IBM® DB2® OLAP Server™

Version 7
OLAP SQL Interface Guide

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Introduction

Welcome to the *Hyperion Essbase SQL Interface Guide*. To help you get started, this introduction provides the following information:

- What you will find in this book
- How it is organized, with a brief description of each chapter
- What you will not find in this book
- What you should know to use Hyperion Essbase™ SQL Interface
- All about the sample files referred to in this book
- The formatting conventions for this book
- Where to find other sources of Hyperion Essbase information

Who Should Read This Guide

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

What This Guide Contains

The *Hyperion Essbase SQL Interface Guide* describes how to load data from SQL, relational, and flat-file data sources into a Hyperion Essbase database. Use this guide to learn how to:

- Prepare data for loading into an Hyperion Essbase database.
- Troubleshoot common relational database server connections and transfer problems.

- Construct a data load rules file to map the data source to the Hyperion Essbase database.
- Select and configure the correct database driver to ensure a fast and smooth data load.

This guide also briefly describes what's new in Release 6 of SQL Interface.

Note: For a high-level list of steps for using SQL Interface and the supporting documentation, see "About Loading SQL Data" on page 14.

What Each Chapter Contains

The chapters in this guide are organized as follows:

- provides a conceptual overview of data loading using SQL Interface.
- describes how to use the ODBC Administrator Utility to choose your MERANT (formerly INTERSOLV) ODBC driver and point it to its data source.
- describes two ways to prepare multiple-table data for loading, and when to choose each one.
- describes how to load data from a relational data source into a Hyperion Essbase database.
- describes how to configure non-MERANT drivers and data sources.

What Is Not in This Guide

This guide does not describe the following material:

- Procedures for installing the Hyperion Essbase OLAP Server and SQL Interface. For this information, see the *Hyperion Essbase Installation Guide*.
- Detailed information on each of the MERANT (formerly INTERSOLV) ODBC drivers tested with Hyperion Essbase. For this information, see the *INTERSOLV DataDirect Connect ODBC Reference*, which is provided with SQL Interface. This reference is in the `ARBORPATH\ODBCDOCS` (`ARBORPATH\odbcdocs` on UNIX) directory in `.PDF` format for online

viewing and printing in Adobe Acrobat Reader (Version 3.0.1 or later). Adobe Acrobat Reader is provided on the Hyperion Essbase CD-ROM, or you can download Acrobat Reader from WWW.ADOBE.COM.

- Basic data retrieval. For this information, you need to use the spreadsheet environment. See the *Hyperion Essbase Spreadsheet Add-in User's Guide*.

This guide describes data loading and data load rules only in the context of loading data from SQL, relational, and flat-file sources. For a complete discussion of rules files and data loading techniques, see the *Hyperion Essbase Database Administrator's Guide*, online help available in the Hyperion Essbase Application Manager, and online HTML documentation provided with the Application Manager.

What You Should Know Before You Start

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

Sample Applications

This book provides examples based on an application called Sample, which is provided with the Hyperion Essbase server software, and a dBASE file called BUDGET.DBF (budget.dbf on UNIX platforms), which is provided with the SQL Interface software.

The individual who installs the server is responsible for making Sample available to end users. Sample contains three databases: Basic, Interntl, and Xchgrate. Contact the Hyperion Essbase System Administrator if any of the following problems occur when you connect to the Hyperion Essbase server:

- You cannot find the Sample application.
- You do not have adequate access to the Sample application.
- You do not see any data in the Sample databases.

Documentation Conventions

This book uses several formatting styles to indicate actions you should take or types of information that you need. The following table lists each document convention:

Table i: Document Conventions

Type	Description
1, 2, 3	Indicates procedures to follow in a specific order.
●	Indicates a list of related items.
Product	Dimension names and member names are in upper and lower case and in this font.
italics	Introduces new terms that you may not be familiar with, and is used occasionally for emphasis. Titles of books are also in italics.
bold	Names of dialog boxes and their controls, such as buttons, text boxes, and list boxes, appear in boldface.
UPPERCASE	Indicates the name of a file or directory. For operating environments that use case-sensitive file names, the correct capitalization is used for information specific to those environments.
`monospace`	Syntax examples, directories, specific text that you must type, and results that you receive.
`monospaced italics`	Names that are placeholders for values that you specify (for example, *`filename`*).
greater than symbol (>)	Indicates a menu followed by an individual menu command in that menu (for example, File > Open). Or, it indicates an OR separator to delineate items.
brackets [ ]	Indicates optional items (for example, SELECT [DISTINCT]). In the example, DISTINCT is an optional keyword.
braces { }	Indicates that you must select one item (for example, {yes|no}). In the example, you must specify either yes or no.

This book uses the following terminology:

- The term *ODBC.INI* refers to the `ODBC.INI` file format as defined by the Microsoft ODBC specification.
- The suffix `.DLL` refers to a dynamic link library file. Your operating system might use the term *shared object* or *shared library files* instead.

Environment-Specific Information

This book supports users of the Windows NT, Windows 2000, AIX, Solaris, and HP-UX operating environments. Where it provides information that is not applicable to all environments, the following symbols are used to identify that information:

Symbol	Environment
	Information specific to the Microsoft Windows NT environment is identified by the Windows symbol and the letters "NT." This information also applies to Windows 2000.
	Information specific to the UNIX environment (Solaris, AIX, and HP-UX platforms) is identified by the UNIX symbol.

This manual shows dialog boxes that are specific to Windows NT. The dialog boxes that you see in other platforms may differ slightly from the NT versions.

Additional Sources of Documentation

If you do not find what you need in this book, refer to the following documentation:

- The *Hyperion Essbase Installation Guide* shows you how to install and configure the Hyperion Essbase server, Hyperion Essbase Spreadsheet Add-in, Hyperion Essbase Application Manager, Hyperion Essbase SQL Interface, Hyperion Essbase API, Runtime Client, and sample applications.
- The *INTERSOLV DataDirect Connect ODBC Reference*, in your ODBCDocs directory, provides detailed driver-specific information.

- The *Hyperion Essbase Start Here* booklet provides late-breaking information as well as the most important migration and feature information for this release of Hyperion Essbase.
- The *Hyperion Essbase Documentation Roadmap* lists all the Hyperion Essbase documentation and tells you how to access the online information.
- The *Hyperion Essbase Quick Path Card (QPC)* provides an overview of the tasks involved in creating, using, and maintaining Hyperion Essbase databases.
- The *Hyperion Essbase Database Administrator's Guide* explains the architecture of Hyperion Essbase, how to design databases, how to design calculations, how to set up Hyperion Essbase security, how the database is stored, and how to optimize Hyperion Essbase.
- The Hyperion Essbase Application Manager online help file explains how to use the Application Manager user interface.
- The online *Technical Reference* in the `DOCS` directory lists and describes Hyperion Essbase functions, calculation commands, report commands, ESSCMD commands, and configuration file (`.CFG` file) settings.
- The *Hyperion Essbase Quick Technical Reference* provides syntax for Hyperion Essbase functions, calculation commands, report commands, ESSCMD commands, and configuration file (`.CFG` file) settings.
- The online *API Reference* in your `DOCS` directory lists and describes programmatic functions available through the Hyperion Essbase API, and provides information to help you start programming with these functions..

Hyperion Essbase also includes these sources of documentation:

- The *Hyperion Essbase Spreadsheet Add-in User's Guide*, in your `DOCS\CLIENT` directory, explains how to use Hyperion Essbase Spreadsheet Add-in features with Microsoft Excel or Lotus 1-2-3 for Windows. This guide is provided in the `\ESSBASE\DOCS\CLIENT` directory in `.PDF` format.
- The Hyperion Essbase Spreadsheet Add-in online help files explain how to use Hyperion Essbase Spreadsheet Add-in, and provide all the spreadsheet macros and VBA functions.

What's New in Release 6

Hyperion Essbase SQL Interface Release 6 supports MERANT DataDirect ODBC drivers Version 3.11 on Windows NT and UNIX.

Note: INTERSOLV Solutions has changed its corporate name to MERANT Solutions. If you are using MERANT version 3.11 drivers, the name on the package is still "INTERSOLV."

Hyperion Essbase SQL Interface 6 now runs on HP-UX and Windows 2000, as well as on AIX, Solaris, and Windows NT.

With the release of Hyperion Essbase 6, SQL Drill-Through is no longer provided.To use a previous release of Hyperion Essbase SQL Drill-Through with Release 6, do the following:

1. Install Hyperion Essbase Spreadsheet Add-in, Release 6.
2. Install Hyperion Essbase SQL Drill-Through, Release 5.0.2 Patch 9 (or later), in the same directory.

For information on the data sources qualified for use with Hyperion Essbase on Windows NT and UNIX platforms, see the *Hyperion Essbase Start Here* booklet or the `README.TXT` file.

