Essbase® Analytic Services

Release 7.1

SQL Interface Guide

Hyperion®

Contents

Preface

Welcome to the *Essbase Analytic Services SQL Interface Guide*. This preface discusses the following topics:

Purpose

Use this guide to help you load data from SQL, relational, and flat-file data sources into an Analytic Services database. It explains the SQL Interface features and options and contains the concepts, processes, procedures, formats, tasks, and examples that you need to use the software.

Audience

This guide is primarily for database administrators who install SQL Interface, configure Open Database Connectivity (ODBC) drivers, and load relational data into Analytic Services databases.

To use the information in this book, you need an understanding of relational databases and ODBC drivers, and knowledge of Analytic Services database outlines.

Document Structure

This document contains the following information:

Chapter 1, "Introducing SQL Interface," provides a high-level list of steps for using SQL Interface.

Chapter 2, "Configuring a Data Source," provides information and instructions to select and configure the correct database driver to ensure a fast and smooth data load.

Chapter 3, "Preparing Multiple-Table Data for Loading," provides instructions to prepare data for loading into an Essbase database.

Chapter 4, "Loading SQL Data," provides information and instructions to construct a data load rules file to map the data source to the Essbase database.

Chapter 5, "Using Non-DataDirect ODBC Drivers," provides information you can use if you need to use ODBC drivers other than those supplied by Essbase

The Index contains a list of Hyperion SQL Interface terms and their page references.

Where to Find Documentation

All Analytic Services documentation is available from the following locations:

● If you have downloaded and installed the documentation from the documentation installer, the HTML Information Map is located at:

`\docs\esb_infomap.htm`

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● Access to the Hyperion Download Center is through `http://hyperion.subscribenet.com`.

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1. Log on to `http://www.hyperion.com`.

2. Select **Support** from the menu bar.

3. Enter your username and password, and click **Login**.

   Note: If you do not have a username and password, click Register on the login page to request them.

4. Follow the on-screen instructions.

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Conventions

The following table shows the conventions that are used in this document:

Table i: Conventions Used in This Document

Item	Meaning
➤	Arrows indicate the beginning of procedures consisting of sequential steps or one-step procedures.
Brackets [ ]	In examples, brackets indicate that the enclosed elements are optional.
Bold	Bold in procedural steps highlights major interface elements.

Table i: Conventions Used in This Document (Continued)

Item	Meaning
CAPITAL LETTERS	Capital letters denote commands and various IDs. (Example: CLEARBLOCK command)
Ctrl + 0	Keystroke combinations shown with the plus sign (+) indicate that you should press the first key and hold it while you press the next key. Do not type the plus sign.
`Example text`	Courier font indicates that the example text is code or syntax.
Courier italics	Courier italic text indicates a variable field in command syntax. Substitute a value in place of the variable shown in Courier italics.
ARBORPATH	When you see the environment variable *ARBORPATH* in italics, substitute the value of ARBORPATH from your site.
HYPERION_HOME	The environment variable *HYPERION_HOME* stands for the location of the *hyperion\common* folder on Windows systems. The common folder is where common files used by Analytic Services and other Hyperion products.
n, x	Italic *n* stands for a variable number; italic *x* can stand for a variable number or an alphabet. These variables are sometimes found in formulas.
Ellipses (...)	Ellipsis points indicate that text has been omitted from an example.
Mouse orientation	This document provides examples and procedures using a right-handed mouse. If you use a left-handed mouse, adjust the procedures accordingly.
Menu options	Options in menus are shown in the following format. Substitute the appropriate option names in the placeholders, as indicated. **Menu name** > **Menu command** > **Extended menu command** For example: **1.** Select **File** > **Desktop** > **Accounts**.

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Preface

Chapter
1

Introducing SQL Interface

Use this chapter to learn about SQL Interface and prepare for loading data with it:

● If you need a conceptual overview of SQL Interface, see "Understanding SQL Interface" on page 12.

● If you need to identify the steps required to load data with SQL Interface, see "Preparing for Data Loading" on page 12.

New Features

Use this section to identify new features or changes since Release 7.0:

● "New for Release 7.1" on page 11.

● "New for Release 7.0" on page 11.

New for Release 7.1

There are no new SQL Interface features in Release 7.1.

New for Release 7.0

In Release 7.0, you can use Essbase Administration Services to access SQL Interface. Administration Services is the new framework for managing and maintaining Analytic Servers. For detailed information, see *Essbase Administration Services Online Help*.

