Architecting the Future of Big Data

Hortonworks Phoenix ODBC Driver

User Guide

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Introduction

Apache Phoenix is a relational database layer that is built on top of Apache HBase. Phoenix takes your SQL query, compiles it into a series of HBase scans, and executes those scans to produce result sets. The Hortonworks Phoenix ODBC Driver allows for a standard interface with a Phoenix data store.

The driver complies with the ODBC 3.80 data standard, including important functionality such as Unicode and 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 http://www.simba.com/resources/data-access-standards-library. For complete information about the ODBC specification, see the *ODBC API Reference* at http://msdn.microsoft.com/en-us/library/windows/desktop/ms714562(v=vs.85).aspx.

The *User Guide* is suitable for users who are looking to access data residing within Phoenix from their desktop environment. Application developers may also find the information helpful. Refer to your application for details on connecting via ODBC.

Note:

For information about installing, configuring, and running Phoenix Server, see the Apache Phoenix Server documentation located at http://phoenix.apache.org/.

Contact Us

If you have difficulty using the Hortonworks Phoenix ODBC Driver, please contact our support staff. We welcome your questions, comments, and feature requests.

Please have a detailed summary of the client and server environment (OS version, patch level, Hadoop distribution version, Phoenix version, configuration, etc.) ready, before you call or write us. Supplying this information accelerates support.

By telephone:

USA: (855) 8-HORTON

International: (408) 916-4121

On the Internet:

Visit us at www.hortonworks.com

Windows Driver

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 matching the bitness of the client application accessing data in Phoenix:

- `HortonworksPhoenixODBC32.msi` for 32-bit applications
- `HortonworksPhoenixODBC64.msi` for 64-bit applications

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

You install the Hortonworks Phoenix ODBC Driver on client machines that access data stored in a Phoenix data warehouse. Each machine that you install the driver on must meet the following minimum system requirements:

- One of the following operating systems:
    - Windows 7 SP1, 8, 8.1, or 10
    - Windows Server 2008 R2 SP1, 2012, or 2012 R2
- 75 MB of available disk space

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

To install the Hortonworks Phoenix ODBC Driver:
1. Depending on the bitness of your client application, double-click to run **HortonworksPhoenixODBC32.msi** or **HortonworksPhoenixODBC64.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**.

Creating a Data Source Name

Typically, after installing the Hortonworks Phoenix 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 30.

To create a Data Source Name:

1. Open the ODBC Administrator:

   - If you are using Windows 7 or earlier, click the **Start** button , then click **All Programs**, then click the **Hortonworks Phoenix ODBC Driver 1.0** program group corresponding to the bitness of the client application accessing data in Phoenix, and then click **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 corresponding to the bitness of the client application accessing data in Phoenix.

2. In the ODBC Data Source Administrator, click the **Drivers** tab, and then scroll down as needed to confirm that the Hortonworks Phoenix 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, such as Sisense, 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 **Hortonworks Phoenix ODBC Driver** and then click **Finish**. The Hortonworks Phoenix 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. In the **Server** field, type the IP address or host name of the Phoenix server.

9. In the **Port** field, type the number of the TCP port that the Phoenix server uses to listen for client connections.

10. In the Authentication area, configure authentication as needed. For more information, see "Configuring Authentication" on page 8.

11. To configure client-server verification over SSL, click **SSL Options**. For more information, see "Configuring SSL Verification" on page 10.

12. To configure advanced driver options, click **Advanced Options**. For more information, see "Configuring Advanced Options" on page 10.

13. To configure logging behavior for the driver, click **Logging Options**. For more information, see "Configuring Logging Options" on page 11.

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

Note:

If the connection fails, then confirm that the settings in the Hortonworks Phoenix ODBC Driver DSN Setup dialog box are correct. Contact your Phoenix server administrator as needed.

15. To save your settings and close the Hortonworks Phoenix ODBC Driver DSN Setup dialog box, click **OK**.

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

Configuring Authentication

Some Phoenix servers are configured to require authentication for access. To connect to a Phoenix server, you must configure the Hortonworks Phoenix ODBC Driver to use the authentication mechanism that matches the access requirements of the server and provides the necessary credentials.

Using No Authentication

For this authentication mechanism, you do not need to configure any additional settings.

To configure a connection without authentication:

1. In the **Mechanism** drop-down list, select **No Authentication**.

2. If the Phoenix server is configured to use SSL, then click **SSL Options** to configure SSL for the connection. For more information, see "Configuring SSL Verification" on page 10.

3. To save your settings and close the dialog box, click **OK**.

Using User Name And Password

This authentication mechanism requires a user name and a password.

To configure User Name And Password authentication:

1. To access authentication options, open the ODBC Data Source Administrator where you created the DSN, then select the DSN, and then click **Configure**.

2. In the **Mechanism** drop-down list, select **User Name And Password**.

3. In the **User Name** field, type an appropriate user name for accessing the Phoenix server.

4. In the **Password** field, type the password corresponding to the user name you typed above.

5. To save the password, select the **Save Password (Encrypted)** check box.

   Important:

The password is obscured, that is, not saved in plain text. However, it is still possible for the encrypted password to be copied and used.

6. To save your settings and close the dialog box, click **OK**.

Using Kerberos

Kerberos must be installed and configured before you can use this authentication mechanism. For more information, see "Using Active Directory Kerberos on Windows" on page 9.

To configure Kerberos authentication:

1. To access authentication options, open the ODBC Data Source Administrator where you created the DSN, then select the DSN, and then click **Configure**.

2. In the **Mechanism** drop-down list, select **Kerberos**.

3. If the Phoenix server is configured to use SSL, then click **SSL Options** to configure SSL for the connection. For more information, see "Configuring SSL Verification" on page 10.