Note: You can also load spreadsheet and text-file data directly, using Hyperion Essbase Application Manager. See the *Hyperion Essbase Database Administrator's Guide*.

Chapter 1

Introducing SQL Interface

This chapter provides a conceptual overview of Hyperion Essbase SQL Interface and includes the following topics:

- "What Is SQL Interface?" on page 13
- "About Loading SQL Data" on page 14

What Is SQL Interface?

Using SQL Interface, you can load summary-level data from a number of popular SQL, relational, and flat-file database servers. You can also load summary-level data from flat files that are in ASCII text format. When you load the data, you can also optionally build Hyperion Essbase dimensions dynamically.

Note: You can load data from spreadsheets using Hyperion Essbase Application Manager. You do not need to use SQL Interface. See the *Hyperion Essbase Database Administrator's Guide*.

SQL Interface performs the following actions:

1. Passes SQL statements from the Application Manager 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.)
2. 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.")
3. Loads the interpreted, summary-level data into the Hyperion Essbase database.

About Loading SQL Data

To load SQL, relational, or flat-file data, you must complete these basic steps:

1. Install SQL Interface on your Hyperion Essbase server machine. See the *Hyperion Essbase Installation Guide*.
2. Configure the relevant data source, which means to choose your ODBC driver and point it to its data source. See Chapter 2, “Configuring Your Data Source.”
3. If your data is in multiple tables, prepare your data for loading by doing either of the following actions:
   - Create one table or view in your SQL database before using SQL Interface.
   - Join the tables during the data load by entering a SELECT statement in the Application Manager.

   See “About Preparing Multiple-Table Data” on page 21.
4. Check that you can connect to the data source by using the Data Prep Editor in the Application Manager to open the SQL source file. See Chapter 4, “Loading SQL Data.”

Create a data load rules file to tell SQL Interface how to interpret and load the SQL data into your Hyperion Essbase database, then load the data. See Chapter 4, “Loading SQL Data.”

Chapter 2

Configuring Your Data Source

Before you can access data using Hyperion Essbase SQL Interface, you need to tell Hyperion Essbase what data sources are available and which drivers it must use. On Windows NT, do this using the ODBC Administrator. See "Configuring the Data Source on UNIX" on page 20 for UNIX-specific information.

Note: For detailed, driver-specific information on each of the MERANT (formerly INTERSOLV) drivers, see the *INTERSOLV DataDirect Connect ODBC Reference* in your `ODBCDOCS` directory.

This chapter contains the following topics:

- "Configuring the Data Source on Windows NT" on page 15
- "Configuring the Data Source on UNIX" on page 20

Configuring the Data Source on Windows NT

On Windows NT, use the ODBC Administrator, an executable file, to configure the data source. This file is located in the `BIN` directory of the Hyperion Essbase server machine. If you installed Hyperion Essbase in the default directory, this directory is `C:\HYPERION\ESSBASE\BIN`. Complete the following steps:

1. Take one of the following actions:

   - To start the ODBC Administrator on Windows NT, run `ODBCAD32.EXE`. At the Windows NT command prompt, type:

     ```
     C:\HYPERION\ESSBASE\BIN\ODBCAD32
     ```

   - If you installed Hyperion Essbase in a different directory than the default, type the appropriate path (for example, `D:\ESSBASE\BIN\ODBCAD32`).

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

For detailed information, see the appropriate driver chapter in the *INTERSOLV DataDirect Connect ODBC Reference* (for example, "Connect ODBC for dBASE," or "Connect ODBC for Oracle"). For an example of configuring a dBASE data source on Windows NT, see "Configuring a dBASE Data Source on Windows NT" on page 16.

Configuring a dBASE Data Source on Windows NT

➤ To configure the dBASE data source, complete the following steps:

1. Start the ODBC Administrator to display the **ODBC Data Source Administrator** dialog box.

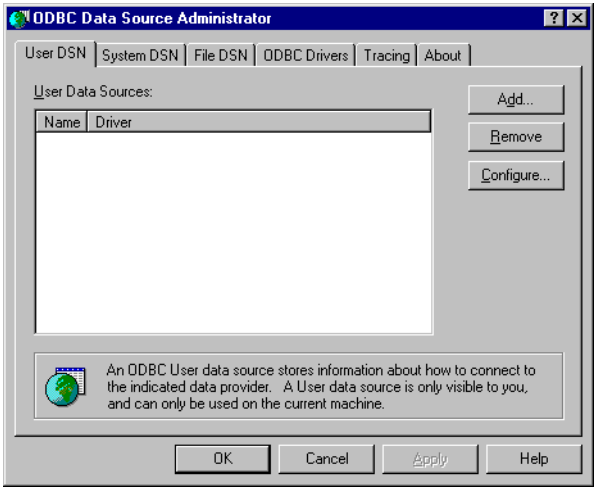

Figure 1: User DSN Page of the ODBC Data Source Administrator Dialog Box

2. Click the **Add** button on the **User DSN** page.

   The **Create New Data Source** dialog box is displayed.

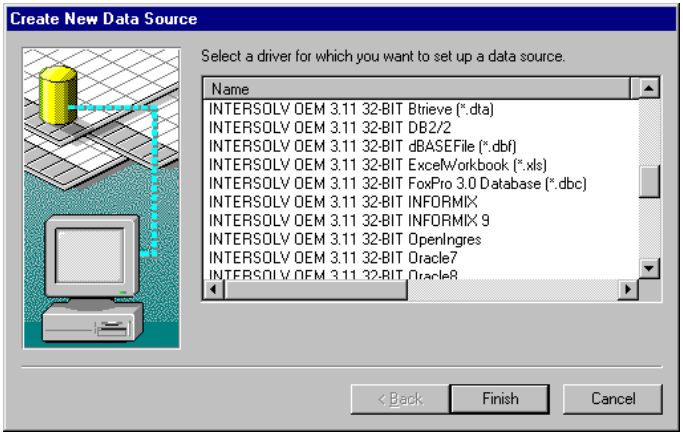

Figure 2: Create New Data Source Dialog Box

3. From the list box, select `INTERSOLV OEM 3.11 32-bit dBASEFile (*.dbf)` for Windows NT and click the **Finish** button to display the **General** tab of the **ODBC dBASE Driver Setup** dialog box.

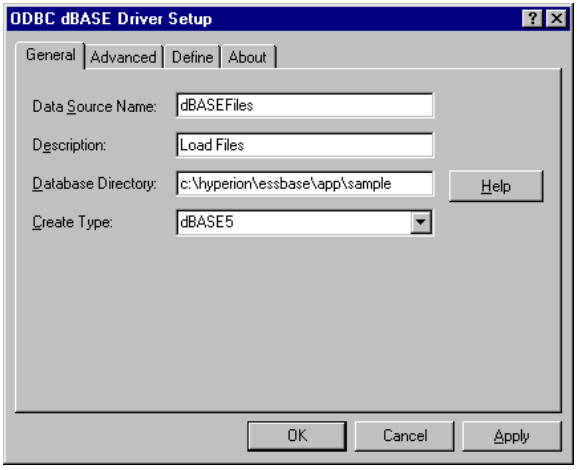

Figure 3: General Page of the ODBC dBASE Driver Setup Dialog Box

4. Type the following information on the **General** page:

   a. Type `dBASEFiles` in the **Data Source Name** text box.

   b. Type `Load Files` in the **Description** text box.

   c. Type `C:\HYPERION\ESSBASE\APP\SAMPLE` in the **Database Directory** text box and click OK. If you installed Hyperion Essbase in the default directory, `C:\HYPERION\ESSBASE`, `BUDGET.DBF` is stored in this subdirectory.

      The **User DSN** tab of the **ODBC Data Source Administrator** dialog box is displayed with `dBASEFiles` listed in the **User Data Sources** list box.

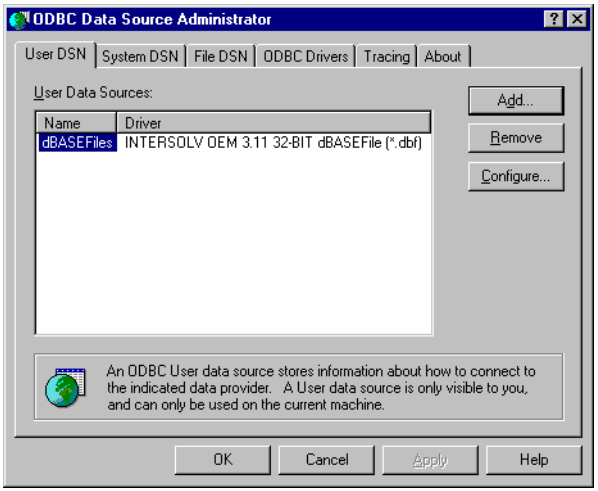

Figure 4: User DSN Page with dBASEFiles Listed

5. Click OK to close the **ODBC Data Source Administrator** dialog box.

You have configured the dBASE data source. Now you need to create a data load rules file to tell Hyperion Essbase how to load the data from `BUDGET.DBF`.