You can also use Application Manager to access SQL Interface.

Understanding SQL Interface

Use SQL Interface to load data directly from a number of popular SQL, relational, and flat-file database servers. SQL Interface provides the connection you need to accomplish these tasks:

● You can execute SQL statements on data before loading. For example, this allows you to load summary data instead of the entire contents of the source database.

● Optionally, you can build dimensions in outlines dynamically as you load data.

● You can load data from flat files that are in text format, as well as connecting directly to the relational source database.

Note: You can load data from spreadsheets or text files using Administration Services without the use of SQL Interface. See the *Essbase Administration Services Online Help*.

SQL Interface works with Administration Services to retrieve data, as follows:

1. You write a SELECT statement in SQL using Administration Services.

2. SQL Interface passes it to the SQL or relational database server. For non-SQL data sources, SQL Interface converts SQL statements to requests for data that the source understands.

3. SQL Interface interprets the records received from the SQL, relational, or flat-file database server using the rules defined in the data load rules file. (For more information on data load rules files, see Chapter 4, "Loading SQL Data.")

4. SQL Interface loads the interpreted, summary-level data into the database.

Preparing for Data Loading

➤ To prepare to load SQL, relational, or flat-file data, use this procedure:

1. SQL Interface is installed during the Analytic Server installation. See the *Essbase Analytic Services Installation Guide* for information about initial configuration tasks.

2. Configure the ODBC driver and point it to its data source. See Chapter 2, "Configuring a Data Source."

3. If data is in multiple tables, prepare the data for loading by doing either of these actions:

   - Create one table or view in the SQL database before using SQL Interface.

   - Join the tables during the data load by entering a SELECT statement in Administration Services.

   See "Understanding Multiple-Table Preparation" on page 23 for instructions.

4. Check that you can connect to the data source by using the Data Prep Editor in Administration Services Console to open the SQL source file. See Chapter 4, "Loading SQL Data."

5. Create a data load rules file to tell SQL Interface how to interpret and load the SQL data into the Analytic Services database. See Chapter 4, "Loading SQL Data."

After these steps are complete, you can load data. See Chapter 4, "Loading SQL Data" for instructions.

Configuring a Data Source

Before you can access data using SQL Interface, you must select a data source and the driver it requires. The procedure depends on the operating system:

Note: For detailed, driver-specific information on each of the DataDirect drivers, see the *DataDirect Connect for ODBC Reference* in the `hyperion\common\odbc\merant\42\docs` directory of the Analytic Services installation on Windows, or `hyperion\common\ODBC\Merant\4.2\` on UNIX.

Configuring a Data Source on Windows

On Windows, use the ODBC Administrator to configure the data source.

➤ To configure the ODBC Administrator, use this procedure:

1. Start the ODBC Administrator by opening the Windows Control Panel and double-clicking the **Administrative Tools** icon, and then double-clicking the **Data Sources** icon.

2. Choose a data source, or add one, and then enter the required information about the driver.

For detailed instructions, see the documentation from the ODBC provider.

Example: Configuring a Data Source on Windows 2000

➤ To configure the SQL Server data source, complete the following steps:

1. Start the ODBC Administrator, using the instructions in step 1 in "Configuring a Data Source on Windows" on page 15.

2. Click the **System DSN** tab in the ODBC Data Source Administrator dialog box:
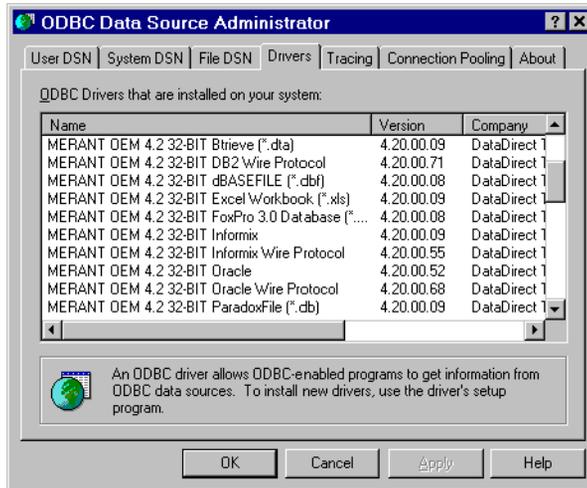
3. Click **Add** on the System DSN tab.