4. To save your settings and close the dialog box, click **OK**.

Using Active Directory Kerberos on Windows

The Hortonworks Phoenix ODBC Driver supports Active Directory Kerberos on Windows. There are two prerequisites for using Active Directory Kerberos on Windows:

- MIT Kerberos is not installed on the client Windows machine.

- The MIT Kerberos Hadoop realm has been configured to trust the Active Directory realm so that users in the Active Directory realm can access services in the MIT Kerberos Hadoop realm. For more information, see "Setting up One-Way Trust with Active Directory" in the Hortonworks documentation: http://docs.hortonworks.com/HDPDocuments/HDP2/HDP-2.1.7/bk_installing_ manually_book/content/ch23s05.html.

Using Windows Azure HDInsight Service

This authentication mechanism is available only for Phoenix on HDInsight distributions.

To configure a connection to a Phoenix server on Windows Azure HDInsight Service:

1. To access authentication options, open the ODBC Data Source Administrator where you created the DSN, then select the DSN, and then click **Configure**.

2. In the **Mechanism** drop-down list, select **Windows Azure HDInsight Service**.

3. In the **User Name** field, type an appropriate user name for accessing the Phoenix server.

4. In the **Password** field, type the password corresponding to the user name you typed abpve.

5. In the **HTTP Path** field, type the partial URL corresponding to the Phoenix server.

6. Click **SSL Options** and configure SSL settings as needed. For more information, see "Configuring SSL Verification" on page 10.

7. Click **OK** to save your SSL configuration and close the dialog box, and then click **OK** to save your authentication settings and close the dialog box.

Configuring SSL Verification

If you are connecting to a Phoenix server that has Secure Sockets Layer (SSL) enabled, you can configure the driver to connect to an SSL-enabled socket.

You can configure verification between the client and the Phoenix server over SSL.

To configure SSL verification:

1. To access SSL options, open the ODBC Data Source Administrator where you cre-ated the DSN, then select the DSN, then click **Configure**, and then click **SSL Options**.

2. Select the **Enable SSL** check box.

3. To allow self-signed certificates from the server, select the **Allow Self-signed Server Certificate** check box.

4. To allow the common name of a CA-issued SSL certificate to not match the host name of the Phoenix server, select the **Allow Common Name Host Name Mismatch** check box.

5. Choose one:

- To configure the driver to load SSL certificates from a specific PEM file when verifying the server, specify the full path to the file in the **Trusted Certificates** field.

- Or, to use the trusted CA certificates PEM file that is installed with the driver, leave the **Trusted Certificates** field empty.

6. To save your settings and close the SSL Options dialog box, click **OK**.

Configuring Advanced Options

You can configure advanced options to modify the behavior of the driver.

To configure advanced options:

1. To access advanced options, open the ODBC Data Source Administrator where you created the DSN, then select the DSN, then click **Configure**, and then click **Advanced Options**.

2. To retrieve data using double-buffering instead of single-buffering, select the **Enable Double-Buffering** check box. You can configure the size of the buffer using the **Rows Fetched Per Block** setting.

3. In the **Rows Fetched Per Block** field, type the number of database rows to be fetched per block.

4. Choose one:

   - To return SQL_WVARCHAR for VARCHAR columns, and SQL_WCHAR for CHAR columns, select the **Unicode SQL character types** check box.

   - Or, to return SQL_VARCHAR for VARCHAR columns and SQL_CHAR for CHAR columns, clear the **Unicode SQL character types** check box.

5. In the **Connection Sync Interval** field, type the length, in seconds, for the interval between connection kee-alive requests.

6. In the **Binary/Character Length** field, type the default buffer size for Character or Binary parameters.

7. In the **Decimal Precision** field, type the default total number of digits for para-meterized decimal values.

8. In the **Decimal Scale** field, type the default number of digits behind the decimal point for parameterized decimal values.

9. To save your settings and close the Advanced Options dialog box, click **OK**.

Configuring Logging Options

To help troubleshoot issues, you can enable logging. In addition to functionality provided in the Hortonworks Phoenix 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 driver allows you to set the amount of detail included in log files. The following table lists the logging levels provided by the Hortonworks Phoenix ODBC Driver, in order from least verbose to most verbose.

Logging Level	Description
OFF	Disables all logging.
FATAL	Logs severe error events that lead the driver to abort.
ERROR	Logs error events that might allow the driver to continue running.

Logging Level	Description
WARNING	Logs potentially harmful situations.
INFO	Logs general information that describes the progress of the driver.
DEBUG	Logs detailed information that is useful for debugging the driver.
TRACE	Logs all driver activity.

To enable driver logging:

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 desired level of information to include in log files.

3. In the **Log Path** field, specify the full path to the folder where you want to save log files.

4. 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.

5. 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.

6. Click **OK**.

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

The Hortonworks Phoenix ODBC Driver produces a log file named `phoenix_driver.log` at the location that you specify in the Log Path field.

To disable driver logging:

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**.

To start tracing using the ODBC Data Source Administrator:

1. In the ODBC Data Source Administrator, click the **Tracing** tab.

2. In the **Log File Path** area, click **Browse**. In the Select ODBC Log File dialog box, browse to the location where you want to save the log file, then type a descriptive file name in the **File Name** field, and then click **Save**.

3. On the Tracing tab, click **Start Tracing Now**.

To stop ODBC Data Source Administrator tracing:

➢ On the Tracing tab in the ODBC Data Source Administrator, click **Stop Tracing Now**.