Note: Online help explains the configuration procedure more fully. For example, clicking the Help button on the General tab of the ODBC dBASE Driver Setup dialog box (in step 3) brings up the following Help screen:

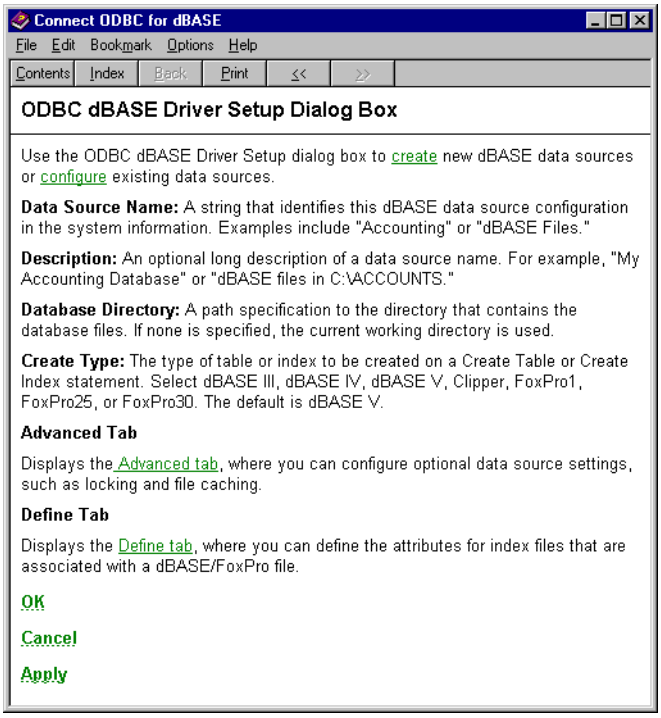

Figure 5: Help Screen for the ODBC dBASE Driver Setup Dialog Box

Configuring the Data Source on UNIX

The ODBC Administrator is not available on UNIX platforms. SQL Interface generates the `.odbc.ini` file upon installation, and you do not need to do any further configuration to use the `budget.dbf` 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.

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.

Here is the entry you make in the `.odbc.ini` file for the Oracle 8 driver (assuming you installed to `home/hyperion/essbase`):

```
[ARor8]

Driver=/home/hyperion/essbase/dlls/ARor813.so
Description=INTERSOLV Oracle driver
ServerName=Poplar
LogonID=Henry
```

For more information about the `.odbc.ini` file, see the *INTERSOLV DataDirect Connect ODBC Reference* in your `ODBCDOCS` directory.

Chapter 3

Preparing Multiple-table Data for Loading

This chapter tells you how to prepare relational data in multiple tables for loading into Hyperion Essbase. The following topics in this chapter describe two methods and explain when to choose them:

- "About Preparing Multiple-Table Data" on page 21
- "Preparing Data in Your SQL Database" on page 22
- "Preparing Data in the Hyperion Essbase Application Manager" on page 23
- "Choosing the Method to Prepare Your Data" on page 24

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

About Preparing Multiple-Table Data

If data is in multiple tables, you need to create a single table or a view of the data. You can do this in one of the following two ways:

- Create one table or view in the SQL database before using Hyperion Essbase SQL Interface, as illustrated in Figure 6.
- Join the tables by entering a SELECT statement in the Hyperion Essbase Application Manager during the data load, as illustrated in Figure 7.

The following sections describe these two methods.

Note: The SQL data source file must always be accessible to the Hyperion Essbase server. It can be on the server machine or on the network.

Preparing Data in Your SQL Database

When you create a single physical or virtual table based on data from multiple tables in the source database, you need to have the appropriate security privileges on your SQL database server. You need privileges to create a table or view and to read from all the tables that contain relevant data. Figure 6 illustrates the process of loading SQL data from a single table or view.

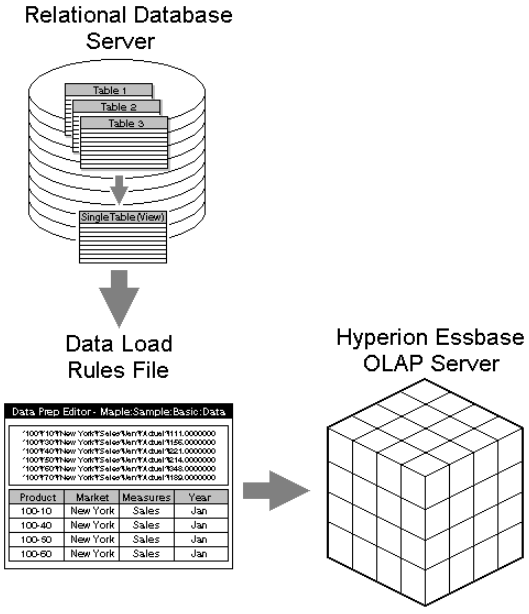

Figure 6: Loading SQL Data from a Single Table or View Created in the SQL Database

Preparing Data in the Hyperion Essbase Application Manager

If you have data in multiple tables, you can tell Hyperion Essbase to join the tables during the data load by entering a SELECT statement in the Hyperion Essbase Application Manager, as illustrated in Figure 7. Hyperion Essbase passes the SELECT statement to the SQL server, without verifying the syntax.

➤ To join multiple tables, do the following:

1. Identify the tables and columns (or fields) containing the data that you want to load into Hyperion Essbase.
2. Choose File > Open SQL in the Application Manager Data Prep Editor to display the **Define SQL** dialog box. For more information, see "Opening the Data Prep Editor" on page 27.
3. Write a SELECT statement that joins the tables. For more information, see "Selecting the SQL Data Source" on page 28 and "More About SQL Queries" on page 30.

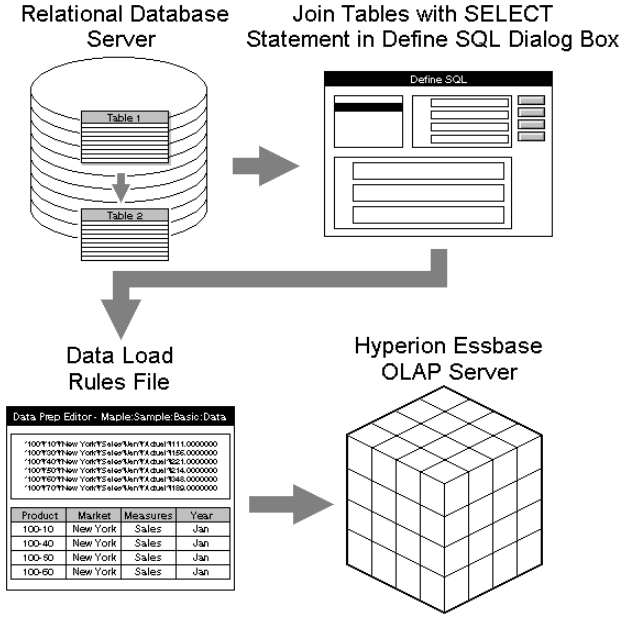

Figure 7: Loading SQL Data by Joining Tables in the Application Manager

Choosing the Method to Prepare Your Data

Creating a single table or view in the source database before you use SQL Interface is usually the most efficient method. Because an SQL database server reads from a single table and maintains a single view more efficiently than it processes a multiple-table SELECT statement, creating a single table or view before you use SQL Interface greatly reduces the amount of processing time the SQL server needs.

You need CREATE access privileges in the SQL database to create a single table or view. If you do not have CREATE privileges, use the Define SQL dialog box of the Data Prep Editor in the Application Manager to join tables during the data load. (Alternatively, you can ask the SQL Database Administrator to provide you with the appropriate CREATE privileges.)

Note: For either method, you need SELECT access privileges to all tables containing the relevant data.

Chapter 4

Loading SQL Data

This chapter describes how to load SQL data into the Hyperion Essbase OLAP Server using the Hyperion Essbase Application Manager. It explains how to create a data load rules file and load data from a dBASE file into the Hyperion Essbase server.

The example is based on the Sample Basic database and the dBASE data file `BUDGET.DBF` (`budget.dbf` on UNIX platforms), which is installed with SQL Interface. This file contains budget data for the West and the East regions of a fictitious company. For more information on the sample applications, see "Sample Applications" on page vii.

This chapter contains the following topics:

- "About Loading Data" on page 25
- "Creating a Data Load Rules File" on page 26
- "Loading the Data" on page 40

About Loading Data

After you have configured the data source and prepared the multiple-table data for loading, you need to do the following:

1. Create a data load rules file.
2. Load the dBASE data into the Hyperion Essbase database.

Creating a Data Load Rules File

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

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

You can reuse a rules file with any data source that needs the same set of data load rules.