The Create New Data Source dialog box is displayed.
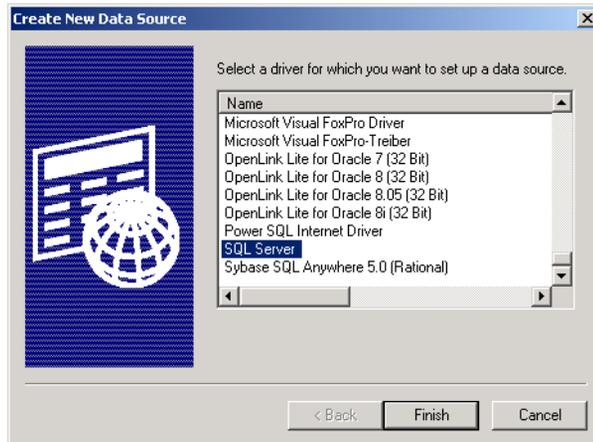
4. From the list box, select **SQL Server** and click the **Finish** button to display the General tab of the Create a New Data Source to SQL Server dialog box:
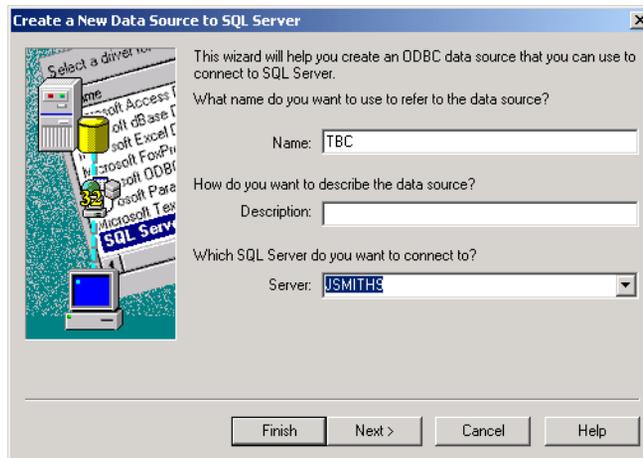
5. Type the following information in the Create a New Data Source to SQL
Server dialog box:

    a. In the **Name** text box, type **TBC**.

    b. In the **Description** text box, type **Load Files**.

    c. In the **Server** text box, type the name of the server computer to which
you are connecting. If the data source resides on your local computer,
type your computer name.

    d. Click **OK**.

    The **System DSN** tab of the **ODBC Data Source Administrator** dialog
box is displayed with TBC listed in the **System Data Sources** list box:
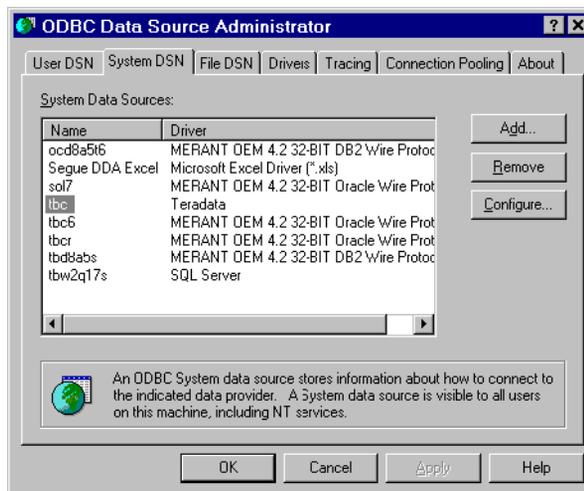
6. Click **OK** to close the **ODBC Data Source Administrator**.

For help with this procedure, access the ODBC Data Source Administrator
online help by clicking the **Help** button.

Configuring a Data Source on UNIX

After installing Analytic Services, you must execute the inst-sql.sh file to enable SQL Interface.

The inst-sql.sh setup script copies the file $HYPERION_HOME/ODBC/ Merant/4.2/odbc.ini into $ARBPORPATH/bin/.odbc.ini, and creates the link .odbc.ini in the user home directory.

Note: SQL Interface must be enabled in the Analytic Services registration number before it can be used.

To run Hybrid Analysis on UNIX platforms, set, in the .profile, the ODBCINI environment variable to $ARBPORPATH/bin/.odbc.ini, which contains the definition for the relational data source.

If you add data sources or drivers, you may need to edit the.odbc.ini file:

- "Understanding the .odbc.ini File" on page 19
- "Editing the .odbc.ini File for Changes" on page 19
- "Example: Editing .odbc.ini for DB2" on page 20

Understanding the .odbc.ini File

The .odbc.ini file contains the ODBC connection and configuration information, such as data source name and driver product name. Specific information varies among platforms. The file and format are defined by the Microsoft ODBC specification.

