IBM® DB2® OLAP Server ™

Spreadsheet Add-in User's Guide for 1-2-3

Version 8.1

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> **Note**
>
> Before using this information and the product it supports, be sure to read the information in "Notices" on page 219.

Contents

Preface

Purpose

This guide provides all the information that you need to use the IBM DB2 OLAP Server Spreadsheet Add-in for Lotus 1-2-3. It explains the features and options and discusses the concepts, processes, procedures, formats, tasks, and examples that you need to use the software.

IBM DB2 OLAP Server Version 8.1, known as Essbase 6.5 in this guide, is an online analytical processing (OLAP) solution that satisfies the complex calculation requirements of financial, accounting, and marketing professionals. Essbase operates in a client-server computing environment on a local area network (LAN). In this environment, multiple users can use their desktop computers to retrieve and analyze centralized data.

You can create reports from the data residing on the Essbase server in several ways:

- Generate database reports through a spreadsheet interface, called Essbase Spreadsheet Add-in, as explained in this guide.
- Use Essbase Application Manager Report Writer to create a report script and run a report. For more information, see the *Database Administrator's Guide*.
- Use Essbase Application Programming Interface (API) to create and run database reports. For more information, see the Essbase *API Reference*.
- Use reporting tools, such as Hyperion Reporting for Essbase.

Audience

This guide is for Essbase end users who are responsible for some or all of the following tasks:

- Starting Essbase and connecting and disconnecting from Essbase databases
- Retrieving data from a database into a worksheet
- Drilling down, drilling up, and navigating through a worksheet to analyze and arrange data from multiple viewpoints
- Working with linked reporting objects and linked partitions
- Updating data on the Essbase server
- Using the worksheet to load and calculate data in the database
- Creating multiple sheets from data
- Working with currency conversions

Document Structure

The main sections of this guide are structured as tutorials that take you step-by-step through basic and advanced tasks in Essbase Spreadsheet Add-in. This document contains the following information:

- Chapter 1, "Introducing Release 6.5" on page 1 provides information on migrating from previous versions of Essbase to Release 6.5 and lists all new features and enhancements.
- Chapter 2, "Introducing Essbase" on page 3 introduces you to basic concepts of retrieving and manipulating data through the spreadsheet interface.
- Chapter 3, "A Basic Essbase Tutorial" on page 11 provides a step-by-step tutorial of basic data navigation, ad hoc retrieval, and reporting techniques.
- Chapter 4, "An Advanced Essbase Tutorial" on page 95 describes advanced reporting and retrieval techniques for users that need special reports or formatted data views.
- Chapter 5, "Using Drill-Through" on page 183 provides a brief overview of the Essbase Integration Services drill-through product.
- The Index contains a list of terms and their page numbers. Select or look up an index entry to view the page to which the entry refers.

Note: The Essbase Spreadsheet Add-in online help provides a comprehensive section on Essbase Spreadsheet Toolkit. This section enables you to customize and automate your use of Essbase by using Lotus 1-2-3 macros and Visual Basic for Applications (VBA) functions. For more information on the Essbase Spreadsheet Add-in online help, see "Accessing Online Help" on page 14.

The *Spreadsheet Add-in User's Guide for Lotus 1-2-3* is provided in the ibm\db2olap\docs\pdf directory in .pdf format for online viewing and printing in Adobe Acrobat Reader (Release 3.0.1 or higher). The .pdf file is named Ess123w.pdf. You can download Adobe Acrobat Reader from the Essbase CD-ROM or from http://www.adobe.com. On the Essbase CD-ROM, the Acrobat Reader executable file is located in the Adobe directory under the appropriate platform and language-version subdirectories. To install Adobe Acrobat Reader, launch the executable file, follow the prompts, and provide the information requested.

Sample Databases and Files

This book provides tutorial steps that are based on sample databases and files that are provided with the Essbase server software. You use the Sample Basic database for most tasks in Chapter 3, "A Basic Essbase Tutorial" on page 11 and Chapter 4, "An Advanced Essbase Tutorial" on page 95. You use a sample Essbase Currency Conversion application for the section on currency

conversion. See Chapter 4, "An Advanced Essbase Tutorial" on page 95 For information on the Sample Basic database, see Chapter 3, "A Basic Essbase Tutorial" on page 11.

In addition to these sample applications and databases, you also use several sample Lotus 1-2-3 files in the advanced tutorial in Chapter 4, "An Advanced Essbase Tutorial" on page 95. The individual at your organization who installs the server is responsible for making these applications, databases, and files available to you. Contact the Essbase system administrator for more information.

Related Documentation

When you licensed Hyperion Essbase, you received the following printed documentation:

- The *Installation Guide*, which shows you how to install and configure the Essbase server, Essbase Spreadsheet Add-in, Essbase Application Manager, Essbase SQL Interface, Essbase API, Runtime Client, and sample applications.
- The *New Features booklet*, which describes the new features that have been added for this release of Hyperion Essbase.

In addition to the printed documentation and this *Spreadsheet Add-in User's Guide for Lotus 1-2-3*, you have access to the following online documentation:

- The *Documentation Roadmap*, which lists all the Essbase documentation and tells you how to access the online information.
- The *Quick Path Card*, which provides an overview of the tasks involved in creating, using, and maintaining Essbase databases.
- The online *Database Administrator's Guide* in the docs directory, which explains the architecture of Essbase, how to design databases, how to design calculations, how to set up Essbase security, how the database is stored, and how to optimize Essbase.
- The *Application Manager Online Help* file, which explains how to use the Application Manager user interface.
- The *Technical Reference*, which lists and describes Essbase functions, calculation commands, report commands, ESSCMD commands, and configuration file (`.cfg` file) settings.

The , which explains how to use Essbase Spreadsheet Add-in features with . This guide is provided in the \ibm\db2olap\docs\pdf 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 Essbase CD-ROM, and can also be downloaded from http://www.adobe.com.

- The Essbase Spreadsheet Add-in online help files, which explain how to use Essbase Spreadsheet Add-in, and provide all the spreadsheet macros and VBA functions.
- The *API Reference*, which lists and describes programmatic functions available through the Essbase API, and provides information to help you start programming with these functions.
- The *Essbase SQL Interface Guide*, which contains information on how to set up systems to load data by means of Essbase SQL Interface. This guide is provided in the \ibm\db2olap\docs\pdf 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 Essbase CD-ROM, and can also be downloaded from http://www.adobe.com.
- The *Adminstration Services Online Help* which you can access by launching Essbase Administration Services and clicking Help in the main menu.

Accessing Hyperion Documentation

All documentation is accessible from the following locations:

- You can access online documentation from the Information Map, an HTML file. To open the Information Map, launch the essdocs.htm file located in the *ARBORPATH*/docs directory.
- Online help is accessible from the Spreadsheet Add-in. Start the product and click the Help button or menu command.
- The DB2 OLAP Server Web site is located at: www.ibm.com\software\db2\db2olap\library.html

Online Help

To access online help, click the Help button in any Essbase dialog box or select Essbase Help from the Spreadsheet Help menu.

To print an online help topic, display the topic and select File > Print, or right-click and select Print from the pop-up menu.

Note: You must have first installed HTML documentation to access it.

Online Guides

Online guides are electronic versions of printed documentation.

To display an online guide, start Adobe Acrobat Reader, and then open one of the Essbase .pdf files located in your \ibm\db2olap\docs\pdf directory.

Conventions

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

Table 1. Conventions Used in This Document

Item	Meaning
Brackets [ ]	In examples, brackets indicates that the enclosed elements are optional.
Bold	Bold text indicates words or characters that you type exactly as they display on the page. Bold in procedural steps highlight major interface elements.
CAPITAL LETTERS	Capital letters denote commands and various IDs. (Example: CLEARBLOCK command)
Example text	Courier font indicates that the material shown is a code or syntax example.
Ctrl + 0	Keystroke combinations shown with the plus symbol (+) indicate that you should press the first key and hold it while you press the next key. Do not type the + symbol.
Courier italics	Courier italic text indicates a variable field in command syntax. Substitute a value in place of the variable shown in Courier italics.
Italics	Italics in a product-related term in the body of a book indicates that the term is included in the glossary of the book.
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 are using a left-handed mouse, adjust the procedures accordingly.
Menu options	Options in menus are shown in the following format: *Menu name > Menu command > Extended menu command* For example: File > Desktop > Accounts
n, x	The variable n indicates that you must supply a generic number; the variable *x* indicates that you must supply a generic letter.

Chapter 1. Introducing Release 6.5

This chapter provides compatibility information for Essbase Release 6.5 and previous releases of Essbase, including migration information and new feature descriptions and enhancements. It contains the following sections:

- "Migrating to Release 6.5" on page 1
- "What's New in Release 6.5"

Migrating to Release 6.5

As you migrate (upgrade) from previous releases of Essbase to Release 6.5 (DB2 OLAP Server Version 8.1), keep in mind that Release 6.5 of Essbase Spreadsheet Add-in is designed to work with Release 6.5 of the Essbase server. If the Essbase system administrator upgrades the Essbase server to Release 6.5, Release 5.x of Essbase Spreadsheet Add-in works on only a limited basis. Upgrade to Essbase Spreadsheet Add-in for Release 6.5 as soon as possible.

Read the *Installation Guide* for detailed information about migrating from previous releases of Essbase.

What's New in Release 6.5

Hybrid Analysis

With Hybrid Analysis, Essbase supports retrieval of data from a external relational data source. By enabling Hybrid Analysis in Essbase Integration Services, a portion of database cell values are computable from an external relational source, instead of being loaded into an OLAP Server database. Hybrid Analysis allows access to lower level data that is too large to load into an OLAP Server database.

You need to license Essbase Integration Services to build Hybrid Analysis-enabled metaoutlines.

Support for Negative Numbers in Filter Criteria in EQD

Essbase Query Designer (EQD) provides the ability to design queries with filtering criteria. With Release 6.5, EQD supports the use of negative numbers in the filtering criteria.

Enhanced Keyboard Accessibility in EQD

Keyboard accessibility for EQD is greatly enhanced in Release 6.5. When launching EQD, focus is set to the first item in the tree in the navigation

panel. From there, users can access most EQD functionality using the keyboard. For more information see the Spreadsheet Add-in online help on EQD keyboard shortcuts.

Chapter 2. Introducing Essbase

Essbase is multidimensional database software that is optimized for planning, analysis, and management reporting applications. Essbase uniquely blends an innovative technical design with an open, client-server architecture. Essbase enables you to extend your decision support systems beyond ad hoc queries and reports on historical performance to dynamic, operational systems that combine historical analysis and future planning. By consolidating and staging historical and projected data for detailed analysis, you gain perspectives about your business that enable you to take appropriate actions.

Essbase provides both power and flexibility. Thus, it can be used for a broad range of online analytical processing (OLAP) applications including the following:

- Budgeting
- Forecasting and seasonal planning
- Financial consolidations and reporting
- Customer and product profitability analysis
- Price, volume, and mix analysis
- Executive information systems (EIS)

Essbase enables you and others in your organization to share, access, update, and analyze enterprise data from any perspective and at any level of detail without learning new tools, query languages, or programming skills.

Typical Users of Essbase

Essbase is designed for use in many different applications. Financial analysts have found Hyperion Essbase to be invaluable in budget analysis, currency conversion, and consolidation. Cost accountants apply the powerful capabilities of Essbase to evaluate allocation and elimination scenarios. Product managers and analysts use Essbase to plan and analyze multiple product lines and distribution channels. Essbase can also be used as a repository database for spreadsheet data. Anyone who uses a spreadsheet is a potential user of Essbase. Because Essbase is applicable to such a broad variety of environments, individuals using it at your organization may fill one or more roles in implementing and running applications. This guide refers to specific roles by three titles. However, in actuality, a role may be performed by one person or by several people working collaboratively.

- *Essbase system administrator*. The Essbase system administrator typically has experience in networking, installing software packages, and administering

system functions. In addition to installing the Essbase software, the Essbase system administrator may also set up Essbase user accounts, set up the security system, and maintain the Essbase server.

- *Application designer*. The application designer sets up the Essbase database, creates the database outline, and develops calculation and report scripts. The responsibilities of the Essbase system administrator and the application designer may overlap in some areas. The application designer has probably developed spreadsheet or database applications and understands the operational problems and the tools being employed to solve them.

- *User*. The user interacts with Essbase databases through spreadsheets, using Microsoft Excel for Windows or Lotus 1-2-3. Users are typically analysts and managers who use spreadsheet programs as their primary tool for viewing and analyzing data.

Components of the Client-Server Environment

Client-server computing refers to the architecture in which individual PC workstations are connected to a powerful server by means of a local area network (LAN). The PC workstation acts as a client by requesting data from the server. The server processes the request and returns the desired result to the client.

Essbase is built as a client-server system. System performance and multiuser capabilities are greatly enhanced in the Essbase client-server environment.

The Server

Essbase server is a multidimensional database that supports analysis of an unlimited number of data dimensions and an unlimited number of members within these dimensions. Developed using a true client-server architecture, all data, the database outline, the calculations, and the data security controls reside on the Essbase server.

The Essbase server operates on Windows 98, Windows NT 4.0, Windows Me, Windows 2000, and UNIX operating systems.

Essbase Spreadsheet Add-in

Essbase Spreadsheet Add-in is a software program that merges seamlessly with Microsoft Excel and Lotus 1-2-3. After Essbase is installed, a special menu is added to Lotus 1-2-3. The menu provides enhanced commands such as Connect, Pivot, Drill-down, and Calculate. Users can access and analyze data on the Essbase server by using simple mouse clicks and drag-and-drop operations. Essbase Spreadsheet Add-in enables multiple users to access and update data on the Essbase server simultaneously.

The Network

Essbase runs on PC-based LANs that support the Named Pipes or TCP/IP protocol.

Note: Supported network environments and technical requirements are discussed in detail in the *Installation Guide*, which is included with the Essbase server package.

Essbase Application Products

Several optional products, designed to extend and enhance the scope of OLAP applications, can be addressed using the Essbase server. The following sections describe these products.

Essbase Spreadsheet Toolkit

Essbase Spreadsheet Toolkit includes over 20 macro and Visual Basic for Applications (VBA) functions that enable you to build customized Microsoft Excel and Lotus 1-2-3 applications. The applications incorporate Essbase commands. Commands such as EssCascade, EssConnect, and EssDisconnect provide all of the functionality of their corresponding Essbase menu commands. For more information, see the Essbase Spreadsheet Add-in online help.

Essbase Partitioning Option

Essbase Partitioning option enables you to define areas of data that are shared or linked between data models. Partitioning can affect the performance and scalability of Essbase applications. Partitioning provides more effective response to organizational demands, reduced calculation time, increased reliability and availability, and incorporation of detail and dimensionality. For more information, see "Accessing Linked Partitions" on page 165.

Essbase Structured Query Language Interface

Essbase SQL Interface enables access to PC and structured query language (SQL) relational databases by making the Essbase server operate as an open database connectivity client. Using Essbase SQL Interface, data can be moved easily from these diverse corporate data sources into the Essbase server for user access and analysis. For more information, see the *Essbase SQL Interface Guide*.

Essbase Application Programming Interface

Essbase Application Programming Interface (API) enables application developers to create custom applications quickly by using standard tools while taking advantage of the robust data storage, retrieval, and manipulation capabilities of Essbase. Essbase API supports Visual Basic and C. For more information, see the *API Reference*.

Essbase Currency Conversion

Essbase Currency Conversion translates, analyzes, and reports on foreign financial data. Any exchange rate scenario can be modeled, and you can even perform ad hoc currency conversions of data directly from the spreadsheet. The Currency Conversion product is compliant with Financial Accounting Standards Board 52 (FASB52). For more information, see "Working with Currency Conversions" on page 176.

Essbase Integration Services

Essbase Integration Services works with Essbase, Microsoft Excel, and Lotus 1-2-3. Essbase Integration Services is a suite of tools and data integration services that serve as a bridge between relational data sources and the Essbase server. Integration Server drill-through is one of the tools of Essbase Integration Services. Using Integration Server drill-through, you can view and customize spreadsheet reports that display data retrieved from relational databases. For more information, see Chapter 5, "Using Drill-Through" on page 183

Hyperion Objects

Hyperion Objects are ActiveX controls that enable you to build application programs quickly and easily to access and manipulate data residing in Essbase servers. You can combine objects with other controls in a visual design environment to construct new programs.

The Multidimensional Database

The Essbase multidimensional database stores and organizes data. It is optimized to handle applications that have large amounts of numeric data and are consolidation-intensive or computation-intensive. In addition, the database organizes data in a way that reflects how the user wants to view the data.

Definition of Multidimensional

A *dimension* is a perspective or view of a specific dataset. A different view of the same data is an *alternate dimension*. A system that supports simultaneous, alternate views of datasets is *multidimensional*. Dimensions are typically categories such as time, accounts, product lines, markets, budgets, and so on. Each dimension contains additional categories that have various relationships one to another.

In contrast to the multidimensional view, worksheets stores data in two dimensions, usually time and accounts, as follows:

	A	B	C	D	E	F	G
1		Jan	Feb	Mar	Apr	May	Jun
2	Sales	1212	1421	1354	1178	1254	1465
3	COGS	345	392	387	321	320	401
4	Margin	867	1029	967	857	934	1064
5							
6	Marketing	46	24	95	11	56	5
7	Freight	21	71	93	23	88	21
8	Discounts	2	24	52	14	53	59
9	Total Expenses	69	119	240	48	197	85
10							
11	Gross Profit	798	910	727	809	737	979
12							
13							

Figure 1. Two-Dimensional Representations of Data in a Worksheet

An Essbase application contains an unlimited number of dimensions, so you can analyze large amounts of data from multiple viewpoints.

Database Outlines

Understanding the *database outline* is the key to understanding Essbase. To define a multidimensional database, you design its database outline. The database outline contains the database organization (structure), the database members, and the database rules, as shown in Figure 2:
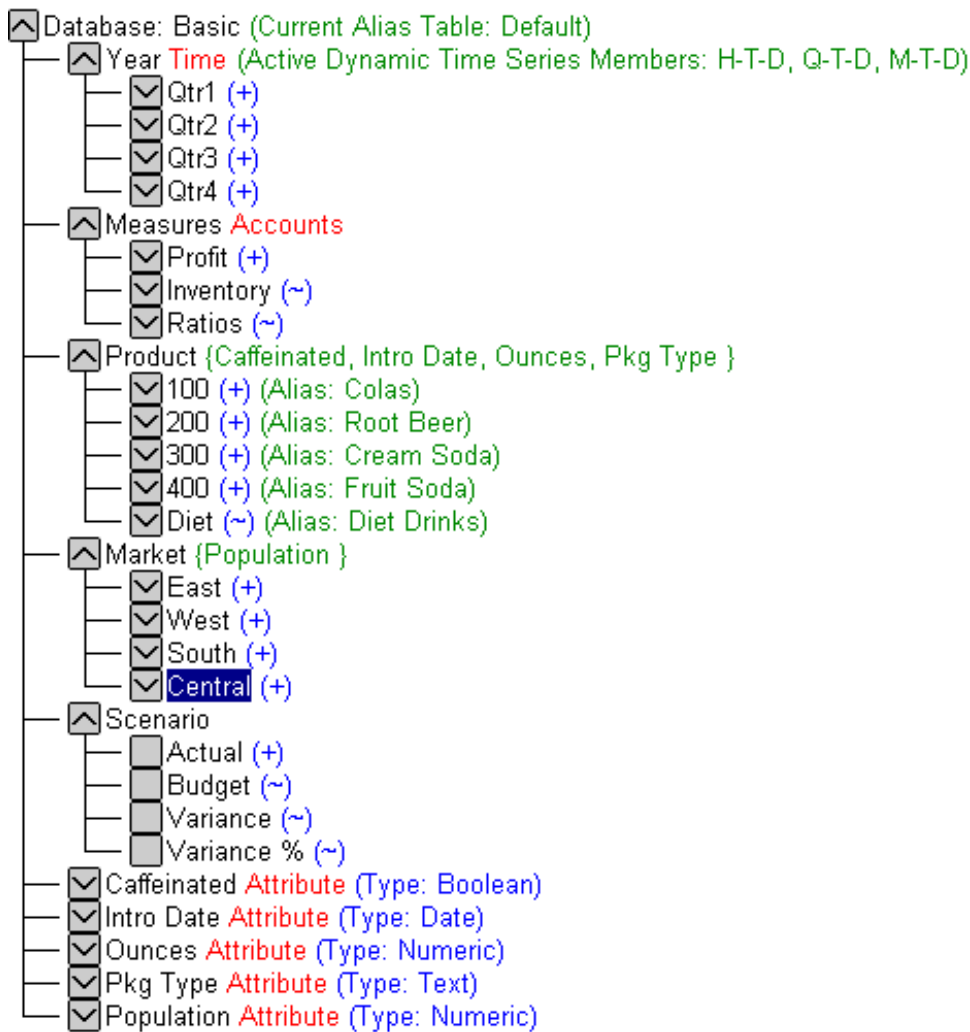
Figure 2. Essbase Database Outline

> **Note:** The application designer or Essbase system administrator usually creates the database outline. For more information on creating the database outline, see the *Database Administrator's Guide*.

The components of the database outline are the following:

- Dimensions
- Members
- Attributes
- Formulas
- Aliases

- Consolidations

Refer to the following sections for descriptions of the outline components.

Dimensions

Dimensions are the most basic categorical definitions of data within the database outline. You need at least two dimensions to make any meaningful reference to data; for example, a time dimension and an accounts dimension. Other dimensions may categorize products, markets, and scenarios. Using dimensional organization, you can define any consolidation structure or any slice of data that is relevant to the application. Essbase supports an unlimited number of dimensions.

Members

Members are the names of the elements within a dimension. A dimension can contain an unlimited number of members. The calculation, reporting, and dimension-building facilities in Essbase use the following terms to describe members.

- *Parents*. A parent is a member with a consolidation branch below it. For example, in the illustration below, Qtr1 is a parent member because there is a branch containing monthly members below it.
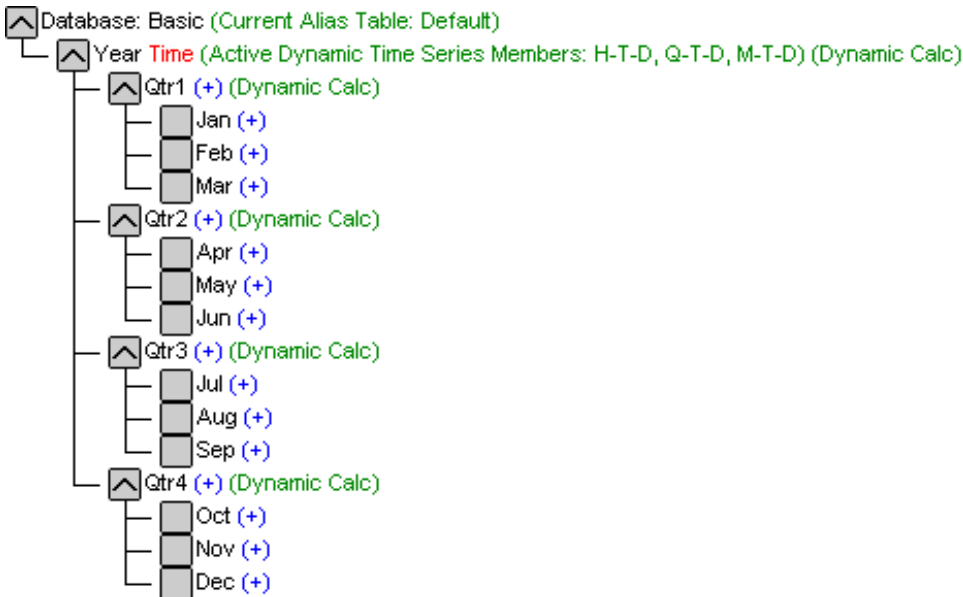

Figure 3. Relationships Among Database Members

- *Children*. A child is a member with a parent above it. For example, Jan, Feb, and Mar are children of the parent Qtr1.

- *Siblings*. A sibling is a child member of the same parent and on the same branch (same level). For example, Jan, Feb, and Mar are siblings. Apr is not a sibling of Jan, Feb, or Mar, however, because it has a different parent, Qtr2.
- *Descendants*. A descendant is a member at any level below a parent. For example, each member that falls in the Year branch is a descendant of Year. The following members are all descendants of Year: Qtr1, Jan, Feb, Mar; Qtr2, Apr, May, Jun; Qtr3, Jul, Aug, Sep; Qtr4, Oct, Nov, Dec.
- *Ancestors*. An ancestor is a member of a branch above a member. For example, Qtr2 and Year are ancestors of Apr.
- *Generations*. The term *generation* describes the branch number of a member. Generations count from the root of the tree (generation 1, which is the dimension name) toward the leaf node.
- *Levels*. The term *level* describes the branch number of a member. Levels count from the leaf node (level 0) toward the root (the dimension name).

Attributes

Attributes describe characteristics of data, such as the size and color of products. Through attributes, you can group and analyze members of dimensions based on their characteristics. Attribute dimensions must be associated with base dimensions. For more information, see the *Database Administrator's Guide*.

Formulas

Each database member can have one or more formulas associated with it in the database outline. For example, the Variance members of the Scenario dimension, as shown in Figure 2, contain formulas. Formulas can be simple or complex. For more information, see the *Database Administrator's Guide*.

Aliases

Essbase supports alternative names, or aliases, for database members. Aliases are useful when various labels are used for the same member in various worksheets. One worksheet, for example, may refer to Cost_of_Goods_Sold as COGS. Aliases also can be used for reporting in alternative languages or for more formal output name sets, such as account numbers.

Consolidations

Consolidations in Essbase applications are defined by member branches. The database outline determines consolidation paths. The determination is based on the location of members within a dimension. Indentation of one member below another indicates a consolidation relationship. Indenting members is important for the drill-down capabilities in Essbase Spreadsheet Add-in. As you navigate your way through data, you can drill down through levels of consolidations. The database outline is the roadmap that determines the levels of data navigation.

Chapter 3. A Basic Essbase Tutorial

When you add Essbase Spreadsheet Add-in to Lotus 1-2-3, most Lotus 1-2-3 operations remain unchanged; Essbase Spreadsheet Add-in simply adds a new menu, a Essbase toolbar, and mouse shortcuts with which you can access the Essbase server.

The tasks described in this tutorial are basic tasks. That is, these are tasks that you probably use often when working with Essbase. Chapter 4, "An Advanced Essbase Tutorial" on page 95 describes more advanced tasks. This tutorial chapter contains the following sections:

Note: Each tutorial task builds upon the previous task. Therefore, tasks must be completed in succession.

The examples used in this tutorial are based on the sample database (called Sample Basic) that is included with the Essbase installation. Contact the Essbase system administrator for information about accessing the Sample Basic database or about accessing other databases on the Essbase server.

Getting Acquainted with Essbase Spreadsheet Add-in

This section provides the following information to help you get acquainted with Essbase Spreadsheet Add-in:

- "Enabling Mouse Actions" on page 15

Adding Essbase Spreadsheet Add-in

If you manually update your environment settings or if you have removed Essbase Spreadsheet Add-in from the Lotus 1-2-3 environment, you must use the Lotus 1-2-3 facility to add Essbase Spreadsheet Add-in into Lotus 1-2-3. The facility adds the Essbase menu to the Lotus 1-2-3 menu bar and points Lotus 1-2-3 to the Essbase Spreadsheet Add-in file in the \Essbase\bin directory. This file is on the hard drive of your PC, if that is where you installed Essbase Spreadsheet Add-in, or on the network drive if that is where you set up your PC operating environment to run Essbase Spreadsheet Add-in.

To add Essbase Spreadsheet Add-in to Lotus 1-2-3:

1. In Lotus 1-2-3, select **File > Add-Ins > Manage Add-Ins**.

   Lotus 1-2-3 displays the **Manage Add-ins** dialog box.

2. Click **Register** and select the file ESS123.12A in the \Essbase\bin directory where you installed Hyperion Essbase Spreadsheet Add-in on your PC hard drive (if you installed the Add-in software there), or in the bin directory where the Hyperion Essbase system administrator installed the Hyperion Essbase Spreadsheet Add-in on a network drive (if you set up the PC operating environment to run the Add-in software there).

3. Click **Open** and select the ESS123.12A add-in file. Make sure there is a check mark next to the add-in file.
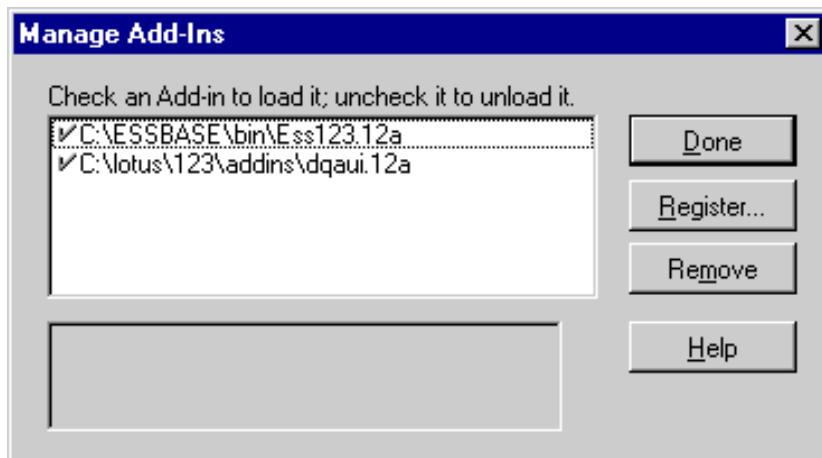

Figure 4. Manage Add-ins Dialog Box

4. Click **Done** to close the **Manage Add-ins** dialog box and start the Hyperion Essbase Spreadsheet Add-in.

   The Essbase startup screen is displayed.

If you do not see the Essbase startup screen or if your system does not list the Essbase Spreadsheet Add-in menu options, see the *Installation Guide* for troubleshooting information.

Starting Essbase Spreadsheet Add-in

Because Essbase Spreadsheet Add-in software for Lotus 1-2-3 is implemented as a Lotus 1-2-3 add-in, you must start Lotus 1-2-3 from Windows to use Essbase Spreadsheet Add-in software.

You must open a worksheet before attempting to connect to the Hyperion Essbase server. An attempt to connect to theHyperion Essbase server without opening a worksheet results in an error message.

To begin an Essbase session:

1. Start Lotus 1-2-3.

   After the Lotus 1-2-3 startup screen disappears, the Essbase startup screen is displayed.