Summary of Steps to Create a Data Load Rules File

To create a data load rules file for the sample dBASE file, `BUDGET.DBF` (`budget.dbf` on UNIX platforms), follow these steps:

1. Open the Data Prep Editor.
2. Select `BUDGET.DBF` as the SQL data source (`budget.dbf` on UNIX platforms).
3. Define the data load rules in a rules file.
4. Associate the data load rules file with the Sample Basic database outline.
5. Validate the data load rules file.
6. Save the data load rules file.

Each of these steps is described in detail in the following sections.

Opening the Data Prep Editor

➤ To open the Data Prep Editor:

1. Start the Application Manager and connect to your server.

   The Application Desktop window is displayed.

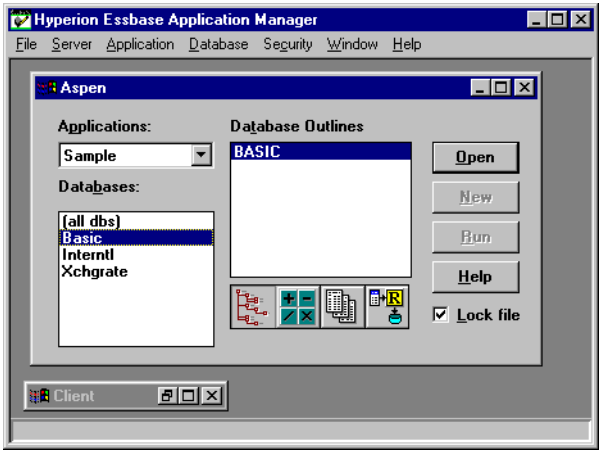

Figure 8: Application Desktop Window

2. Choose Sample from the **Applications** list box and Basic from the **Databases** list box.

3. Click the **Data Load Rules** button, .

4. Click **New** to display the Data Prep Editor.

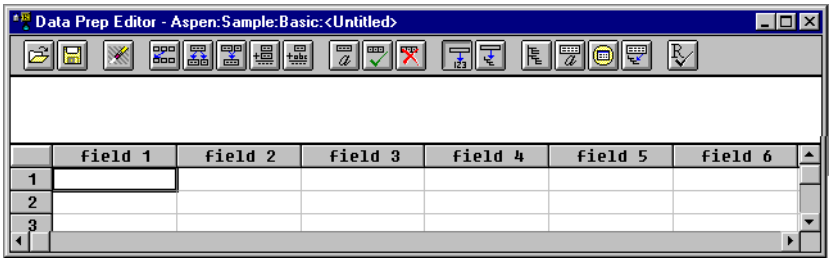

Figure 9: Data Prep Editor

Now you are ready to select and view the SQL data source.

Selecting the SQL Data Source

➤ To select the dBASE file, `BUDGET.DBF` (`budget.dbf` on UNIX platforms):

1. Choose File > Open SQL.

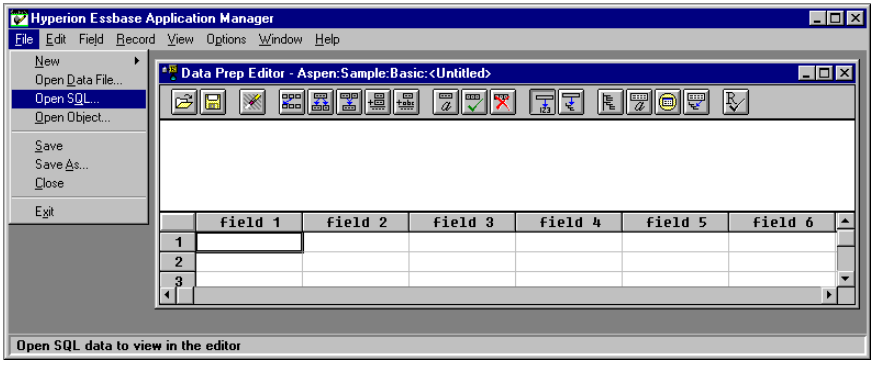

Figure 10: Choosing File > Open SQL with the Data Prep Editor Active

The **Select Server, Application and Database** dialog box is displayed. The Sample Basic database is selected.

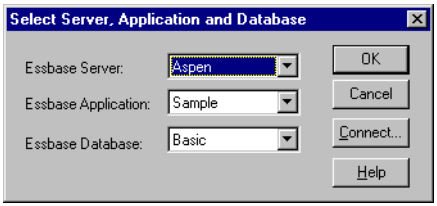

Figure 11: The Select Server, Application and Database Dialog Box

2. Click OK to display the **Define SQL** dialog box.

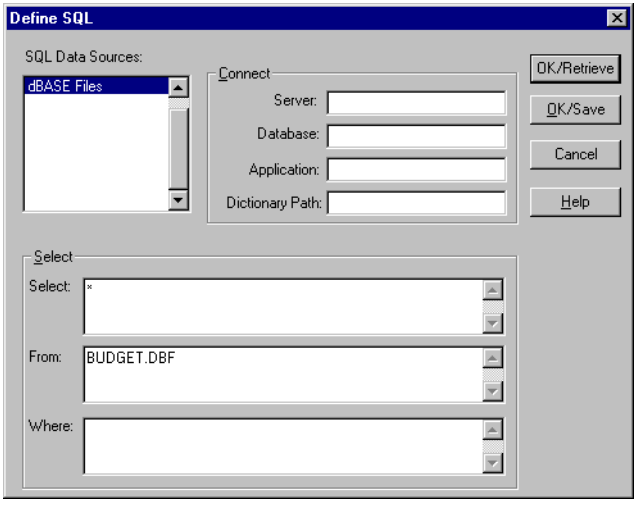

Figure 12: The Define SQL Dialog Box with BUDGET.DBF Selected

In the **SQL Data Sources** list box, dBASE Files is selected. This is the SQL source that you configured in Chapter 2, “Configuring Your Data Source.”

The wildcard character (*) appears in the **Select** text box. This loads all the fields from the dBASE file.

3. Type `BUDGET.DBF` in the **From** text box (`budget.dbf` on UNIX platforms).

   You defined the path for this file in Chapter 2, "Configuring Your Data Source," so you need not define it here.

   Leave the **Where** text box empty to load all the rows from the dBASE table.

4. Click **OK/Retrieve**.

   Hyperion Essbase opens the dBASE file in the Data Prep Editor. See "Defining the Data Load Rules" on page 31 for more information.

   Note: The `BUDGET.DBF` file (`budget.dbf` on UNIX platforms) must be stored on the Hyperion Essbase server, not on the client machine.

   On UNIX platforms, if you have defined the path for the SQL 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 NT, 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, Hyperion Essbase looks for the SQL source file in the directory from which you are running the Hyperion Essbase servers.

More About SQL Queries

The Define SQL dialog box has Select, From, and Where text boxes. The example in the previous section uses the wildcard character (`*`) in the Select text box to load data from all the fields in the dBASE file. Alternatively, you can type the names of all the fields:

```
VERSION,PRODNO,STATE,ACCOUNT,MONTH,MEASURE
```

Or, you can type only the names of the fields that you want to load:

```
PRODNO,STATE,MONTH
```

This example uses the name of a single dBASE file (`BUDGET.DBF`) in the From text box, and leaves the Where text box empty. If you are loading data from two tables, you can join the tables by specifying both the table names, separated by a comma (`,`) in the From text box, and specifying the common (key) fields in the Where text box, separated by an equal sign (=).

For example, to load data from two tables, `TABLE1.DBF` and `TABLE2.DBF`, where the `Key_No` field of `TABLE1.DBF` contains the same data as the `Key_Code` field of `TABLE2.DBF`, type the following text in the From text box:

```
TABLE1.DBF,TABLE2.DBF
```

In the Where text box, type the following text:

```
TABLE1.Key_No = TABLE2.Key_Code
```

You can also use the Where text box to choose a subset of rows to load from the SQL source files. For example, if you want to load only those rows for January into the Sample Basic database, in the Where text box type:

```
MONTH = "Jan"
```

Note: See the *INTERSOLV DataDirect Connect ODBC Reference* for more information about SQL statements for your specific driver.

Defining the Data Load Rules

When you click OK/Retrieve in the Define SQL dialog box, Hyperion Essbase displays the dBASE fields in the Data Prep Editor. Notice that the field names differ from the Sample Basic dimension names.