Editing the .odbc.ini File for Changes

Because the .odbc.ini file maps data source names to driver products, you must edit the .odbc.ini file if you add a new driver product or data source or change driver products or data sources.

Example: Editing .odbc.ini for DB2

The following example illustrates how you might edit the .odbc.ini file on an Analytic Server running on AIX, to connect to a DB2 8.1 database named "tbc_data," using an ODBC data source named db2data that invokes the DataDirect 4.2 Wire Protocol driver.

Use the vi $ODBCINI command to edit the .odbc.ini file and insert the following statements:

```
[ODBC Data Sources]
db2data=DB2 Source Data on AIX

...

[db2data]
Driver=/home/hyperion/essbase/odbc/merant42/lib/ARdb218.so
IpAddress=isaix7
Database=tbc_data
TcpPort=xxxxx
Package=PACK4A
Action=REPLACE
QueryBlockSize=8
CharSubTypeType=SYSTEM_DEFAULT
ConversationType=SINGLE_BYTE
CloseConversation=DEALLOC
UserBufferSize=32
MaximumClients=35
GrantExecute=1
GrantAuthid=PUBLIC
OEMANSI=1
DecimalDelimiter=PERIOD
DecimalPrecision=15
StringDelimiter=SINGLE_QUOTE
IsolationLevel=CURSOR_STABILITY
ResourceRelease=DEALLOCATION
DynamicSections=32
Trace=0
WithHold=0
```

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The following example illustrates how you might edit .odbc.ini to connect to a Data Source database, such as "db2data" on DB2 Version 8.1 (on AIX), using an IBM DB2 ODBC driver.

Use the vi $ODBCINI command to edit the .odbc.ini file and insert the following statements:

```
[ODBC Data Sources]
db2data=DB2 Source Data on AIX

...

[db2data]
Driver=/home/db2inst1/sqllib/lib/db2_36.o
Description=DB2 Data Source - AIX, native
```

Configuring a Data Source

Preparing Multiple-Table Data for Loading

This chapter describes how to prepare relational data in multiple tables for loading into Analytic Services:

- "Understanding Multiple-Table Preparation" on page 23

- "Preparing Data from Multiple Tables" on page 26

If all data is in one table, skip to Chapter 4, "Loading SQL Data."

Understanding Multiple-Table Preparation

Use this section to understand the two methods available for preparing multi-table data:

- "Understanding Two Methods for Multiple-Table Data Preparation" on page 24

- "Understanding Security Requirements" on page 26

- "Choosing a Preparation Method" on page 25

Understanding Two Methods for Multiple-Table Data Preparation

If data is in multiple tables, create a single table or a view of the data in either of the following ways:

● Create one table or view in the SQL database before using SQL Interface:
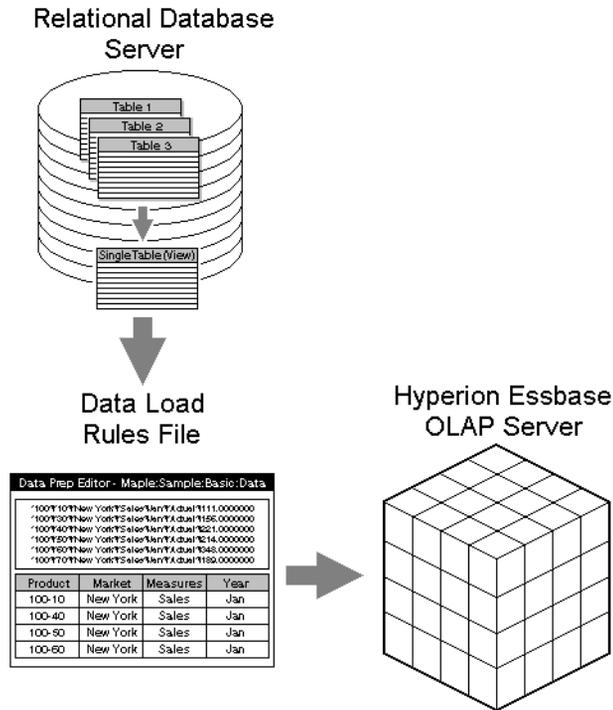
See "Choosing a Preparation Method" on page 25 for instructions.