For more information about tracing using the ODBC Data Source Administrator, see "How to Generate an ODBC Trace with ODBC Data Source Administrator" on the Microsoft Support website: http://support.microsoft.com/kb/274551.

Exporting a Data Source Name

After you configure a DSN, you can export it to be used on other machines. When you export a DSN, all of its configuration settings are saved in a `.sdc` file. You can then distribute the `.sdc` file to other users so that they can import your DSN configuration and use it on their machines.

To export a Data Source Name:

1. Open the ODBC Data Source Administrator where you created the DSN, select the DSN, click **Configure**, and then click **Logging Options**.

2. Click **Export Configuration**, specify a name and location for the exported DSN, and then click **Save**.

Your DSN is saved as a `.sdc` file in the location that you specified.

Importing a Data Source Name

You can import a DSN configuration from a `.sdc` file and then use those settings to connect to your data store.

To import a Data Source Name:

1. Open the ODBC Data Source Administrator where you created the DSN, select the DSN, click **Configure**, and then click **Logging Options**.

2. Click **Import Configuration**, browse to select the `.sdc` file that you want to import the DSN configuration from, and then click **Open**.

3. Click **OK** to close the Logging Options dialog box.

The DSN Setup dialog box loads the configuration settings from the selected `.sdc` file. You can now save this DSN and use it to connect to your data store.

Verifying the Version Number

If you need to verify the version of the Hortonworks Phoenix ODBC Driver that is installed on your Windows machine, you can find the version number in the ODBC Data Source Administrator.

To verify the version number:

1. Open the ODBC Administrator:

   - If you are using Windows 7 or earlier, click **Start** , then click **All Programs**, then click the **Hortonworks Phoenix ODBC Driver 1.0** program group corresponding to the bitness of the client application accessing data in Phoenix, and then click **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 corresponding to the bitness of the client application accessing data in Phoenix.

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

Linux Driver

Linux System Requirements

You install the Hortonworks Phoenix ODBC Driver on client machines that access data stored in a Phoenix data warehouse. 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) 5, 6, or 7
  - CentOS 5, 6, or 7
  - SUSE Linux Enterprise Server (SLES) 11 or 12
- 90 MB of available disk space
- One of the following ODBC driver managers installed:
  - iODBC 3.52.7 or later
  - unixODBC 2.3.0 or later

Installing the Driver

There are two versions of the driver for Linux:

- `phoenix-odbc-native-32bit-`*`[Version]-[Release]`*`.`*`[LinuxDistro]`*`.i686.rpm` for the 32-bit driver
- `phoenix-odbc-native-`*`[Version]-[Release]`*`.`*`[LinuxDistro]`*`.x86_64.rpm` for the 64-bit driver

[Version] is the version number of the driver, and *[Release]* is the release number for this version of the driver.

The bitness of the driver that you select should match the bitness of the client application accessing your data. For example, if the client application is 64-bit, then you should install the 64-bit driver. Note that 64-bit editions of Linux support both 32- and 64-bit applications. Verify the bitness of your intended application and install the appropriate version of the driver.

Important:

Make sure that you install the driver using the RPM corresponding to your Linux distribution.

The Hortonworks Phoenix ODBC Driver driver files are installed in the following directories:

- `/opt/hortonworks/phoenixodbc` contains release notes, the *Hortonworks Phoenix ODBC Driver User Guide* in PDF format, and a `Readme.txt` file that provides plain text installation and configuration instructions.
- `/opt/hortonworks/phoenixodbc/ErrorMessages` contains error message files required by the driver.

- /opt/hortonworks/phoenixodbc/lib/32 contains the 32-bit driver and the hortonworks.phoenixodbc.ini configuration file.
- /opt/hortonworks/phoenixodbc/lib/64 contains the 64-bit driver and the hortonworks.phoenixodbc.ini configuration file.

To install the Hortonworks Phoenix ODBC Driver:

1. Choose one:

   - In Red Hat Enterprise Linux or CentOS, log in as the root user, then navigate to the folder containing the driver RPM packages to install, and then type the following at the command line, where *[RPMFileName]* is the file name of the RPM package containing the version of the driver that you want to install:

     ```
     yum --nogpgcheck localinstall [RPMFileName]
     ```

   - Or, in SUSE Linux Enterprise Server, log in as the root user, then navigate to the folder containing the driver RPM packages to install, and then type the following at the command line, where *[RPMFileName]* is the file name of the RPM package containing the version of the driver that you want to install:

     ```
     zypper install [RPMFileName]
     ```

Setting the LD_LIBRARY_PATH Environment Variable

The LD_LIBRARY_PATH environment variable must include the paths to the installed ODBC driver manager libraries.

For example, if ODBC driver manager libraries are installed in /usr/local/lib, then set LD_LIBRARY_PATH as follows:

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

For information about how to set environment variables permanently, refer to your Linux shell documentation.

For information about creating ODBC connections using the Hortonworks Phoenix ODBC Driver, see "Configuring ODBC Connections for Non-Windows Platforms" on page 20.

Verifying the Version Number

If you need to verify the version of the Hortonworks Phoenix 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 version number:

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

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

The command returns information about the Hortonworks Phoenix ODBC Driver that is installed on your machine, including the version number.

Mac OS X Driver

Installing the Driver on Mac OS X

The Hortonworks Phoenix ODBC Driver supports both 32- and 64-bit client applications.