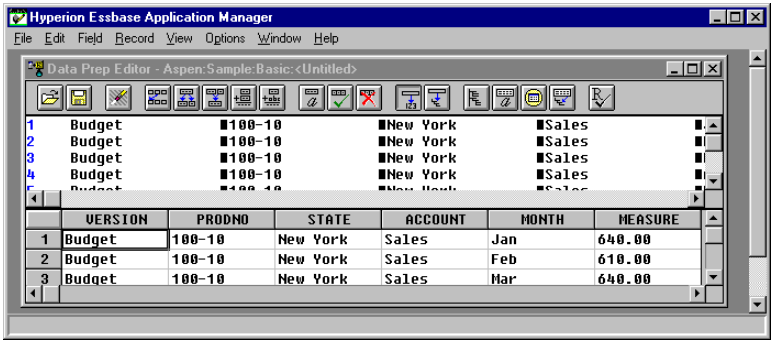

Figure 13: Data Prep Editor Displaying BUDGET.DBF

Changing Field Names

➤ To change the field names to match the Sample Basic dimension names, do the following:

1. Select the first cell in the VERSION field and choose Field > Properties from the **Application Manager** menu.

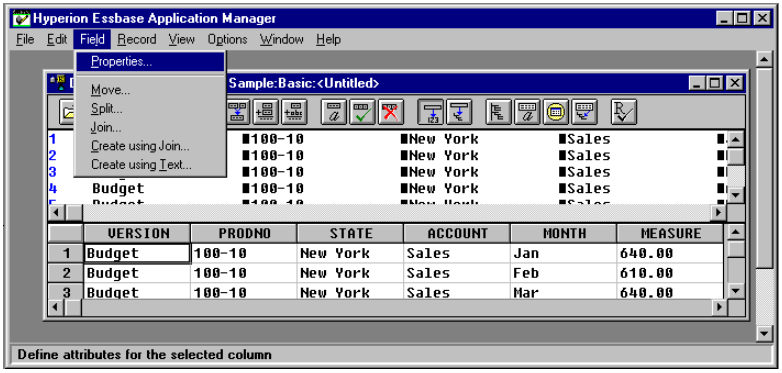

Figure 14: Choosing Field > Properties with the Data Prep Editor Active

The **Field Properties** dialog box is displayed.

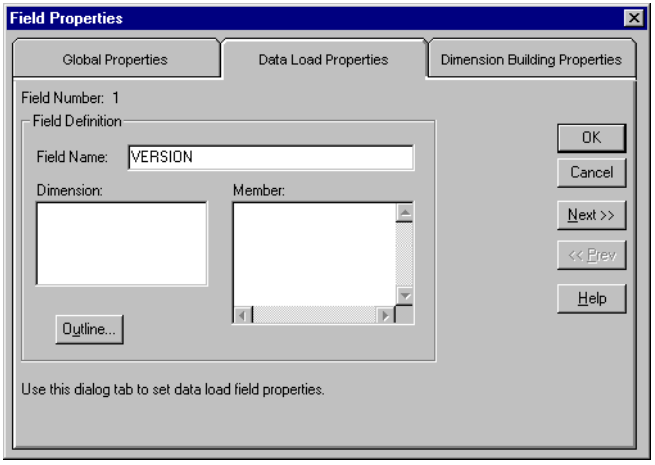

Figure 15: Field Properties Dialog Box Showing Data Load Properties

2. Select the **Data Load Properties** tab.

   The data load properties for **Field Number 1** are displayed.

3. In the **Field Name** text box, type `Scenario` over the existing name (`VERSION`) and click the **Next** >> button.

   The data load properties for **Field Number 2** are displayed.

4. Type `Product` over the existing name (`PRODNO`) and click the **Next** >> button.

   The data load properties for **Field Number 3** are displayed.

5. Type `Market` over the existing name (`STATE`) and click the **Next** >> button.

   The data load properties for **Field Number 4** are displayed.

6. Type `Measures` over the existing name (`ACCOUNT`) and click the **Next** >> button.

   The data load properties for **Field Number 5** are displayed.

7. Type `Year` over the existing name (`MONTH`) and click the **Next** >> button.

   The data load properties for **Field Number 6** are displayed. This is the last field in `BUDGET.DBF`. It contains data values. Because you have fully specified each dimension, you do not match this field to a dimension name.

8. Delete the existing name (`MEASURE`) in the **Field Name** text box, and leave the box blank.

9. Click **OK** to save all your changes.

   The Data Prep Editor is displayed again with the fields renamed. Notice that the last column has a temporary name of field 6.

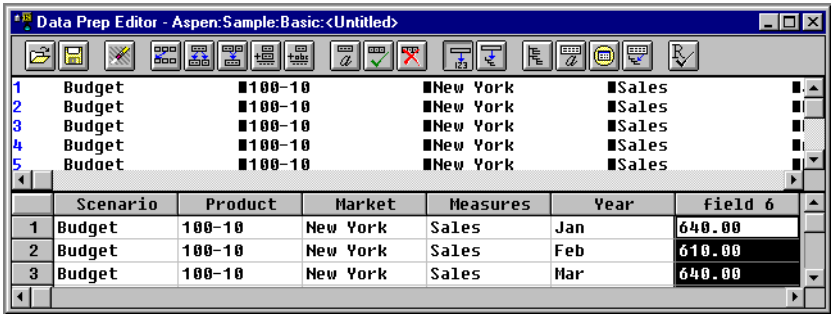

Figure 16: Data Prep Editor with the Fields Renamed

Changing Field Properties

The fields in the dBASE file contain unnecessary leading and trailing white spaces. To ensure that Hyperion Essbase deletes these white spaces in each of the fields when it loads the data, do the following:

1. Select the first cell in the `Scenario` field and choose Field > Properties to display the **Field Properties** dialog box (see Figure 17).

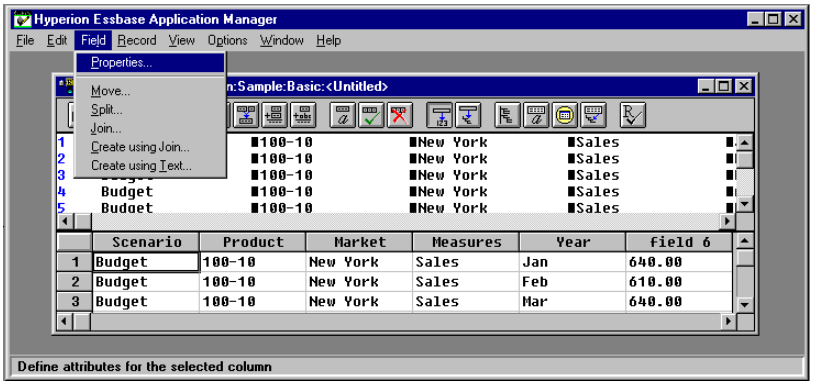

Figure 17: Choosing Field > Properties with the First Scenario Cell Selected

2. Click the **Global Properties** tab.

3. Select the **Drop leading/trailing whitespace** check box, as shown in Figure 18.

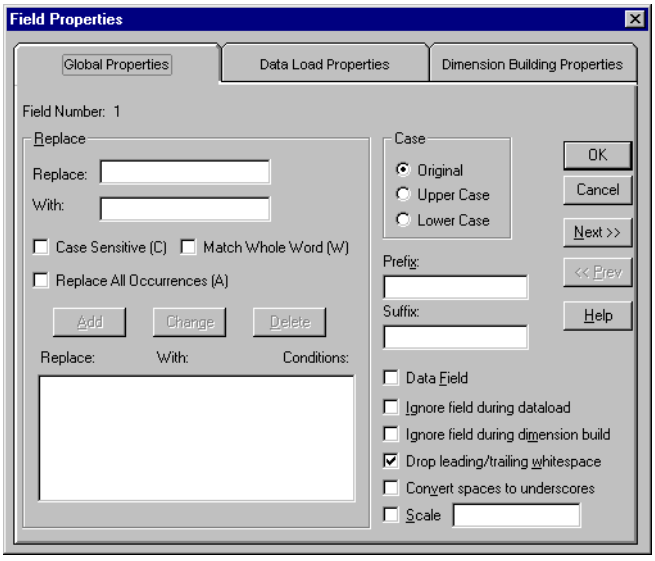

Figure 18: Global Properties Page with Drop Leading/Trailing Whitespace Checked

4. Click the **Next >>** button and select **Drop leading/trailing whitespace** for all six fields.
5. When you reach Field 6, select the **Data Field** check box, as shown in Figure 19, to tell Hyperion Essbase that this field contains data values.

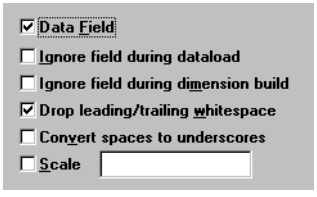

Figure 19: Global Properties Page with Data Field Also Selected

6. Click OK to close the **Field Properties** dialog box.

You have defined the data load rules for the dBASE file. For more information on creating data load rules files, see the *Hyperion Essbase Database Administrator's Guide*.

Now you need to associate the rules file with the database outline into which you are loading the data.