● Join the tables by entering a SELECT statement in Administration Services Console during the data load:

Choosing a Preparation Method

A SQL database server reads from a single table and maintains a single view more efficiently than it processes a multiple-table SELECT statement. Therefore, creating a single table or view before you use SQL Interface greatly reduces the amount of processing time the SQL server needs.

Understanding Security Requirements

Data load preparation requires specific permissions:

- For any data load preparation method, you need SELECT access privileges to all tables containing the relevant data.

- For creating a single table or view in the relational database source, you need CREATE access privileges in the SQL database to create a single table or view. Ask the SQL Database Administrator to provide you with the appropriate CREATE privileges.

  If you cannot obtain CREATE privileges, use Administration Services to join tables during the data load. See "Preparing Data from Multiple Tables" on page 26 for instructions.

Preparing Data from Multiple Tables

➤ Use this process to prepare data from multiple tables:

1. Obtain the required privileges:

   - SELECT access to all tables where relevant data is stored

   - CREATE access to create a single table or view to join multiple-table data before using SQL Interface

2. Use one of these methods to prepare data from multiple tables:

   - Create a single physical table or virtual table (view) based on data from multiple tables in the source database.

   - Create a SELECT statement in Administration Services Console that joins the tables:

     i. Identify the tables and columns (or fields) containing the data that you want to load into Essbase.

     ii. Select **File > Open SQL** in the Administration Services Console to display the **Open SQL Data Sources** dialog box.

        For detailed information, see "Opening an SQL Database" in *Essbase Administration Services Online Help*.

iii. Write a SELECT statement that joins the tables.

For more information, see "Selecting the SQL Data Source" on page 31 and "Creating SQL Queries (optional)" on page 33.

Note: Analytic Services passes the SELECT statement to SQL Server without verifying the syntax.

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Loading SQL Data

This chapter describes how to load SQL data into Analytic Server using Administration Services:

- "Understanding Data Loading" on page 29
- "Using Substitution Variables" on page 30
- "Loading Relational Data Using SQL Interface" on page 31
- "Loading the Data" on page 33

Examples in this section are based on samples provided with the installation:

- The Sample application
- The Basic database

Understanding Data Loading

After you have configured the data source and prepared the multiple-table data for loading, load the data using this process:

1. If you plan to use substitution variables, create them. See "Using Substitution Variables" on page 30 for instructions.

2. Create a rules file. See "Loading Relational Data Using SQL Interface" on page 31.

3. Load data into the Analytic Services database. See "Loading the Data" on page 33.

Using Substitution Variables

Similar to report scripts and calculation scripts, you can use substitution variables in SQL strings. You can use substitution variables that apply to all applications and databases on Analytic Server, or specify them for a particular application or database.

Understand the rules for substitution variable use in SQL Interface before you create and use them:

- "Understanding the Rules for Substitution Variables" on page 30
- "Creating and Using Substitution Variables" on page 30

Understanding the Rules for Substitution Variables

Remember these rules when you create substitution variables:

- The value of the substitution variable should be valid and appropriate SQL. Analytic Services does not validate the value.

- Be especially careful when you use quotation marks or single quotes. Different source databases have different conventions about when to use them.

- Whether or not you use a substitution variable, be sure that no regular SQL operators in SELECT, FROM, or WHERE clauses start with the ampersand (&), because that is the Essbase identifier for substitution variables.

Creating and Using Substitution Variables

➤ To create and use a substitution variable, use the following procedure:

1. Create the substitution variable using the instructions in "Managing Substitution Variables" in *Essbase Administration Services Online Help*.

2. Open the rules file you plan to use, then select **File > Open SQL** from the menu. See "Opening an Existing Rules File" in *Essbase Administration Services Online Help*.

3. In the **Open SQL Data Sources** dialog box, use the substitution variable instead of a "field=value" string in the **Select**, **From**, or **Where** box. Remember to type the ampersand (&) in front of the substitution variable name.

4. Click **OK/Retrieve** to retrieve the data using the rules file.

Loading Relational Data Using SQL Interface

To load SQL data into the Analytic Services database, you must create and use a data load rules file.

Data load rules are a set of operations that Analytic Services performs on data when it loads it into an Analytic Services database. The operations are stored in a rules file that tells Analytic Services how to load the data and map it to your database outline. The rules file can also reject invalid records in the data source.