   The Hyperion Essbase menu should be displayed in the Lotus 1-2-3 menu bar. If you do not see the Hyperion Essbase menu, you may need to use the Lotus 1-2-3add-in facility to add Essbase Spreadsheet Add-in into Lotus 1-2-3. For more information, see "Adding Essbase Spreadsheet Add-in" on page 12.

2. From the Lotus 1-2-3 menu bar, select **Essbase** to open the menu.

Figure 5. The Essbase Menu

> **Note:** If the Lotus 1-2-3 status bar is not displayed, you can display it by selecting View > Show Status Bar.

Accessing Online Help

Essbase Spreadsheet Add-in includes a context-sensitive online help system. You access the Essbase Spreadsheet Add-in online help in one of three ways. Which way you choose depends on the type of information that you need,

- *Access the entire online help system for browsing or searching for information.* To access the entire help system, select Essbase > Essbase Help. After you access online help, you can browse or search through the system to view general information on Essbase Spreadsheet Add-in, Essbase command descriptions, procedural information for completing tasks, Spreadsheet Toolkit macros, and Visual Basic for Applications (VBA) function descriptions.

- *Access context-specific information from dialog boxes in Essbase Spreadsheet Add-in.* Each dialog box in Essbase Spreadsheet Add-in features a Help button that accesses online help topics that are specific to the particular dialog box. The buttons enable you to find the information you need without having to search through the entire help system.

> **Note:** The Essbase Spreadsheet Add-in online help also provides a comprehensive section on Essbase Spreadsheet Toolkit, which enables you to customize and automate your use of Essbase by using Lotus 1-2-3 macros.

- *Access information on a specific Hyperion Essbase Query Designer function.* Access What's This? Help in the Hyperion Essbase Query Designer dialog box, and then click an item in the dialog box to access information on that item.

Figure 6. EQD Help Button

Enabling Mouse Actions

The following terms are used throughout this guide to describe mouse operations:

- *Primary mouse* button and *secondary mouse* button describe the buttons on a two- or three-button mouse. Usually, right-handed users configure the left mouse button as the primary button and the right mouse button as the secondary mouse button. The primary mouse button is the one that you use to start Windows applications, such as Lotus 1-2-3; the secondary mouse button is used for auxiliary operations. The term *click* refers to use of the primary mouse button. The term right-click refers to use of the secondary mouse button.

- *Select* chooses the object that is under the cursor when you press and release the primary mouse button. You can select a worksheet cell, for example, by moving the cursor to the cell and pressing and releasing the primary mouse button.

- *Click* (that is, both *click* and *right-click*) describes a quick press-and-release action on a command object. You can click a button, for example, to execute a command.

- *Double-click* describes two quick press-and-release actions that are executed in rapid succession. You can double-click an application icon, for example, to start a Windows application.

- *Drag* describes a press, hold, and move action. You place the cursor on an object, press a mouse button, hold the mouse button and move the object, and release the mouse button when you reach your goal. For example, you can highlight a range of cells in Lotus 1-2-3 worksheet by dragging the cursor over the cells.

    Note: Hyperion Essbase uses a drag operation called a *pivot*. A pivot requires use of the secondary mouse button. To execute a pivot, you must press and hold the secondary, rather than the primary, mouse button while dragging the selection.

Essbase offers enhanced mouse actions in Lotus 1-2-3. You can use the mouse to do any of the following:

- Retrieve data

- Drill down and drill up on database members
- Pivot (move or transpose) data rows and columns
- Access linked reporting objects
- Access linked partitions

To enable double-clicking to retrieve, drill down, and drill up on Essbase data:

1. Select **Essbase > Options**.
2. In the **Essbase Options** dialog box, select the **Global** tab.
3. Select the **Enable Double-Clicking** check box.

   When the **Enable Double-Clicking** check box is selected, you can retrieve and drill down to more detailed data (primary mouse button) and drill up to less detailed data (secondary mouse button). When the double-clicking option is enabled, the Lotus 1-2-3 in-cell editing feature is overridden.
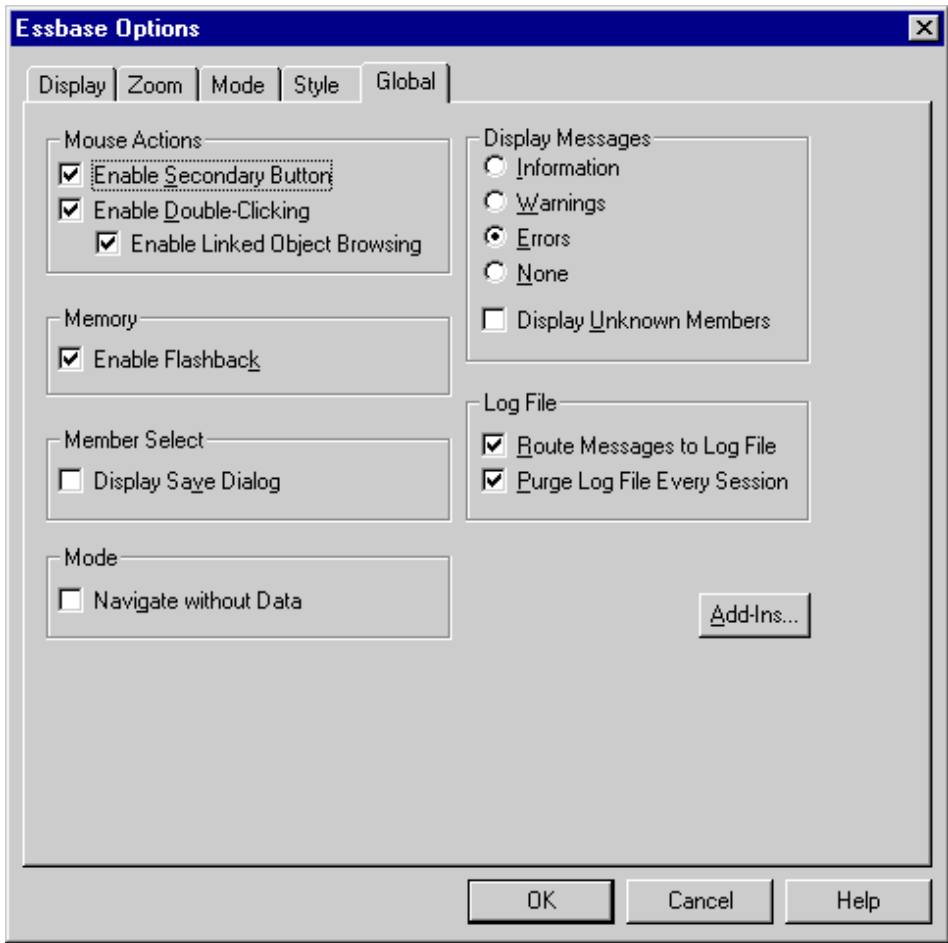
Figure 7. Essbase Options Dialog Box—Global Tab

4. Click **OK** to return to the worksheet.

For information about setting the primary mouse button to display the Linked Objects Browser dialog box when you double-click a data cell, see the Essbase Spreadsheet Add-in online help.

Preparing to Begin the Tutorial

Before you begin the basic tutorial, read the following important sections:

- "Setting Essbase Options" on page 18
- "Following Guidelines During the Tutorial" on page 21
- "Reviewing the Sample Basic Database" on page 22

Setting Essbase Options

Before you begin the tutorial steps, make sure that the worksheet options are set to the initial settings as illustrated in Figure 8 through Figure 11. If the option settings are different, the illustrations presented in this chapter may not match the worksheet view.

Note: For information about each option in the Essbase Options dialog box, see the Essbase Spreadsheet Add-in online help.

1. Select **Essbase > Options**.
2. In the **Essbase Options** dialog box, select the **Display** tab.
3. Select the appropriate check boxes and option buttons so that your display of the **Display** tab matches the following illustration:
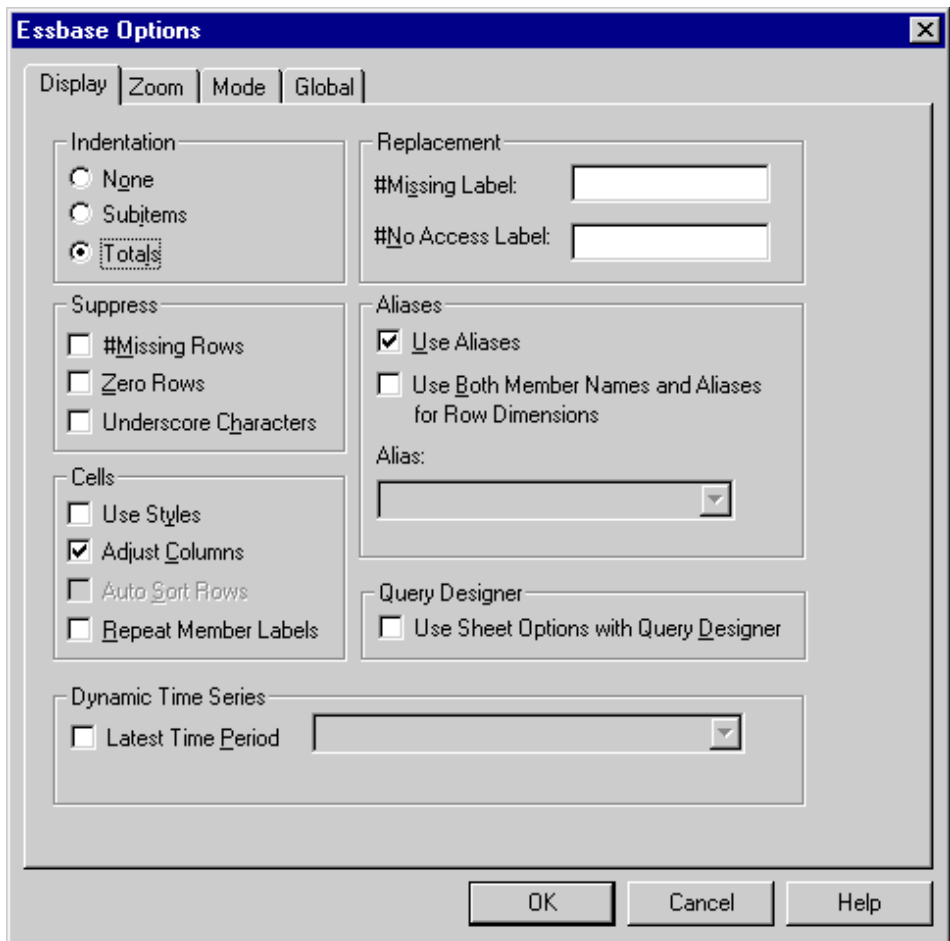

Figure 8. Initial Settings for Display Options

4. Select the **Zoom** tab.
5. Select the appropriate check boxes and option buttons so that your display of the **Zoom** tab matches the following illustration:
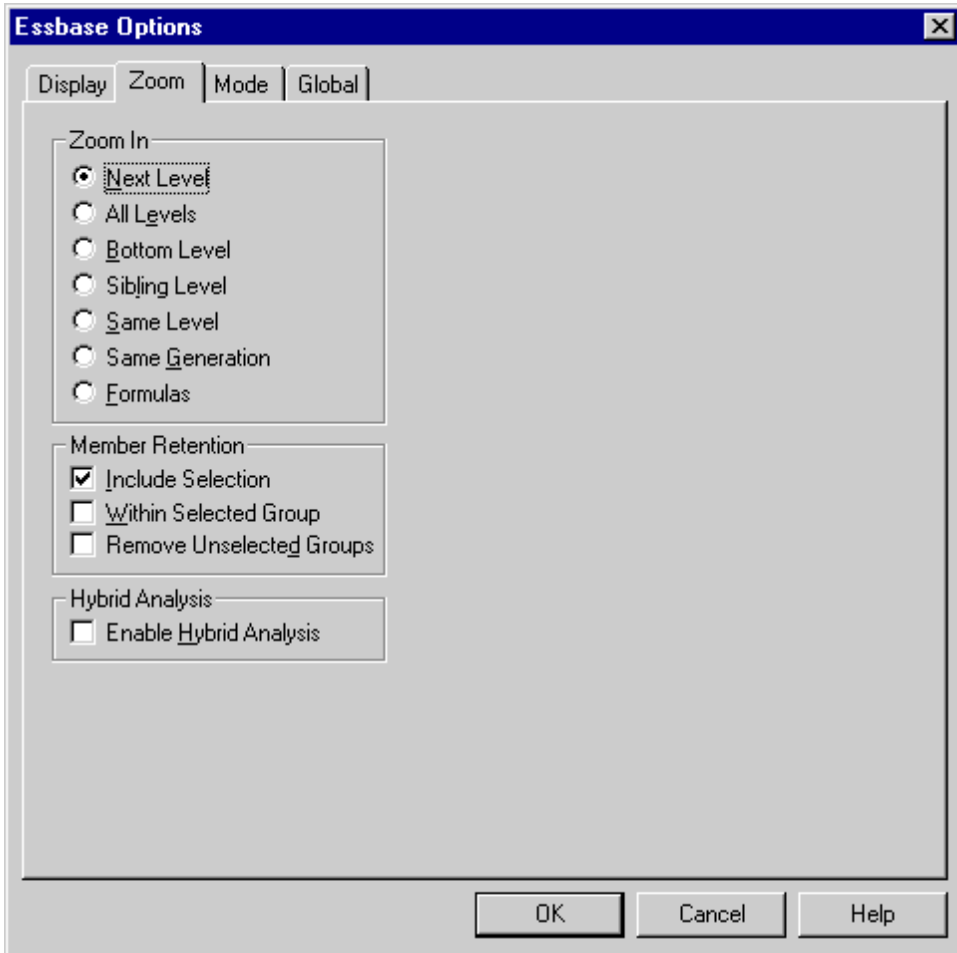

Figure 9. Initial Settings for Zoom Options

6. Select the **Mode** tab.
7. Select the appropriate check boxes and option buttons so that your display of the **Mode** tab matches the following illustration:
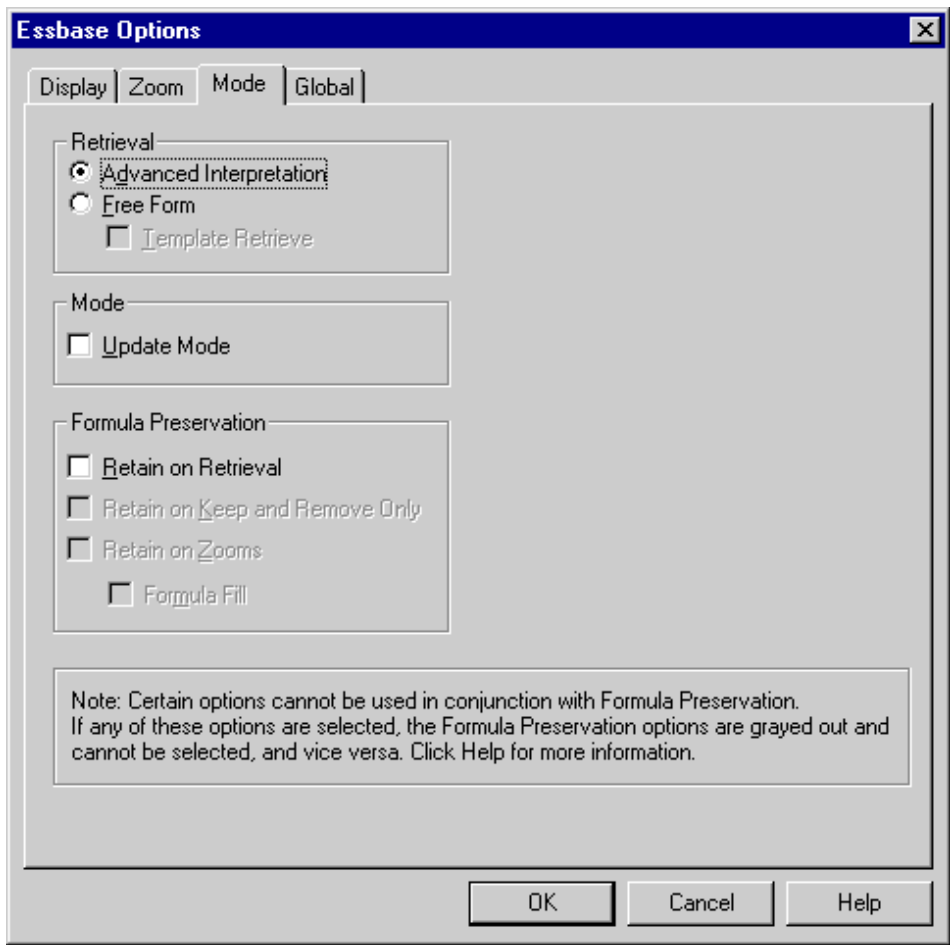
Figure 10. Initial Settings for Mode Options

> **Note:** If you are already connected to a Essbase database, the Essbase Options dialog box also displays a Style tab. You can skip this tab for now.

8. Select the **Global** tab.

9. Select the appropriate check boxes and option buttons so that your display of the **Global** tab matches the following illustration:
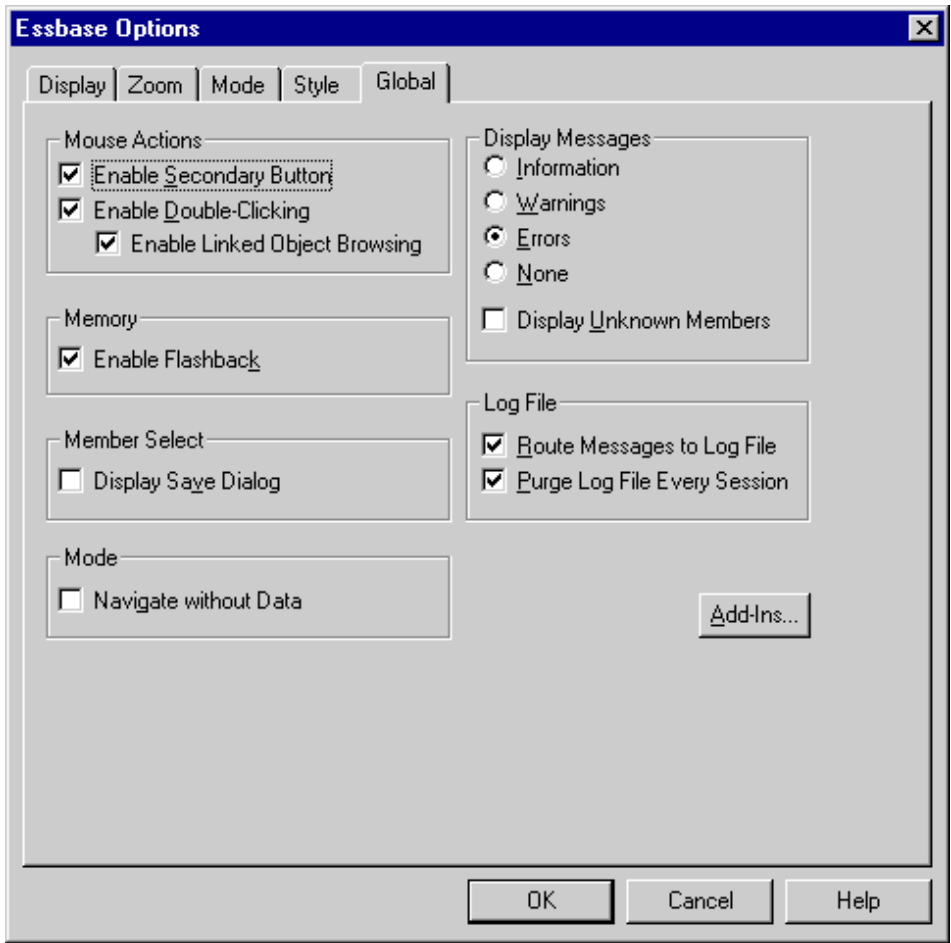
Figure 11. Initial Settings for Global Options

> **Note:** You should have already selected the appropriate boxes for Mouse Actions, as described in "Enabling Mouse Actions" on page 15.

10. Click **OK** to save the settings for this session and close the **Essbase Options** dialog box.

Following Guidelines During the Tutorial

Keep in mind the following guidelines during this tutorial:

- Tasks that should *not* be performed as part of the tutorial are displayed in gray boxes. These tasks are included only for your future reference. You can find more information on these tasks in the Essbase Spreadsheet Add-in online help.

- You must be connected to the Sample Basic database during the tutorial. If you are not connected to this database, the illustrations presented in this chapter will not match the worksheet view.
- You can access many Essbase commands in any one of these ways:
  - By selecting the command from the Essbase menu
  - By clicking the appropriate button on the Essbase toolbar
  - For the Zoom In and Zoom Out commands, by double-clicking either the primary mouse or the secondary mouse button
- You must set the options in the Essbase Options dialog box as described in "Setting Essbase Options" on page 18. If the option settings are different, the illustrations presented in this chapter may not match the worksheet view.
- After you change a worksheet option in the Essbase Options dialog box, you must perform a retrieval or a drill-down operation to have the new setting take effect.
- Be sure to follow each step in the tutorial. Each tutorial task builds upon the previous task. Do not skip the final steps at the end of sections, because these steps are often necessary to prepare you for the next tutorial task.
- If you make a mistake during the tutorial, you can select Essbase > FlashBack to return to the previous worksheet view.
- The values in the Sample Basic database that represent ratios or percentages are calculated to a very high level of precision (for example, 55.26162826). In Lotus 1-2-3, you can apply a cell format to control the number of decimal places that are displayed in data values. For more information, see the Lotus1-2-3 documentation.
- The numeric values that are shown in the illustrations used throughout this tutorial may not match the values stored in your database. The values shown in these illustrations reflect a freshly loaded database.
- Some worksheet columns have been adjusted for clarity in the illustrations. You do not need to change the width of columns in the worksheet to follow the tutorial steps. The Adjust Columns option in the Essbase Options dialog box (Display Tab) adjusts columns for you.

Reviewing the Sample Basic Database

The Sample Basic database that you use for the tutorial is based on a hypothetical company in the beverage industry. The major products of the company are various kinds of sodas. These products are sold in U.S. markets, which are categorized by state and region. Financial data for the company is collected monthly and is summarized by quarter and by year. The company uses Essbase to calculate financial and accounting data, such as sales, cost of goods sold, and payroll. The company tracks both actual and budget data, as well as the variance and percent variance between the two.

Retrieving Data

Now that you are more familiar with the Essbase environment, you can connect to the Essbase server and start using Essbase and Essbase Spreadsheet Add-in. The following section guides you through a typical Essbase session where you connect to a database and retrieve data in various ways.

This section outlines the following basic retrieval tasks:

- "Connecting to a Database" on page 23
- "Changing a Password" on page 25
- "Retrieving Data from a Database" on page 25
- "Canceling a Data Retrieval Request" on page 27
- "Restoring the Previous Database View" on page 27
- "Drilling Down to More Detail" on page 28
- "Drilling Up to Less Detail" on page 32
- "Customizing Drill-Down and Drill-Up Behavior" on page 33

Note: Make sure that you followed the steps in "Setting Essbase Options" on page 18. If the settings in the Essbase Options dialog box are different from the settings previously illustrated, the worksheet view will differ from the illustrations shown in this chapter.

Remember that you can perform common data retrieval tasks by doing any of the following:

- Selecting commands from the Essbase menu on the Lotus1-2-3 menu bar
- Clicking the appropriate buttons on the Essbase toolbar
- Double-clicking the primary or the secondary mouse button in the appropriate cell (for Retrieve, Zoom In, and Zoom Out commands)

Connecting to a Database

To access Essbase data, you must first connect to a database on the server. This tutorial assumes that you have the appropriate privileges to connect to a server, an application, and a database.

1. Select **Essbase > Connect**

   Essbase displays the **Essbase System Login** dialog box.
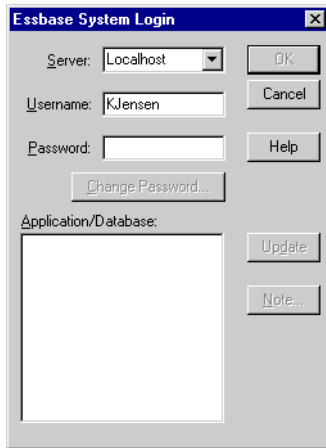
Figure 12. Essbase System Login Dialog Box

> **Note:** To complete the steps that follow, you need to know the name of the Essbase server, your username, and your password. If you do not have this information, contact the Essbase system administrator.

2. From the **Server** list box, select the server that you want to access. (If the server name that you want does not display in the list, you can type in the name of the server you want to access.)

3. Press **Tab** to move to the **Username** text box; type your username in the text box.

4. Press **Tab** to move to the **Password** text box; type your password in the text box.

> **Note:** You can change your password when you are connected to a server. To change your password, see "Changing a Password" on page 25.

5. To connect to the server, click **OK**.

Essbase displays a list of available application/database pairs in the **Application/Database** list box. An Essbase server enables simultaneous access to multiple applications. An application can contain multiple databases. Only the databases to which you have security access are shown in the list.

For this tutorial, you use the Sample Basic database. If the Sample Basic database was installed as part of the Essbase installation, it is shown in the list. If Sample Basic is not shown in the **Application/Database** list box, ask the Essbase system administrator to install it.
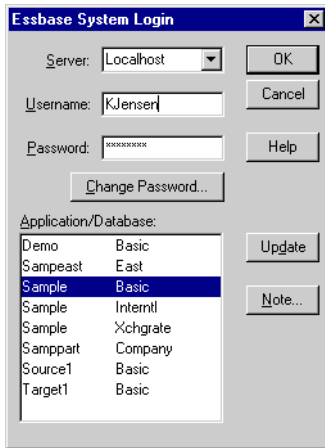
Figure 13. Available Application and Database Pairs

6. In the **Application/Database** list box, double-click **Sample Basic**. You can also select **Sample Basic** from the list box and click **OK**.

If the application is not already running, Essbase automatically starts it. There may be a brief pause as the application loads. The time required to start an application depends on the number of databases, the sizes of the databases, and the sizes of the indexes of the databases contained within the application.

Changing a Password

You can change your password only if you are connected to a server.

Note: Tasks that you should *not* perform as part of the tutorial are shown in light-shaded boxes.

To change your password:

1. In the **Essbase System Login** dialog box, select the **Change Password** button.
2. In the **Change Password** dialog box in the **New Password** text box, type your new password.
3. In the **Confirm Password** text box, type the password again.
   The passwords must be identical.
4. Click **OK** to change your password.
5. Click **OK** again to close the **Essbase System Login** dialog box.

Retrieving Data from a Database
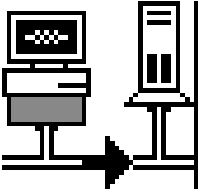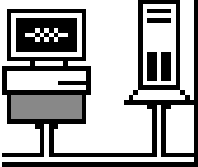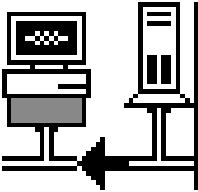
Each time you retrieve information from an Essbase server, the following actions occur:

- Essbase Spreadsheet Add-in requests data from the server.
- The server processes the request and prepares the data.

- The server transmits the data to Essbase Spreadsheet Add-in.
- Lotus 1-2-3 receives the data from Essbase and organizes it in a worksheet.

To help you monitor these operations, Essbase uses three custom cursors.

Table 2. Essbase Custom Cursor

This cursor:	Is displayed when:
	Essbase requests information from the server.
	The server is processing the request.
	The server returns the data.

Note: Small retrieval actions display the cursors very quickly; you may not notice changes in the direction of the arrow when retrieving small amounts of data.

To retrieve data into an empty worksheet:

1. Open a new worksheet by selecting **File > New** or by clicking the button.

   Note: You should be connected to the Sample Basic database. If you are not connected, follow the steps in "Connecting to a Database" on page 23.

2. Select **Essbase > Retrieve**.

   Essbase retrieves data into the Lotus 1-2-3 worksheet.

	A	B	C	D	E	F
1		Measures	Product	Market	Scenario	
2	Year	105522				
3						
4						
5						

Figure 14. Initial Data Retrieval from Sample Basic

Because you selected the **Enable Double-Clicking** box in the **Essbase Options** dialog box (**Global** tab), you can double-click in an empty cell to retrieve data. You can also click the **Retrieve** button on the **Essbase** toolbar.

When you retrieve data into an empty worksheet, Essbase returns data from the top levels of each database dimension. The top level is used as a starting point to navigate, or drill down, into levels of detailed data. In the Sample Basic database, the following five dimensions are retrieved: Measures, Product, Market, Scenario, and Year.

For the remainder of tasks in this tutorial, you can retrieve data by double-clicking in a data cell, selecting Essbase > Retrieve, or by clicking the Retrieve button on the Essbase toolbar.

Canceling a Data Retrieval Request

Occasionally, you may want to cancel a retrieval request. For instance, you may want to stop a request if a retrieval is taking longer than expected or if you mistakenly double-click.

Because Essbase returns data so quickly to the worksheet, you may not be able to cancel a retrieval before the retrieval is complete. The cancel feature is most useful when you need to stop a large retrieval request.

To cancel data retrievals, press the Esc key during a retrieval action.

Note: You can cancel a retrieval *only* while Essbase is processing in Essbase Spreadsheet Add-in. You cannot cancel a retrieval when Essbase is processing from the server.

Restoring the Previous Database View

The FlashBack command restores the previous database view. A database view is simply what you see in the worksheet after a retrieval or navigation operation. FlashBack is similar to the Lotus 1-2-3 Edit > Undo command, which reverses the last action. The FlashBack command uses the memory of your machine to store the current view before processing an Essbase retrieval

request. You can use FlashBack to undo only the most recent operation. FlashBack cannot undo multiple operations.

Throughout this tutorial, you should follow all steps in the order that they are presented. If you make a mistake or find yourself out of step with the tutorial, you can use the FlashBack command from the Essbase menu or toolbar to undo the last command and return to the previous database view. If you want to start the tutorial over from the beginning, select the entire worksheet and select Edit > Clear > All. Then press Enter or click OK to empty the worksheet and start again.

You can disable FlashBack during normal operations to conserve memory on your local machine. Do not disable FlashBack for this tutorial.

Note: Tasks that you should *not* perform as part of the tutorial are shown in light-shaded boxes.

To disable Flashback:
1. Select **Essbase > Options** and click the **Global** tab.
2. Clear the **Enable FlashBack** check box.

Drilling Down to More Detail

With Essbase, you can drill down to various levels of multidimensional data in the worksheet. For example, if you want to view data for a specific quarter or month rather than an aggregate data value for the whole year, you can drill down on the Year dimension to see more detailed data.