Associating the Rules File with an Outline

➤ To associate the rules file with the Sample Basic outline:

1. Choose Options > Associate Outline.

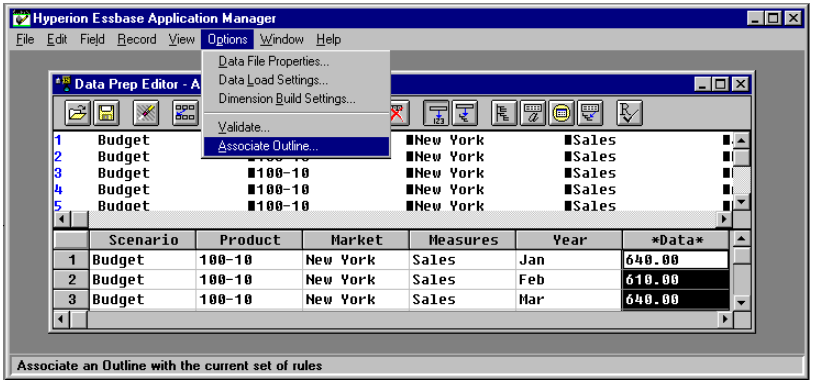

Figure 20: Choosing Options > Associate Outline with the Data Prep Editor Active

The **Associate Server Outline Object** dialog box is displayed.

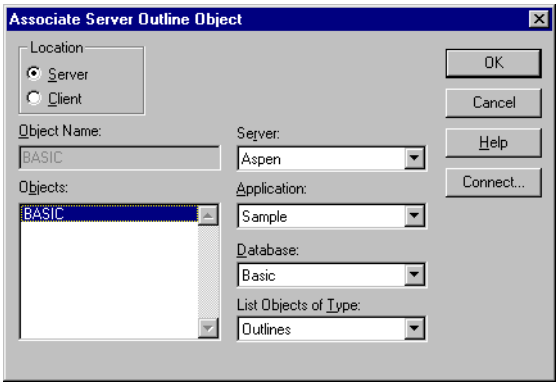

Figure 21: Associate Server Outline Object Dialog Box

2. Choose the `BASIC` outline from the **Objects** list box and click OK.

You are now ready to validate the rules file.

Validating the Rules File

➤ To validate the rules file against the Sample Basic outline:

1. Choose Options > Validate.

Figure 22: Choosing Options > Validate with the Data Prep Editor Active

If the rules files have no problems, Hyperion Essbase displays the **Verify** message box.

Figure 23: Verify Message Box.

2. Click **OK** to close this message box.

If there are validation problems, Hyperion Essbase displays the problems in a **Validate Rules** dialog box. If a field has validation problems, ensure that the field name is correct. For more information on validating rules files, see the *Hyperion Essbase Database Administrator's Guide*.

You can now save, then use the rules file to load data.

Saving the Rules File

➤ To save the rules file:

1. Choose File > Save.

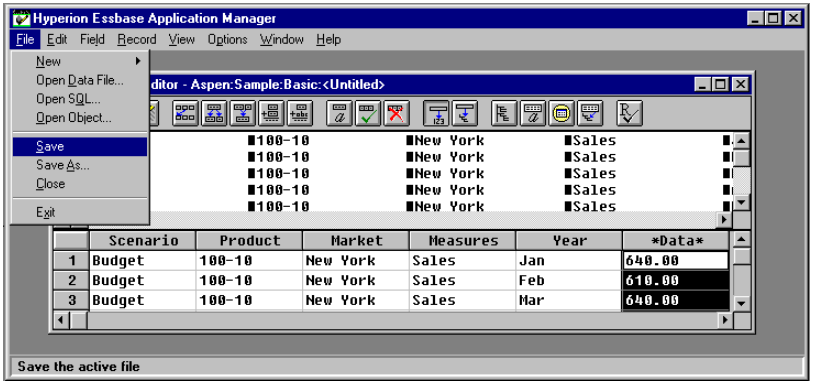

Figure 24: Choosing File > Save with the Data Prep Editor Active

The **Save Server Object** dialog box is displayed.

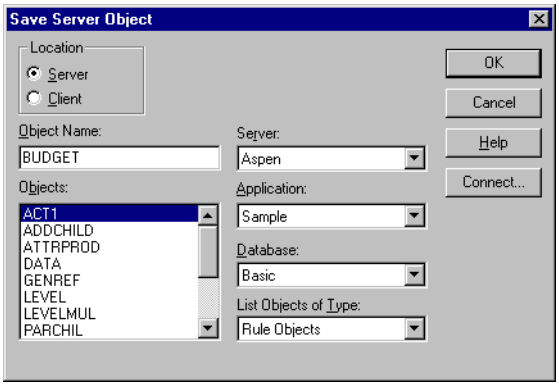

Figure 25: Save Server Object Dialog Box.

2. Type `BUDGET` in the **Object Name** text box.

   This gives the rules file the name `BUDGET.RUL`.

3. Click OK.
4. Choose File > Close to close the **Data Prep Editor**.

You can now use the `BUDGET` rules file to load the data from the dBASE file into the Sample Basic database.

Loading the Data

➤ To load the data into Sample Basic:

1. In the Application Desktop Window, select the Sample application and the Basic database.

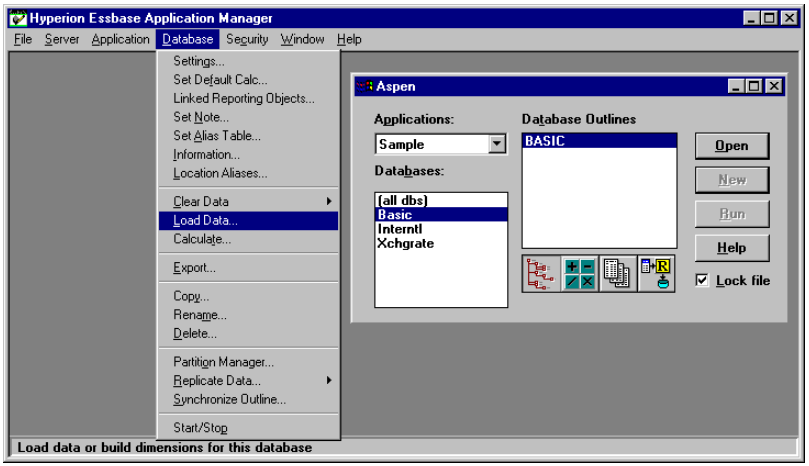

Figure 26: Choosing Database > Load Data

2. Choose Database > Load Data to display the **Data Load** dialog box (see Figure 28).
3. Select the **SQL** option in the **Type** group of the **Data Load** dialog box.
4. Select the **Use Rules** check box.

5. Click the **Find** button to display the **Open Server Rules Object** dialog box.

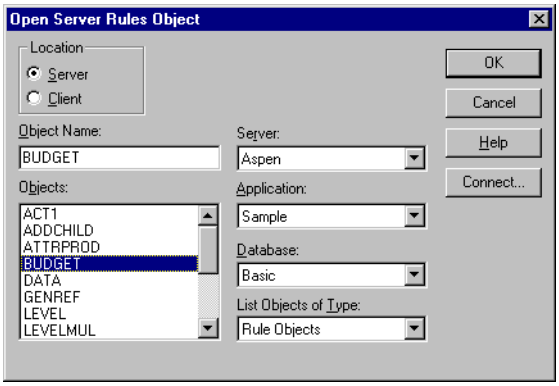

Figure 27: Open Server Rules Object Dialog Box

6. Ensure that the Sample application and Basic database are selected.
7. Choose the `BUDGET` rules file from the **Objects** list box.
8. Click **OK** to display the **Data Load** dialog box again.

9. Select the **Load Data** and **Abort On Error during dataload** check boxes in the **Options** group as shown in Figure 28, and ensure that all other options in the group are unchecked.

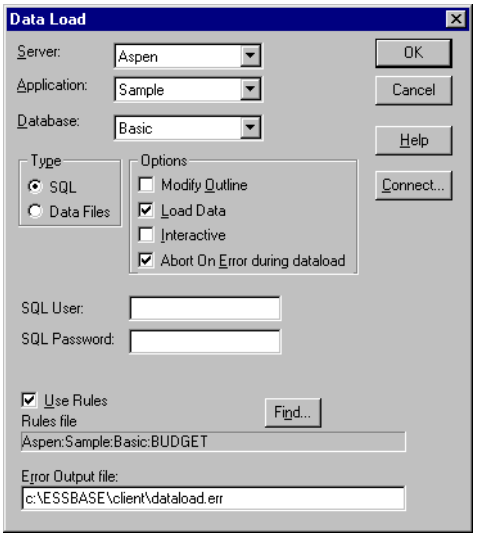

Figure 28: Data Load Dialog Box

10. Click OK to load the data.

Note: You may need to type in an SQL user name and SQL password when you connect to some SQL databases (for example, when you connect to an Oracle database). You do not need to enter a user name and password when you connect to a dBASE database.