Summary of Steps

1. Create a data load rules file.

2. Select your SQL data source. See "Selecting the SQL Data Source" on page 31 for instructions.

3. If you plan to create SQL queries in Analytic Services, see "Creating SQL Queries (optional)" on page 33.

Creating the Data Load Rules File

➤ To create a data load rules file, use the instructions in *Creating a Data Load Rules File* in *Essbase Administration Services Online Help*.

Selecting the SQL Data Source

➤ To select a SQL data source:

1. In Administration Services Console, open the **Data Prep Editor** or an existing rules file.

2. Choose **File > Open SQL**.

3. In the **Open SQL Data Sources** dialog box, select the data source and enter required information. See "Opening an SQL Database" in *Essbase Administration Services Online Help* for detailed instructions.
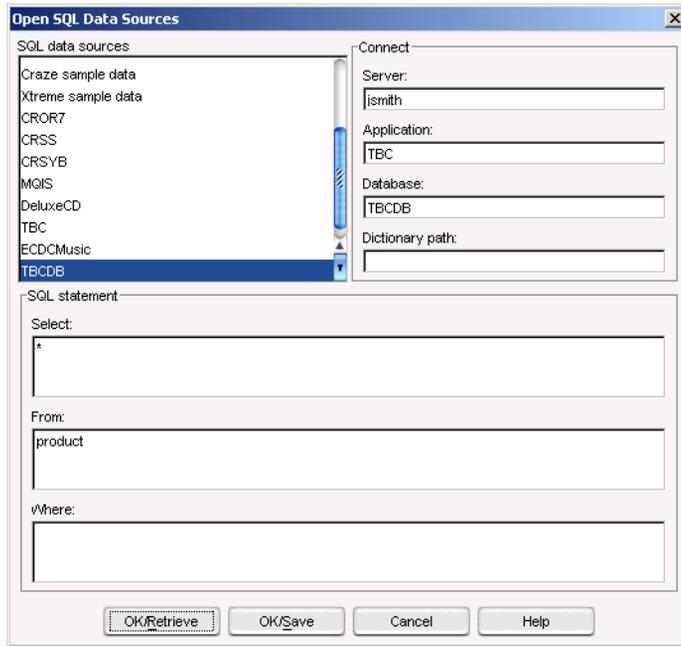
4. Click **OK/Retrieve**.

5. In the **SQL Connect** dialog box, enter the user name and password for the source database and click **OK**.

Note these facts about data source files:

- The data source file must be stored on the server computer.

- On UNIX platforms, if you have defined the path for the SQL data source file in the `.odbc.ini` file, you can either enter that path or a different path in the Database text box of the Define SQL dialog box.

- On Windows, if you have not defined the path for the SQL source file in the ODBC Administrator, you can type the path in the Database text box of the Define SQL dialog box.

- If you do not define a path, Analytic Services looks for the data source file in the directory from which you are running Analytic Server.

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Creating SQL Queries (optional)

If you have not created a table or view to retrieve only the information you need from the data source, you can write a SELECT statement to achieve this goal.

Note: Creating a SELECT statement in Analytic Services is usually slower than creating a table or view in the source database.

The SQL Statement text box in the Open SQL Data Sources dialog box has Select, From, and Where text boxes to help you write SQL queries. You can specify multiple data sources, filter the display of records, and specify the desired order and grouping of records that will appear in the Data Prep Editor.

Loading the Data

➤ To load SQL data into the Analytic Services database:

1. In the Administration Services Console, select the database.

2. Right-click and select **Load Data** from the pop-up menu.

3. In the **Data Load** dialog box, in the **Type** option group, select **SQL**.

4. Select the **Use rules** check box and click **Find**.

5. In the **Open Rules File** dialog box, browse for the rules file.

6. Select the rules file and click **OK**.

7. In the **Options** group, select the **Load data** option.

   For a description of the other options, click **Help**.

8. Click **OK** to load the data.

Note: After loading data using SQL Interface, connections to the relational data source may remain open.

Using Non-DataDirect ODBC Drivers

You can use drivers other than the DataDirect drivers provided with Analytic Services. For example, you can use a Microsoft ODBC driver to connect to Microsoft Access. Some non-DataDirect ODBC drivers are tested with Analytic Services. For detailed information on tested and supported drivers and data sources, see the *Essbase Analytic Services Installation Guide*.