You have three options for drilling down on a member:
- Select the member and select Essbase > Zoom In.
- Select the member and double-click the primary mouse button.
- Select the member and click the Zoom In button on the Essbase toolbar.

To drill down to lower levels of the Year dimension:
1. On Year in cell A2, double-click the primary mouse button.

   The drill-down action retrieves data for the level below (the children of) Year: Qtr1, Qtr2, Qtr3, and Qtr4.

	A	B	C	D	E	F
1		Measures	Product	Market	Scenario	
2	Qtr1	24703				
3	Qtr2	27107				
4	Qtr3	27912				
5	Qtr4	25800				
6	Year	105522				

Figure 15. Result of Drilling Down on the Year Dimension

> **Note:** For a discussion of the relationships among Essbase database
> members, see "Database Outlines" on page 7.

With Essbase, you can retrieve members into grouped, or nested, columns
or rows. Row groups containing more than one level of data are nested
within single-member row groups. For example, a row group containing
Qtr1, Qtr2, Qtr3, and Qtr4 may be nested within a single-member row for
a specific region, such as East (see the following illustration). Drilling
down to lower levels of database members is one way to retrieve data into
nested groups.

2. In cell D1, double-click to drill down on Market and create nested groups
   of rows down the worksheet.

	A	B	C	D	E	F
1			Measures	Product	Scenario	
2	East	Qtr1	5380			
3		Qtr2	6499			
4		Qtr3	6346			
5		Qtr4	5936			
6		Year	24161			
7	West	Qtr1	7137			
8		Qtr2	7515			
9		Qtr3	7939			
10		Qtr4	7270			
11		Year	29861			

Figure 16. Result of Drilling Down on the Market Dimension (Nested Rows)

Because worksheets can accommodate more rows than columns, Essbase is preset to retrieve data into rows when you drill down on a member. You can change this default behavior and display the results of a drill-down across columns. Drilling across columns applies only to the top-level member of a dimension (for example, Market or Scenario).

Follow these steps to drill down on Scenario and retrieve its respective members into columns rather than rows:

1. Press and hold the **Alt** key.
2. Double-click Scenario (in cell E1).
3. Release the **Alt** key.

   Essbase displays the data in columns across the worksheet.

	A	B	C	D	E	F	G
1			Measures	Product			
2			Actual	Budget	Variance	Variance %	Scenario
3	East	Qtr1	5380	6500	-1120	-17.23076923	5380
4		Qtr2	6499	7550	-1051	-13.9205298	6499
5		Qtr3	6346	7550	-1204	-15.94701987	6346
6		Qtr4	5936	6790	-854	-12.57731959	5936
7		Year	24161	28390	-4229	-14.89609017	24161
8	West	Qtr1	7137	8960	-1823	-20.34598214	7137
9		Qtr2	7515	9290	-1775	-19.1065662	7515
10		Qtr3	7939	9870	-1931	-19.56433637	7939
11		Qtr4	7270	9060	-1790	-19.75717439	7270
12		Year	29861	37180	-7319	-19.68531469	29861

Figure 17. Result of Drilling-Down on the Scenario Dimension (Nested Columns)

Drilling Down on Attribute Members

You can use the Essbase attribute feature to retrieve and analyze in terms of characteristics, or attributes, of dimensions. For example, you can analyze product profitability based on size or packaging. Attribute dimensions are associated with base dimensions.

You can use an attribute dimension to drill down on the base dimension with which it is associated. In the Sample Basic database, the Product base dimension is associated with several attribute dimensions, such as Caffeinated, Ounces, and Pkg_Type. Each attribute dimension consists of level 0 attribute members. Level 0 attribute members are the lowest level attributes that are associated with members of a base dimension. The Pkg_Type attribute dimension, for instance, has two level 0 members, Bottle and Can.

You can extract information on all products sold in a can by entering manually the name Can in the worksheet. You can also use Essbase Query Designer or the Essbase Member Selection dialog box to select the attribute and display it in the worksheet.

Open a worksheet, connect to the Sample Basic database, and select Essbase > Retrieve. Select Product and replace it with Can by typing Can manually. Click anywhere outside of cell C1 and select Essbase > Retrieve again. Figure 18 displays the results:

	A	B	C	D	E
1		Measures	Can	Market	Scenario
2	Year	39578			

Figure 18. An Attribute Member in a Report

Drill down to all products sold in a can by double-clicking Can in cell C1. Cola, Diet Cola, and Diet Cream are the members of Product that have the Can attribute. The result is displayed below:

	A	B	C	D	E	F
1				Measures	Market	Scenario
2	Year	Can	Cola	22777		
3			Diet Cola	5708		
4			Diet Cream	11093		

Figure 19. Result of Drilling Down on an Attribute Member

Drilling Down on Level 0 Attribute Members
The following is a description of the general behavior of Essbase Spreadsheet Add-in when you drill down on a level 0 attribute member:

- If the level 0 attribute member is in a column, a drill-down pivots the attribute to the innermost row of the worksheet.
- If the level 0 attribute member is in a row, a drill-down does not change the position of the attribute in the worksheet.
- A drill-down on a level 0 attribute member displays the associated base members to the right of the level 0 attribute.
- If there is more than one level 0 attribute member in a worksheet, a drill-down on one attribute displays other attributes to the left of the level 0 attribute member. Level 0 attribute members in columns pivot to rows, and level 0 attribute members already in rows remain in rows.

- A drill-down on non-level 0 attribute members is the same as the current drill-down behavior for other types of members.

The drill-down behavior for non-level 0 attribute members is the same as the current drill-down behavior for other types of members. See the Essbase Spreadsheet Add-in online help for examples of drilling down on level 0 attribute members. For more information on attributes, refer to the *Database Administrator's Guide*.

Drilling Up to Less Detail

With Essbase, you can drill up to higher levels in the multidimensional database outline by collapsing the current member tree. For example, if you previously drilled down on a dimension, such as Scenario, to view data for Actual and Budget, you may need to drill up to view aggregate data for the Scenario dimension.

You have three options for drilling up on a member:
- Select the member and select Essbase > Zoom Out.
- Select the member and double-click the secondary mouse button.
- Select the member and click the Zoom Out button on the Essbase toolbar.

To drill up on the Scenario dimension in the current worksheet:
1. On any member of the Scenario dimension (that is, cell C2, D2, E2, F2, or G2), double-click the secondary mouse button.

   Essbase collapses the members of the Scenario dimension.

	A	B	C	D	E	F	G	H
1			Measures	Product				
2			Scenario					
3	East	Qtr1	5380					
4		Qtr2	6499					
5		Qtr3	6346					
6		Qtr4	5936					
7		Year	24161					

Figure 20. Result of Drilling Up On the Scenario Dimension

2. In cell A3, double-click the secondary mouse button to drill up on East.

   Essbase collapses East, West, South, and Central into the single Market dimension and keeps the dimension in the A column.

	A	B	C	D	E	F	G	H
1			Measures	Product				
2			Scenario					
3	Market	Qtr1	24703					
4		Qtr2	27107					
5		Qtr3	27912					
6		Qtr4	25800					
7		Year	105522					

Figure 21. Result of Drilling Up On East

Customizing Drill-Down and Drill-Up Behavior

You can customize the behavior of the Zoom In and Zoom Out commands in the Essbase Options dialog box. The following steps illustrate some drill-down and drill-up techniques.

To retrieve *all* members of a dimension with a single drill-down operation:

1. Select **Essbase > Options** and select the **Zoom** tab.

   Essbase displays the **Zoom** Tab.
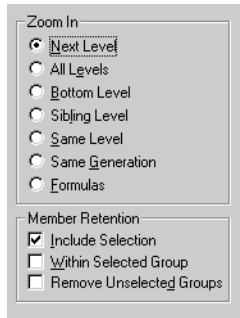
Figure 22. Zoom In and Member Retention Option Settings

The **Zoom In** option group contains items that enable you to customize drilling behavior. You can specify which members are returned to the worksheet during a drill-down operation. For example, if you select **Bottom Level**, Essbase retrieves data for the lowest level of members in a dimension. With this option, a drill-down on Year retrieves Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, and Dec.

The **Member Retention** option group contains items that enable you to customize drilling retention characteristics. The default selection, **Include Selection**, retains the selected member along with the other members retrieved as a result of a drill down. For example, if you drill down on

Qtr1, Essbase retrieves data for Jan, Feb, and Mar, as well as for Qtr1. When this option is disabled, Essbase retrieves data only for Jan, Feb, and Mar; Qtr1 is eliminated.

> **Note:** For more information on the Zoom In and Member Retention option groups, see the Essbase Spreadsheet Add-in online help.

2. In the **Zoom In** option group, select the **All Levels** option and click **OK** to save the setting.
3. In cell A3, drill down (double-click) on Market.
4. In cell C2, drill down (double-click) on Scenario.

   Essbase retrieves all members of Market and Scenario. For the Market dimension, Essbase drilled down two levels to get to the bottom-most members, which are individual states. The Scenario dimension has only one member level, so the members of Scenario would also be retrieved if you selected **Next Level** in the **Zoom In** option group.

	A	B	C	D	E	F	G
1			Measures	Product			
2			Actual	Budget	Variance	Variance %	Scenario
3	New York	Qtr1	1656	2000	-344	-17.2	1656
4		Qtr2	2363	2610	-247	-9.46360153	2363
5		Qtr3	1943	2290	-347	-15.1528384	1943
6		Qtr4	2240	2320	-80	-3.44827586	2240
7		Year	8202	9220	-1018	-11.0412148	8202
8	Massachusetts	Qtr1	1532	1690	-158	-9.34911243	1532
9		Qtr2	1750	1900	-150	-7.89473684	1750
10		Qtr3	1936	2100	-164	-7.80952381	1936
11		Qtr4	1494	1610	-116	-7.20496894	1494
12		Year	6712	7300	-588	-8.05479452	6712

Figure 23. Result of Drilling Down to All Member Levels

5. Select **Essbase > Options** and select the **Zoom** tab.
6. Return the **Zoom In** option setting to **Next Level**.

If you want to drill up on only one quarter of the year, select Within Selected Group in the Member Retention option group.

To drill up only on Qtr1:

1. In the **Member Retention** option group on the **Zoom** Tab, click the **Within Selected Group** check box and click **OK**.

   Make sure that **Include Selection** is also still checked.
2. To drill up on Qtr 1 (in cell B3), double-click the secondary mouse button.

Notice that drilling up to the Year dimension affects only New York. All other states show data for all four quarters.

	A	B	C	D	E	F	G
1			Measures	Product			
2			Actual	Budget	Variance	Variance %	Scenario
3	New York	Year	8202	9220	-1018	-11.04121475	8202
4	Massachusetts	Qtr1	1532	1690	-158	-9.349112426	1532
5		Qtr2	1750	1900	-150	-7.894736842	1750
6		Qtr3	1936	2100	-164	-7.80952381	1936
7		Qtr4	1494	1610	-116	-7.204968944	1494
8		Year	6712	7300	-588	-8.054794521	6712
9	Florida	Qtr1	1070	1300	-230	-17.69230769	1070
10		Qtr2	1339	1570	-231	-14.7133758	1339
11		Qtr3	1495	1730	-235	-13.58381503	1495
12		Qtr4	1125	1300	-175	-13.46153846	1125

Figure 24. Result of Drilling Up Within a Selected Group

3. Before moving on with the tutorial, disable the **Within Selected Group** option:

   a. Select **Essbase > Options** and select the **Zoom** tab.

   b. In the **Member Retention** option group, clear the **Within Selected Group** check box.

4. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Pivoting, Retaining, and Suppressing Data

After you retrieve data into the worksheet, you may want to manipulate the data in various ways. For example, you may want to move rows and columns to different positions in the worksheet, or you may want to tell Essbase to suppress or retain specific data during data retrievals.

To help you manipulate worksheet data, this section steps you through the following procedures:

- "Pivoting Rows and Columns" on page 35
- "Retaining a Data Subset" on page 40
- "Removing a Data Subset" on page 43
- "Navigating Through the Worksheet Without Retrieving Data" on page 43
- "Suppressing Missing Values, Zero Values, and Underscore Characters" on page 47

Pivoting Rows and Columns

With the Pivot command, you can change the orientation of worksheet data. Use the Pivot command to do any of the following:

- Move a row group to a column group
- Move a column group to a row group
- Change the order of row groups
- Change the order of column groups

You can execute the Pivot command in two ways:

- Select the member cell that you want to pivot, and select Essbase > Pivot. This method applies only to moving a row group to a column group or a column group to a row group.
- Click in the center of the member cell that you want to pivot, press and hold the secondary mouse button, and drag the group to the desired location. This method applies to swapping row and column groups and to changing the order within groups.

To pivot Year data from a row group to a column group:

1. To open a new worksheet, select **File > New** or click the ⬜ icon.

   Note: You should already be connected to the Sample Basic database. If you are not connected, follow the steps in "Connecting to a Database" on page 23.

2. Select **Essbase > Retrieve**.
3. Drill down (double-click) on Measures and Product (in cells B1 and C1, respectively).
4. Press and hold the **Alt** key, and, in cell E1, drill down (double-click) on Scenario.

	A	B	C	D	E	F	G	H
1						Market		
2				Actual	Budget	Variance	Variance %	Scenario
3	100	Profit	Year	30468	41940	-11472	-27.35336195	30468
4		Inventory	Year	29448	31590	2142	6.780626781	29448
5		Ratios	Year	57.27288145	57.6240049	-0.351123447	-0.609335377	57.27288145
6		Measures	Year	30468	41940	-11472	-27.35336195	30468
7	200	Profit	Year	27954	35950	-7996	-22.24200278	27954
8		Inventory	Year	33000	31090	-1910	-6.143454487	33000
9		Ratios	Year	55.53966595	57.46674162	-1.927075664	-3.353375551	55.53966595
10		Measures	Year	27954	35950	-7996	-22.24200278	27954
11	300	Profit	Year	25799	29360	-3561	-12.12874659	25799
12		Inventory	Year	28865	27140	-1725	-6.355932203	28865
13		Ratios	Year	54.23795671	57.13950487	-2.901548161	-5.078007182	54.23795671
14		Measures	Year	25799	29360	-3561	-12.12874659	25799
15	400	Profit	Year	21301	22130	-829	-3.746046091	21301

Figure 25. View Before Pivoting

5. In cell C3, select Year and select **Essbase > Pivot**.

	A	B	C	D	E	F
1			Year	Market		
2			Actual	Budget	Variance	Variance %
3	100	Profit	30468	41940	-11472	-27.35336195
4		Inventory	29448	31590	2142	6.780626781
5		Ratios	57.27288145	57.6240049	-0.351123447	-0.609335377
6		Measures	30468	41940	-11472	-27.35336195
7	200	Profit	27954	35950	-7996	-22.24200278
8		Inventory	33000	31090	-1910	-6.143454487
9		Ratios	55.53966595	57.46674162	-1.927075664	-3.353375551
10		Measures	27954	35950	-7996	-22.24200278
11	300	Profit	25799	29360	-3561	-12.12874659
12		Inventory	28865	27140	-1725	-6.355932203
13		Ratios	54.23795671	57.13950487	-2.901548161	-5.078007182
14		Measures	25799	29360	-3561	-12.12874659

Figure 26. Result of Pivoting a Row Group to a Column Group

Essbase pivots the Year dimension to a column group next to Market (above the Scenario members).

6. As another example, in cell C2, select Actual.
7. Right click and drag Actual to product 100 in cell A3.

	A	B	C	D	E	F
1			Year	Market		
2			Actual	Budget	Variance	Variance %
3	100	**Actual Budget Variance Variance% Scenario**			-11472	-27.35336195
4		Inventory	29448	31590	2142	6.780626781
5		Ratios	57.27288145	57.6240049	-0.351123447	-0.609335377
6		Measures	30468	41940	-11472	-27.35336195
7	200	Profit	27954	35950	-7996	-22.24200278
8		Inventory	33000	31090	-1910	-6.143454487
9		Ratios	55.53966595	57.46674162	-1.927075664	-3.353375551
10		Measures	27954	35950	-7996	-22.24200278
11	300	Profit	25799	29360	-3561	-12.12874659
12		Inventory	28865	27140	-1725	-6.355932203
13		Ratios	54.23795671	57.13950487	-2.901548161	-5.078007182
14		Measures	25799	29360	-3561	-12.12874659

Figure 27. Pivoting a Column Group to a Row Group

Note: The member label box that is displayed under the cursor during the pivot operation displays the names of the members that you are pivoting. The *orientation* of the member label box, however, does not

determine the orientation of the pivot result. Essbase determines the data orientation by the location of the destination cell.

Essbase pivots the Scenario members (Actual, Budget, Variance, and Variance%) from a column group to a row group that is displayed to the left of the Product members.

	A	B	C	D	E	F
1				Year	Market	
2	Actual	100	Profit	30468		
3			Inventory	29448		
4			Ratios	57.27288145		
5			Measures	30468		
6		200	Profit	27954		
7			Inventory	33000		
8			Ratios	55.53966595		
9			Measures	27954		
10		300	Profit	25799		
11			Inventory	28865		
12			Ratios	54.23795671		
13			Measures	25799		
14		400	Profit	21301		

Figure 28. Result of Pivoting a Column Group to a Row Group

To transpose the order of row groups:

1. In cell A2, select Actual.
2. Right-click and drag Actual to Profit (cell C2).

	A	B	C	D	E	F	G
1				Year	Market		
2	Actual	100	Profit	Actual Budget Variance Variance% Scenario			
3			Inventory	29448			
4			Ratios	57.27288145			
5			Measures	30468			
6		200	Profit	27954			
7			Inventory	33000			
8			Ratios	55.53966595			
9			Measures	27954			
10		300	Profit	25799			
11			Inventory	28865			
12			Ratios	54.23795671			
13			Measures	25799			
14		400	Profit	21301			
15			Inventory	26092			
16			Ratios	53.59966758			

Figure 29. Pivoting the Order of Row Groups

The pivot changes the order of the row groups.

	A	B	C	D	E	F
1				Year	Market	
2	100	Profit	Actual	30468		
3			Budget	41940		
4			Variance	-11472		
5			Variance %	-27.35336195		
6			Scenario	30468		
7		Inventory	Actual	29448		
8			Budget	31590		
9			Variance	2142		
10			Variance %	6.780626781		
11			Scenario	29448		
12		Ratios	Actual	57.27288145		
13			Budget	57.6240049		
14			Variance	-0.351123447		
15			Variance %	-0.609335377		
16			Scenario	57.27288145		

Figure 30. Result of Pivoting the Order of Row Groups

In this example, notice that both the source cell and the destination cell are now members. Whenever the source cell and the destination cell are members of different row groups, Essbase exchanges the member groups.

You must select a destination cell that contains a member name to exchange row members. You can also exchange column members by choosing a destination cell in another column that contains a member name.

Retaining a Data Subset

The Keep Only command retains only selected member rows or columns and removes all other data from the worksheet view. This command provides a powerful way to remove dimensional slices without having to delete individual cells.

To keep only Actual and Budget data in the current worksheet:

1. In cell C2, select Actual and, in cell C3, select Budget.

	A	B	C	D	E	F
1				Year	Market	
2	100	Profit	Actual	30468		
3			Budget	41940		
4			Variance	-11472		
5			Variance %	-27.35336195		
6			Scenario	30468		
7		Inventory	Actual	29448		
8			Budget	31590		
9			Variance	2142		
10			Variance %	6.780626781		
11			Scenario	29448		
12		Ratios	Actual	57.27288145		
13			Budget	57.6240049		
14			Variance	-0.351123447		
15			Variance %	-0.609335377		
16			Scenario	57.27288145		

Figure 31. Selecting Members for the Keep Only Command

2. Select **Essbase > Keep Only**.

   Essbase removes the Variance, Variance%, and Scenario rows from the worksheet and retains only Actual and Budget data.

	A	B	C	D	E	F
1				Year	Market	
2	100	Profit	Actual	30468		
3			Budget	41940		
4		Inventory	Actual	29448		
5			Budget	31590		
6		Ratios	Actual	57.27288145		
7			Budget	57.6240049		
8		Measures	Actual	30468		
9			Budget	41940		
10	200	Profit	Actual	27954		
11			Budget	35950		
12		Inventory	Actual	33000		
13			Budget	31090		
14		Ratios	Actual	55.53966595		
15			Budget	57.46674162		
16		Measures	Actual	27954		

Figure 32. Result of Retaining a Data Subset (Adjacent Cells)

Occasionally, the data that you want to remove from the worksheet does not lie in an adjacent range of cells.

To select and retain nonadjacent cells.
1. Press and hold the **Alt** key, and, in cell D1, zoom in (double-click) on Year.
2. Select Qtr2 (in cell E2).
3. Press and hold the Ctrl key and select Qtr4 (in cell G2).

	A	B	C	D	E	F	G
1						Market	
2				Qtr1	Qtr2	Qtr3	Qtr4
3	100	Profit	Actual	7048	7872	8511	7037
4			Budget	9790	10660	11440	10050
5		Inventory	Actual	29448	29860	36461	35811
6			Budget	31590	29950	34830	32340
7		Ratios	Actual	57.40178857	57.28473167	57.39559978	56.99467561
8			Budget	57.7376566	57.39041794	57.45231167	57.96344648
9		Measures	Actual	7048	7872	8511	7037
10			Budget	9790	10660	11440	10050
11	200	Profit	Actual	6721	7030	7005	7198
12			Budget	8480	8840	8830	9800
13		Inventory	Actual	33000	31361	35253	32760
14			Budget	31090	28040	30260	26460
15		Ratios	Actual	55.38738874	55.49797453	55.06764011	56.21773123
16			Budget	57.36255286	57.40395375	57.11143695	57.9954955
17		Measures	Actual	6721	7030	7005	7198

Figure 33. Selecting Nonadjacent Members for the Keep Only Command

4. Select **Essbase > Keep Only**.

   Essbase retains only Qtr2 and Qtr4 data and deletes the other Year members.

	A	B	C	D	E	F
1				Market		
2				Qtr2	Qtr4	
3	100	Profit	Actual	7872	7037	
4			Budget	10660	10050	
5		Inventory	Actual	29860	35811	
6			Budget	29950	32340	
7		Ratios	Actual	57.28473167	56.99467561	
8			Budget	57.39041794	57.96344648	
9		Measures	Actual	7872	7037	
10			Budget	10660	10050	
11	200	Profit	Actual	7030	7198	
12			Budget	8840	9800	
13		Inventory	Actual	31361	32760	
14			Budget	28040	26460	
15		Ratios	Actual	55.49797453	56.21773123	
16			Budget	57.40395375	57.9954955	
17		Measures	Actual	7030	7198	

Figure 34. Result of Retaining a Data Subset (Nonadjacent Cells)

Removing a Data Subset

The Remove Only command is the counterpart to the Keep Only command. With Remove Only, you can remove selected member rows or columns and retain all other data in the worksheet view.

To remove a data subset from the current worksheet view:

1. In cell B7, select Ratios.
2. Press and hold **Ctrl**, and, in cell B9, select Measures.
3. Select **Essbase > Remove Only**.

   Essbase removes data for Ratios and Measures but retains data for Profit and Inventory.

	A	B	C	D	E	F
1				Market		
2				Qtr2	Qtr4	
3	100	Profit	Actual	7872	7037	
4			Budget	10660	10050	
5		Inventory	Actual	29860	35811	
6			Budget	29950	32340	
7	200	Profit	Actual	7030	7198	
8			Budget	8840	9800	
9		Inventory	Actual	31361	32760	
10			Budget	28040	26460	
11	300	Profit	Actual	6769	6403	
12			Budget	7680	7000	
13		Inventory	Actual	30334	38142	
14			Budget	28460	35460	

Figure 35. Result of Removing a Data Subset

Navigating Through the Worksheet Without Retrieving Data

With the Navigate Without Data feature, you can perform navigational operations, such as pivot, zoom in, zoom out, keep only, and remove only, without retrieving any data into the worksheet.

This feature is especially useful when dealing with dynamic calculation members, which are usually specified by the application designer. By activating Navigate Without Data, you are effectively telling Essbase *not* to dynamically calculate values (that is, calculate the database at retrieval time) while you are creating the spreadsheet report. Dynamic calculation is discussed in more detail in "Retrieving Dynamic Calculation Members" on page 129.

To navigate through the worksheet without retrieving data:

1. Select **Essbase > Navigate Without Data**.

   Essbase displays a check mark next to the menu item.

   Note: You can also disable Navigate Without Data by clearing the appropriate option in the Essbase Options dialog box (Global Tab) or by clicking the Navigate Without Data button on the Essbase toolbar.

2. In cell D2, double-click the secondary mouse button to drill up on Qtr2.

   Essbase shows the collapsed Year dimension but withholds retrieving any data that is changed as a result of drilling up. The cells where data would normally be displayed are blank.

	A	B	C	D	E	F	G	H	I
1				Market					
2				Year					
3	100	Profit	Actual						
4			Budget						
5		Inventory	Actual						
6			Budget						
7	200	Profit	Actual						
8			Budget						
9		Inventory	Actual						
10			Budget						
11	300	Profit	Actual						
12			Budget						
13		Inventory	Actual						
14			Budget						

Figure 36. Result of Zooming Out (Navigate Without Data Enabled)

3. In cell D2, drill down (double-click) on Year by pressing and holding the **Alt** key.

   Essbase drills down without retrieving data.

4. In Cell C3, select Actual and select **Essbase > Pivot**.

   Essbase executes the pivot but does not retrieve data.

   Note: You get the same result by pivoting any of the other Scenario members.

	A	B	C	D	E	F	G	H	I	J	K	L
1							Market					
2					Actual					Budget		
3			Qtr1	Qtr2	Qtr3	Qtr4	Year	Qtr1	Qtr2	Qtr3	Qtr4	Year
4	100	Profit										
5		Inventory										
6	200	Profit										
7		Inventory										
8	300	Profit										
9		Inventory										
10	400	Profit										
11		Inventory										
12	Diet	Profit										
13		Inventory										
14	Product	Profit										

Figure 37. Result of Pivoting (Navigate Without Data Enabled)

5. In cell G1, click the secondary mouse button on Market and drag Market to product 100 (cell A4).

   Essbase executes the pivot without retrieving data.

	A	B	C	D	E	F	G	H	I	J	K	L
1						Actual					Budget	
2				Qtr1	Qtr2	Qtr3	Qtr4	Year	Qtr1	Qtr2	Qtr3	Qtr4
3	Market	100	Profit									
4			Inventory									
5		200	Profit									
6			Inventory									
7		300	Profit									
8			Inventory									
9		400	Profit									
10			Inventory									
11		Diet	Profit									
12			Inventory									
13		Product	Profit									
14			Inventory									

Figure 38. Result of Pivoting (Navigate Without Data Enabled)

Navigating without data also works with the Keep Only and Remove Only commands.

To navigate without data when using the Keep Only or Remove Only command:

1. Select Qtr1 (cell D2) and Qtr2 (cell E2) and select **Essbase > Keep Only**.

   Essbase retains only the selected members and does not retrieve data.

	A	B	C	D	E	F	G	H	I	J
1				Actual		Budget				
2				Qtr1	Qtr2	Qtr1	Qtr2			
3	Market	100	Profit							
4			Inventory							
5		200	Profit							
6			Inventory							
7		300	Profit							
8			Inventory							
9		400	Profit							
10			Inventory							
11		Diet	Profit							
12			Inventory							
13		Product	Profit							

Figure 39. Result of Keep Only (Navigate Without Data Enabled)

2. Select products 300 (cell B7), 400 (cell B9), and Diet (cell B11) and select **Essbase > Remove Only**.

   Essbase executes the **Remove Only** command without actually querying the database for information.

	A	B	C	D	E	F	G	H	I	J
1				Actual		Budget				
2				Qtr1	Qtr2	Qtr1	Qtr2			
3	Market	100	Profit							
4			Inventory							
5		200	Profit							
6			Inventory							
7		Product	Profit							
8			Inventory							
9										

Figure 40. Result of Remove Only (Navigate Without Data Enabled)

To turn off Navigate Without Data when you are ready to retrieve data:

1. Select **Essbase > Navigate Without Data**.

   Essbase removes the check mark next to the menu item.

   Note: You can also disable Navigate Without Data by clearing the appropriate option in the Essbase Options dialog box (Global Tab) or by clicking the Navigate Without Data button on the Essbase toolbar.

2. In cell A3, drill down (double-click) on Market.

   Essbase drills down on the Market dimension and also retrieves data into the worksheet.

	A	B	C	D	E	F	G	H	I
1				Actual		Budget			
2				Qtr1	Qtr2	Qtr1	Qtr2		
3	East	100	Profit	2747	3352	2880	3480		
4			Inventory	5384	4490	5200	3530		
5		200	Profit	562	610	960	1070		
6			Inventory	5957	6442	5610	5910		
7		Product	Profit	5380	6499	6500	7550		
8			Inventory	25744	26214	24710	24030		
9	West	100	Profit	1042	849	2350	2130		
10			Inventory	8592	9656	10250	10950		
11		200	Profit	2325	2423	2570	2720		
12			Inventory	11755	11643	11070	10900		
13		Product	Profit	7137	7515	8960	9290		
14			Inventory	38751	41574	39020	42820		

Figure 41. Result of Drilling down (Navigate Without Data Disabled)

Note: If you want to retrieve data without changing the current worksheet view, you can also retrieve data by simply double-clicking in any data cell or by selecting Essbase > Retrieve (after disabling Navigate Without Data).

Suppressing Missing Values, Zero Values, and Underscore Characters

Several types of data can be returned to a worksheet view:

- Numeric data values
- #NoAccess strings, which are displayed when you do not have the proper security access to view a data value
- #Missing strings, which indicate that no data exists for that member intersection
- Zero data values

A missing value is not the same as a zero value that is loaded into the Essbase database. When data does not exist for a data cell in Essbase, a value of #Missing is returned to the worksheet. If any cell in a row contains a value, that row is not suppressed on a retrieval.

With Essbase, you can suppress missing and zero values from the display in the worksheet. In addition, you can tell Essbase to suppress underscore characters that are in some member names.

To suppress rows that contain missing values from displaying in the worksheet:

1. In cell C3, double-click the secondary mouse button to drill up on Profit.
2. Pivot Measures (in cell C3) to Actual (in cell D1).
3. In cell B4, drill down (double-click) on product 100.

   Notice that, in the South, the product 100–30 row contains all missing values, indicating that this product is not sold in the South. You may need to scroll down the worksheet to see this row.