When Hyperion Essbase has loaded the data, a message box tells you that the load was successful.

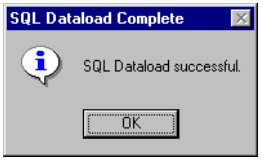

Figure 29: SQL Dataload Complete Message Box.

11. Click OK to close the message box.

Hyperion Essbase loads the SQL data into the Sample Basic database. The dBASE file contains budget data for the West and the East regions. Hyperion Essbase loads the data into member combinations for these regions. If you have problems loading the data, see the *Hyperion Essbase Database Administrator's Guide* for information on data loading or troubleshooting.

Chapter 5

Using Non-MERANT ODBC Drivers

You can use ODBC database drivers with Hyperion Essbase other than the MERANT (formerly INTERSOLV) drivers provided with SQL Interface. For example, you can use a Microsoft ODBC driver to connect to Microsoft Access, or an IBM ODBC driver to connect to IBM DB2/6000. Some non-MERANT ODBC drivers are tested with Hyperion Essbase. For more information on tested and supported drivers and data sources, see the *Hyperion Essbase Start Here* booklet or the `README.TXT` file.

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

1. Configure the driver.
2. Configure the data source.

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

- "Configuring a Non-MERANT (INTERSOLV) Driver" on page 45
- "Configuring Non-MERANT (INTERSOLV) Data Sources" on page 52
- "Support for Non-MERANT (INTERSOLV) Drivers" on page 57

Configuring a Non-MERANT (INTERSOLV) Driver

When you configure a MERANT driver, Hyperion Essbase recognizes the basic configuration information for the driver. For example, Hyperion Essbase recognizes the name of the driver and whether the name and password are case-sensitive. However, when you use a non-MERANT driver, you must give Hyperion Essbase the configuration information for the driver that you use.

You give Hyperion Essbase the configuration information for your non-MERANT driver by creating a driver configuration file called `ESSSQL.CFG` (`esssql.cfg` on UNIX platforms), which is an ASCII text file. Place this file in your *`ARBORPATH`*`\BIN` directory on your Hyperion Essbase server. This is `C:\HYPERION\ESSBASE\BIN` if you installed Hyperion Essbase in the default directory (`/home/hyperion/essbase/bin` on UNIX platforms).

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

Creating a Configuration File

The configuration file must contain at least some of the following configuration values for each non-MERANT ODBC driver that you use. Which values are required varies from driver to driver. See the online help for each driver or documentation for specific information.