To use a non-DataDirect driver, you need to:

1. Configure the driver for all drivers and data sources.

2. Configure the data source if you are using Teradata.

This chapter contains the following topics that describe how to use non-DataDirect ODBC drivers:

- "Configuring a Non-DataDirect Driver" on page 36

- "Creating a Configuration File for Non-DataDirect Drivers" on page 36

- "Configuring Non-DataDirect Data Sources" on page 43

- "Support for Non-DataDirect Drivers" on page 43

Configuring a Non-DataDirect Driver

When you configure a DataDirect driver, Analytic Services recognizes the basic configuration information for the driver, especially the name of the driver and whether the name and password are case-sensitive. However, when you use a non-DataDirect driver, you must give Analytic Services the configuration information for the driver that you use.

You give Analytic Services the configuration information for your non-DataDirect driver by creating a driver configuration file called esssql.cfg, which is a text file. Place this file in your *ARBORPATH*\BIN directory on Analytic Server. This is c:\hyperion\essbase\ if you installed Analytic Services in the default directory (/home/hyperion/essbase/ on UNIX platforms).

Note: If you do not create a configuration file, Analytic Services uses its own default values. You may not be able to connect to the SQL database using the default values.

Creating a Configuration File for Non-DataDirect Drivers

For non-DataDirect drivers, you create a configuration file: $ARBORPATH/bin/ esssql.cfg. The configuration file must contain at least some of the following configuration values for each non-DataDirect ODBC driver that you use. Required values may be different for different drivers. See the online help for each driver or see the documentation for specific information.

This section contains information about what you need to include in the configuration file, and in one case, how to find it:

- "Including the Minimum Required Contents" on page 37

- "Finding a Driver Name on Windows" on page 40

- "Finding a Driver Name on UNIX" on page 41

- "Example: Creating a Configuration File for the MS Access Driver on Windows" on page 41

- "Example: Creating a Configuration File for the IBM DB2 Driver on AIX" on page 42

Including the Minimum Required Contents

At a minimum, the configuration file must contain at least the *DriverName* for every non-DataDirect ODBC driver that you use. Surround all values for each driver with brackets ([ ]). Leave one or more spaces between the configuration keyword and its corresponding value.

Use this template to help you create a configuration file:

```
[
Description           "Description of Driver"
DriverName            DriverName
UserId                Value
Password              Value
Database              Value
Server                Value
Application           Value
Dictionary            Value
Files                 Value
SingleConnection      Value
UpperCaseConnection   Value
IsQEDriver            Value
]
```

Description of Driver is your description of the driver. Enclose the description in quotation marks (""). The default value is "".

DriverName is the file name of the non-DataDirect ODBC driver and is required.

For all other configuration keywords, set *Value* to be either 1 or 0, according to the following table:

Configuration Information	Value	Description
UserId	1	User ID required.
	0	User ID not required. Default: 0
Password	1	Password required.
	0	Password not required. Default: 0
Database	1	Database name required.
	0	Database name not required. Default: 0
Server	1	Server name required.
	0	Server name not required. Default: 0
Application	1	Application name required.
	0	Application name not required. Default: 0
Dictionary	1	Dictionary name required.
	0	Dictionary name not required. Default: 0
Files	1	Files name required.
	0	Files name not required. Default: 0
SingleConnection	1	Driver not thread-safe. One active connection allowed. Default: 1 Recommendation for DataDirect drivers: 1
	0	Driver thread-safe. Multiple active connections allowed. **CAUTION:** Specifying 0 (multiple active connections allowed) for DataDirect or non-DataDirect drivers may lead to instability.
UpperCaseConnection	1	Driver not case-sensitive. Connection information is converted to uppercase.
	0	Driver case-sensitive. Connection information is unchanged. Default: 0

Configuration Information	Value	Description
IsQEDriver	1	Driver is a DataDirect driver. You can specify configuration information for DataDirect drivers (for example, if you have a later version of a DataDirect driver which Analytic Services does not yet support).
	0	Driver is a non-DataDirect driver. Default: 0

The defaults apply if you do not specify the value for the driver. These defaults are different from the Analytic Services default values that apply if you do not create an esssql.cfg file.

Include configuration information for all the non-DataDirect drivers in one configuration file. Enclose the values for each driver in brackets ([ ]).