You install the Hortonworks Phoenix ODBC Driver on client machines that access data stored in a Phoenix data warehouse. Each machine that you install the driver on must meet the following minimum system requirements:

- Mac OS X version 10.9 or 10.10
- 150215 MB of available disk space
- iODBC 3.52.7 or later

The Hortonworks Phoenix ODBC Driver driver files are installed in the following directories:

- `/Library/hortonworks/phoenixodbc` contains release notes and the *Hortonworks Phoenix ODBC Driver User Guide* in PDF format.
- `/Library/hortonworks/phoenixodbc/ErrorMessages` contains error message files required by the driver.
- `/Library/hortonworks/phoenixodbc/Setup` contains sample configuration files named `odbc.ini` and `odbcinst.ini`.
- `/Library/hortonworks/phoenixodbc/lib` contains the driver binaries.

To install the Hortonworks Phoenix ODBC Driver:

1. Double-click **phoenix-odbc-native.dmg** to mount the disk image.
2. Double-click **phoenix-odbc-native.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**.
6. To accept the installation location and begin the installation, click **Install**.
7. When the installation completes, click **Close**.

Setting the DYLD_LIBRARY_PATH Environment Variable

The DYLD_LIBRARY_PATH environment variable must include the paths to the installed ODBC driver manager libraries.

For example, if ODBC driver manager libraries are installed in `/usr/local/lib`, then set DYLD_LIBRARY_PATH as follows:

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

For information about how to set environment variables permanently, refer to your Mac OS X shell documentation.

For information about creating ODBC connections using the Hortonworks Phoenix ODBC Driver, see "Configuring ODBC Connections for Non-Windows Platforms" on page 20.

Verifying the Version Number

If you need to verify the version of the Hortonworks Phoenix ODBC Driver that is installed on your Mac OS X machine, you can query the version number through the Terminal.

To verify the version number:

➤ At the Terminal, run the following command:

```
pkgutil --info com.hortonworks.phoenixodbc
```

The command returns information about the Hortonworks Phoenix ODBC Driver that is installed on your machine, including the version number.

Configuring ODBC Connections for Non-Windows Platforms

The following sections describe how to configure ODBC connections when using the Hortonworks Phoenix ODBC Driver with non-Windows platforms:

- "Configuration Files" on page 20
- "Sample Configuration Files" on page 21
- "Configuring the Environment" on page 21
- "Defining DSNs in odbc.ini" on page 22
- "Specifying ODBC Drivers in odbcinst.ini" on page 23
- "Configuring Driver Settings in hortonworks.phoenix.ini" on page 24
- "Configuring Authentication" on page 24
- "Configuring SSL Verification" on page 25
- "Configuring Logging Options" on page 26
- "Testing the Connection" on page 27

Configuration Files

ODBC driver managers use configuration files to define and configure ODBC data sources and drivers. By default, the following configuration files are used:

- `.odbc.ini` is used to define ODBC data sources, and it is required for DSNs.
- `.odbcinst.ini` is used to define ODBC drivers, and it is optional.

These files are located in the user's home directory.

Also, by default the Hortonworks Phoenix ODBC Driver is configured using the `hortonworks.phoenix.ini` file. This file is located in one of the following directories depending on the version of the driver that you are using:

- `/opt/hortonworks/phoenixodbc/lib/32` for the 32-bit driver on Linux.
- `/opt/hortonworks/phoenixodbc/lib/64` for the 64-bit driver on Linux.
- `/Library/phoenixodbc/phoenixodbcodbc/lib` for the driver on Mac OS X.

The `hortonworks.phoenix.ini` file is required.

Note:

The `hortonworks.phoenix.ini` file provides default settings for most configuration options available in the Hortonworks Phoenix ODBC Driver.

You can set driver configuration options in your `odbc.ini` and `hortonworks.phoenix.ini` files. Configuration options set in a

`hortonworks.phoenix.ini` file apply to all connections, whereas configuration options set in an `odbc.ini` file are specific to a connection. Configuration options set in `odbc.ini` take precedence over configuration options set in `hortonworks.phoenix.ini`. For information about the configuration options available for controlling the behavior of DSNs that are using the Hortonworks Phoenix ODBC Driver, see "Driver Configuration Options" on page 34.

Sample Configuration Files

The driver installation contains the following sample configuration files in the `Setup` directory:

- `odbc.ini`
- `odbcinst.ini`

These sample configuration files provide preset values for settings related to the Hortonworks Phoenix ODBC Driver.

The names of the sample configuration files do not begin with a period (`.`) so that they appear in directory listings by default. A file name beginning with a period (`.`) is hidden. For `odbc.ini` and `odbcinst.ini`, if the default location is used, then the file names must begin with a period (`.`).

If the configuration files do not exist in the home directory, then you can copy the sample configuration files to the home directory, and then rename the files. If the configuration files already exist in the home directory, then use the sample configuration files as a guide to modify the existing configuration files.

Configuring the Environment

Optionally, you can use three environment variables, ODBCINI, ODBCSYSINI, and HORTONWORKSPHOENIXODBCINI, to specify different locations for the `odbc.ini`, `odbcinst.ini`, and `hortonworks.phoenix.ini` configuration files by doing the following:

- Set ODBCINI to point to your `odbc.ini` file.
- Set ODBCSYSINI to point to the directory containing the `odbcinst.ini` file.
- Set HORTONWORKSPHOENIXODBCINI to point to your `hortonworks.phoenix.ini` file.

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

```
export ODBCINI=/etc/odbc.ini
export ODBCSYSINI=/usr/local/odbc
export HORTONWORKSPHOENIXODBCINI=/etc/hortonworks.phoenix.ini
```

The following search order is used to locate the `hortonworks.phoenix.ini` file:

1. If the HORTONWORKSPHOENIXODBCINI environment variable is defined, then the driver searches for the file specified by the environment variable.

   Note:

   HORTONWORKSPHOENIXODBCINI must specify the full path, including the file name.

2. The directory containing the driver's binary is searched for a file named `hortonworks.phoenix.ini` (not beginning with a period).

