name.

When creating or configuring a connection from a Windows machine, the fields and buttons described below are available in the following dialog boxes:

- Simba Oracle ODBC Driver DSN Setup
- Logging Options

When using a connection string or configuring a connection from a Linux or macOS machine, use the key names provided below.

Configuration Options Appearing in the User Interface

The following configuration options are accessible via the Windows user interface for the Simba Oracle ODBC Driver, or via the key name when using a connection string or configuring a connection from a Linux or macOS machine:

- Host on page 41
- Log Level on page 41
- Log Path on page 42
- Max File Size on page 42
- Max Number Files on page 43
- Password on page 43
- Port on page 44
- Service Name on page 44
- TNS Name on page 44
- User on page 44

Enable Table Types

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>EnableTableTypes</td>
<td>Clear (0)</td>
<td>No</td>
</tr>
</tbody>
</table>

Description

This option specifies whether the driver recognizes table type information from the data source. By default, the driver only recognizes a single, generic table type.
• Clear (0): All tables returned from the data source have the generic type TABLE.
• Selected (1): The driver recognizes the following table types: TABLE, SYSTEM TABLE, and GLOBAL TEMPORARY.

Host

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>None</td>
<td>Yes, unless connecting by SSL.</td>
</tr>
</tbody>
</table>

Description

The IP address or host name of the Oracle server.

Log Level

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>LogLevel</td>
<td>OFF (0)</td>
<td>No</td>
</tr>
</tbody>
</table>

Description

Use this property to enable or disable logging in the driver and to specify the amount of detail included in log files.

❗ Important:

- Only enable logging long enough to capture an issue. Logging decreases performance and can consume a large quantity of disk space.
- This option is not supported in connection strings. To configure logging for the Windows driver, you must use the Logging Options dialog box. To configure logging for a non-Windows driver, you must use the simba.oracleodbc.ini file.

Set the property to one of the following values:

- OFF (0): Disable all logging.
- FATAL (1): Logs severe error events that lead the driver to abort.
- ERROR (2): Logs error events that might allow the driver to continue running.
- WARNING (3): Logs events that might result in an error if action is not taken.
- INFO (4): Logs general information that describes the progress of the driver.
- DEBUG (5): Logs detailed information that is useful for debugging the driver.
- TRACE (6): Logs all driver activity.

When logging is enabled, the driver produces a log file named `oracle_driver.log` in the location specified in the Log Path (LogPath) property.

If you enable the UseLogPrefix connection property, the driver prefixes the log file name with the user name associated with the connection and the process ID of the application through which the connection is made. For more information, see UseLogPrefix on page 47.

**Log Path**

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>LogPath</td>
<td>None</td>
<td>Yes, if logging is enabled.</td>
</tr>
</tbody>
</table>

**Description**

The full path to the folder where the driver saves log files when logging is enabled.

⚠️ Important:

This option is not supported in connection strings. To configure logging for the Windows driver, you must use the Logging Options dialog box. To configure logging for a non-Windows driver, you must use the `simba.oracleodbc.ini` file.

**Max File Size**

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>LogFileSize</td>
<td>20</td>
<td>No</td>
</tr>
</tbody>
</table>

**Description**

The maximum size of each log file in megabytes (MB). After the maximum file size is reached, the driver creates a new file and continues logging.
Max Number Files

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>LogFileCount</td>
<td>50</td>
<td>No</td>
</tr>
</tbody>
</table>

Description

The maximum number of log files to keep. After the maximum number of log files is reached, each time an additional file is created, the driver deletes the oldest log file.

Password

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWD</td>
<td>None</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Description

The password corresponding to the user name that you provided in the User field (the UID key).
Port

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>None</td>
<td>Yes, unless connecting through SSL.</td>
</tr>
</tbody>
</table>

**Description**

The TCP port that the Oracle server uses to listen for client connections.

Service Name

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVC</td>
<td>None</td>
<td>Yes, unless connecting through SSL.</td>
</tr>
</tbody>
</table>

**Description**

The service name of the database.

TNS Name

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>TNS</td>
<td>None</td>
<td>Yes, if connecting through SSL.</td>
</tr>
</tbody>
</table>

**Description**

The TNS name as defined by your `tnsnames.ora` file. For more information, see Configuring SSL Verification on a Non-Windows Machine on page 30.

User

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>UID</td>
<td>None</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Description

The user name that you use to access the Oracle server.

Configuration Options Having Only Key Names

The following configuration options do not appear in the Windows user interface for the Simba Oracle ODBC Driver. They are accessible only when you use a connection string or configure a connection on macOS or Linux.

- **Driver** on page 45
- **DriverLocale** on page 45
- **Enable Table Types** on page 40
- **Locale** on page 46
- **MEMLIM** on page 46
- **UseLogPrefix** on page 47

### Driver

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver</td>
<td>Simba Oracle ODBC Driver when installed on Windows, or the absolute path of the driver shared object file when installed on a non-Windows machine.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Description

On Windows, the name of the installed driver (*Simba Oracle ODBC Driver*).

On other platforms, the name of the installed driver as specified in *odbcinst.ini*, or the absolute path of the driver shared object file.

### DriverLocale

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>DriverLocale</td>
<td>en-US</td>
<td>No</td>
</tr>
</tbody>
</table>
Description

The locale to use for error messages.

This is a driver-wide setting, and cannot be specified in a connection string.

If both **Locale** and **DriverLocale** are specified, **Locale** takes precedence.

**Locale**

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locale</td>
<td>en-US</td>
<td>No</td>
</tr>
</tbody>
</table>

Description

The locale to use for error messages.

If both **Locale** and **DriverLocale** are specified, **Locale** takes precedence.

**MEMLIM**

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEMLIM</td>
<td>104857600 (100MB)</td>
<td>No</td>
</tr>
</tbody>
</table>

Description

The size of the buffer that the driver uses for data retrieval, in bytes.

This property determines the maximum number of rows that the driver can retrieve each time during array fetches. The maximum number of rows is calculated using the **MEMLIM** value and the maximum size of one row. The default setting of 100MB is equal to 5333 rows.
Note:

To confirm the number of rows that the driver retrieves at a time based on your MEMLIM setting, enable driver logging on the DEBUG level and then run a query. The log file includes information about the number of rows per fetch relative to the MEMLIM setting.

For information about configuring logging when using the Windows driver, see Configuring Logging Options on Windows on page 12. For information about configuring logging when using a non-Windows driver, see Configuring Logging Options on a Non-Windows Machine on page 30.

UseLogPrefix

<table>
<thead>
<tr>
<th>Key Name</th>
<th>Default Value</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>UseLogPrefix</td>
<td>0</td>
<td>No</td>
</tr>
</tbody>
</table>

Description

This option specifies whether the driver includes a prefix in the names of log files so that the files can be distinguished by user and application.

- 1: The driver prefixes log file names with the user name and process ID associated with the connection that is being logged. For example, if you are connecting as a user named "jdoe" and using the driver in an application with process ID 7836, the generated log file would be named jdoe_7836_oracle_driver.log.
- 0: The driver does not include the prefix in log file names.
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