	A	B	C	D	E	F	G
1				Measures			
2			Actual		Budget		
3			Qtr1	Qtr2	Qtr1	Qtr2	
4	East	100-10	2461	2940	2550	3050	
5		100-20	212	303	220	300	
6		100-30	74	109	110	130	
7		100	2747	3352	2880	3480	
8		200	562	610	960	1070	
9		Product	5380	6499	6500	7550	
10	West	100-10	1047	1189	1720	1900	
11		100-20	-67	-177	320	200	
12		100-30	62	-163	310	30	
13		100	1042	849	2350	2130	
14		200	2325	2423	2570	2720	
15		Product	7137	7515	8960	9290	
16	South	100-10	745	835	1160	1280	
17		100-20	306	363	570	660	
18		100-30	#Missing	#Missing	#Missing	#Missing	

Figure 42. Worksheet View Displaying Missing Data Values

4. Select **Essbase > Options**, and select the **Display** tab.
5. In the **Suppress** option group, select the **#Missing Rows** check box and click **OK**.

Note: The Suppress #Missing Rows and Zero Rows options are not available when any of the Formula Preservation options are selected in the Essbase Options dialog box. For more information on Formula Preservation, see "Preserving Formulas When Retrieving Data" on page 117.

6. Select **Essbase > Retrieve** to update the worksheet.

Note: After you change a worksheet option in the Essbase Options dialog box, you must perform a retrieval or drill operation to have the new setting take effect.

Essbase suppresses product 100–30 from the South member group.

	A	B	C	D	E	F	G	H	I
4	East	100-10	2461	2940	2550	3050			
5		100-20	212	303	220	300			
6		100-30	74	109	110	130			
7		100	2747	3352	2880	3480			
8		200	562	610	960	1070			
9		Product	5380	6499	6500	7550			
10	West	100-10	1047	1189	1720	1900			
11		100-20	-67	-177	320	200			
12		100-30	62	-163	310	30			
13		100	1042	849	2350	2130			
14		200	2325	2423	2570	2720			
15		Product	7137	7515	8960	9290			
16	South	100-10	745	835	1160	1280			
17		100-20	306	363	570	660			
18		100	1051	1198	1730	1940			
19		200	1465	1540	1640	1700			
20		Product	3077	3267	4180	4410			
21	Central	100-10	843	928	1080	1180			

Figure 43. Result of Suppressing Missing Data Values

7. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Note: After you enable the Suppress #Missing Rows feature in the Essbase Options dialog box, any missing values suppressed during a data retrieval are not retrieved again by simply disabling the feature. If you disable the feature in the Essbase Options dialog box, missing values are retrieved *from only that point on*. For example, in the tutorial task described above, Essbase could not go back and return the missing values for product 100–30. To return these missing

values to the worksheet, you disable the Suppress #Missing Rows feature, drill up on a Product member, and then drill down again.

You can also suppress zeros and underscore characters as described in the task above by clicking the appropriate options in the Suppress option group in the Essbase Options dialog box (Display tab).

In addition to suppressing specific values and characters during retrieval, Essbase enables you to define a label for missing values (#Missing) or for data you do not have access to (#NoAccess). If you define a replacement label for these values, Essbase displays the replacement labels instead of the default labels. For more information on defining replacement labels for the #Missing and #NoAccess labels, see the Essbase Spreadsheet Add-in online help.

Formatting the Worksheet

Essbase provides you with various ways to customize the worksheet view. For example, you may want to apply visual cues, or styles, to certain member names or to data cells in the worksheet, or you may want to display alternative names, or aliases, for member names. This section steps you through the following formatting procedures:

- "Formatting Text and Cells" on page 50
- "Displaying Aliases for Member Names" on page 59
- "Displaying Both Member Names and Aliases" on page 61
- "Repeating Member Labels" on page 62

This section of the tutorial starts with a new worksheet.

Formatting Text and Cells

In a spreadsheet report, you may have many hierarchical levels of database information displayed. By defining and applying visual cues, or styles, to the text and cells in the worksheet, you can easily keep track of specific database members, dimensions, and cell functions. Styles are a great way to help view and distinguish data in Essbase Spreadsheet Add-in.

Note: Keep in mind that applying styles requires additional processing during a retrieval request. For more information, see "Removing Styles" on page 58.

This section of the tutorial describes the following:

- "Applying Styles to Parent Members" on page 51
- "Applying Styles to Dimension Members" on page 54
- "Applying Styles to Data Cells" on page 56
- "Determining the Precedence of Overlapping Styles" on page 57

- "Removing Styles" on page 58

Note: For a discussion of the relationships among Essbase database members, see "Database Outlines" on page 7.

Applying Styles to Parent Members

Each dimension in a database may contain a large number of hierarchical levels. As you view data in the worksheet, you may not be familiar with all the hierarchical levels of the database outline. To indicate which members have underlying children, you can apply formatting styles to parent members, including those with attributes.

To apply styles to parent members:

1. To open a new worksheet, select **File > New** or click the icon.
2. Select **Essbase > Retrieve**.

   Note: You should still be connected to the Sample Basic database. If you are not connected, follow the steps in "Connecting to a Database" on page 23.
3. In cell A2, drill down (double-click) on Year.
4. Select **Essbase > Options**.
5. In the **Essbase Options** dialog box, select the **Style** tab.

   Note: The Style tab is available only when you are connected to a database.

   Essbase displays the **Style** tab.
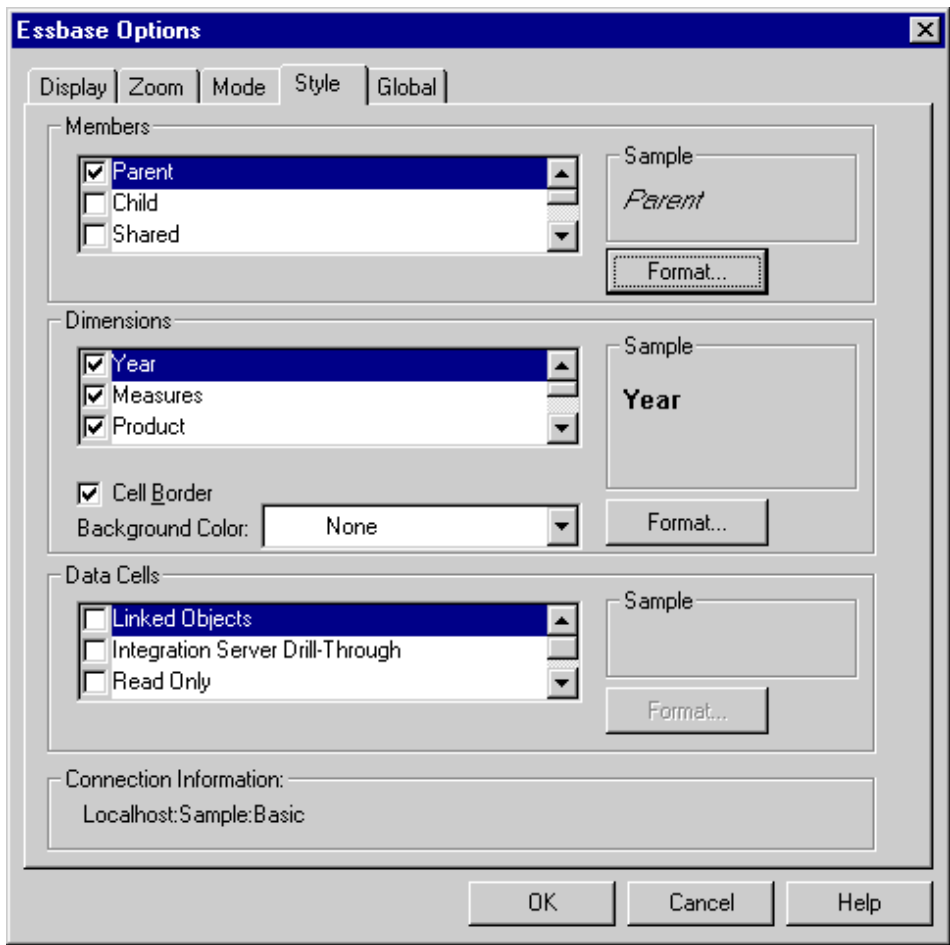
Figure 44. Essbase Options Dialog Box, Style Tab

In the Members area, you can define styles for various types of database members, such as parent, child, and shared members.

6. In the **Members** group box, select the **Parent** check box.

   Clicking this box defines a font and color style for parent member names. Essbase defines a default color of navy for all parent members. You can select a font format by clicking the **Format** button to the right of the **Members** box and using the **Font** dialog box.

7. Click the **Format** button.

   Essbase displays the **Font** dialog box.

Font

Font:	Font style:	Size:	
	Bold	10	OK

Albertus Extra Bold
Albertus Medium
Anna
Antique Olive
Arial
Arial Black
Arial Narrow

Regular
Italic
Bold
Bold Italic

10
11
12
14
16
18
20

Cancel

Effects

☐ Stri_k_eout

☐ _U_nderline

_C_olor:
Navy

Sample

Sc_r_ipt:
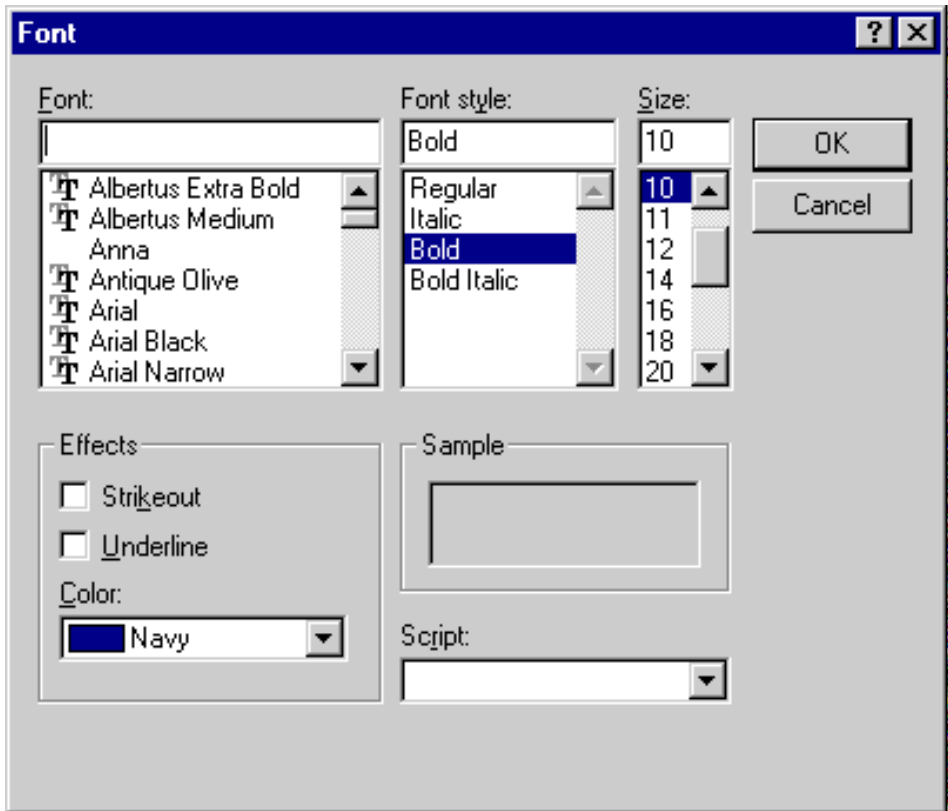
Figure 45. Font Dialog Box

8. In the **Font style** list box, select **Bold** and then click **OK**.

   Note: Essbase displays an example of the selected style in the Sample box.

9. Click **OK** again.

   Even though you have defined styles, they are not enabled until you select the Use Styles check box from the **Essbase Options** dialog box and refresh the worksheet.

10. Select **Essbase > Options**, and select the **Display** tab.

11. In the **Cells** option group, select the **Use Styles** check box to enable your styles, and then click **OK**.

12. Select **Essbase > Retrieve** to refresh the worksheet and apply the styles.

    Essbase displays parent member names in bold, navy font.

13. In cell A2, drill down (double-click) on Qtr1.

Essbase displays Jan, Feb, and Mar in a regular font, because these members do not have underlying children.

	A	B	C	D	E
1		*Measures*	*Product*	*Market*	*Scenario*
2	Jan	8024			
3	Feb	8346			
4	Mar	8333			
5	*Qtr1*	24703			
6	*Qtr2*	27107			
7	*Qtr3*	27912			
8	*Qtr4*	25800			
9	*Year*	105522			

Figure 46. Styles Applied to Parent Members

Applying Styles to Dimension Members

In addition to applying styles to parent members (as you did in the previous section), you can also apply styles to members of a dimension in a database. Applying styles to dimensions makes it easy to view the various dimension members in Essbase Spreadsheet Add-in.

To apply styles to dimensions:

1. Select **Essbase > Options** and select the **Style** tab.
2. In the **Dimensions** group box, select **Year**.
3. Select the **Cell Border** check box to create a border around each cell that contains a member from the selected dimension.
4. From the **Background Color** list box, select **Yellow**.
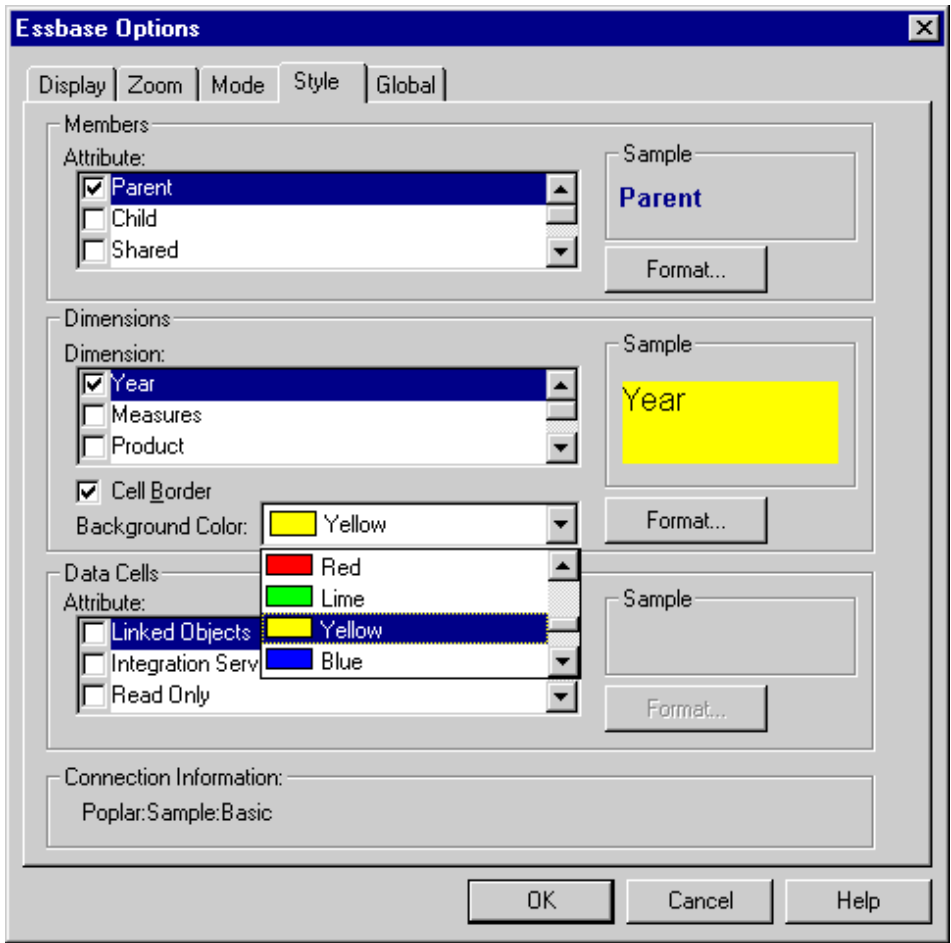
Figure 47. Selecting a Background Color from the Style Tab

5. Click the **Format** button that is to the right of the **Dimensions** list. Essbase displays the **Font** dialog box.

6. From the **Font style** list box, select **Bold**, and then click **OK**.

   Note: Essbase displays an example of the selected style in the Sample box.

7. From the list of dimensions, select the **Measures** dimension and, from the **Background Color** list box, select **Fuschia**.

8. From the list of dimensions, select **Product**, and clear the **Cell Border** check box.

9. From the **Background Color** list box, select **Aqua**.

10. Scroll down the list of dimensions, and select **Market**.

11. Select the **Cell Border** check box, and click the **Format** button that is to the right of the **Dimensions** list.

    When the **Font** dialog box is displayed, from the **Font style** list box select **Italic**, and then click **OK**.

12. From the list of dimensions, select **Scenario**, and from the **Background Color** list box, select **Red**.

13. Click the **Format** button, and from the **Color** list box, select **White**.

14. Click **OK** twice to return to the worksheet.

    > **Note:** When you define styles, your choices are saved to the Windows Registry on your local machine. You can define one set of styles per database.

15. In cell D1, drill down (double-click) on Market.

16. Press and hold the **Alt** key and drill down (double-click) on Scenario (in cell E1).

17. Select **Essbase > Retrieve** to refresh the worksheet.

    Essbase redisplays the worksheet and implements the newly defined styles. For example, members of the Scenario dimension are displayed with a red background.

	A	B	C	D	E	F	G
1			Measures	Product			
2			Actual	Budget	Variance	Variance %	Scenario
3	East	Jan	1732	2080	-348	-16.7308	1732
4		Feb	1843	2230	-387	-17.3543	1843
5		Mar	1805	2190	-385	-17.5799	1805
6		Qtr1	5380	6500	-1120	-17.2308	5380
7		Qtr2	6499	7550	-1051	-13.9205	6499
8		Qtr3	6346	7550	-1204	-15.947	6346
9		Qtr4	5936	6790	-854	-12.5773	5936
10		Year	24161	28390	-4229	-14.8961	24161
11	West	Jan	2339	2980	-641	-21.5101	2339
12		Feb	2394	2990	-596	-19.9331	2394
13		Mar	2404	2990	-586	-19.5987	2404
14		Qtr1	7137	8960	-1823	-20.346	7137

Figure 48. Dimensions with Styles Applied

Applying Styles to Data Cells

You can apply styles to data cells, such as read-only cells, read/write cells, linked object cells, and Essbase Integration Server drill-through cells to distinguish them from other cells in the worksheet. The Sample Basic database that you are using for this tutorial does not contain data cells with any of

these characteristics. In the advanced tutorial presented in Chapter 4, you attach a linked reporting object to a data cell and apply a style to the cell.

Note: You cannot perform the actions in light-shaded boxes.

In general, to apply styles to data cells, follow these steps:

1. Select **Essbase > Options**, and select the **Style** tab.
2. In the **Data Cells** option group, select the **Linked Objects**, **Integration Server Drill-Through**, **Read Only**, or **Read/Write** check box.
3. Click **Format**.
4. In the **Font** dialog box, specify the font, font size, font style, color, and effects, and click **OK**.
   Note: Essbase displays an example of the selected style in the Sample box.
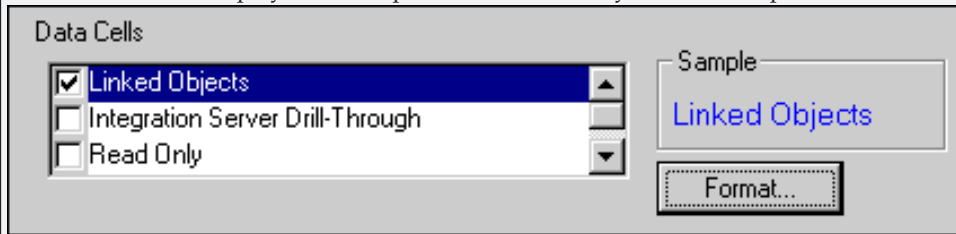
Figure 49. Sample Style for Read/Write Data Cells

5. *Repeat Step 2 through Step 4 to set styles for other data cells.*
6. *Select the* **Display** *tab and select the* **Use Styles** *check box to apply styles to the worksheet.*
7. *Click* **OK** *to close the* **Essbase Options** *dialog box.*
8. *Select* **Essbase > Retrieve** *to display the new styles in the worksheet.*

Determining the Precedence of Overlapping Styles

The only way you can apply a background color to data is to define a style for dimensions. If dimension styles are defined, and the Use Styles setting is turned on, members of a dimension always have the background color defined for their dimension.

The text styles that you can apply to members, dimensions, and data cells have a hierarchy that determines which characteristics are applied. Member styles are at the top of that hierarchy. Thus, member styles are always applied (as long as styles are turned on). Note that in Figure 48, the Qtr1 label in cell B6 is in bold, navy font, and has a yellow background. The navy font comes from the style defined for parent members, and the yellow background comes from the style defined for Year.

Essbase uses the following order of precedence when applying multiple text styles:

- Linked object cells
- Integration Server Drill-Through cells

- Read-only cells
- Read/write cells
- Parent member cells
- Child member cells
- Shared member cells
- Cells containing formulas
- Dynamic calculation member cells
- Attribute cells
- Dimension cells

If you want to see a child member style, make sure that the parent member style is turned off. If you want to see a shared member style, make sure that both parent and child member styles are turned off.

Removing Styles

Styles can be very helpful tools for keeping track of data in Essbase Spreadsheet Add-in. Applying styles, however, involves additional processing time during a retrieval request. This additional processing has a slight impact on the speed of Essbase retrievals.

If you do not want to apply styles to the worksheet view, you can clear them. You can also turn off styles so they are not displayed when you refresh the view (by selecting Essbase > Retrieve, for example). So that the worksheet matches the illustrations presented in the following tasks, *do not* remove styles if you are stepping through the tutorial.

Note: If you have styles applied to the worksheet and you execute the FlashBack command, these styles are temporarily removed from the current view. The styles are re-applied whenever you initiate a retrieval. You cannot perform the actions in the light-shaded boxes.

To remove all styles from a worksheet:

1. Select all cells in the worksheet.
2. From the Lotus 1-2-3 menu bar, select **Edit > Clear > Styles**.

To disable styles:

1. Select **Essbase > Options** and, select the **Display** tab.
2. In the **Cells** option group, clear the **Use Styles** check box, and click **OK**.

Note: If you turn styles off without clearing them from the worksheet, the styles remain in the current worksheet view when you refresh the view. The styles remain to avoid removing any styles that you may apply to individual cells using native worksheet formatting options.

Displaying Aliases for Member Names

Aliases are alternate names for database members. You can create reports that use the database member name, which is often a stock number or a product code, or an alias name, which can be more descriptive. Aliases are defined by the Essbase application designer. Each database can contain one or more alias tables

.For example, members of Product in the Sample Basic database are defined as codes, such as 100 and 200. A descriptive alias for each member of Product, such as Colas and Root Beer, is defined in an alias table. In some cases, alias names may vary depending on the combination of other database members. For example, a Product member may have a different alias for each market in which it is sold. For more information, see the Essbase Spreadsheet Add-in online help or the *Database Administrator's Guide*.

To display the alias of a member rather than its database name:

1. In cell C2, double-click the secondary mouse button to drill up on Actual.
2. Press and hold the **Alt** key and drill down (double-click) on Product (in cell D1).
3. Select **Essbase > Options**, and select the **Display** tab.
4. In the **Aliases** option group, select the **Use Aliases** check box to display member aliases.
5. Select **Default** from the **Alias** list box.
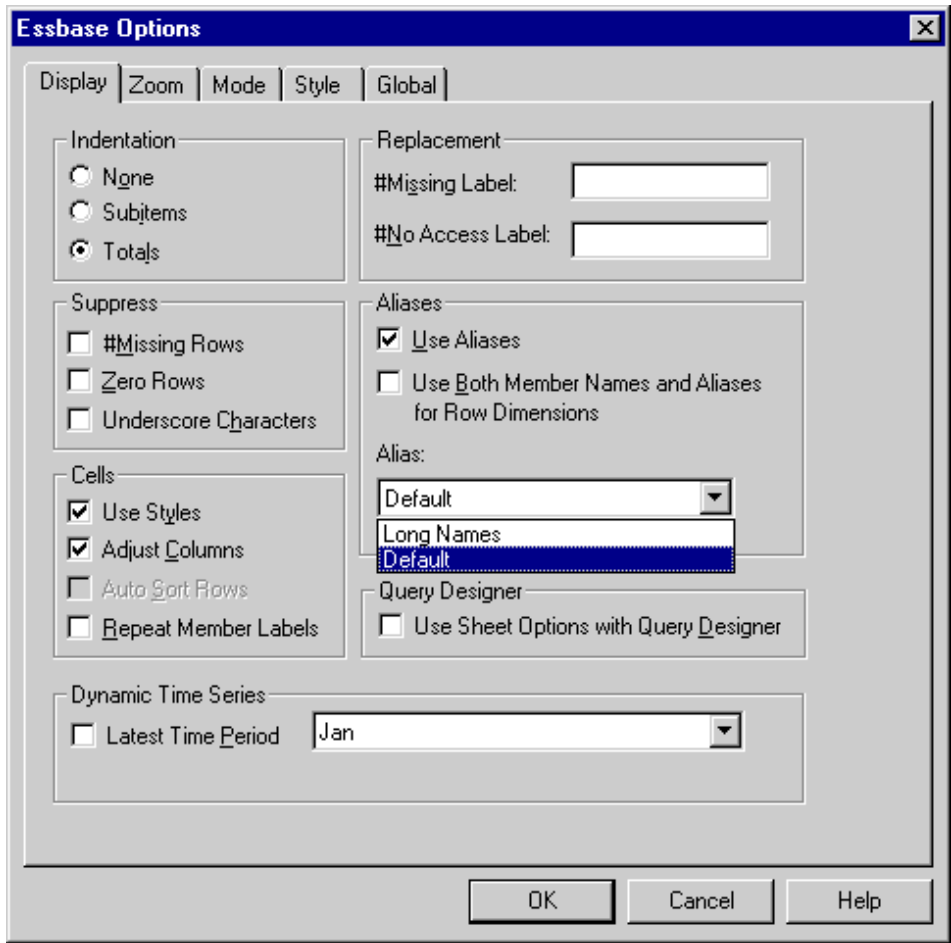
Figure 50. Enabling Aliases in the Essbase Options Display Tab

6. Click **OK**.

7. Select **Essbase > Retrieve** to refresh the worksheet and display the alias names.

   Essbase changes the Product codes (100, 200, and so forth) to their predefined aliases (Colas, Root Beer, Cream Soda, and so forth). In the Sample Basic database, Product is the only dimension with predefined aliases.

	A	B	C	D	E	F	G
1					*Measures*		
2			*Colas*	*Root Beer*	*Cream Soda*	*Fruit Soda*	*Diet Drinks*
3			*Scenario*	*Scenario*	*Scenario*	*Scenario*	*Scenario*
4	*East*	**Jan**	924	158	184	466	181
5		**Feb**	888	242	200	513	185
6		**Mar**	935	162	207	501	189
7		*Qtr1*	2747	562	591	1480	555
8		*Qtr2*	3352	610	922	1615	652
9		*Qtr3*	3740	372	522	1712	644
10		*Qtr4*	2817	990	592	1537	557
11		*Year*	12656	2534	2627	6344	2408
12	*West*	**Jan**	378	752	755	454	663
13		**Feb**	337	781	797	479	683
14		**Mar**	327	792	811	474	679

Figure 51. Result of Displaying Aliases

Notice that Essbase is still displaying the styles that you created and applied in the previous sections.

Displaying Both Member Names and Aliases

In addition to displaying aliases for database members, you can also tell Essbase to display both aliases and database member names in Essbase Spreadsheet Add-in.

To display the name and alias of a member:

1. In cell B8, double-click the secondary mouse button to drill up on Qtr2.
2. In cell C2, select Colas, and then select **Essbase > Pivot**.
3. In cell C3. select Year, and then select **Essbase > Pivot**.
4. Select **Essbase > Options**, and select the **Display** tab.
5. In the **Aliases** option group, select the check box for **Use Both Member Names** and **Aliases for Row Dimensions**.

   Be sure that **Use Aliases** is already checked.
6. Click **OK** to return to the worksheet, and select **Essbase > Retrieve**.

   Essbase displays both member names and their aliases for row dimensions. Because the only row dimension in this example that has preassigned aliases is Product, only the Product members display their aliases. Region members simply repeat the member name instead of displaying an alias.

Figure 52. Result of Displaying Both Member Names and Aliases

Repeating Member Labels

By default, Essbase displays member labels only once for each nested row and column group. If you are connected to a large database when using Essbase Spreadsheet Add-in, you may have to scroll down or across the worksheet to see additional data rows and columns. In some cases, as you scroll down or across, member labels may disappear from view. Essbase provides a feature for repeating member labels in each row or column cell that represents a data point so that you can always see a member label in the worksheet view.

To repeat member labels down and across the worksheet:

1. Select **Essbase > Options**, and select the **Display** tab.
2. In the **Aliases** option group, clear the **Use Both Member Names and Aliases for Row Dimensions** check box.
3. In the **Cells** option group, select the **Repeat Member Labels** check box, and then click **OK**.
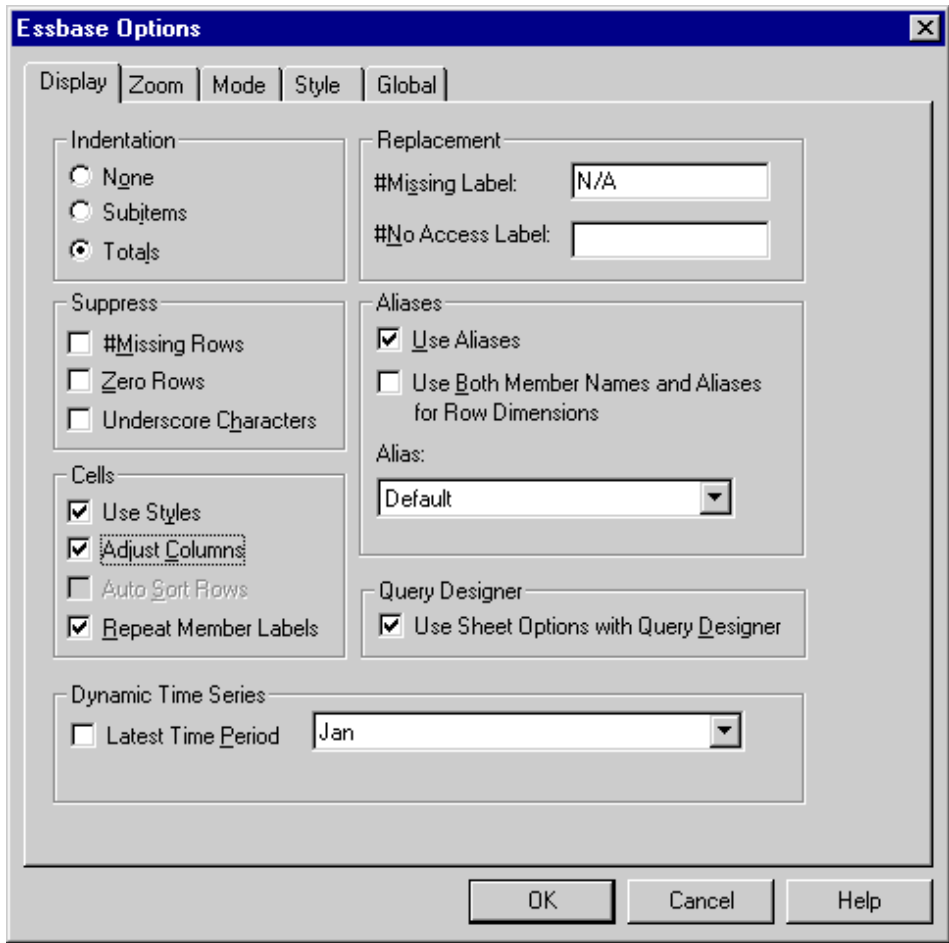
Figure 53. Enabling the Repeat Member Labels Option

4. In cell E1, drill down (double-click) on Year.

   Essbase displays a member label in every column and row cell. For the Sample Basic database that you are using for this tutorial, repeating member labels is probably not necessary because the database is relatively small. This feature is particularly helpful for keeping track of member labels when scrolling through large worksheets.