3. The current working directory of the application is searched for a file named `hortonworks.phoenix.ini` (not beginning with a period).

4. The directory `~/`, that is, $HOME, is searched for a hidden file named `hortonworks.phoenix.ini` (beginning with a period).

5. The directory `/etc` is searched for a file named `hortonworks.phoenix.ini` (not beginning with a period).

Defining DSNs in odbc.ini

ODBC Data Source Names (DSNs) are defined in the `odbc.ini` configuration file. This file is divided into several sections:

- `[ODBC]` is optional. This section is used to control global ODBC configuration, such as ODBC tracing.

- `[ODBC Data Sources]` is required. This section lists the DSNs and associates them with a driver.

- A section having the same name as the data source specified in the `[ODBC Data Sources]` section is required to configure the data source.

The following is an example of an `odbc.ini` configuration file for Linux:

```
[ODBC Data Sources]

Hortonworks Phoenix DSN 32=Hortonworks Phoenix ODBC Driver 32-bit

[Hortonworks Phoenix DSN 32]

Driver=/opt/hortonworks/phoenixodbc/lib/32/libphoenixodbc_sb32.so

HOST=[MyServer]

PORT=31010
```

The following is an example of an `odbc.ini` configuration file for Mac OS X:

```
[ODBC Data Sources]

Hortonworks Phoenix DSN=Hortonworks Phoenix ODBC Driver

[Hortonworks Phoenix DSN]

Driver=/Library/hortonworks/phoenixodbc/lib/libphoenixodbc_
sbu.dylib
```

```
HOST=[MyServer]
PORT=31010
```

[MyServer] is the host name or IP address of the Phoenix server.

To create a Data Source Name:

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

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

3. Add a new section to the file, with a section name that matches the DSN you specified above, and then add configuration options to the section. Specify the configuration options as key-value pairs.

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

For information about the configuration options available for controlling the behavior of DSNs that are using the Hortonworks Phoenix ODBC Driver, see "Driver Configuration Options" on page 34.

Specifying ODBC Drivers in odbcinst.ini

ODBC drivers are defined in the `odbcinst.ini` configuration file. This configuration file is optional because drivers can be specified directly in the `odbc.ini` configuration file, as described in "Defining DSNs in odbc.ini" on page 22.

The `odbcinst.ini` file is divided into the following sections:

- `[ODBC Drivers]` lists the names of all the installed ODBC drivers.
- For each driver, a section having the same name as the driver name specified in the `[ODBC Drivers]` section lists the driver attributes and values.

The following is an example of an `odbcinst.ini` configuration file for Linux:

```
[ODBC Drivers]
Hortonworks Phoenix ODBC Driver 32-bit=Installed
Hortonworks Phoenix ODBC Driver 64-bit=Installed
[Hortonworks Phoenix ODBC Driver 32-bit]
Description=Hortonworks Phoenix ODBC Driver (32-bit)
Driver=/opt/hortonworks/phoenixodbc/lib/32/libphoenixodbc_sb32.so
[Hortonworks Phoenix ODBC Driver 64-bit]
Description=Hortonworks Phoenix ODBC Driver (64-bit)
Driver=/opt/hortonworks/phoenixodbc/lib/64/libphoenixodbc_sb64.so
```

The following is an example of an `odbcinst.ini` configuration file for Mac OS X:

```
[ODBC Drivers]
```

```
Hortonworks Phoenix ODBC Driver=Installed

[Hortonworks Phoenix ODBC Driver]

Description=Hortonworks Phoenix ODBC Driver

Driver=/Library/hortonworks/phoenixodbc/lib/libphoenixodbc_
sbu.dylib
```

To define a driver:

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

2. In the `[ODBC Drivers]` section, add a new entry by typing the driver name and then typing `=Installed`.

   Note:

   Give the driver a symbolic name that you want to use to refer to the driver in connection strings or DSNs.

3. Add a new section to the file with a name that matches the driver name you typed above, and then add configuration options to the section based on the sample `odbcinst.ini` file provided in the Setup directory. Specify the configuration options as key-value pairs.

4. Save the `odbcinst.ini` configuration file.

Configuring Driver Settings in hortonworks.phoenix.ini

The `hortonworks.phoenix.ini` file contains configuration settings for the Hortonworks Phoenix ODBC Driver. Settings that you define in this file apply to all connections that use the driver.

You do not need to modify the settings in the `hortonworks.phoenix.ini` file to use the driver and connect to your data source.

However, to help troubleshoot issues, you can configure the `hortonworks.phoenix.ini` file to enable logging in the driver. For information about configuring logging, see "Configuring Logging Options" on page 26.

Configuring Authentication

You can select the type of authentication to use for a connection by defining the `AuthMech` connection attribute in a connection string or in a DSN (in the `odbc.ini` file). Depending on the authentication mechanism you use, there might be additional connection attributes that you must define. For more information about the attributes involved in configuring authentication, see "Driver Configuration Options" on page 34.

Using No Authentication

For this authentication mechanism, you do not need to configure any additional settings.

To configure a connection without authentication:

➤ Set the `AuthMech` connection attribute to `0`.

Using User Name And Password

This authentication mechanism requires a user name and a password.

To configure User Name And Password authentication:

1. Set the `AuthMech` connection attribute to `1`.

2. Set the `UID` attribute to an appropriate user name for accessing the Phoenix server.

3. Set the `PWD` attribute to the password corresponding to the user name you provided above.

4. If the Phoenix server is configured to use SSL, then configure SSL for the connection. For more information, see "Configuring SSL Verification" on page 25.