Use this template to help you create a configuration file:

```
[
Description        "Description of Driver"
DriverName         DriverName
...
]


[
Description        "Description of Driver"
DriverName         DriverName
...
]
```
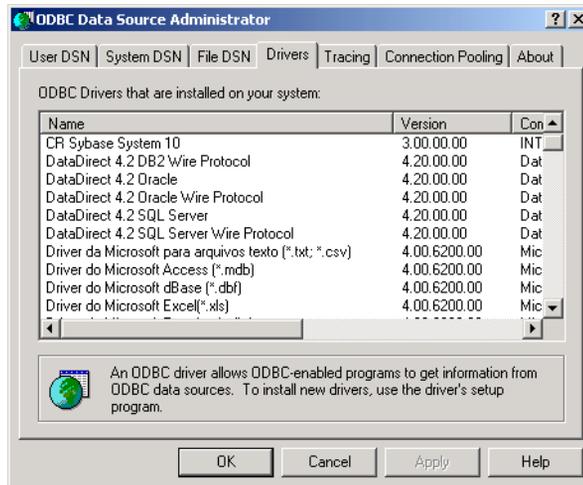
Finding a Driver Name on Windows

➤ To display the name of the drive, use this procedure:

1. Start the ODBC Administrator using any method from step 1 in "Configuring a Data Source on Windows" on page 15.

The **ODBC Data Source Administrator** dialog box, **User DSN** tab appears:
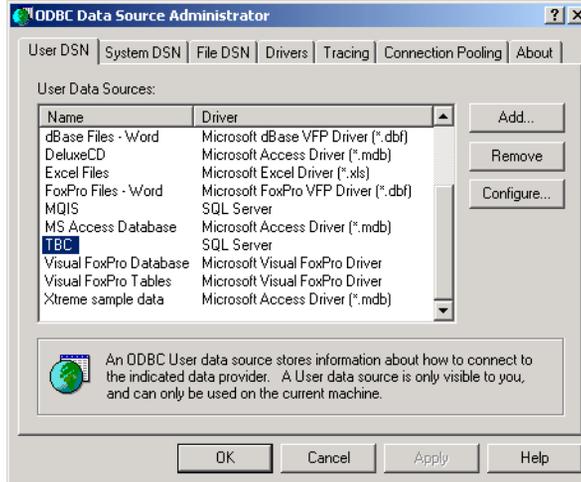
Data sources that you have configured are in the **User Data Sources** list box. Drivers that have not been properly configured may also be in the User Data Sources list box. Ignore them.

2. Select the **Drivers** tab:

3. Obtain the file name of the driver by scrolling to the right. For example, the file name for the Microsoft Access Driver is ODBCJT32.DLL.

4. Select the driver, and click **OK**.

Finding a Driver Name on UNIX

On UNIX, the driver name is in the .odbc.ini file. For more information on the .odbc.ini file, see "Configuring a Data Source on UNIX" on page 19.

Example: Creating a Configuration File for the MS Access Driver on Windows

The driver name for the Microsoft Access driver on Windows is ODBCJT32.DLL. This driver requires a database name, server name, application name, and dictionary (directory path). This driver is not a DataDirect driver, so you must create a configuration file, $ARBORPATH/bin/esssql.cfg in text format.

Use this example as a template:

```
[
Description             "Microsoft Access Driver (*.MDB)"
DriverName              ODBCJT32.DLL
Database                1
Server                  1
Database                1
Application             1
Dictionary              1
IsQEDriver              0
]
```

Example: Creating a Configuration File for the IBM DB2 Driver on AIX

The driver name for the IBM DB2/6000 driver on AIX is DB2.0. This driver requires a user ID, password, and database name, but not a server name. This driver is thread-safe and case-sensitive. It is not a DataDirect driver, so you must create a configuration file, $ARBORPATH/bin/esssql.cfg, in text format.

Use this example as a template:

```
[
Description             "IBM DB2/6000 ODBC Driver"
DriverName              DB2.0
UserId                  1
Password                1
Database                1
SingleConnection        0
UpperCaseConnection     0
IsQEDriver              0
]
```

Configuring Non-DataDirect Data Sources

The procedure for configuring non-DataDirect data sources is similar to that for configuring DataDirect data sources. See Chapter 2, "Configuring a Data Source" for detailed information. For specific instructions on configuring a non-DataDirect data source, please reference your ODBC documentation.

Note: Before you configure a non-DataDirect data source, you must first configure the driver by creating an esssql.cfg configuration file. See "Creating a Configuration File for Non-DataDirect Drivers" on page 36.

Support for Non-DataDirect Drivers

Some non-DataDirect drivers are not tested or supported for use with Analytic Services. The driver that you choose might not be specifically tested to work with Analytic Services. For information on qualified drivers and data sources, see the *Essbase Analytic Services Installation Guide*.

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