Figure 54. Result of Repeating Member Labels

> **Note:** Even if you clear the Repeat Member Labels check box in the
> Essbase Options dialog box, Essbase retains the repeated member
> labels in the worksheet view. To remove the repeated labels, you
> need to do one of the following:

- Clear the check box and open a new worksheet
- Clear the check box and pivot the row group to a column group and then pivot it back to a row group (or vice versa)
- Select Essbase > FlashBack and clear the check box

5. Before returning to the tutorial, complete the following actions:

   a. Select **Essbase > Options**, and select the **Display** tab.

   b. In the **Cells** option group, clear the **Repeat Member Labels** check box, and then click **OK**.

   c. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Creating Queries Using Essbase Query Designer

So far, you have seen how easy it is to retrieve data and navigate through Essbase Spreadsheet Add-in in an ad hoc fashion. Essbase also provides a query designer so that you can define a database query for retrieving dimensions and database members into the worksheet. Essbase Query Designer (EQD) replaces Retrieval Wizard, and is used to define queries in previous versions of Essbase Spreadsheet Add-in.

Before Hyperion Essbase actually retrieves data, Essbase Query Designer provides a series of panels so you can request the data that you want to view in the worksheet. It is particularly helpful when you know exactly which data you want to retrieve from the server. In addition, you can save a query and use it again.

The Essbase Query Designer window (Figure 55) consists of the following panels:

- The navigation panel provides access to the various features in Essbase Query Designer. You can display all the dimensions used in a particular query and access the various properties of each dimension member.
- The hint panel provides a brief description of the feature that is selected from the navigation panel.
- The properties panel provides access to the following functions:
  - *Layout:* Design the layout of the spreadsheet report. To change the default layout, select a dimension tile and drag it to one of the other dimension boxes. To access the member select panel and to define a member for a query, double-click a dimension tile.
  - *Member Select:* Select members that you want to display in the rows of the spreadsheet report. To select a member, right-click the member, and select Add to Selection Rules. You can also double-click a member to add it to the selection rules.
  - *Member Filter:* Filter the member selection by attribute, generation name, level name, pattern string, or UDA.
  - *Data Filter:* Retrieve rows of data. The retrieval is based on the ranking of the rows within certain columns. Use this panel to access the data restriction panel.
  - *Data Restriction:* Filter data by comparing it to a fixed data value (including a negative value), a set of data values, or #Missing data values.
  - *Data Sort:* Sort rows in ascending or descending order. The sort is based on column data values.
  - *Messages and Confirmation:* Turn on and turn off certain messages from Essbase Query Designer.
  - *Help:* Access documentation about Essbase Query Designer.

Creating and Changing Queries

To access any of the Hyperion Essbase Query Designer panels, select the appropriate feature listed in the navigation panel.

As you create a query or make changes to an existing query, the changes are reflected in the navigation panel. To view a dimension or a member of an open query, click on the specific dimension or member in the query outline that is displayed in the navigation panel. Selected members are displayed in the member selection panel on the right.

You can also revise an existing query in the member selection panel. For example, you can delete a member or add a member to the query by selecting a member in the navigation panel and making the appropriate changes in the properties panel.

Note: Files created using the obsolete Retrieval Wizard feature can be opened in Essbase Query Designer. However, if a query contains more than two member filters per selection rule or more than two data restrictions, the member filters may be out of order. To ensure correct results, rearrange the member filters in the navigation panel, if necessary.

For complete information on Essbase Query Designer options, see the Essbase Spreadsheet Add-in online help.

CAUTION:
Manipulation of worksheets in VBA such as naming worksheets or moving worksheets may not work when EQD is running.

Creating Queries

To create a query using Essbase Query Designer:

1. Select **Essbase > Query Designer**.

   Essbase displays the **Essbase Query Designer** welcome panel.
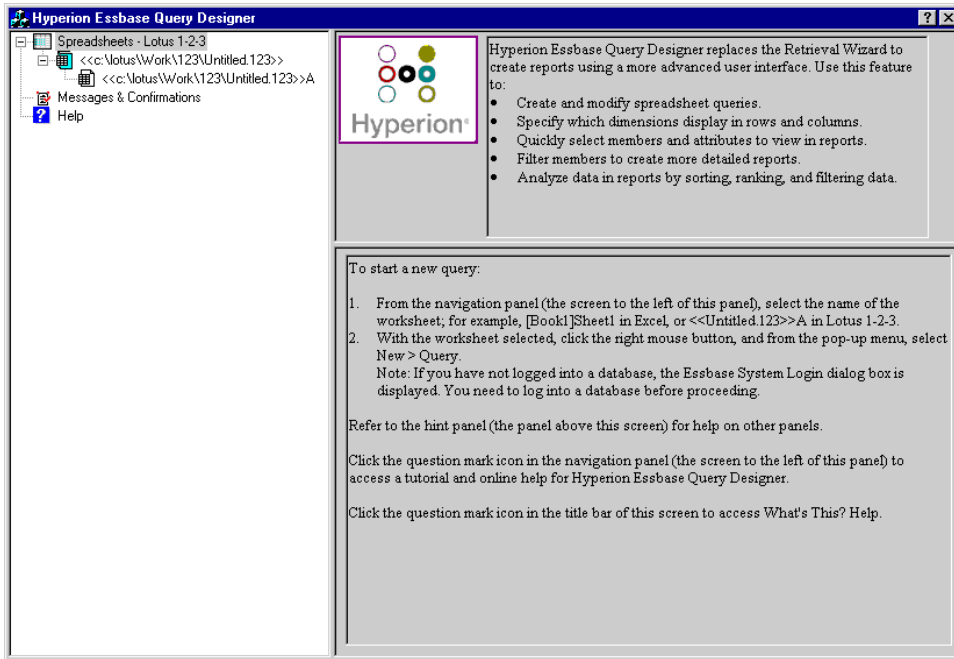
Figure 55. Essbase Query Designer Displaying Welcome Panel

2. To create a new query, select <<c:\lotus\Work\123\Untitled.123>>A, right-click, and select **New > Query**.

Hyperion Essbase displays the layout panel of **Hyperion Essbase Query Designer**.
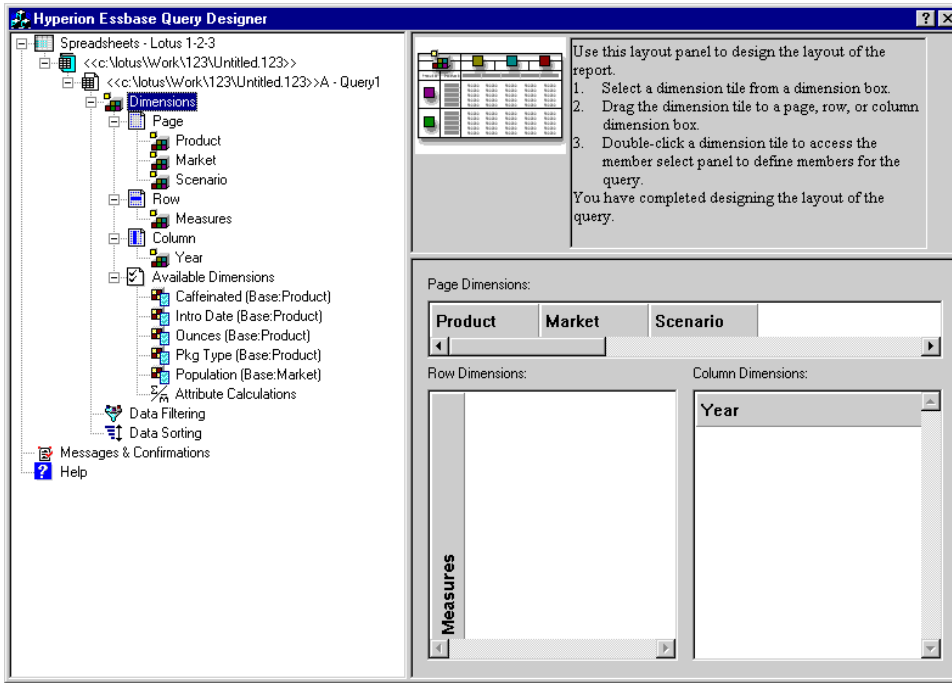
Figure 56. Essbase Query Designer Displaying Layout Panel

> 3. Define the worksheet layout by dragging the dimension tiles as follows:
>
>   a. Drag Market and Product to the Row location.
>
>   b. Drag Measures to the Page location.
>
>   c. Drag Scenario below Year (in the Column location).
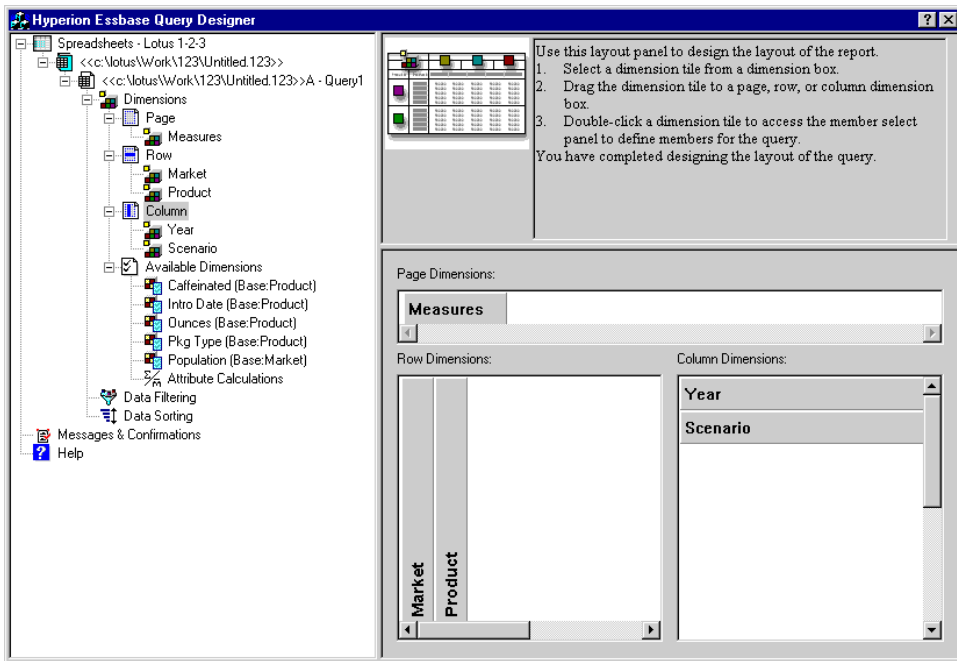
Figure 57. Changing the Worksheet Layout

4. To select the Measures dimension in the navigation panel, select the Measures icon. Alternatively, double-click the Measures tile in the layout panel.

   Essbase displays the member select panel, where you can select a member from the Measures dimension.

   Note: You can select only one member from the dimension in the Page location.

5. Select Profit, right-click, and select **Add to Selection Rules**. Alternatively, double-click Profit to add it to the selection rules.

   Profit is displayed in the selection rules list.
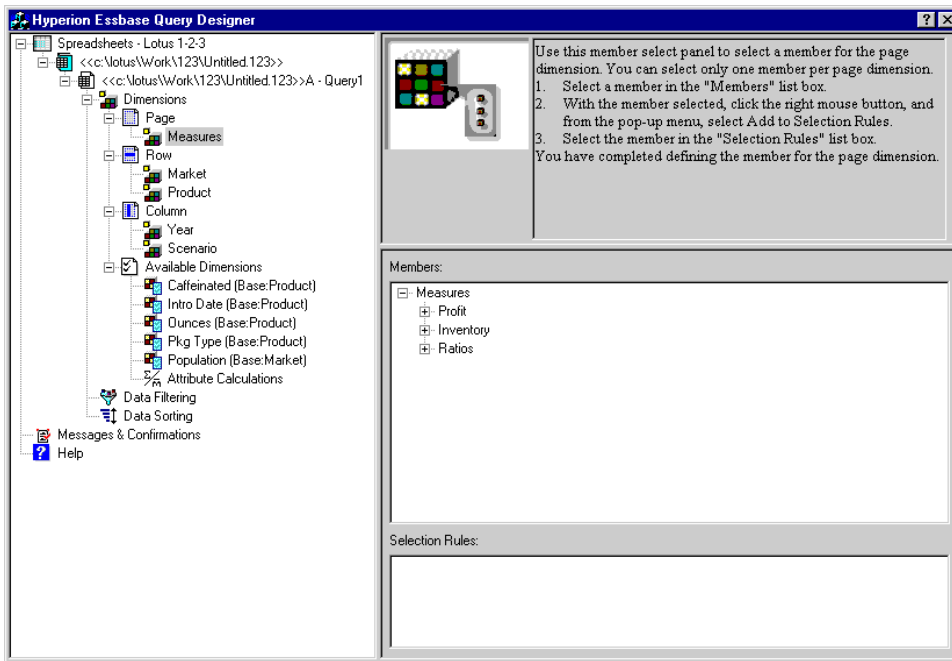
Figure 58. Hyperion Essbase Query Designer Displaying the Member Select Panel

> **Note:** In Essbase Query Designer, after you make your selections, you do not need to confirm them; for example, you do not have to click OK. If you do not select members from any given dimension, Essbase uses the top member of the dimension.

6. To select members of the Year dimension, complete the following actions:

   a. In the navigation panel, click the Year icon. Alternatively, double-click the Year tile in the layout panel.

      Essbase displays the member select panel for the Year dimension.

   b. Select Qtr1, right-click, and select **Add to Selection Rules**.

   c. Add Qtr2, Qtr3, and Qtr4 to the selection rules in the same manner. Because Year is in a Column location, you can select one or more members.
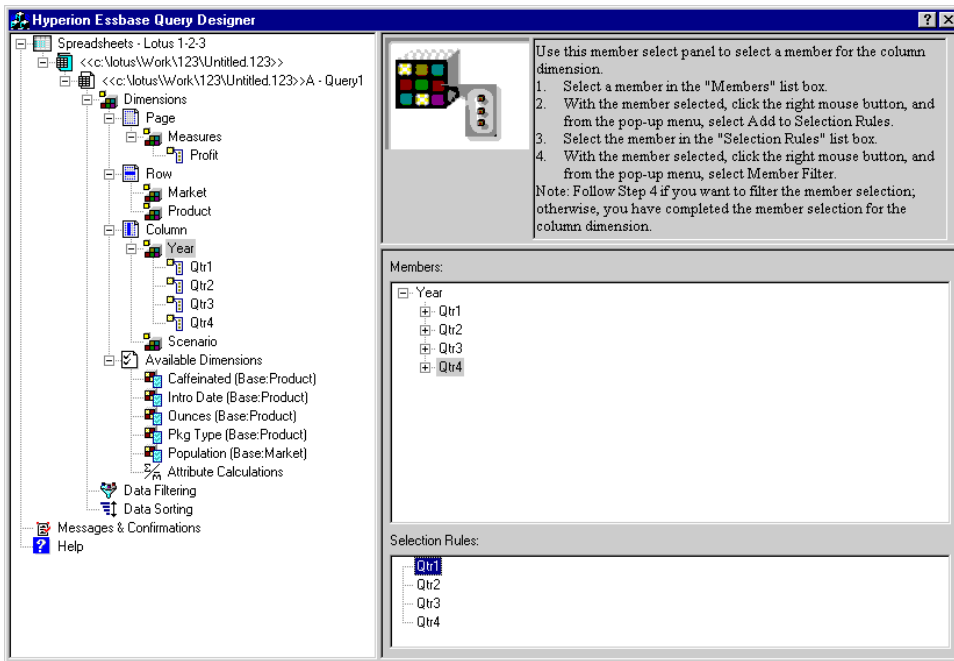
Figure 59. Adding Members to the Selection Rules

7. To select members of the Scenario dimension, complete the following actions:

   a. In the navigation panel, select Scenario. Alternatively, double-click the Scenario tile in the layout panel.

      The members of the Scenario dimension are displayed in the member select panel.

   b. Select Actual, right-click, and select **Add to Selection Rules**.

      Actual is added to the **Selection Rules** box.

   c. In the same manner, add Budget to the **Selection Rules** box.

8. To select members of the Product dimension, complete the following actions:

   a. In the navigation panel, select Product. Alternatively, double-click the Product tile in the layout panel.

      The members of the Product dimension are displayed in the member select panel.

   b. Select product code 100, right-click, and select **Add to Selection Rules**.

   c. Repeat the process for product codes 200, 300, and 400.

   d. In the **Selection Rules** list box, select product code 100, right-click, and then, from the popup menu, choose **Select > Children**.

This action selects all children of 100. Essbase displays All Children next to 100 in the **Selection Rules** list box.

e. In the **Selection Rules** list box, select product code 400, right-click, and choose **Select > Descendants**.

Essbase displays All Descendants next to 400 in the **Selection Rules** list box.
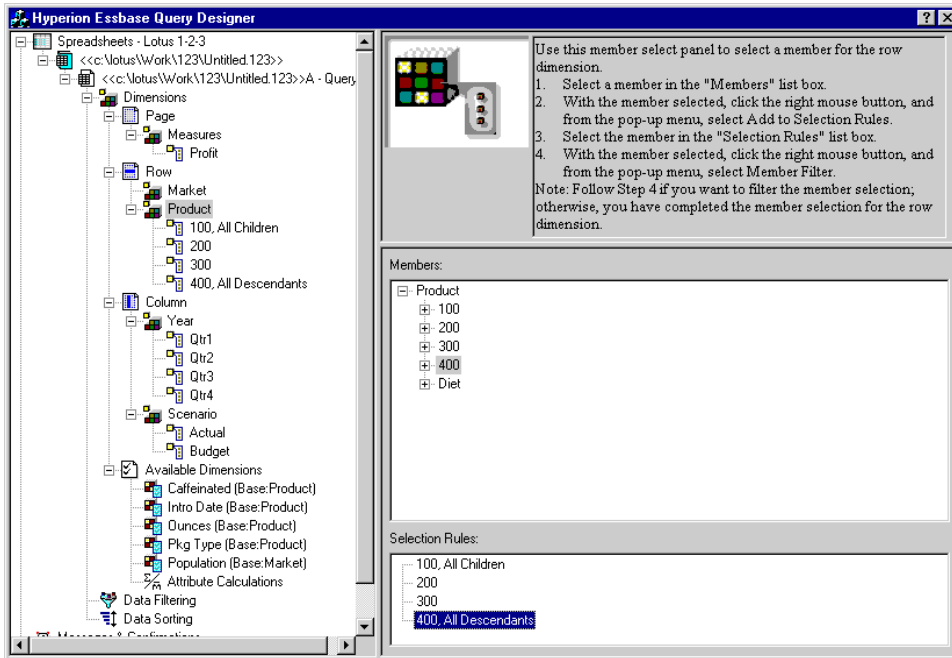
Figure 60. Selecting Members of Product

f. To view the list of all product codes that will be retrieved into the worksheet, select any of the entries in the **Selection Rules** list box (for example, 200), right-click, and select Preview.

Hyperion Essbase displays the **Member Selection Preview** dialog box.
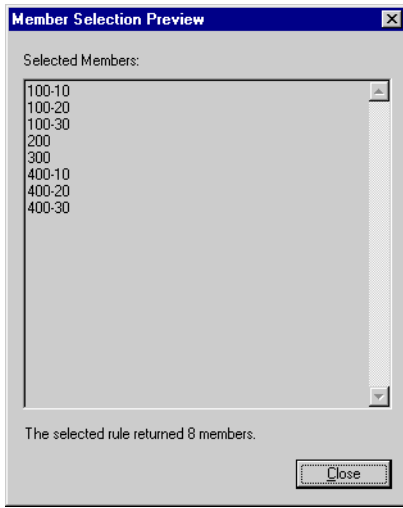
Figure 61. Selected Members of Product Dimension

   g. Click **Close** to close the **Member Selection Preview** dialog box.
9. To select members of the Market dimension, complete the following
   actions:
   a. In the navigation panel, select Market. Alternatively, double-click the
      Market tile in the layout panel.

      The members of the Market dimension are displayed in the member
      select panel.
   b. In the Member list box, select East, right-click, and select **View by >
      Generation**.
   c. To pick the second generation of the Market dimension, in the
      Member list box, select Region, right-click, and select **Add to
      Selection Rules**. Alternatively, double-click Region to add it to the
      selection rules.

      Region is displayed in the **Selection Rules** list box.
   d. To view the list of members that will be retrieved into the worksheet,
      in the **Selection Rules** list box, select Region, right-click, and select
      Preview.

      Essbase displays East, West, South, and Central in the **Member
      Selection Preview** dialog box.

```
Member Selection Preview                    ✕

Selected Members:

┌─────────────────────────────────────┬──┐
│East                                 │▲ │
│West                                 │  │
│South                                │  │
│Central                              │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │  │
│                                     │▼ │
└─────────────────────────────────────┴──┘

The selected rule returned 4 members.

                          ┌──────────┐
                          │  Close   │
                          └──────────┘
```
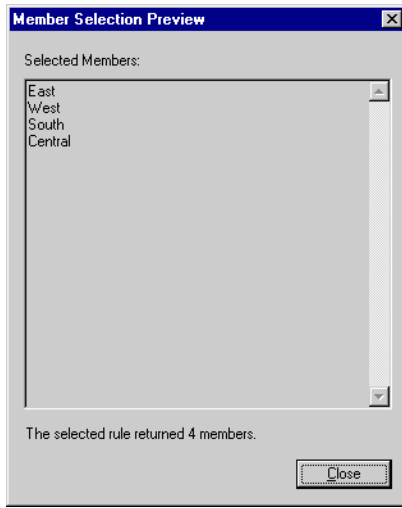
Figure 62. Generation Name Selection

> e. Click **Close** to close the **Member Selection Preview** dialog box.
>
> You have now defined a basic Essbase query. The outline of the query is displayed in the navigation panel.

10. In the navigation panel, select <<c:\lotus\Work\123\Untitled.123>>A - Query1, and then right-click and select **Save Query**.

    Essbase displays the Essbase **Query Designer Save As Query** dialog box. You can save your query to the server or to your own client machine. To save to the server, you must have a security level of database designer or higher. Contact the Essbase system administrator for more information.

11. Select **Client**.
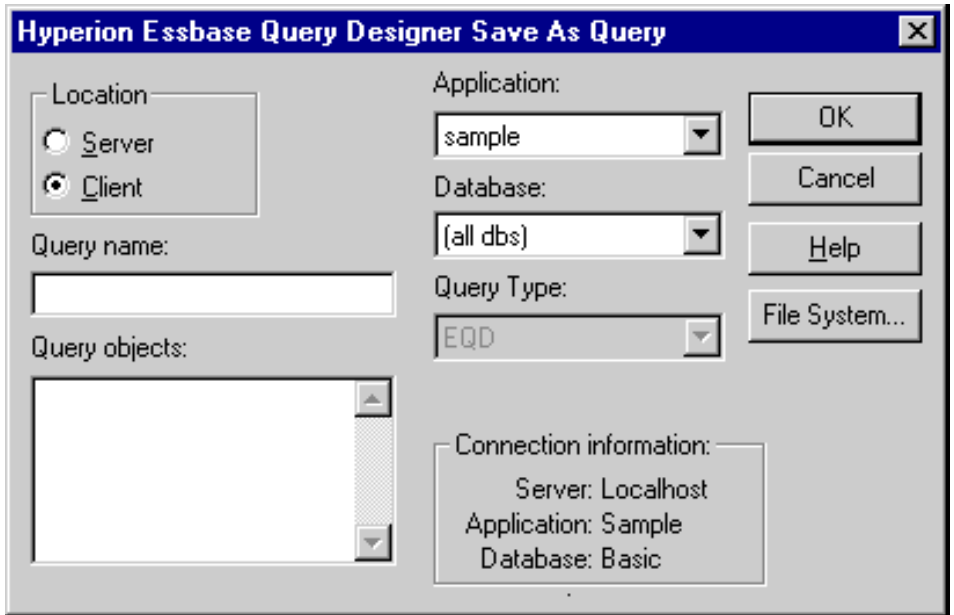
Figure 63. Essbase Query Designer Save As Query Dialog Box

12. Click the **File System** button.

Essbase displays the **Save As** dialog box.
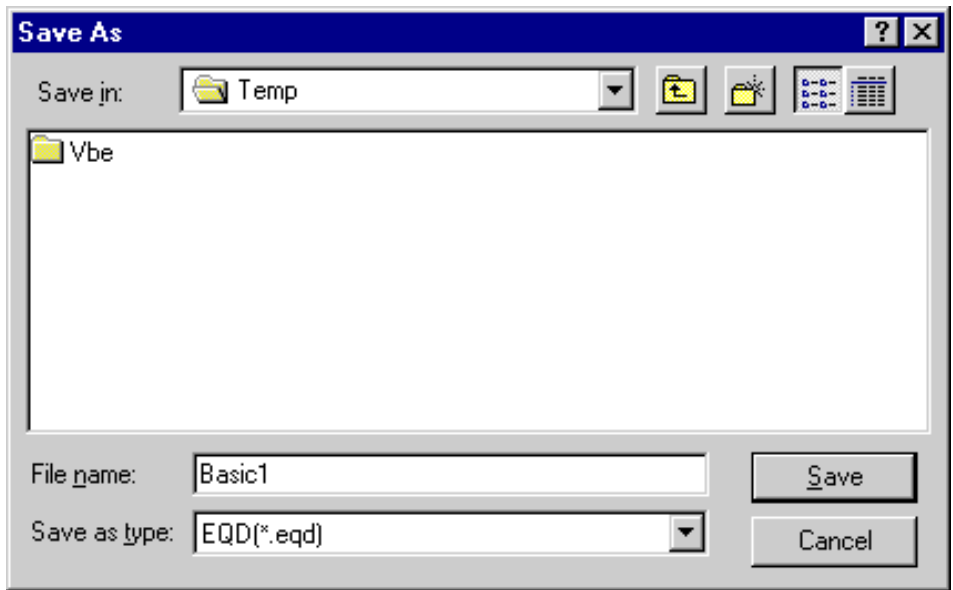
Figure 64. Save As Dialog Box

13. Select a location, in the **File name** text box, type Basic1 and then click **Save**.

You will use the Basic1 query again in Chapter 4
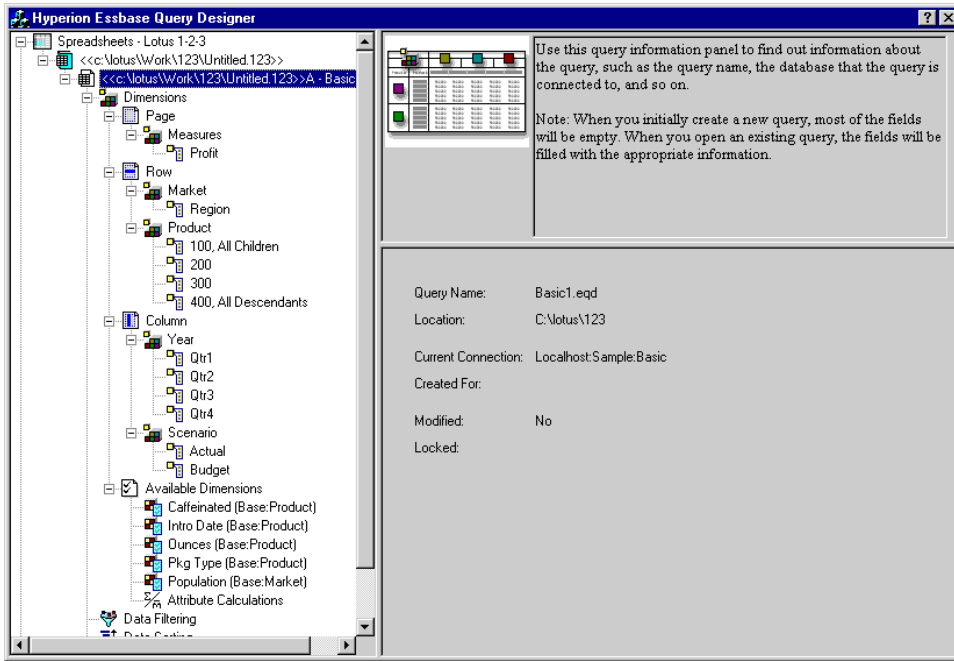
Figure 65. Hyperion Essbase Query Designer Displaying Query Information Panel

14. In the navigation panel, select <<c:\lotus\Work\123\Untitled.123>> A -
Basic1, then right-click, and select **Apply Query**.

The result of the query is displayed in the worksheet.