Using Kerberos

Kerberos must be installed and configured before you can use this authentication mechanism. For more information, refer to the MIT Kerberos Documentation: http://web.mit.edu/kerberos/krb5-latest/doc/.

To configure Kerberos authentication:

➤ Set the `AuthMech` connection attribute to `3`.

Using Windows Azure HDInsight Service

This authentication mechanism is available only for Phoenix Server on HDInsight distributions. When you use this authentication mechanism, you must enable SSL.

To configure a connection to a Phoenix server on Windows Azure HDInsight Service:

1. Set the `AuthMech` connection attribute to `2`.

2. Set the `HTTPPath` attribute to the partial URL corresponding to the Phoenix server.

3. Set the `UID` attribute to an appropriate user name for accessing the Phoenix server.

4. Set the `PWD` attribute to the password corresponding to the user name you typed above.

5. Configure SSL settings as needed. For more information, see "Configuring SSL Verification" on page 25.

Configuring SSL Verification

If you are connecting to a Phoenix server that has Secure Sockets Layer (SSL) enabled, you can configure the driver to connect to an SSL-enabled socket.

To configure SSL verification:

1. Open the `odbc.ini` configuration file in a text editor.

2. To enable SSL connections, set the `SSL` attribute to `1`.

3. To allow self-signed certificates from the server, set the `AllowSelfSignedServer-Cert` attribute to `1`.

4. To allow the common name of a CA-issued SSL certificate to not match the host name of the Phoenix server, set the `AllowHostNameCNMismatch` attribute to `1`.

5. Choose one:

   - To configure the driver to load SSL certificates from a specific PEM file when verifying the server, set the `TrustedCerts` attribute to the full path of the PEM file.

   - Or, to use the trusted CA certificates PEM file that is installed with the driver, do not specify a value for the `TrustedCerts` attribute.

6. Save the `odbc.ini` configuration file.

Configuring Logging Options

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.

Use the `LogLevel` key to set the amount of detail included in log files. The following table lists the logging levels provided by the Hortonworks Phoenix ODBC Driver, in order from least verbose to most verbose.

LogLevel Value	Description
0	Disables all logging.
1	Logs severe error events that lead the driver to abort.
2	Logs error events that might allow the driver to continue running.
3	Logs potentially harmful situations.
4	Logs general information that describes the progress of the driver.
5	Logs detailed information that is useful for debugging the driver.
6	Logs all driver activity.

To enable logging:

1. Open the `hortonworks.phoenix.ini` configuration file in a text editor.

2. Set the `LogLevel` key to the desired level of information to include in log files. For example:

   `LogLevel=2`

3. Set the `LogPath` key to the full path to the folder where you want to save log files. For example:

   `LogPath=/localhome/employee/Documents`

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. Save the `hortonworks.phoenix.ini` configuration file.

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

The Hortonworks Phoenix ODBC Driver produces a log file named `phoenix_driver.log` at the location you specify using the `LogPath` key.

To disable logging:

1. Open the `hortonworks.phoenix.ini` configuration file in a text editor.

2. Set the `LogLevel` key to `0`.

3. Save the `hortonworks.phoenix.ini` configuration file.

Testing the Connection

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 an ODBC connection string using the following format, specifying additional connection attributes as needed:

   ```
   DSN=[DataSourceName];[Key]=[Value]
   ```

   `[DataSourceName]` is the DSN that you are using for the connection. `[Key]` is any connection attribute that is not already specified as a configuration key in the DSN, and `[Value]` is the value for the attribute. Add key-value pairs to the connection string as needed, separating each pair with a semicolon (;).

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 34.

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:

- *[PortNumber]* is the number of the port that the Phoenix server uses to listen for client connections.
- *[Server]* is the IP address or host name of the Phoenix server to which you are connecting.

The following is the format of a DSN-less connection string:

```
Driver=HortonworksPhoenix ODBC Driver;Host=[Server];Port=
[PortNumber]
```

For example:

```
Driver=HortonworksPhoenix ODBC Driver;
Host=192.168.222.160;Port=31010
```

Features

For more information on the features of the Hortonworks Phoenix ODBC Driver, see the following:

- "Catalog and Schema Support" on page 31
- "Double-Buffering" on page 31
- "Write-Back" on page 31
- "Data Types" on page 32
- "Parameters" on page 33

Catalog and Schema Support

Phoenix does not natively support catalogs. However, the Hortonworks Phoenix ODBC Driver implements catalog support by providing a synthetic catalog with the name PHOENIX#.

The Hortonworks Phoenix ODBC Driver also implements schema support for tables that do not belong to a schema by providing a synthetic schema with the name PHOENIX#.

Double-Buffering

The Hortonworks Phoenix ODBC Driver is capable of using double-buffering to improve driver performance during SELECT operations.

The impact of double-buffering depends on how the transfer speed of your network compares to the data processing speed of the driver. If the transfer speed is significantly higher, then enabling double-buffering allows the driver to make full use of the network's capabilities. Conversely, if the transfer speed is considerably lower, the additional processes involved in double-buffering might cause a decrease in performance.

To make optimal use of double-buffering, you need to set an appropriate buffer size. A buffer size that is too small might decrease performance, while a buffer size that is too large might diminish the performance improvements from double-buffering. If the transfer speed of the network is slow, the additional time spend processing a large buffer size might cause a decrease in performance.

For information about configuring double-buffering, see "Enable Double-Buffering" on page 37.

Write-Back

The Hortonworks Phoenix ODBC Driver supports Data Manipulation Languages (DML) statements such as INSERT, UPDATE, and DELETE.