At a minimum, your configuration file must contain at least the *DriverName* for every non-MERANT 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.

```
[
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-MERANT ODBC driver and is required.

On Windows NT, you can use the ODBC Administrator to see the name of the driver. To display the name:

1. At the Windows NT command prompt, type:

   ```
   C:\HYPERION\ESSBASE\BIN\ODBCAD32.EXE
   ```

   to display the **User DSN** screen of the **ODBC Data Source Administrator** dialog box.

   (If you installed Hyperion Essbase SQL Interface in a different directory than the default, type the appropriate path; for example, `D:\ESSBASE\BIN\ODBCAD32.EXE`.)

   Data sources that you have configured are in the **User Data Sources** list box.

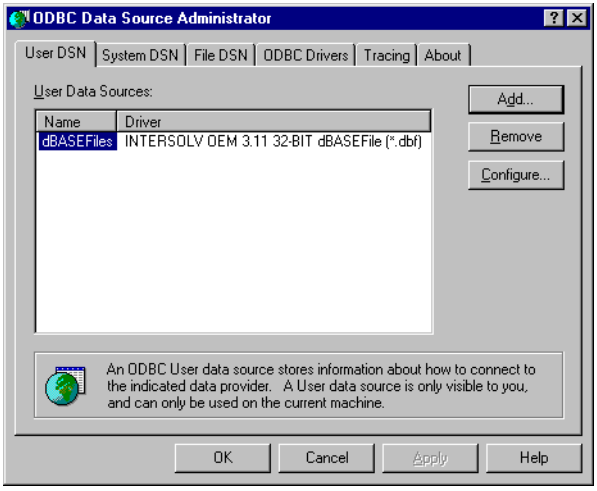

Figure 30: User DSN Page of the ODBC Data Source Administrator Dialog Box

Note: Drivers that have not been properly configured may also be in the **User Data Sources** list box. Ignore them.

2. Select the **ODBC Drivers** tab to display the **ODBC Drivers** screen.

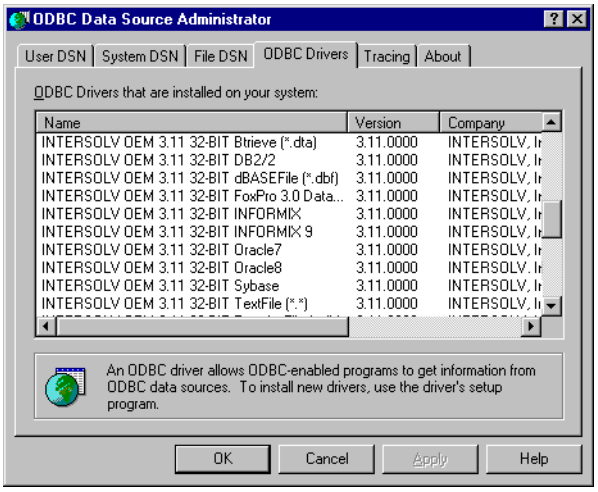

Figure 31: ODBC Drivers Page of the ODBC Data Source Administrator Dialog Box

3. Obtain the file name of the driver by scrolling left to right across the installed **ODBC Drivers** list box.

   For example, the file name for the Microsoft Access Driver is `ODBCJT32.DLL`.

4. Click **OK** when you have selected the driver.

For more information on the ODBC Administrator, see “Configuring a Microsoft Access Data Source on Windows NT” on page 52.

UNIX

On UNIX, the driver’s name is in the `.odbc.ini` file. For more information on the `.odbc.ini` file, see “Configuring the Data Source on UNIX” on page 20.

For all other configuration keywords, set *Value* to be either 1 or 0, according to the following table. The defaults apply if you do not specify the value for the driver. These are different from the Hyperion Essbase default values that apply if you do not create an `ESSSQL.CFG` file.

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.
	0	Driver thread-safe. Multiple active connections allowed. Default: 1 Recommendation for MERANT (INTERSOLV) drivers: 1 **CAUTION:** Specifying 0 (multiple active connections allowed) for MERANT (INTERSOLV) or non-MERANT drivers may lead to instability.

Configuration Information	Value	Description
UpperCaseConnection	1	Driver not case-sensitive. Connection information is converted to uppercase.
	0	Driver case-sensitive. Connection information is unchanged. Default: 0
IsQEDriver	1	Driver is a MERANT (INTERSOLV) driver. You can specify configuration information for MERANT drivers (for example, if you have the latest version of an MERANT driver, which Hyperion Essbase does not yet support).
	0	Driver is a non-MERANT driver. Default: 0

Include configuration information for all the non-MERANT drivers in one configuration file. Enclose the values for each driver in brackets (`[ ]`) as follows:

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

Creating a Configuration File for the Microsoft Access Driver on Windows NT

The driver name for the Microsoft Access driver on Windows NT is ODBCJT32.DLL. This driver requires a database name, server name, application name, and dictionary (directory path). This driver is not a MERANT (INTERSOLV) driver. Therefore, enter its configuration values in an ASCII-text `ESSSQL.CFG` file as follows:

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

Note: See "Configuring a Microsoft Access Data Source on Windows NT" on page 52.

Creating a Configuration File for the IBM DB2/6000 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 MERANT (INTERSOLV) driver. Therefore, enter its configuration values in an ASCII-text `esssql.cfg` file as follows:

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

Note: See "Configuring an IBM DB2/6000 Data Source on AIX" on page 57.

Configuring Non-MERANT (INTERSOLV) Data Sources

You configure a non-MERANT (formerly INTERSOLV) data source in the same way that you configure a MERANT data source. See Chapter 2, “Configuring Your Data Source” for more information. The following sections tell you how to configure a Microsoft Access data source on Windows NT and an IBM DB2/6000 data source on AIX.

Note: Before you configure a non-MERANT *data source*, you must first configure the *driver* by creating an `ESSSQL.CFG` configuration file (`esssql.cfg` on UNIX platforms). See “Configuring Non-MERANT (INTERSOLV) Data Sources” on page 52.

Configuring a Microsoft Access Data Source on Windows NT

The following example describes how to configure a Microsoft Access data source on a Windows NT Hyperion Essbase server. Your data source and driver may differ, but the steps that you take to configure the data source are essentially the same. The example assumes:

- You have installed the Microsoft Access ODBC 32-bit database driver on the Hyperion Essbase server.
- The Hyperion Essbase server has access to a sample Microsoft Access (`*.MDB`) file.

On Windows NT, you use the ODBC Administrator, `ODBCAD32.EXE`, to configure a non-INTERSOLV data source, just as you use it to configure an INTERSOLV data source. This file is located in the `BIN` directory of the Hyperion Essbase server machine, `C:\HYPERION\ESSBASE\BIN`, if you installed Hyperion Essbase in the default directory.

This example uses the `ORDERS.MDB` file, which is installed with Microsoft Access, but you can use any `.MDB` file to test the data source configuration.

The Microsoft Access ODBC 32-bit database driver is also installed with Microsoft Access, but it can be installed in other ways. For Microsoft Access, you need to specify the data source name and database. You can also provide a description. Other ODBC drivers may require additional information. See the documentation for each driver, and online help, for what is required.

To configure the Microsoft Access data source:

1. At the Windows NT command prompt, type:

   `C:\HYPERION\ESSBASE\BIN\ODBCAD32.EXE`

   to display the **User DSN** screen of the **ODBC Data Source Administrator** dialog box.

   (If you installed Hyperion Essbase in a different directory than the default, type the appropriate path; for example, `D:\ESSBASE\BIN\ODBCAD32.EXE`.)

   Data sources that you have configured are in the **User Data Sources** list box.

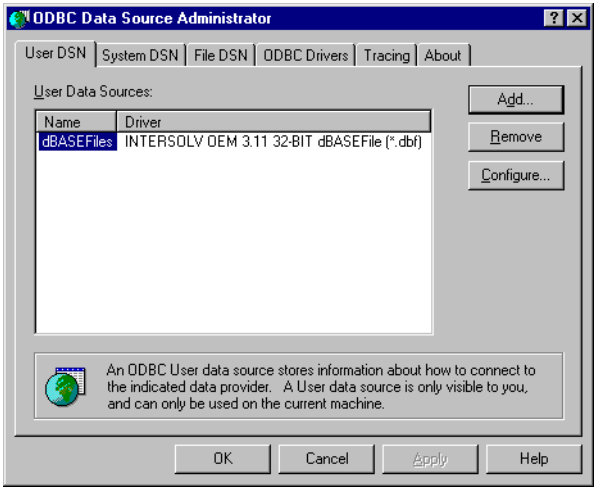

Figure 32: User DSN Page of the ODBC Data Source Administrator Dialog Box

Note: Drivers that have not been properly configured may also be in the **User Data Sources** list box. Ignore or remove them, and proceed with these instructions.

2. Click the **Add** button to display the **Create New Data Source** dialog box.

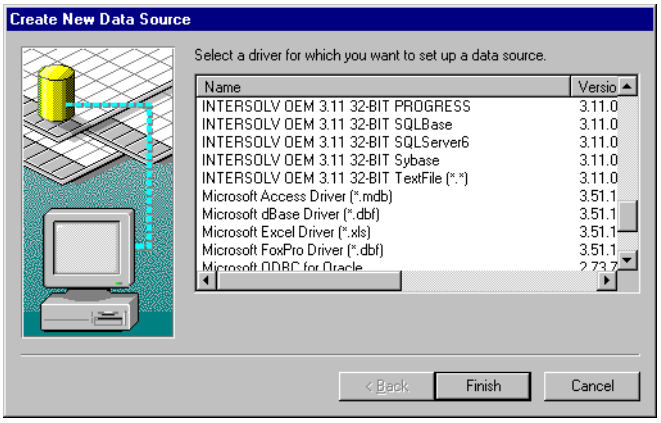

Figure 33: Create New Data Source Dialog Box

3. Scroll down the list of available drivers and select `Microsoft Access Driver (*.mdb)`.
4. Click **Finish** to display the **ODBC Microsoft Access 97 Setup** dialog box.

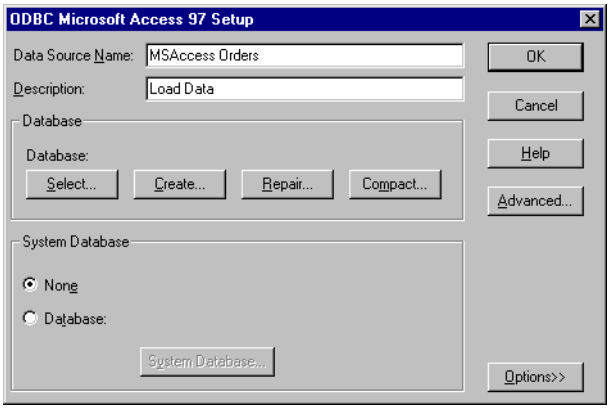

Figure 34: ODBC Microsoft Access 97 Setup Dialog Box

5. Type `MSAccess Orders`, or any other name, in the **Data Source Name** text box.

6. Type `Load Data` in the **Description** text box.
7. Click **Select** in the **Database** group to display the **Select Database** dialog box.
8. Locate and select `ORDERS.MDB` (or the name of your `.MDB` file if it is not `ORDERS.MDB`) and click OK.

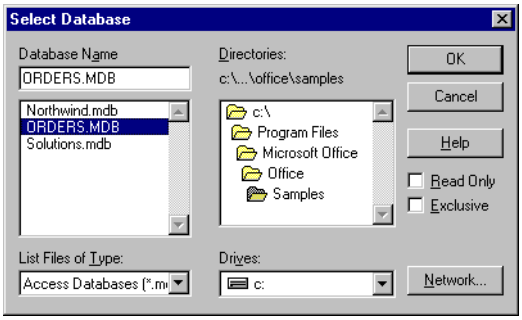

Figure 35: Select Database Dialog Box

The **ODBC Microsoft Access 97 Setup** dialog box is displayed with the path and file that you selected.

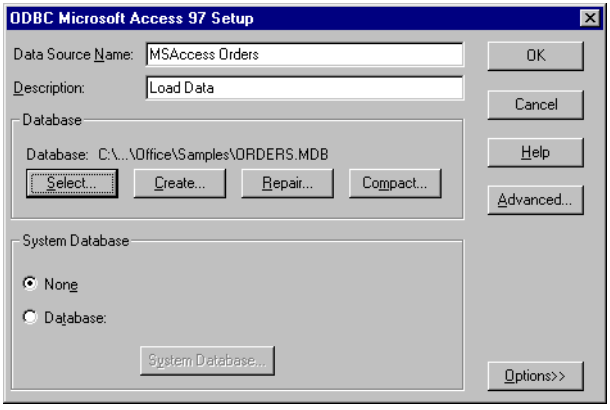

Figure 36: ODBC Microsoft Access 97 Setup Dialog Box with ORDERS.MDB Selected

9. Click OK to display the **ODBC Data Source Administrator** dialog box.

The Microsoft Access data source is in the **User Data Sources** list box, with other data sources that you may or may not have configured.

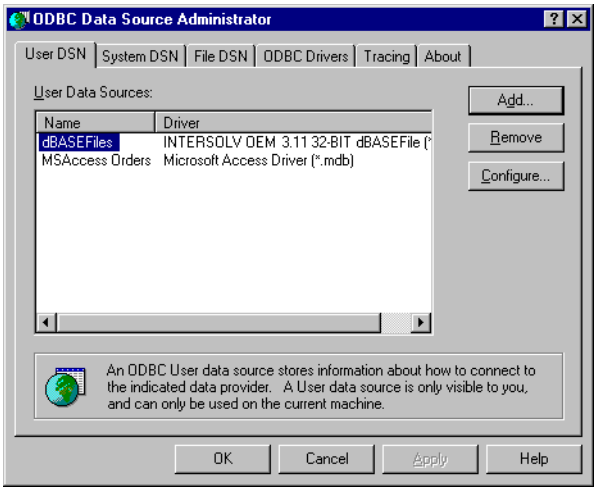

Figure 37: ODBC Data Source Administrator Dialog Box with Microsoft Access Listed

10. Click OK.

You can now load data from the Microsoft Access data source file that you chose into a Hyperion Essbase database. For information on loading SQL data, see Chapter 4, “Loading SQL Data.” For general information on loading data, see the *Hyperion Essbase Database Administrator’s Guide*.

Note: Remember that source files must be accessible to the Hyperion Essbase server. They can be on the server machine or on the network.

Configuring an IBM DB2/6000 Data Source on AIX

If you use AIX, you can connect to an IBM DB2/6000 data source using the IBM DB2/6000 ODBC driver. Consult the database administrator for information on configuration, authorization, binding, and other steps that may be required to connect to the data source.

Note: See "Creating a Configuration File for the IBM DB2/6000 Driver on AIX" on page 51.

Support for Non-MERANT (INTERSOLV) Drivers

Some non-MERANT drivers are *not* tested or supported with Hyperion Essbase. The driver that you choose might not be specifically tested to work with Hyperion Essbase. For information on qualified drivers and data sources, see the *Hyperion Essbase Start Here* booklet, or the `README.TXT` file.

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