	A	B	C	D	E	F	G	H	I	J
1						Profit				
2			Qtr1		Qtr2		Qtr3		Qtr4	
3			Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
4	East	Cola	2461	2550	2940	3050	3298	3440	2430	2410
5		Diet Cola	212	220	303	300	312	310	287	290
6		Caffeine Free Cola	74	110	109	130	130	190	100	150
7		Root Beer	562	960	610	1070	372	830	990	1500
8		Cream Soda	591	770	922	1010	522	660	592	530
9		Grape	645	840	676	860	710	920	618	800
10		Orange	290	350	327	380	377	420	394	440
11		Strawberry	545	700	612	750	625	780	525	670
12	West	Cola	1047	1720	1189	1900	1339	2120	1018	1780
13		Diet Cola	-67	320	-177	200	-154	250	-136	320
14		Caffeine Free Cola	62	310	-163	30	-286	-130	-123	70
15		Root Beer	2325	2570	2423	2720	2540	2820	2439	2840
16		Cream Soda	2363	2620	2739	2970	2937	3230	2692	2850
17		Grape	1143	920	1167	960	1271	1020	1219	920
18		Orange	1002	810	1120	890	1192	1000	940	680
19		Strawberry	-738	-310	-783	-380	-900	-440	-779	-400
20	South	Cola	745	1160	835	1280	1031	1490	965	1510
21		Diet Cola	306	570	363	660	281	570	247	550

Figure 66. Results of a Essbase Query Designer Query

> **Note:** In the Display tab under Essbase > Options, if you select Use
> Styles and Use Sheet Options with Query Designer, the styles you
> selected for dimension members will be applied to the initial query
> results. If you do not select Use Sheet Options with Query
> Designer, even if you have selected Use Styles, they will not be
> applied to the initial query results. To apply styles, select Essbase >
> Retrieve. When Essbase returns the data to the worksheet, you are
> free to further investigate the data by performing Zoom, Keep
> Only, Remove Only, and Pivot operations.

Deleting Queries

You can delete a query only from the location where you saved that query.
For example, if you save a query in the /essbase/client/sample directory,
you can delete the query from within the sample directory. You cannot delete
the query from within Hyperion Essbase Query Designer.

Viewing Messages and Confirmations

Hyperion Essbase Query Designer displays messages and confirmations about
certain actions, such as moves and deletes, in the messages and confirmations
panel.

To turn on or turn off messages and confirmations:

1. Select the **Messages and Confirmations** icon in the navigation panel.
2. To turn on (enable) a message, select the check box that is displayed next
   to that message.
3. To turn off (disable) a message, select the check box again (clear the check
   box).
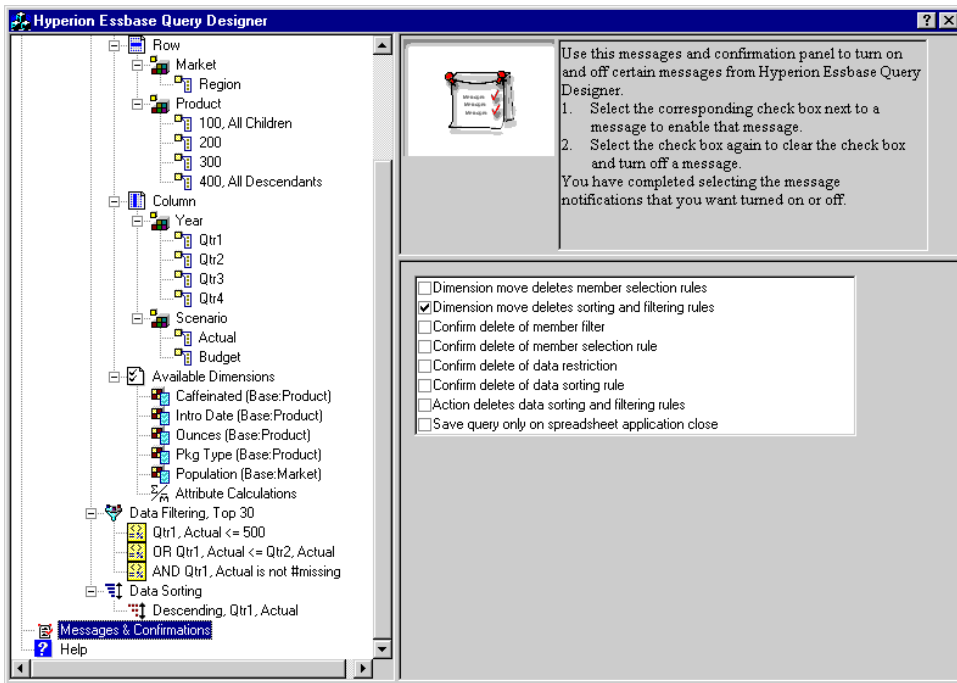
Figure 67. Messages and Confirmations Panel

Accessing Help

Access online help or the tutorial for Hyperion Essbase Query Designer by using the help panel. To access the help panel, in the navigation panel, select Help. For more information on a particular topic, click the Online Help button in the properties panel. To access the online tutorial, click the Tutorial button in the properties panel.
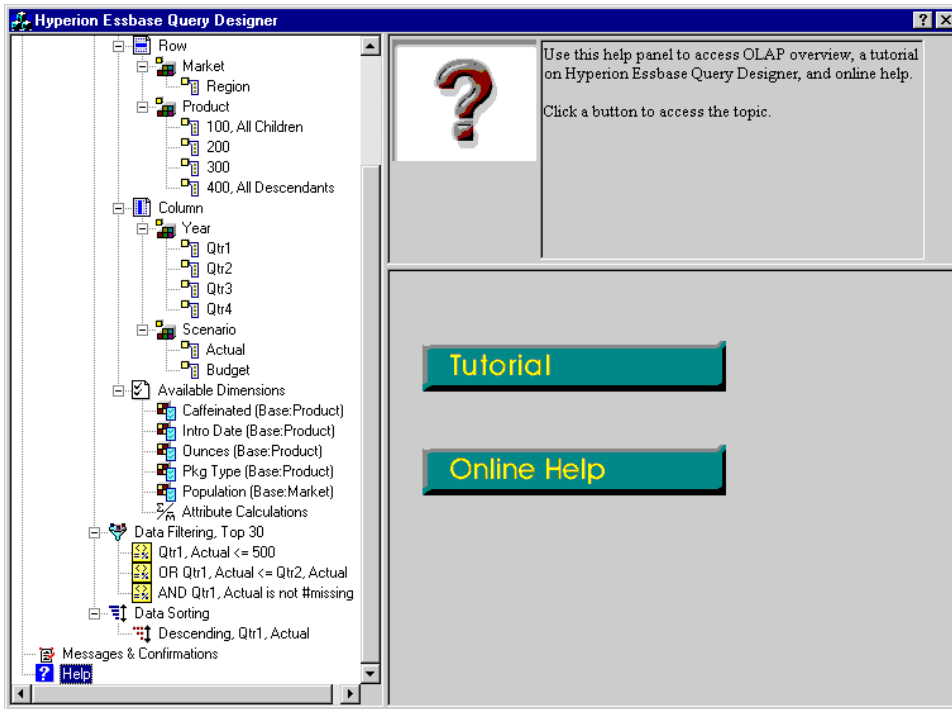
Figure 68. Essbase Query Designer Help Panel

Connecting to Multiple Databases from Essbase Query Designer

You can connect to several databases and create separate queries on each database from Essbase Query Designer.

To connect to multiple databases from Essbase Query Designer:

1. Logon to Essbase and connect to the server you want to access.
2. Select **Essbase > Query Designer** to open **Essbase Query Designer**.
3. Select <<c:\lotus\Work\123\Untitled.123>>A, right-click, and select **Connect**.

   Essbase displays the **Essbase System Login** dialog box.
4. Type your password, and click **OK**. Select Sample Basic, and click **OK**.
5. Select <<c:\lotus\Work\123\Untitled.123>>A, right-click, and select **New > Worksheet**.
6. Select the new worksheet, <<c:\lotus\Work\123\Untitled.123>>B, right click, and select **Connect**.

   Essbase displays the **Essbase System Login** dialog box.

7. Type your password, and click **OK**. Select Samppart Company, and click **OK**.

   Note: You are restricted to one connection per worksheet. The connection information is displayed in the query information panel of the Hyperion Essbase Query Designer only when you open an existing query or create a new query.

8. To create a new query based on Sample Basic, select <<c:\lotus\Work\123\Untitled.123>>A, right click, and select **New > Query**.

9. To create a new query based on Samppart Company, select <<c:\lotus\Work\123\Untitled.123>>B, right-click, and select **New > Query**.

10. To open an existing query, right click, and select **Open Query**.

You are now ready to proceed with the process of creating queries or opening existing queries.

Applying Worksheet Options to Essbase Query Designer Results

You can also apply any of the worksheet options you have previously set from the Essbase Options dialog box to the results of a query created in Essbase Query Designer.

To enable Essbase Query Designer to use your previously set worksheet options:

1. Select **Essbase > Options**.
2. In the **Essbase Options** dialog box, select the **Display** tab.
3. Select the **Use Sheet Options with Query Designer** check box, and select **OK**.
4. Select **Essbase > Retrieve** to refresh the worksheet.

   Essbase displays the results of the query you created in Essbase Query Designer and implements your previously set worksheet options. For example, note that aliases, instead of the numeric codes, are now displayed for the Product dimension.

	A	B	C	D	E	F	G	H	I	J
1						Profit				
2			Qtr1		Qtr2		Qtr3		Qtr4	
3			Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
4	East	Cola	2461	2550	2940	3050	3298	3440	2430	2410
5		Grape	645	840	676	860	710	920	618	800
6		Cream Soda	591	770	922	1010	522	660	592	530
7		Root Beer	562	960	610	1070	372	830	990	1500
8		Strawberry	545	700	612	750	625	780	525	670
9		Orange	290	350	327	380	377	420	394	440
10		Diet Cola	212	220	303	300	312	310	287	290
11		Caffeine Free Cola	74	110	109	130	130	190	100	150
12	West	Cream Soda	2363	2620	2739	2970	2937	3230	2692	2850
13		Root Beer	2325	2570	2423	2720	2540	2820	2439	2840
14		Grape	1143	920	1167	960	1271	1020	1219	920
15		Cola	1047	1720	1189	1900	1339	2120	1018	1780
16		Orange	1002	810	1120	890	1192	1000	940	680
17		Caffeine Free Cola	62	310	-163	30	-286	-130	-123	70
18		Diet Cola	-67	320	-177	200	-154	250	-136	320
19		Strawberry	-738	-310	-783	-380	-900	-440	-779	-400
20	South	Root Beer	1465	1640	1540	1700	1612	1710	1498	1330

Figure 69. Results of Query with Options Applied

5. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Selecting Members

A Essbase database may contain hundreds or even thousands of members, making it difficult to remember each member name. You can use the Essbase Member Selection dialog box to find and select members and to define the layout of members in the worksheet. In addition, you can use Boolean operators, such as AND, OR, and NOT, or other search parameters to specify criteria and conditions that members must meet for the member selection. Member selection is an important method of creating a spreadsheet report for the data you want to retrieve.

Note: For complete information on the Essbase Member Selection dialog box, see the Essbase Spreadsheet Add-in online help.

To view specific members from the Product dimension:

1. To open a new worksheet, select **File > New** or click the 🗋 icon.

   Note: You should be connected to the Sample Basic database. If you are not connected, follow the steps in "Connecting to a Database" on page 23.

2. Select **Essbase > Retrieve**.

3. Select Product and select **Essbase > Pivot** to display Product as a row, rather than a column, dimension.

A	A	B	C	D	E	F
1			**Measures**	**Market**	**Scenario**	
2	**Product**	**Year**	105522			
3						
4						
5						

Figure 70. Initial Worksheet for Member Selection

4. Select Product again, and select **Essbase > Member Selection**.

   Essbase displays the **Essbase Member Selection** dialog box. In the **Essbase Member Selection** dialog box, Essbase displays the Product dimension in the **Dimension** list box and its children, Colas, Root Beer, Cream Soda, Fruit Soda, and Diet Drinks, in the **Members** list box.
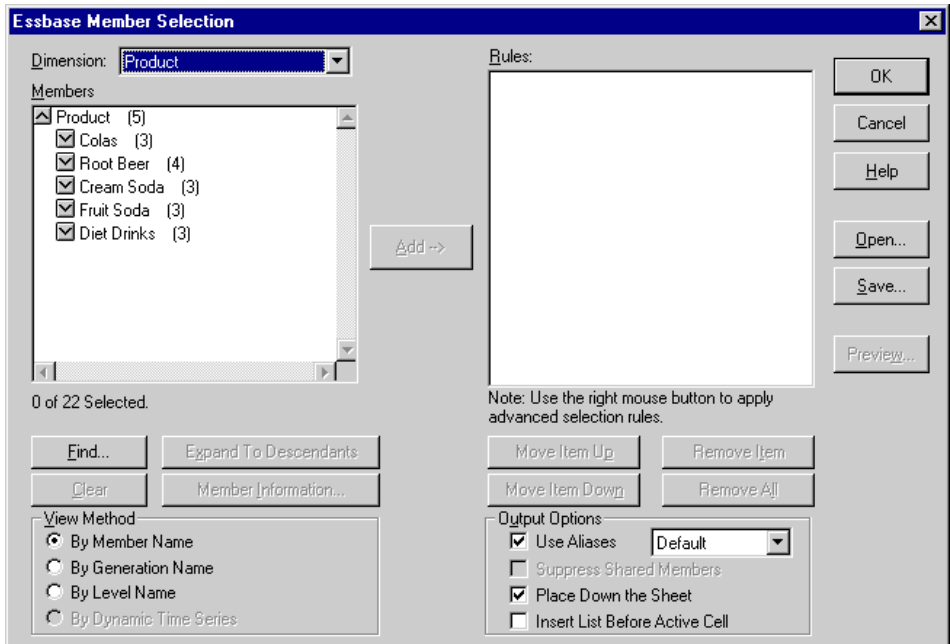
Figure 71. Essbase Member Selection Dialog Box

5. Select Colas and click the **Member Information** button.

Essbase displays the **Member Information** dialog box. The dialog box provides information about the selected member, such as dimension, generation, level, storage setting, formula, UDAs, and member comments.
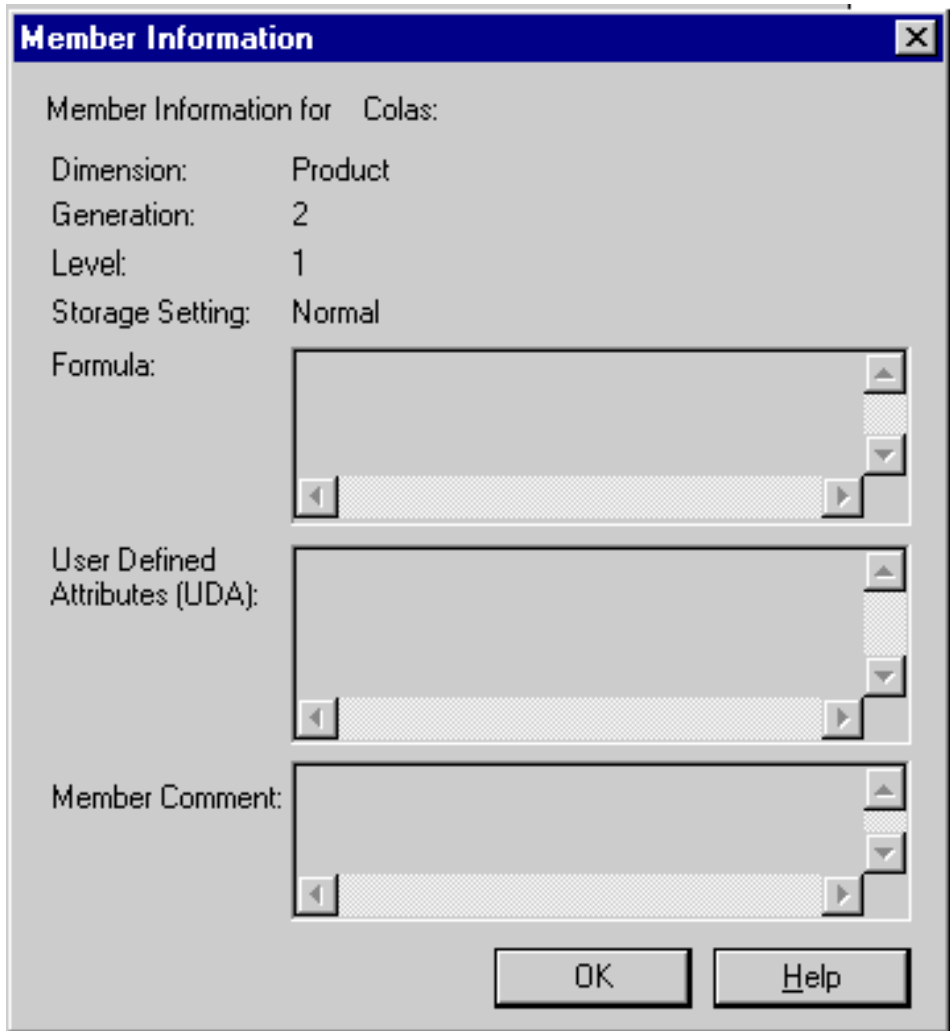
Figure 72. Member Information Dialog Box

6. To close the **Member Information** dialog box, click **OK**.
7. In the **Essbase Member Selection** dialog box, click **Add** to add Colas to the **Rules** list box.

   Note: Alternatively, you can double-click an item in the Members list box to add the item.

8. Select Cream Soda, and click the **Find** button.

   Essbase displays the **Find Member** dialog box.

   In the **Find Member** dialog box, you can do pattern-match searches for members in the selected dimension. You can use Wildcard patterns—(trailing asterisk, *) and (single-character match, ?). Hyperion Essbase locates the members that match the text string (in alphabetical order) and keeps them selected so that they can be selected as a group.

   Note: You can use the trailing asterisk wildcard and single-character wildcard in the text string. The * wildcard replaces a string of characters, whereas the ? wildcard replaces a single character. J?n and 100* are examples of valid wildcard strings; *-10 and J*n are examples of invalid wildcard strings.

9. In the **Find Member** dialog box, type D* in the text box.

Find Member

Enter Member Name or Pattern in Field Below:

D*

| Find | Find Next | Close | Help |
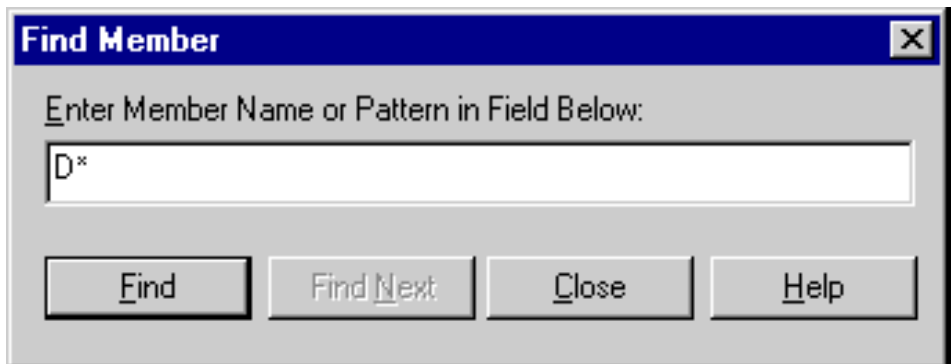
Figure 73. Find Member Dialog Box

10. Click **Find** to locate all members that match D*.

    Essbase locates and selects Diet Cream. Its parent, Cream Soda, is also selected because it was highlighted before the search.

11. To close the **Find Member** dialog box, click **Close**.

12. Clear Cream Soda, leaving only Diet Cream selected, and click **Add**. Essbase displays Colas and the new selection, Diet Cream, in the **Rules** list box.

13. In the **Essbase Member Selection** dialog box, select Colas in the **Rules** list box, and then right-click. From the pop-up menu, select **All Children and Member**.

    Essbase displays **All Children and Member** next to Colas in the **Selection Rules** list box.

14. In the **Selection Rules** list box, select Colas, All Children and Member, and then right-click again.

15. From the pop-up menu, select **Subset**.

    Essbase displays the **Subset Dialog** box, where you can further define conditions for the selected member.

    Note: You can define a maximum of 50 conditions in the Subset Dialog box.

16. In the **Subset Dialog** box, in the first list box, select Caffeinated. In the second list box, select Is. In the third list box select Caffeinated_True.

17. Click the **Add as AND Condition** button.

    Essbase displays Caffeinated = Caffeinated_True in the **Conditions** list box.

    When you use **Add as AND Condition**, the subsetting condition in the **Conditions** list box is evaluated using AND logic. AND logic means that the selection must meet the current condition *and* the following condition in the **Conditions** list box.
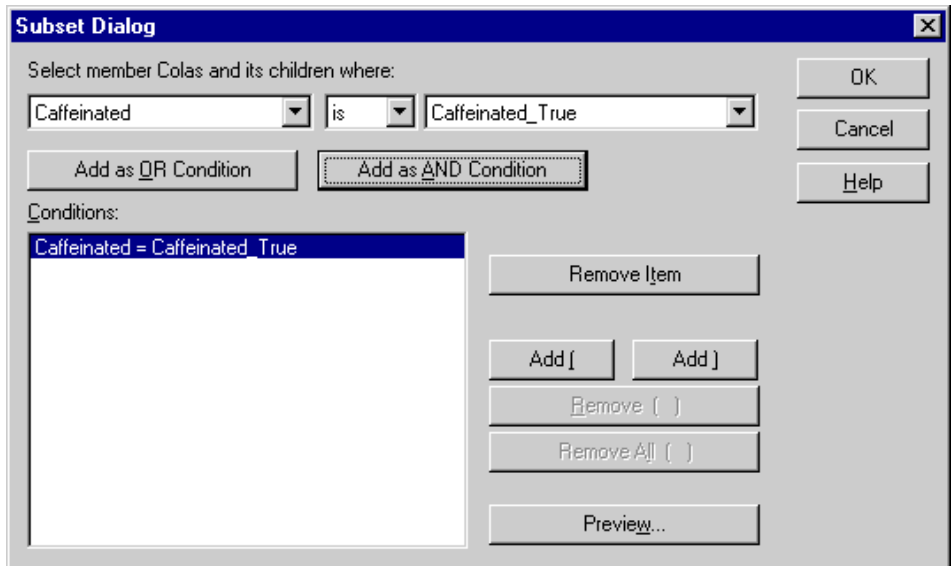
Figure 74. Subset Dialog Box (Before Adding Conditions)

18. In the first list box, select Ounces. In the second list box, select the logical operator "=". In the third list box, select Ounces_12.

19. Click the **Add as AND Condition** button.

    Essbase displays Ounces = Ounces_12 in the **Conditions** box.

20. In the first list box, select Ounces. In the second list box, select the logical operator "<=". In the third list box, select Ounces_32.

21. Click the **Add as OR Condition** button.

Essbase displays Ounces <= Ounces_32 in the **Conditions** box.

When you use the **Add as OR Condition**, the subsetting condition in the **Conditions** list box is evaluated using OR logic. OR logic means that the selection must meet the current condition *or* the following condition in the **Conditions** list box.

22. In the first list box, select Pkg Type. In the second list box, select Is. In the third list box, select Bottle.

23. Click the **Add as AND Condition** button.

Essbase displays Pkg Type = Bottle in the **Conditions** list box.

24. In the **Conditions** box, select Ounces <= Ounces_32, and then click the **Add (** button.

25. Select Pkg Type = Bottle, and click the **Add)** button.

The **Add (** and **Add)** buttons add a left parenthesis and right parenthesis, respectively, to selected items. Use parentheses for grouping multiple subsetting conditions to determine the order of priority for analyzing the conditions. Each item in the **Conditions** list box can have either the left or right parenthesis, but not both. In this example, Essbase first evaluates members that are equal to or less than 32 ounces and are packaged in a bottle. Essbase then evaluates the results from this condition against members that are 12 ounces.

Note: Use the Remove ( ) button to remove an individual group of parentheses from a selected item in the Conditions list box. Use the Remove All ( ) button to remove all parenthetical groupings from the Conditions list box.

The **Subset Dialog** box is displayed as follows:
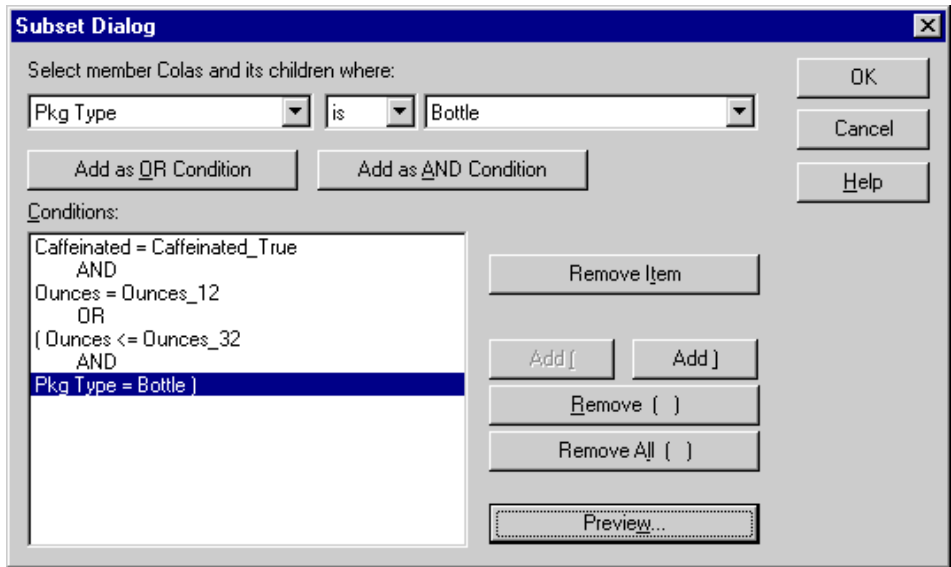
Figure 75. Subset Dialog Box (After Adding Conditions)

26. To open the **Member Preview** dialog box, click **Preview**.

    In the **Member Preview** dialog box, you can view the member selection that results from the conditions you defined.
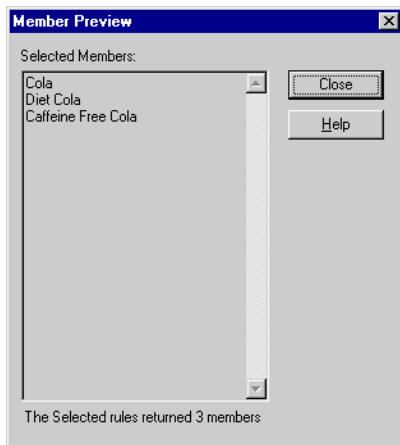
Figure 76. Member Selection That Results from Subsetting Conditions

27. To close the **Member Preview** dialog box, click **Close**.
28. To close the **Subset** dialog box and return to the **Essbase Member Selection** dialog box, click **OK**.

The conditions you set in the **Subset** dialog box are displayed in the **Selection Rules** list box.

29. To change the order in which Diet Cream is displayed in the worksheet, select Diet Cream and click the **Move Item Up** button.

   Each time you click the **Move Item Up** or **Move Item Down** button, the selected item and its associated subset conditions move up or down one position in the **Selection Rules** list box. You can move only the top-level item (the item you added from the Members list box), not the individual subset conditions.
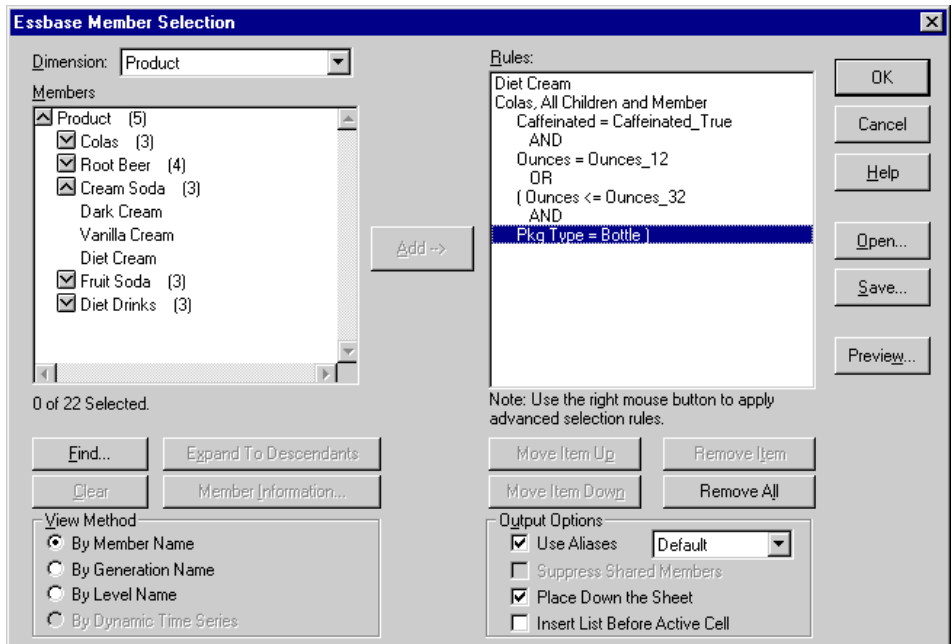
Figure 77. Selecting Members Completed

30. To preview the members that will be retrieved in the worksheet, click **Preview**.

   Essbase displays the **Member Preview** dialog box.

31. After previewing the list, click **Close**.
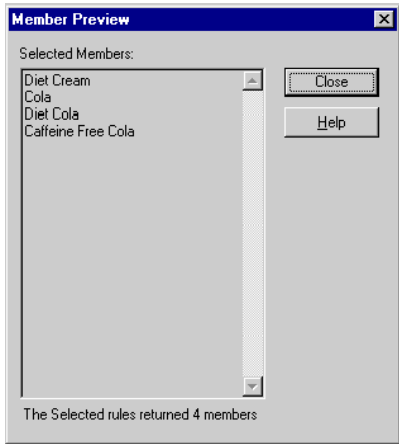
Figure 78. Members to be Retrieved in Worksheet

32. To close the **Essbase Member Selection** dialog box and insert the new members into the worksheet, click **OK**.

Figure 79. Result of Selecting Members

Note: The FlashBack command cannot undo a Member Selection action.

33. Starting with Diet Cream, type Year next to each product.

You need to do this step so that every product has a matching Year dimension associated with it in the report.

Figure 80. Worksheet After Adding the Year Dimension to All States

34. To update the values in the worksheet, select **Essbase > Retrieve**.

Essbase retrieves data for the members that you selected and also applies the styles you previously set.

Figure 81. Result After Retrieving with Member Selection

Saving and Disconnecting

After performing basic retrieval, navigation, and formatting tasks, you can save worksheets and disconnect from Essbase. This section instructs you in the following procedures:

- "Saving a Worksheet"
- "Disconnecting from Essbase" on page 91
- "Logging Off" on page 92

Saving a Worksheet

At any point during the Essbase session, you can save the active worksheet with the Lotus 1-2-3 commands, File > Save or File > Save As. Thus, you can keep a personal library of database views. You can open the worksheet during a later session and retrieve the latest data values to update the view.