Because Phoenix supports the UPSERT operation instead of INSERT and UPDATE, when you execute an INSERT or UPDATE statement using the Hortonworks Phoenix ODBC Driver, the resulting behavior is an UPSERT operation. When you use the driver to write data to a Phoenix database, the INSERT and UPDATE operations both set the column value regardless of whether the data already exists.

Data Types

The Hortonworks Phoenix ODBC Driver supports two-way mapping between Phoenix types and many common SQL data types.

The table below lists the supported data types.

If a SQL column can be mapped to more than one possible Phoenix datatype, the driver always returns the signed type. For example, if you create a column of SQL type SQL_BIGINT, the resulting Phoenix column is of type BIGINT, not UNSIGNED_LONG.

Phoenix Type	SQL Type
BIGINT or UNSIGNED_LONG	SQL_BIGINT
BINARY	SQL_BINARY
BOOLEAN	SQL_BIT
CHAR	SQL_WCHAR **Note:** SQL_CHAR is returned instead if the Unicode SQL Character Types configuration option (the `UseUnicodeSqlCharacterTypes` key) is disabled.
DATE or UNSIGNED_DATE	SQL_DATE or SQL_TYPE_DATE
DECIMAL	SQL_DECIMAL
DOUBLE or UNSIGNED_DOUBLE	SQL_DOUBLE
FLOAT or UNSIGNED_FLOAT	SQL_FLOAT

Phoenix Type	SQL Type
INTEGER or UNSIGNED_INT	SQL_INTEGER
SMALLINT or UNSIGNED_SMALLINT	SQL_SMALLINT
TIME or UNSIGNED_TIME	SQL_TIME or SQL_TYPE_TIME
TIMESTAMP or UNSIGNED_TIMESTAMP	SQL_TYPE_TIMESTAMP
TINYINT or UNSIGNED_TINYINT	SQL_TINYINT
VARBINARY	SQL_VARBINARY
VARCHAR	SQL_WVARCHAR **Note:** SQL_VARCHAR is returned instead if the Unicode SQL Character Types configuration option (the `UseUnicodeSqlCharacterTypes` key) is disabled.

Parameters

The Hortonworks Phoenix ODBC Driver supports parameter binding in queries for input parameters. However, it does not support parameter binding for output parameters.

Driver Configuration Options

Driver Configuration Options lists the configuration options available in the Hortonworks Phoenix 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:

- Hortonworks Phoenix ODBC Driver DSN Setup
- Advanced Options
- Logging Options

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

Note:

You can pass in configuration options in your connection string, or set them in your `odbc.ini` and `hortonworks.phoenix.ini` files if you are using a non-Windows version of the driver. Configuration options set in a `hortonworks.phoenix.ini` file apply to all connections, whereas configuration options passed in in the connection string or set in an `odbc.ini` file are specific to a connection. Configuration options passed in using the connection string take precedence over configuration options set in `odbc.ini`. Configuration options set in `odbc.ini` take precedence over configuration options set in `hortonworks.phoenix.ini`.

Configuration Options Appearing in the User Interface

The following configuration options are accessible via the Windows user interface for the Hortonworks Phoenix ODBC Driver, or via the key name when using a connection string or configuring a connection from a Linux or Mac OS X computer:

- "Allow Common Name Host Name Mismatch" on page 35
- "Allow Self-Signed Server Certificate" on page 35
- "Binary/Character Length" on page 36
- "Connection Sync Interval" on page 36
- "Decimal Precision" on page 36
- "Decimal Scale" on page 36

- "Log Level" on page 38
- "Log Path" on page 39
- "Max File Size" on page 39
- "Max Number Files" on page 39
- "Mechanism" on page 40
- "Rows Fetched Per Block" on page 40
- "Password" on page 40
- "Port" on page 41
- "Save Password (Encrypted)" on

- "Enable Double-Buffering" on page 37
- "Enable SSL" on page 37
- "HTTP Path" on page 37
- "Host(s)" on page 38

page 41
- "Trusted Certificates" on page 42
- "Unicode SQL Character Types" on page 42
- "User Name" on page 43

Allow Common Name Host Name Mismatch

Key Name	Default Value	Required
AllowHostNameCNMis-match	Clear (0)	No

Description

This option specifies whether a CA-issued SSL certificate name must match the host name of the Phoenix server.

- Enabled (1): The driver allows a CA-issued SSL certificate name to not match the host name of the Phoenix server.
- Disabled (0): The CA-issued SSL certificate name must match the host name of the Phoenix server.

Note:

This setting is applicable only when SSL is enabled.

Allow Self-Signed Server Certificate

Key Name	Default Value	Required
AllowSelfSignedServerCert	Clear (0)	No

Description

This option specifies whether the driver allows self-signed certificates from the server.

- Enabled (1): The driver authenticates the Phoenix server even if the server is using a self-signed certificate.
- Disabled (0): The driver does not allow self-signed certificates from the server.

Note:

This setting is applicable only when SSL is enabled.

Binary/Character Length

Key Name	Default Value	Required
BinaryParameterLength	1024	No

Description

The default buffer size allocated to Character and Binary parameters.

Connection Sync Interval

Key Name	Default Value	Required
ConnectionSyncInterval	10	No

Description

The interval, in seconds, between connection keep-alive requests.

Decimal Precision

Key Name	Default Value	Required
DecimalParameterPrecision	38	No

Description

The default total number of digits used in parameterized Decimal values.

Decimal Scale

Key Name	Default Value	Required
DecimalParameterScale	15	No

Description

The default number of digits used after the decimal point in parameterized Decimal values.

Enable Double-Buffering

Key Name	Default Value	Required
`EnableDoubleBuffer`	Selected (1)	No

Description

This option specifies whether the driver retrieves the data using double-buffering. For more information about double-buffering, see "Double-Buffering" on page 31.

- Enabled (`1`): The driver retrieves the data using double-buffering.
- Disabled (`0`): The driver retrieves the data using single-buffering.

Enable SSL

Key Name	Default Value	Required
`SSL`	Clear (0)	No

Description

This option specifies whether the client verifies the Phoenix using SSL.

- Enabled (`1`): The client verifies the Phoenix using SSL.
- Disabled (`0`): SSL is disabled.

SSL is configured independently of authentication. When authentication and SSL are both enabled, the driver performs the specified authentication method over an SSL connection.

HTTP Path

Key Name	Default Value	Required
`HTTPPath`	`hbasephoenix` if using Windows Azure HDInsight Service (2)	No

Description

The partial URL corresponding to the Phoenix server.

The driver forms the HTTP address to connect to by appending the HTTP Path value to the host and port specified in the DSN or connection string. For example, to connect to the

HTTP address `http://localhost:8765/gateway/sandbox/phoenix/version`, you would set HTTP Path to `/gateway/sandbox/phoenix/version`.

Host(s)

Key Name	Default Value	Required
Host	None	Yes

Description

The IP address or host name of the Phoenix server.

Log Level

Key Name	Default Value	Required
LogLevel	OFF (0)	No

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 `hortonworks.phoenix.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 potentially harmful situations.

- 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 `phoenix_driver.log` in the location specified in the Log Path (`LogPath`) property.

Log Path

Key Name	Default Value	Required
LogPath	None	Yes, if logging is enabled.

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 `hortonworks.phoenix.ini` file.

Max File Size

Key Name	Default Value	Required
LogFileSize	20	No

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.

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 `hortonworks.phoenix.ini` file.

Max Number Files

Key Name	Default Value	Required
LogFileCount	50	No

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.

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 `hortonworks.phoenix.ini` file.

Mechanism

Key Name	Default Value	Required
AuthMech	No Authentication (0)	No

Description

The authentication mechanism to use.

Select one of the following settings, or set the key to the corresponding number:

- No Authentication (0)
- User Name And Password (1)
- Windows Azure HDInsight Service (2)
- Kerberos (3)

Rows Fetched Per Block

Key Name	Default Value	Required
RowsFetchedPerBlock	10000	No

Description

The maximum number of rows that a query returns at a time.

This setting also determines the buffer size used when double-buffering is enabled.

Password

Key Name	Default Value	Required
PWD	None	Yes, if the authentication mechanism is User Name And Password (1) or Windows Azure HDInsight Service (2).

Description

The password corresponding to the user name that you provided in the User Name field or `UID` key.

Port

Key Name	Default Value	Required
Port	8765	Yes

Description

The number of the TCP port that the Phoenix server uses to listen for client connections.

Save Password (Encrypted)

Key Name	Default Value	Required
N/A	Clear (0)	No

Description

This option specifies whether the password is saved in the registry.

- Enabled (1): The password is saved in the registry.
- Disabled (0): The password is not saved in the registry.

This option is available only in the Windows driver. It appears in the Hortonworks Phoenix ODBC Driver DSN Setup dialog box.

Important:

The password is obscured (not saved in plain text). However, it is still possible for the encrypted password to be copied and used.

Trusted Certificates

Key Name	Default Value	Required
TrustedCerts	The `cacerts.pem` file in the `\lib` subfolder within the driver's installation directory. The exact file path varies depending on the version of the driver that is installed. For example, the path for the Windows driver is different from the path for the Mac OS X driver.	No

Description

The full path of the `.pem` file containing trusted CA certificates for verifying the server when using SSL.

If this option is not set, then the driver defaults to using the trusted CA certificates `.pem` file installed by the driver.

Note:

This setting is applicable only when SSL is enabled.

Unicode SQL Character Types

Key Name	Default Value	Required
UseUnicodeSqlCharacterTypes	Selected (1)	No

Description

This option specifies the SQL types to be returned for string data types.

- Enabled (1): The driver returns SQL_WVARCHAR for VARCHAR columns, and returns SQL_WCHAR for CHAR columns.

- Disabled (0): The driver returns SQL_VARCHAR for VARCHAR columns, and returns SQL_CHAR for CHAR columns.

User Name

Key Name	Default Value	Required
UID	None	Yes, if the authentication mechanism is User Name And Password (1) or Windows Azure HDInsight Service (2).

Description

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

Configuration Options Having Only Key Names

The following configuration options do not appear in the Windows user interface for the Hortonworks Phoenix ODBC Driver. They are accessible only when you use a connection string or configure a connection on Mac OS X or Linux.

- "Driver" on page 43
- "Locale" on page 44

Driver

Key Name	Default Value	Required
Driver	Hortonworks Phoenix ODBC Driver when installed on Windows, or the absolute path of the driver shared object file when installed on a non-Windows machine.	Yes

Description

The name of the installed driver (Hortonworks Phoenix ODBC Driver) when installed on Windows, or the absolute path of the driver shared object file when installed on a non-Windows machine.

Locale

Key Name	Default Value	Required
Locale	en-US	No

Description

The locale to use for error messages.

Contact Us

If you have difficulty using the driver, please contact our Technical Support staff. We welcome your questions, comments, and feature requests.

Technical Support is available Monday to Friday from 8 a.m. to 6 p.m. Pacific Time.

Note:

To help us assist you, prior to contacting Technical Support please prepare a detailed summary of the client and server environment including operating system version, patch level, and configuration.

You can contact Technical Support via:

- **E-mail**: support@simba.com
- **Web site**: www.simba.com
- **Telephone**: (604) 633-0008 Extension 3
- **Fax**: (604) 633-0004

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