Note: Saving a worksheet saves the settings from the Essbase Options dialog box *unless the worksheet is protected*. Essbase cannot save option settings for a protected worksheet.

Disconnecting from Essbase

When you finish retrieving and navigating through data, disconnect from the Essbase server to free up a port (or user count) on the server for other Essbase Spreadsheet Add-in users.

To disconnect from the server:

1. Select **Essbase > Disconnect**.

Essbase displays the **Essbase Disconnect** dialog box, where you can disconnect any worksheet that is connected to a database.
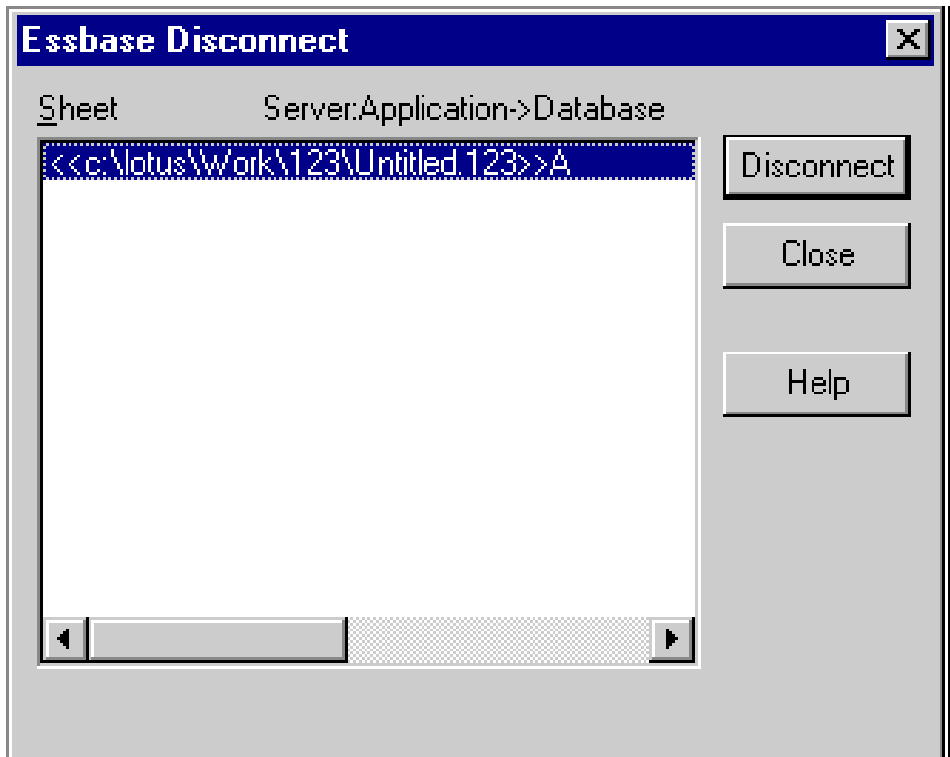
Figure 82. Essbase Disconnect Dialog Box

2. From the list, select a worksheet name, and then click **Disconnect**.
3. Repeat Step 2 until you have disconnected all active sheets.
4. Click **Close** to close the **Essbase Disconnect** dialog box.

Note: You can also disconnect from the server by simply closing Lotus 1-2-3. An abnormal termination of a Lotus 1-2-3 session, such as a power loss or system failure, does not disconnect your server connection.

Logging Off

Essbase provides two administrative facilities that control user connections:

- *Forced Logout*, where an administrator disconnects users at any point in time. This logoff usually occurs when maintenance operations are performed on databases.
- *Auto Logout*, where Essbase automatically disconnects users that are inactive for a time interval specified by an administrator.

For further information, contact the Essbase system administrator.

Moving on to Advanced Tasks

Now that you have completed the basic Essbase tutorial, you are ready to move on to more complex tasks. In the next chapter, you will use the sample Lotus 1-2-3 files to see how to perform advanced tasks in Essbase Spreadsheet Add-in.

Chapter 4. An Advanced Essbase Tutorial

The tutorial you completed in Chapter 3 teaches basic data retrieval and navigation concepts for Essbase Spreadsheet Add-in. This chapter builds on your basic skills and expands your knowledge of Essbase and Essbase Spreadsheet Add-in. This chapter provides the following sections on advanced tasks:

In this advanced tutorial, you use several sample Lotus 1-2-3 files that were installed as part of the default Essbase installation. These files are stored in the `\Essbase\client\sample` directory. You also reconnect to the Sample Basic database.

Preparing to Begin the Tutorial

Before you begin the advanced tutorial, complete the steps in the next two sections, "Connecting to a Database" on page 95 and "Setting Essbase Options" on page 97. In addition, be sure to read "Following Guidelines During the Tutorial" on page 21 and "Reviewing the Sample Basic Database" on page 22 for important information about what you should expect as you perform the tutorial steps.

Connecting to a Database

To access Essbase data for the advanced tutorial, first connect to the Sample Basic database on the server. This tutorial assumes that you have the appropriate privileges to connect to a server, an application, and a database.

1. Select **Essbase > Connect**.

   Essbase displays the **Essbase System Login** dialog box.

Figure 83. Essbase System Login Dialog Box

> **Note:** To complete the steps that follow, you need to know the name of the Essbase server, your username, and your password. If you do not have this information, contact the Essbase system administrator.

2. From the **Server** list box, select the server that you want to access. (If the server name that you want is not shown in the list, type the name of the server that you want to access.)

3. To move to the **Username** text box, press **Tab** and then, in the **Username** text box, type your username.

4. To move to the **Password** text box, press **Tab**, and then, in the **Password** text box, type your password.

> **Note:** You can change your password when you are connected to a server. See "Changing a Password" on page 25.

5. To connect to the server, click OK.

Essbase displays a list of available application/database pairs in the list box. An Essbase server enables simultaneous access to multiple applications. An application can contain multiple databases. Only the databases to which you have security access display in the list.

For this tutorial, you use the Sample Basic database. If the Sample Basic database was installed as part of the Essbase installation, it is shown in the list. If Sample Basic is not shown in the **Application/Database** list, ask the Essbase system administrator to install it.

Figure 84. Available Application and Database Pairs

6. In the **Application/Database** list, double-click Sample Basic, or, from the **Application/Database** list select Sample Basic and then click **OK**.

If the application is not already running, Essbase automatically starts it. There may be a brief pause as the application loads; the time required to start an application depends on the number of databases, the sizes of the databases, and the sizes of the indexes of the databases that are contained within the applications.

Setting Essbase Options

Before you begin the tutorial, make sure that the worksheet options are set to the initial settings shown in the Figure 85 through Figure 88.

Note: For information on each option in the Essbase Options dialog box, see the Essbase Spreadsheet Add-in online help.

1. Select **Essbase > Options**.
2. In the **Essbase Options** dialog box, select the **Display** tab.
3. Select the appropriate check boxes and option buttons so that your display matches Figure 85.
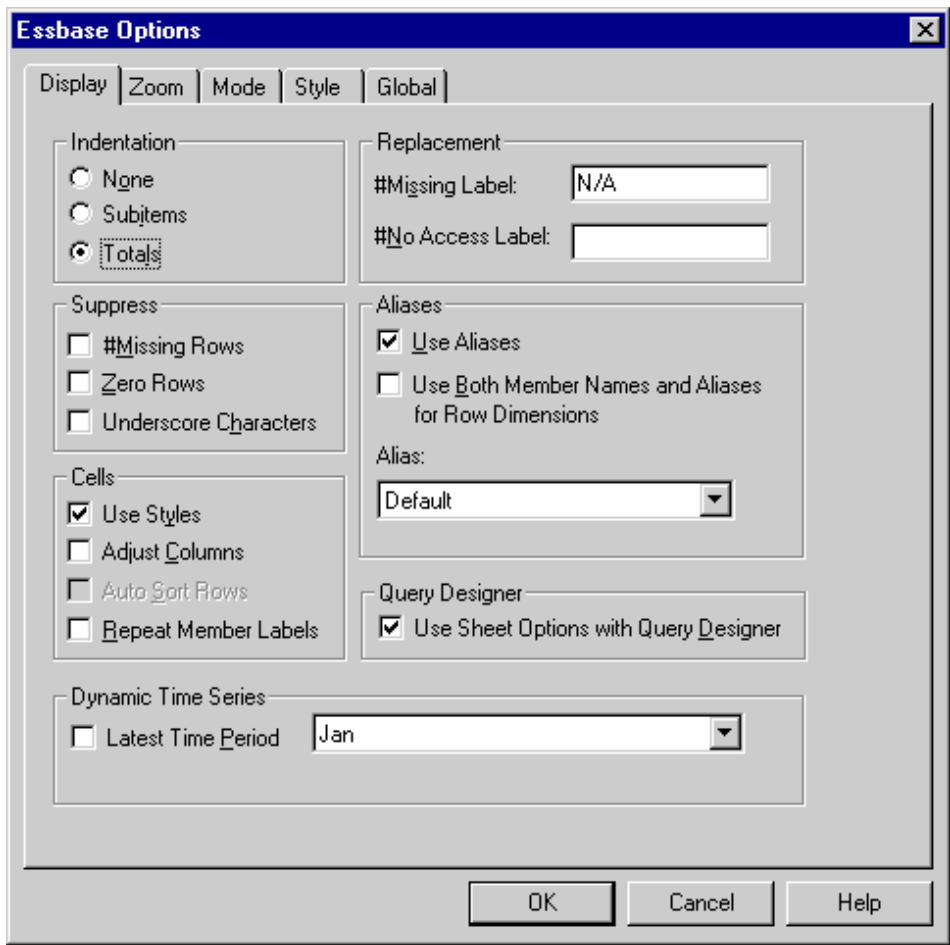
Figure 85. Initial Settings for Display Options

4. Select the **Zoom** tab.

5. Select the appropriate check boxes and option buttons so that your display matches Figure 86 on page 99.
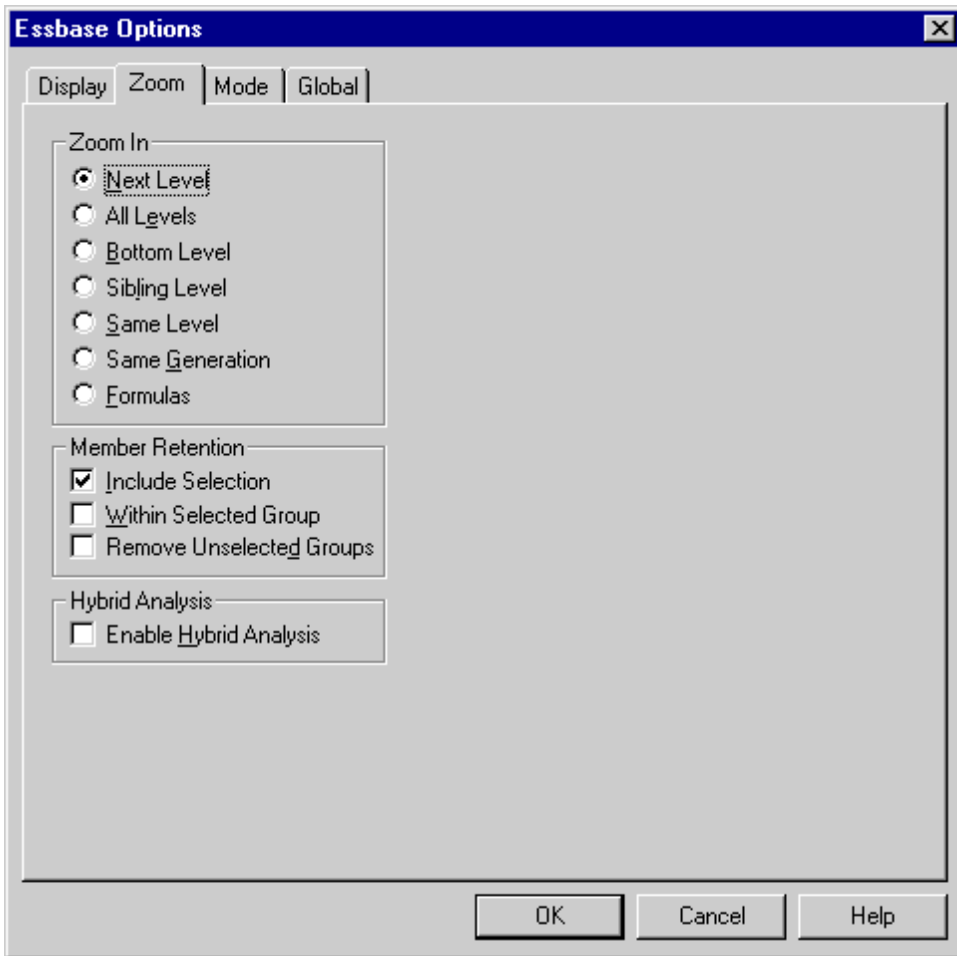
Figure 86. Initial Settings for Zoom Options

6. Select the **Mode** tab.

7. Select the appropriate check boxes and option buttons so that your display matches Figure 87.

Figure 87. Initial Settings for Mode Options

8. Skip the **Style** tab.

9. Select the **Global** tab.

10. Select the appropriate check boxes and option buttons so that your display matches Figure 88.

Essbase Options

Display | Zoom | Mode | Style | Global

Mouse Actions
☑ Enable Secondary Button
☑ Enable Double-Clicking
　☑ Enable Linked Object Browsing

Memory
☑ Enable Flashback

Member Select
☐ Display Save Dialog

Mode
☐ Navigate without Data

Display Messages
○ Information
○ Warnings
◉ Errors
○ None

☐ Display Unknown Members

Log File
☑ Route Messages to Log File
☑ Purge Log File Every Session

Add-Ins...

OK　　Cancel　　Help

Figure 88. Initial Settings for Global Options

11. To save the settings for this session and close the **Essbase Options** dialog box, select **OK**.

   Note: The settings in the Essbase Options dialog box may change as you access the various sample Lotus 1-2-3 files as part of the tutorial. Leave the settings as they are unless the tutorial advises you to change them. If you have different option settings, the illustrations presented in this chapter may not match the worksheet view.

Performing Advanced Retrieval Tasks

The tutorial in Chapter 3 describes how to perform basic data retrieval and navigation tasks in Essbase Spreadsheet Add-in. This section walks you through performing the following advanced retrieval tasks:

- "Filtering Data" on page 102
- "Sorting Data" on page 107
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- "Specifying the Latest Time Period for Dynamic Time Series" on page 131
- "Using Free-Form Reporting to Retrieve Data" on page 135

Remember that you can perform common data retrieval tasks in any of the following ways:

- Selecting commands from the Essbase menu on the Lotus 1-2-3 menu bar
- Clicking the appropriate buttons on the Essbase toolbar
- Double-clicking the primary or the right-mouse button in the appropriate cell (for Retrieve, Zoom In, and Zoom Out commands only, and the Linked Objects command, if you have enabled that option).

Filtering Data

Despite the ease and speed with which you can navigate through large Hyperion Essbase databases, it is not practical to use the capabilities of Lotus 1-2-3 to filter and sort very large databases; however, the Essbase server includes powerful data filtering and sorting capabilities. In Chapter 3, you learned to use Essbase Query Designer to define a dimensional layout and to select members to view. Essbase Query Designer also provides a powerful, yet easy-to-use tool to define conditional retrievals.

To become familiar with the capabilities of Hyperion Essbase Query Designer, work with the query, Basic1, that you saved in Chapter 3, and perform the following steps:

Note: If you skipped the tutorial in Chapter 3, follow the steps in "Creating Queries Using Essbase Query Designer" on page 65 to create and save the Basic1 query.

1. Select **Essbase > Query Designer**.

   Essbase displays the query information panel of Essbase Query Designer.

2. In the navigation panel, select
   <<c:[Book1]Sheet1\lotus\Work\123\Untitled.123>>A.

   Right-click and select **Open Query**.

   Essbase displays the **Open Query** dialog box.

3. From the location that you specified in Chapter 3, select the Basic1 file.

4. Click **OK**.

   The member selection, displayed in the properties panel, remains unaltered from the last Essbase Query Designer session.

5. From the navigation panel, select **Data Filtering**.

   Essbase displays the data filter settings in the data filter panel. The filter controls the number of data rows that are retrieved. The number is based on the column criteria that you define. You can define data filtering criteria on data values that reside in one or more columns of the view.
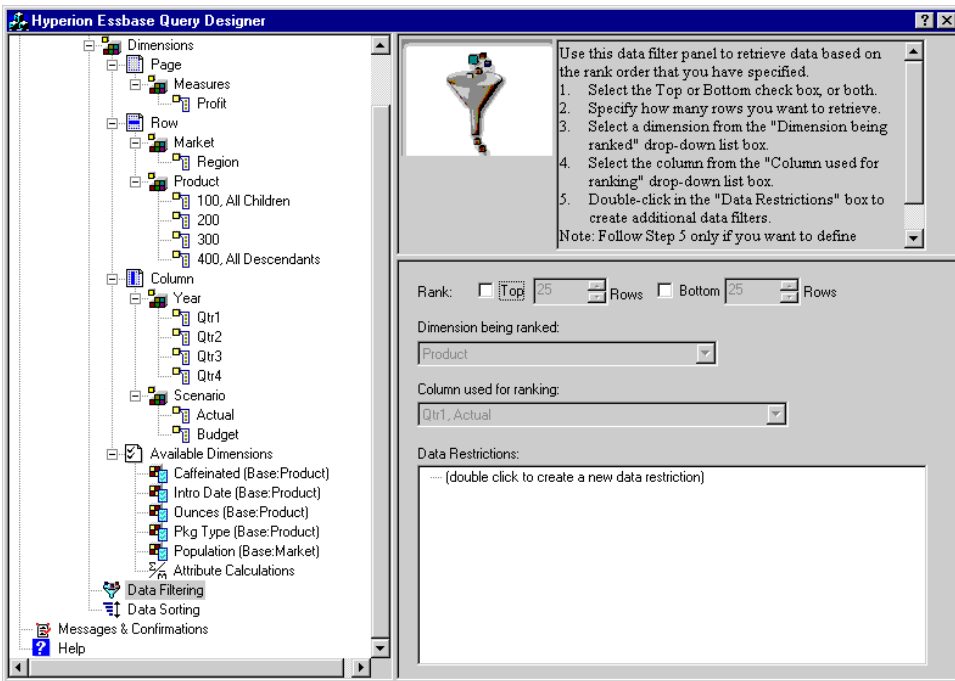
Figure 89. Data Filter Panel

6. The data filtering panel contains the following items:
   • A check box for ranking so many of top rows or so many bottom rows of data. You can select the highest or lowest rows. Your selection is based on previously selected row dimension members. When using the top or bottom criterion, you specify the number of rows, such as "top 10." The default is the top 25 rows.

- A **Dimension being ranked** list box to specify the dimension to which ranking should be applied.
- A **Column used for ranking** list box to specify the data column on which data values are based.
- A **Data Restrictions** box to specify standard data comparison operations, such as greater than, less than, and equal to. You can apply the comparison operator to data values, including negative data values, in one or more data columns; you can even apply criteria to compare values between two columns.
- Buttons for **OR** and **AND** operators. If you define more than one column criterion, you can use these operators to link the criteria.

7. Click the **Top** check box, and enter a value of 30 in the **Rows** text box.

   When you apply the query, Essbase retrieves the top thirty rows of the dimension.

8. From the **Dimension** list box, select Product. Product is the dimension to which ranking should be applied.

9. From the **Column** list box, select Qtr1, Actual. Qtr1, Actual is the column on which data values are based.

10. In the navigation panel, select the Data Filtering icon. Right-click and select Apply Query.

    Your query results should look as shown below.

	A	B	C	D	E	F	G	H	I	J
1						**Profit**				
2			Qtr1		Qtr2		Qtr3		Qtr4	
3			Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
4	East	Cola	2461	2550	2940	3050	3298	3440	2430	2410
5		Grape	645	840	676	860	710	920	618	800
6		**Cream Soda**	591	770	922	1010	522	660	592	530
7		**Root Beer**	562	960	610	1070	372	830	990	1500
8		Strawberry	545	700	612	750	625	780	525	670
9		Orange	290	350	327	380	377	420	394	440
10		Diet Cola	212	220	303	300	312	310	287	290
11		Caffeine Free Cola	74	110	109	130	130	190	100	150
12	**West**	**Cream Soda**	2363	2620	2739	2970	2937	3230	2692	2850
13		**Root Beer**	2325	2570	2423	2720	2540	2820	2439	2840
14		Grape	1143	920	1167	960	1271	1020	1219	920
15		Cola	1047	1720	1189	1900	1339	2120	1018	1780
16		Orange	1002	810	1120	890	1192	1000	940	680
17		Caffeine Free Cola	62	310	-163	30	-286	-130	-123	70
18		Diet Cola	-67	320	-177	200	-154	250	-136	320
19		Strawberry	-738	-310	-783	-380	-900	-440	-779	-400
20	**South**	**Root Beer**	1465	1640	1540	1700	1612	1710	1498	1330
21		Cola	745	1160	835	1280	1031	1490	965	1510
22		**Cream Soda**	561	810	529	770	591	840	669	930
23		Diet Cola	306	570	363	660	281	570	247	550
24	**Central**	**Cream Soda**	2414	2770	2579	2930	2648	2980	2450	2690
25		**Root Beer**	2369	3310	2457	3350	2481	3470	2271	4130
26		Grape	1050	1030	1155	1120	1220	1150	970	890
27		Orange	991	910	1075	1020	1073	1010	1070	890
28		Diet Cola	908	1130	1045	1320	1089	1340	889	1180

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Figure 90. Data Filtering Query Results

You can further filter your data output by specifying data comparison operations in the **Data Restrictions** box.

11. In the navigation panel, select the Data Filtering icon.

    The data filters that you specified are displayed in the properties panel.

12. In the **Data Restrictions** box, double-click.

    The data restriction settings are displayed in the properties panel.

13. Select the **Value** option and type 500 in the **Value** box.

    Observe that the **is** option in the **Data** list box changed to =.

14. Click the down arrow of the **Data** list box and select <=.

15. Select Qtr1, Actual in the **Column** list box.

16. In the navigation panel, select the Data Filtering icon. Right-click, and select **Apply Query**.

    Notice that the query results now reflect only Actual and Budget data that are less than or equal to 500.

17. In the navigation panel, select the **Data Filtering** icon to display the data filter setting in the properties panel.

18. In the **Data Restrictions** box, select Qtr1, Actual <= 500, right-click and select **New Data Restriction**.

19. In the **Data** box, click the down arrow and select <.

20. In the data values list box, select Qtr2, Actual. Under **Combined With Other Restrictions,** click the **Or** button.

21. In the navigation panel, click the Data Filtering icon to access the data filter panel.

22. In the **Data Restrictions** box, double click to create a new data restriction.

23. In the **Data** box, click the down arrow and select **Is Not**.

24. Click the button for the **#Missing Value** option.

    This option instructs Essbase to discard data that have #Missing values.

25. In the Column list box, select Qtr1, Actual. Under **Combined With Other Restrictions,** select the **And** button.

    The data restrictions should display as follows:
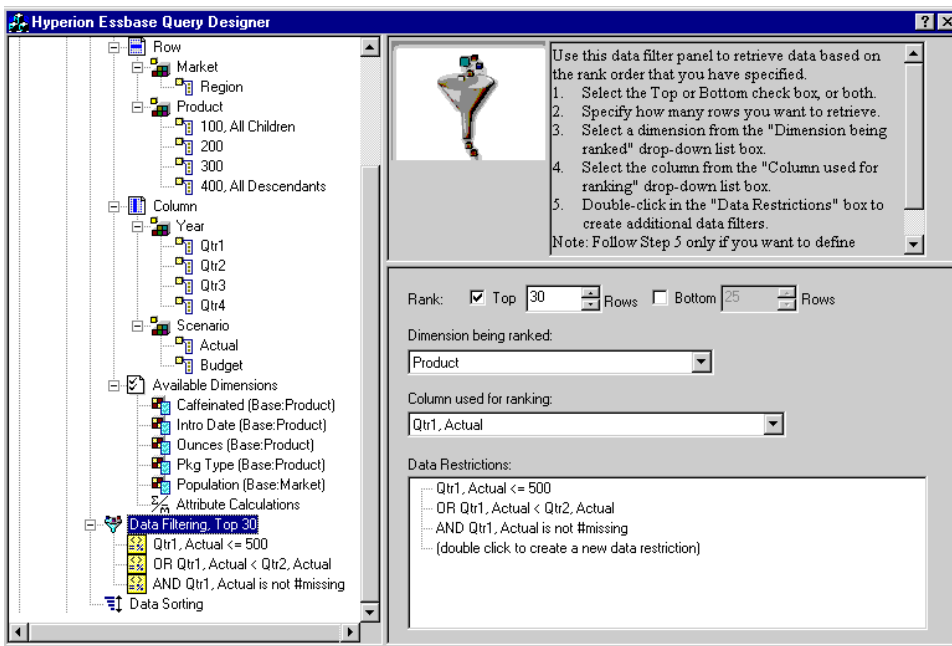
Figure 91. Data Filtering

26. Select the Data Filtering icon, right-click, and select **Apply Query**.

    Essbase retrieves data for all the quarters. Notice that the retrieved data for Qtr1, Actual is less than or equal to 500 or is less than Qtr2, Actual. The results should display as follows:

	A	B	C	D	E	F	G	H	I	J
1						Profit				
2			Qtr1		Qtr2		Qtr3		Qtr4	
3			Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
4	East	Cola	2461	2550	2940	3050	3298	3440	2430	2410
5		Grape	645	840	676	860	710	920	618	800
6		Cream Soda	591	770	922	1010	522	660	592	530
7		Root Beer	562	960	610	1070	372	830	990	1500
8		Strawberry	545	700	612	750	625	780	525	670
9		Orange	290	350	327	380	377	420	394	440
10		Diet Cola	212	220	303	300	312	310	287	290
11		Caffeine Free Cola	74	110	109	130	130	190	100	150
12	West	Cream Soda	2363	2620	2739	2970	2937	3230	2692	2850
13		Root Beer	2325	2570	2423	2720	2540	2820	2439	2840
14		Grape	1143	920	1167	960	1271	1020	1219	920
15		Cola	1047	1720	1189	1900	1339	2120	1018	1780
16		Orange	1002	810	1120	890	1192	1000	940	680
17		Caffeine Free Cola	62	310	-163	30	-286	-130	-123	70
18		Diet Cola	-67	320	-177	200	-154	250	-136	320
19		Strawberry	-738	-310	-783	-380	-900	-440	-779	-400
20	South	Root Beer	1465	1640	1540	1700	1612	1710	1498	1330
21		Cola	745	1160	835	1280	1031	1490	965	1510
22		Diet Cola	306	570	363	660	281	570	247	550
23	Central	Cream Soda	2414	2770	2579	2930	2648	2980	2450	2690
24		Root Beer	2369	3310	2457	3350	2481	3470	2271	4130
25		Grape	1050	1030	1155	1120	1220	1150	970	890
26		Orange	991	910	1075	1020	1073	1010	1070	890
27		Diet Cola	908	1130	1045	1320	1089	1340	889	1180
28		Cola	843	1080	928	1180	915	1170	793	1060
29		Caffeine Free Cola	457	620	500	610	556	690	567	730
30		Strawberry	77	90	87	90	130	140	205	210

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Figure 92. Data Filtering Results

Note: To delete all data restrictions, select the Data Filtering icon in the navigation panel, right-click, and select Delete All Data Restrictions. Alternatively, select any data restriction in the Data Restriction box, right-click, and select Delete All Data Restrictions.

Note: To delete a particular data restriction, select the data restriction in the query outline, right-click, and select Delete Data Restriction. Alternatively, select the data restriction in the Data Restriction box, right-click, and select Delete Data Restriction.

Sorting Data

Using the data sort panel, you can sort the output from the Basic1 query in ascending or descending order.

1. From the navigation panel, select the Data Sorting icon.

   The data sorting settings are displayed in the properties panel. You can specify data sorting criteria that affect the order in which the selected rows are retrieved in the data sorting panel.

   The data sorting panel contains the following items:

   • A Dimension being sorted list box that lists the dimensions specified in row format in the query.

- A Column used for sort list box that you use to select one or more dimensions to be specified in column format in the query.
- An Ordering list box that you use to apply an ascending or descending sort order for the selected column. You can also specify sorting to occur over a specific row dimension group. For example, you can sort by Product or by Market.
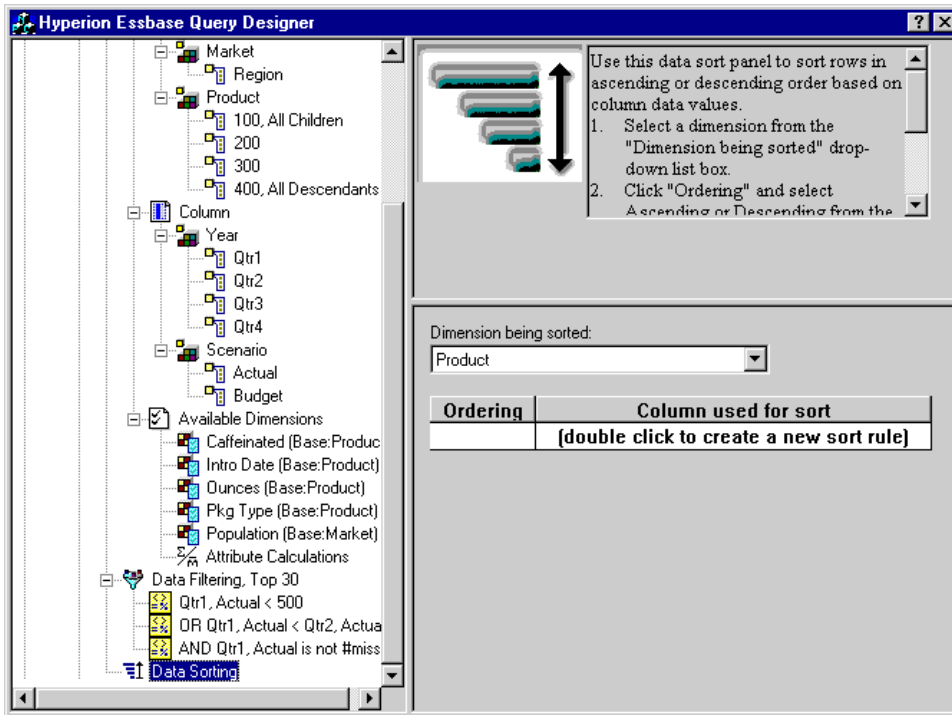
Figure 93. Data Sorting Panel

2. In the **Column used for sort** list box, double-click.

   The selection defaults to Qtr1, Actual. The sort order defaults to Ascending in the **Ordering** list box.

3. Click **Ascending**. A down arrow is displayed next to Ascending.

4. Click the down arrow. **Descending** is displayed below Ascending.

5. In the **Ordering** list box, select **Descending**.
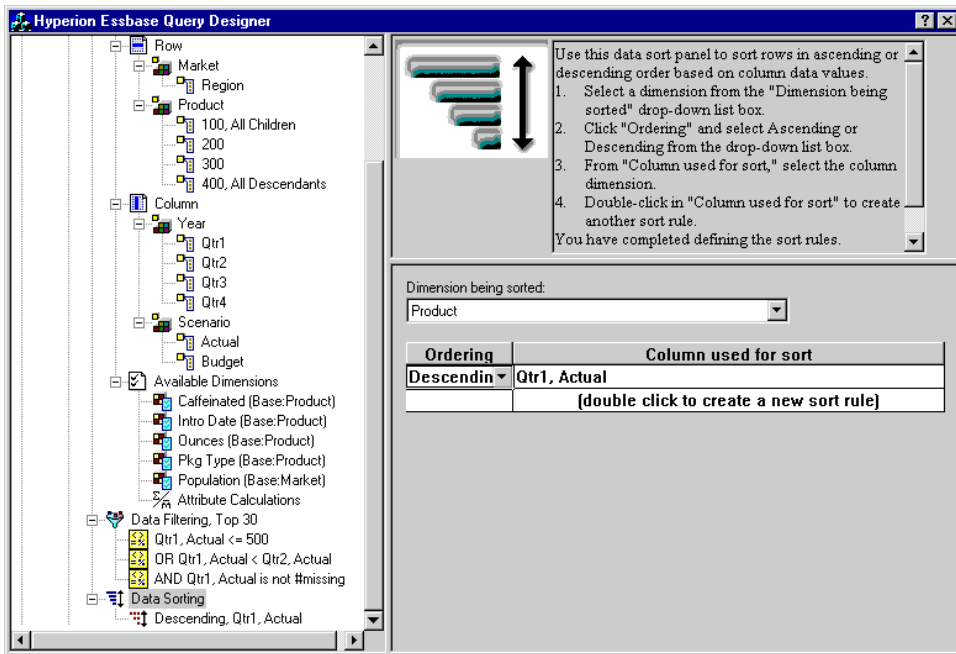
Figure 94. Specifying Data Sorting Order

6. In the next row of the **Column used for sort** list box, double click.

   The selection defaults to Qtr1, Actual.

7. Click the down arrow and select Qtr1, Budget.

   Observe that the order in the **Ordering** list box has defaulted to Ascending.

8. In the navigation panel, under Data Sorting, select Ascending, Qtr1, Budget. Right-click and select **Delete Sorting Rule**.

   The Ascending, Qtr1, Budget sorting rule is deleted from the query.

9. In the navigation panel, select the Data Sorting icon. Right-click and select Apply Query.

   Essbase returns the results sorted in descending order for each quarter, as shown below:

Figure 95. Result of Filtering and Sorting Data

> **Note:** The values that you are ranking and sorting must be the same. For example, you cannot specify Product in the Dimension Being Ranked box and Market in the Dimension Being Sorted box. If you specify different values, Hyperion Essbase Query Designer automatically changes both values to the last specified value.

10. To close the worksheet, select **File > Close**. You do not need to save the worksheet.

Retrieving Data into Asymmetric Reports

When you retrieve data into a worksheet, the resulting report can be either *symmetric* or *asymmetric*. Symmetric reports are characterized by repeating identical groups of members. For example, Figure 95 shows a symmetric report that contains Actual and Budget members nested below Year members (Qtr1, Qtr2, Qtr3, and Qtr4).

An asymmetric report is characterized by groups of nested members that differ by at least one member. There can be a difference in the number of members or in the names of members.

You can create asymmetric reports in one of the following ways:

- Enter member names into the worksheet in free-form retrieval mode.
- Use a drill action with the Within Selected Group option selected from the Essbase Options dialog box (Zoom tab).
- Suppress rows that contain missing values, zero values, or underscore characters during data retrievals.

If you retrieve data into an asymmetric report, Essbase must perform additional internal processing to maintain the asymmetric layout. This processing may increase the retrieval time on large reports. For more information regarding optimizing reports, see the *Database Administrator's Guide*.

As part of the default Essbase installation, Hyperion Essbase provides a sample file, Asymm.123, that illustrates how to create asymmetric reports.

To view the sample file, Asymm.123:

1. Select **File > Open**.
2. From the \Essbase\client\sample directory, open the Asymm.123 file.

    Depending on how software is installed on your PC, the file may not be available or may be located in a different directory. Contact the Essbase system administrator for more information.

	A	B	C	D	E	F	G
1	Sales						
2							
3			*Actual*	*Budget*	*Budget*	*Budget*	
4			**Qtr1**	**Qtr2**	**Qtr3**	**Qtr4**	
5	East	Colas	6292	6760	7300	5570	
6		Root Beer	5726	5650	5600	5780	
7		Fruit Soda	3735	4150	4350	3850	
8							
9	West	Root Beer	8278	7970	8320	7820	
10		Cream Soda	8043	7720	8300	7570	
11							

Figure 96. Asymmetric Report

In Asymm.123, row and column dimension groups are asymmetric. Thus, the nested member groups from the Product dimension differ in member content within respective markets. For example, Colas and Fruit Soda are included in East but not in West. In addition, Actual data is displayed for

Qtr1, whereas Budget data is displayed for Qtr2, Qtr3, and Qtr4. Also notice that the sample file displays styles for members of the Scenario and Year dimensions.

3. Leave the `Asymm.123` file open for the next tutorial task.

Pivoting in Asymmetric Reports

When you pivot a group of members in an asymmetric report, Essbase keeps only unique members from dimensions that are not involved in the pivot.

To use the open `Asymm.123` file to illustrate this point:

1. Using the right-mouse button, drag East to the cell below Qtr1.

	A	B	C	D	E	F	G	H	I
1					Sales				
2									
3		*Actual*		*Budget*		*Budget*		*Budget*	
4		**Qtr1**		**Qtr2**		**Qtr3**		**Qtr4**	
5		East	West	East	West	East	West	East	West
6	Colas	6292	6950	6760	8800	7300	9100	5570	8430
7	Root Beer	5726	8278	5650	7970	5600	8320	5780	7820
8	Fruit Soda	3735	8403	4150	5840	4350	6070	3850	5280
9	Cream Soda	4868	8043	4030	7720	3850	8300	3170	7570
10									

Figure 97. Result of Pivoting in an Asymmetric Report

Essbase combines the Product members into all unique members. For example, Root Beer, which is displayed twice in Figure 96, is displayed only once in the current view. Colas, which is displayed in only one market in Figure 96, now is displayed in East and West.

Essbase also removes the blank line between Product row groups. A pivot action always eliminates any rows or columns in which all cells are empty.

2. Close `Asymm.123` without saving the changes.

Working with Formatted Worksheets

In addition to providing flexible, ad hoc retrievals, Essbase supports retrieving data into formatted worksheets. A worksheet can contain the following formats:

- Spaces between rows and columns
- Cell values that contain text or data that is not defined in the database outline
- Member names in noncontiguous locations at the top of a worksheet

- Lotus 1-2-3 formulas (see also "Preserving Formulas When Retrieving Data" on page 117)
- Visual cues (styles)

After you format and save a worksheet, you may want to retrieve and navigate through new data in the existing worksheet format. This section provides the following information on working with formatted worksheets:

- "Observing the Rules for Working with Formatted Worksheets" on page 113
- "Retrieving Data into Formatted Worksheets"
- "Pivoting Data on Formatted Worksheets" on page 116

Observing the Rules for Working with Formatted Worksheets

Observe the following rules when retrieving data into a formatted worksheet:

Rule 1: In the worksheet, no numeric cells can be located before the first Hyperion Essbase data cell. For example, in Figure 98, the first Essbase data cell is B6. Neither any cell in rows 1 through 5 nor cell A6 can contain numeric values. Also, these cells cannot contain formulas that resolve to numeric values.

Rule 2: A cell that lies within a row or column of Essbase data cannot contain text or numeric values. For example, in Figure 98, the cells in columns B, C, D, and F and rows 6 through 9 and 11 through 14 cannot contain any nondata text or numbers, for such values may be overwritten (or emptied) by the retrieved data. These cells can contain formulas, however, if Formula Preservation options are used. For more information on Formula Preservation options, see "Preserving Formulas When Retrieving Data" on page 117.

Tip: If you need to preserve text in a cell, define that text or value as an Lotus 1-2-3 formula, and use the Formula Preservation options.

Rule 3: The Pivot command is not available when the Retain on Retrieval check box is selected in the Essbase Options dialog box (Mode tab).

Rule 4: The Pivot command removes all cells that contain text other than database member names.

Retrieving Data into Formatted Worksheets

As part of the default Essbase installation, Essbase provides a sample file, P&l.123, that illustrates how to retrieve data into a formatted worksheet. The P&l.123 sample file illustrates how to retrieve data into a worksheet that contains formatted text, formulas, and protected cells.

To view the P&l.123 worksheet:

1. Select **File > Open**.

2. From the `\Essbase\client\sample` directory, open the P&l.123 file.

   Depending on how software is installed on your machine, the file may not be available or may be located in a different directory. Contact the Essbase system administrator for more information.

	A	B	C	D	E	F	G	H
1	**Market:** Central					**The Beverage Company**		
2	**Product:** 200					Planning Dept.		
3	**Scenario:** Budget							
4								
5		**Jan**	**Feb**	**Mar**		**Qtr1**	**% Sales**	
6	Misc	5	10	10		25	0.30	
7	Payroll	200	200	200		600	0.07	
8	Marketing	350	350	350		1050	12.47	
9	Total Expenses	555	560	560		1675	19.89	
10								
11	COGS	1170	1180	1200		3550	42.16	
12	Sales	2740	2820	2860		8420	100.00	
13	Margin	1570	1640	1660		4870	57.84	
14	Profit	1015	1080	1100		3195	37.95	
15								
16	**Ratio Analysis**							
17	Markup	57.3%	58.2%	58.0%		57.8%		
18	Marketing %	12.8%	12.4%	12.2%		12.5%		

Figure 98. A Sample Formatted Worksheet

3. Select **Essbase > Options** and select the **Display** tab.
4. In the **Cells** option group, make sure that **Adjust Columns** is checked.
5. Select the **Mode** tab.
6. In the **Formula Preservation** group, select the **Retain on Retrieval** check box to enable Formula Preservation mode.

   Note: When Retain on Retrieval is enabled, there may be a slight delay in retrieval time.

7. Click **OK**.

   By default, an Essbase retrieval overwrites Lotus 1-2-3 formula with data values in the retrieval area of a worksheet. The retrieval process also eliminates formulas in cells outside the retrieval area. However, the **Retain on Retrieval** option enables you to define retrievals that do not overwrite formulas in any area of the worksheet.

8. Select **Essbase > Retrieve** to update the worksheet with the latest data values.

   Essbase determines that some text cells in the worksheet do not correspond to database member names. When Essbase is unable to resolve text in the worksheet, the following message is displayed:
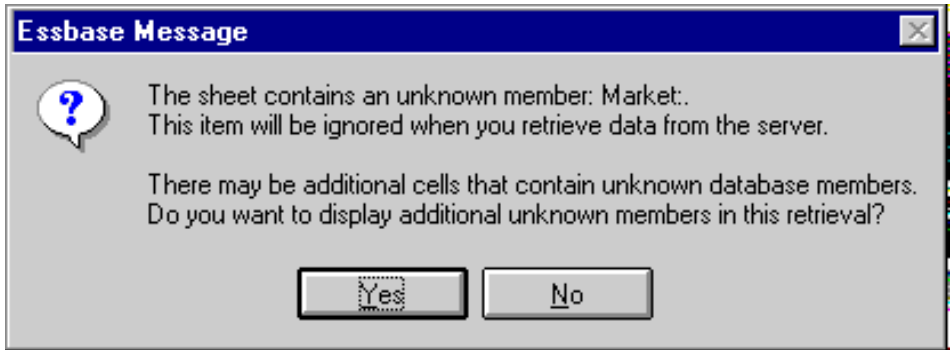
Figure 99. Essbase Unknown Member Message

In this example, the first unknown member detected is Market: (in cell A1). Essbase does not recognize the colon (:) that follows Market in the cell. If you click **Yes**, Essbase displays the next unknown member; if you click **No**, Essbase continues with the retrieval.

Note: If you work with formatted worksheets often, you may want to tell Essbase not to display this message. For more information, see "Pivoting Data on Formatted Worksheets" on page 116.

9. Click **No** to close the dialog box and continue with the retrieval.

Essbase retrieves new data but retains the formatting and formulas in the worksheet.

	A	B	C	D	E	F	G	H
1	**Market:** Central					**The Beverage Company**		
2	**Product:** 200					Planning Dept.		
3	**Scenario:** Budget							
4								
5		Jan	Feb	Mar		Qtr1	% Sales	
6	Misc	#Missing	#Missing	#Missing		0	0.00	
7	Payroll	210	210	210		630	0.07	
8	Marketing	300	310	320		930	11.05	
9	Total Expenses	510	520	530		1560	18.53	
10								
11	COGS	1170	1180	1200		3550	42.16	
12	Sales	2740	2820	2860		8420	100.00	
13	Margin	1570	1640	1660		4870	57.84	
14	Profit	1060	1120	1130		3310	39.31	
15								
16	**Ratio Analysis**							
17	Markup	57.3%	58.2%	58.0%		57.8%		
18	Marketing %	10.9%	11.0%	11.2%		11.0%		

Figure 100. Result of Retrieving on a Formatted Worksheet

10. Close P&l.123 without saving it.

Note: This chapter's section on "Preserving Formulas When Retrieving Data" on page 117 provides additional tutorial tasks that show you how to take advantage of all the **Formula Preservation** options.

Pivoting Data on Formatted Worksheets

With the Pivot command, you can produce ad hoc reports in both formatted and unformatted worksheets. However, a formatted worksheet may contain labels and formulas that make the result of a pivot operation ambiguous. The pivot is designed to compress and retain *only* the database elements represented in the worksheet. The worksheet also retains labels in areas that are not overwritten by pivoted data.

Note: Essbase prevents pivot operations on worksheets that contain formulas when Formula Preservation mode is active.

Inv.123, a sample file installed as part of the Essbase installation process, illustrates how to pivot data in a worksheet. It was saved with the Retain on Retrieval option disabled so that you can pivot on its worksheets.

To view the Inv.123 worksheet:

1. Select **File > Open**.
2. From the \Essbase\client\sample directory, open the Inv.123 file.

   Depending on how software is installed on your PC, the file may not be available or may be located in a different directory. Contact the Essbase system administrator for more information.

	A	B	C	D	E	F	G
1	Market		*Inventory Analysis*				
2	Actual						
3			Jan	Feb	Mar		Qtr1
4							
5	Sales	100	8314	8327	8407		25048
6		200	8716	8960	8951		26627
7		300	7874	8046	8077		23997
8		400	6634	6736	6778		20148
9		Product	31538	32069	32213		95820
10							
11	Opening Inventory	100	29448	29124	28929		29448
12	* Adjusted for Audit	200	33000	32100	31125		33000
13		300	28865	28964	29095		28865
14		400	26092	26246	26409		26092
15		Product	117405	116434	115558		117405
16							
17	Stock to Sales		3.72	3.63	3.59		
18			=====	=====	=====		

Figure 101. Formatted Worksheet Before Pivoting

3. Select **Essbase > Options** and select the **Global** tab.

4. In the **Display Messages** group, clear the **Display Unknown Members** check box to avoid seeing the Essbase messages when working with formatted worksheets.

5. Using the right-mouse button, drag Sales (in cell A5) to the cell nested below Jan (C4).

   Essbase pivots the Sales member group so that it is nested below the monthly members. However, during the pivot, Essbase retains only database elements. For example, all data for Stock to Sales and Adjusted for Audit is deleted during the pivot.

	A	B	C	D	E	F	G
1			*Inventory Analysis*		Market		
2					Actual		
3		Jan		Feb		Mar	
4		Sales	Opening Inventory	Sales	Opening Inventory	Sales	Opening Inventory
5							
6	100	8314	29448	8327	29124	8407	28929
7	200	8716	33000	8960	32100	8951	31125
8	300	7874	28865	8046	28964	8077	29095
9	400	6634	26092	6736	26246	6778	26409
10	Product	31538	117405	32069	116434	32213	115558
11							
12	* Adjusted for Audit						
13							
14							
15							
16							
17	Stock to Sales						
18			===== :: =====		=====		

Figure 102. Result of Pivoting on a Formatted Worksheet

6. Close `Inv.123` without saving it.

Preserving Formulas When Retrieving Data

In "Retrieving Data into Formatted Worksheets" on page 113, you used the Retain on Retrieval option to preserve formatting and formulas in an existing worksheet. Collectively, the Formula Preservation options enable you to retain formulas during data retrievals, keep and remove only operations, and drill operations. In addition, Essbase can replicate formulas for additional members retrieved into the worksheet as part of a drilling operation. This section steps you through using all of the Formula Preservation options in a report that you create.

You must enable some options before you can enable other options. Keep in mind the following guidelines and restrictions when using the Formula Preservation options:

• On the Mode tab of the Essbase Options dialog box, you must have the Advanced Interpretation option selected to enable Retain on Retrieval. The Formula Preservation options do not work with free-form retrieval mode.

- You must enable Retain on Retrieval to enable Retain on Keep and Remove Only and Retain on Zooms.
- You must enable Retain on Zooms to enable Formula Fill.
- When you select the Retain on Retrieval check box, the Suppress #Missing Rows and Zero Rows options on the Display tab become disabled. Conversely, if you have either of the Display options selected, the Formula Preservation options are automatically disabled.
- When you select the Retain on Zooms check box, the Remove Unselected Groups option on the Zoom tab is disabled. When you enable the Remove Unrelated Groups option, Retain on Zooms is automatically disabled.
- When Retain on Retrieval is enabled, there may be a slight delay in retrieval time.
- As a general rule, insert a blank row as the last row in the formula range to ensure that the cell range in the formula expands properly when you drill down on members with Retain on Zooms enabled. For more information, see the Essbase Spreadsheet Add-in online help.
- Formula arrays are not supported in Essbase Spreadsheet Add-in when the preserve formula option is on. If you have formula arrays in the worksheet, Essbase does not preserve these types of formulas.

To preserve formulas when retrieving or retaining data:

1. To open a new worksheet, select **File > New** or click the ⬚ button.
2. Select **Essbase > Retrieve**.
3. In cell A2, drill down (double-click) on Year.
4. Press and hold the **Alt** key and, in cell E1, drill down (double-click) on Scenario.
5. Select cell G3 and enter the following formula in the cell: =B3/B$7*100.

   Note: The $ in front of the 7 anchors the formula to the Year member.

	A	B	C	D	E	F	G	H
1		Measures	Product	Market				
2		Actual	Budget	Variance	Variance %	Scenario		
3	Qtr1	24703	30580	-5877	-19.21844343	24703	=B3/B7*100	
4	Qtr2	27107	32870	-5763	-17.53270459	27107		
5	Qtr3	27912	33980	-6068	-17.85756327	27912		
6	Qtr4	25800	31950	-6150	-19.24882629	25800		
7	Year	105522	129380	-23858	-18.44025352	105522		
8								
9								
10								

Figure 103. Entering an Lotus 1-2-3 Formula into a Cell

6. Press **Enter**.

   Lotus 1-2-3 calculates the formula that you entered in cell G3 and now reflects Qtr1 as a percentage of Year.

	A	B	C	D	E	F	G	H
1		Measures	Product	Market				
2		Actual	Budget	Variance	Variance %	Scenario		
3	Qtr1	24703	30580	-5877	-19.21844343	24703	23.41028411	
4	Qtr2	27107	32870	-5763	-17.53270459	27107		
5	Qtr3	27912	33980	-6068	-17.85756327	27912		
6	Qtr4	25800	31950	-6150	-19.24882629	25800		
7	Year	105522	129380	-23858	-18.44025352	105522		
8								
9								
10								

Figure 104. Result of Lotus 1-2-3 Formula with Essbase Data

7. Select **Essbase > Options** and select the **Mode** tab.
8. In the **Formula Preservation** area, select the check boxes for **Retain on Retrieval** and **Retain on Keep and Remove Only**. Click OK.
9. In cells D2, E2, and F2, respectively, select Variance, %Variance, and Scenario.
10. Select **Essbase > Remove Only**.

    Essbase removes the selected columns but retains the Lotus 1-2-3 formula that you entered, keeping it with the retained dataset.

	A	B	C	D	E	F	G
1		Measures	Product	Market			
2		Actual	Budget				
3	Qtr1	24703	30580	23.41028411			
4	Qtr2	27107	32870				
5	Qtr3	27912	33980				
6	Qtr4	25800	31950				
7	Year	105522	129380				
8							
9							
10							

Figure 105. Result of Removing Columns with Retain on Keep or Remove Only Enabled

11. Select **Essbase > Options** and select the **Mode** tab.
12. In the **Formula Preservation** area, click the box for **Retain on Zooms** and click **OK**.
13. In cell A3, drill down (double-click) on Qtr1.

    Essbase drills down on Qtr1 and moves the formula down with the Qtr1 member.

	A	B	C	D	E	F	G
1		Measures	Product	Market			
2		Actual	Budget				
3	Jan	8024	9940				
4	Feb	8346	10350				
5	Mar	8333	10290				
6	Qtr1	24703	30580	23.41028411			
7	Qtr2	27107	32870				
8	Qtr3	27912	33980				
9	Qtr4	25800	31950				
10	Year	105522	129380				
11							

Figure 106. Result of Drilling Down with Retain on Zooms Enabled

14. Select **Essbase > FlashBack**.
15. Select **Essbase > Options** and select the **Mode** tab.
16. In the **Formula Preservation** area, select the **Formula Fill** check box. Click **OK**.
17. In cell A3, drill down (double-click) on Qtr1.

    Essbase drills down on Qtr1 and replicates the formula for each member of Qtr1 (Jan, Feb, and Mar). To view the replicated formulas, click in cells

D3, D4, D5, and D6 and look at the new syntax in the Lotus 1-2-3 formula bar.

	A	B	C	D	E	F
1		Measures	Product	Market		
2		Actual	Budget			
3	Jan	8024	9940	29.60121002		
4	Feb	8346	10350	29.9011178		
5	Mar	8333	10290	32.29844961		
6	Qtr1	24703	30580	23.41028411		
7	Qtr2	27107	32870			
8	Qtr3	27912	33980			
9	Qtr4	25800	31950			
10	Year	105522	129380			
11						

Figure 107. Result of Drilling Down with Formula Fill Enabled

18. Before moving on with the tutorial, complete each of the following actions:

   a. Select **Essbase > Options** and select the **Mode** tab.

   b. Clear all of the **Formula Preservation** options.

   c. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Retrieving a Range of Data

In a typical Lotus 1-2-3 worksheet, you can select a range of cells by dragging the mouse across the worksheet. You can also select a range of cells and tell Essbase to restrict the data retrieval to the selected range in the worksheet. Retrieving a range of data is particularly useful in the following situations:

- A worksheet contains multiple reports.
- A worksheet contains extraneous information that is not supported in a formatted report retrieval.
- You need to retrieve only a small subset of values from the server, thus dramatically decreasing retrieval time for large datasets.
- You need to retrieve data to an area of the worksheet other than the first column.

As part of the default Essbase installation, Essbase provides a sample file, Profit.123, that illustrates how to retrieve a range of data.

To view the Profit.123 file:

1. Select **File > Open**.

2. From the \Essbase\client\sample directory, open the Profit.123 file.

   Depending on how software is installed on your PC, the file may not be available or may be located in a different directory. Contact the Essbase system administrator for more information.

   Profit.123 has already selected a range of cells (B2 through F9) for you.

	A	B	C	D	E	F	G	H
1								
2			100	Central				
3			Actual		Budget			
4			Sales	Profit %	Sales	Profit %		
5		Qtr1	1111	27.3	2222	34.5		
6		Qtr2	1111	28.4	2222	35.1		
7		Qtr3	1111	28.8	2222	35.3		
8		Qtr4	1111	27.6	2222	38.1		
9		Year	1111	28.1	2222	35.7		
10								
11								
12				Central	Actual	Profit %		
13			Qtr1	Qtr2	Qtr3	Qtr4	Year	
14		100-10	22.0	22.0	22.0	22.0	22.0	
15		100-20	22.0	22.0	22.0	22.0	22.0	
16		100-30	22.0	22.0	22.0	22.0	22.0	

Figure 108. Selected Range of Cells for Retrieval

3. Select **Essbase > Retrieve** to update the selected range.

	A	B	C	D	E	F	G	H
1								
2			100	Central				
3			Actual		Budget			
4			Sales	Profit %	Sales	Profit %		
5		Qtr1	8074	27.3	8200	34.5		
6		Qtr2	8701	28.4	8870	35.1		
7		Qtr3	8894	28.8	9060	35.3		
8		Qtr4	8139	27.6	7800	38.1		
9		Year	33808	28.1	33930	35.7		
10								
11								
12				Central	Actual	Profit %		
13			Qtr1	Qtr2	Qtr3	Qtr4	Year	
14		100-10	22.0	22.0	22.0	22.0	22.0	
15		100-20	22.0	22.0	22.0	22.0	22.0	
16		100-30	22.0	22.0	22.0	22.0	22.0	

Figure 109. Result of Retrieving First Range of Data

Essbase updates only the data in the selected range of cells.

4. Select cells B12 through G16.

	A	B	C	D	E	F	G	H
1								
2			100	Central				
3			Actual		Budget			
4			Sales	Profit %	Sales	Profit %		
5		Qtr1	8074	27.3	8200	34.5		
6		Qtr2	8701	28.4	8870	35.1		
7		Qtr3	8894	28.8	9060	35.3		
8		Qtr4	8139	27.6	7800	38.1		
9		Year	33808	28.1	33930	35.7		
10								
11								
12				Central	Actual	Profit %		
13			Qtr1	Qtr2	Qtr3	Qtr4	Year	
14		100-10	22.0	22.0	22.0	22.0	22.0	
15		100-20	22.0	22.0	22.0	22.0	22.0	
16		100-30	22.0	22.0	22.0	22.0	22.0	

Figure 110. Selecting Cells for Retrieval

5. Select **Essbase > Retrieve** once again to update the selected range.

Essbase updates the data in the selected range.

	A	B	C	D	E	F	G	H
1								
2			100	Central				
3			Actual		Budget			
4			Sales	Profit %	Sales	Profit %		
5		Qtr1	8074	27.3	8200	34.5		
6		Qtr2	8701	28.4	8870	35.1		
7		Qtr3	8894	28.8	9060	35.3		
8		Qtr4	8139	27.6	7800	38.1		
9		Year	33808	28.1	33930	35.7		
10								
11								
12				Central	Actual	Profit %		
13			Qtr1	Qtr2	Qtr3	Qtr4	Year	
14		100-10	24.6	25.1	24.7	23.8	24.6	
15		100-20	29.6	31.3	32.1	29.7	30.7	
16		100-30	28.9	30.0	31.0	31.4	30.4	

Figure 111. Result of Retrieving Second Range of Data

6. Close Profit.123 without saving it.

Retrieving Data by Using a Function

The Essbase cell retrieve function, *EssCell*, retrieves a single database value into a worksheet cell. Enter an EssCell function directly into a worksheet or select an EssCell function from the Lotus 1-2-3 menu bar.

Note: You must be connected to a database to use EssCell.

EssCell retrieves data when you perform an Essbase retrieval or when you recalculate a worksheet through Lotus 1-2-3. As part of the default Essbase installation, Hyperion Essbase provides a sample file, Summary.123. This file has EssCell functions already set in cells B16 and B17.

To view the Summary.123 file:

1. Select **File > Open**.
2. From the \Essbase\client\sample directory, open the Summary.123 file.

   Depending on how software is installed on your PC, the file may not be available or may be located in a different directory. Contact the Essbase system administrator for more information.

	A	B	C	D	E	F	G
1	**200**						
2	**Texas**						
3							
4		Budget					
5		Qtr1	Qtr2	Qtr3	Qtr4	Year	
6	Sales	1130	1260	1440	1200	5030	
7	COGS	450	500	570	490	2010	
8	Margin	680	760	870	710	3020	
9	Marketing	270	300	360	290	1220	
10	Payroll	120	120	120	100	460	
11	Misc	#Missing	#Missing	#Missing	#Missing	#Missing	
12	Total Expenses	390	420	480	390	1680	
13	Profit	290	340	390	320	1340	
14							
15							
16	Year Sales						
17	Year Margin %						
18							
19		{LET B16,@ESSCELL("Sales","200",A2,"Budget","Year","NULL","NULL","N					
20		{LET B17,@ESSCELL("Margin %","200",A2,"Budget","Year","NULL","NULL					

Figure 112. Worksheet Containing EssCell Functions

Cells B19 and B20 in Summary.123 contain the EssCell function, which will display the results of the function in cells B16 and B17, respectively.

The EssCell function is defined in a cell as follows:

```
{LET cellref,@EssCell(mbrList)}
```

where *cellref* is a reference that points to the cell where Hyperion Essbase should return the database value.

mbrList is one of the following:
- **A null value.** If the parameters of the function are empty, Essbase returns the data value from the top of each dimension.
- A **comma-delimited list of member names.** Member names must be enclosed in double quotes, with only one member per dimension allowed. If you list no members from a particular dimension, the function returns the data value from the top member of the unspecified dimension. Furthermore, you can include aliases in the member list, subject to the same rules as member names.
- **A Lotus 1-2-3 cell reference.** The reference must point to a cell that contains a valid member name. Member names, such as 200 and 300-10, need to be formatted as text cells, rather than numeric cells.

For example, the syntax for the EssCell function in cell B19 in the
Summary.123 file is the following:

```
{LET B16,@ESSCELL("Sales", "200", "A2", "Budget", "Year","NULL","NULL",
"NULL","NULL","NULL","NULL","NULL", "NULL","NULL","NULL")}
```

When you open the worksheet, the values in these cells are #N/A. To
update the values with the data in your database, you must run the macro
function.

3. Select cell B19, then select **Edit > Scripts & Macros > Run**. In the **Run
   Scripts & Macros** dialog box, select the **Macro** option, then click **Run**.
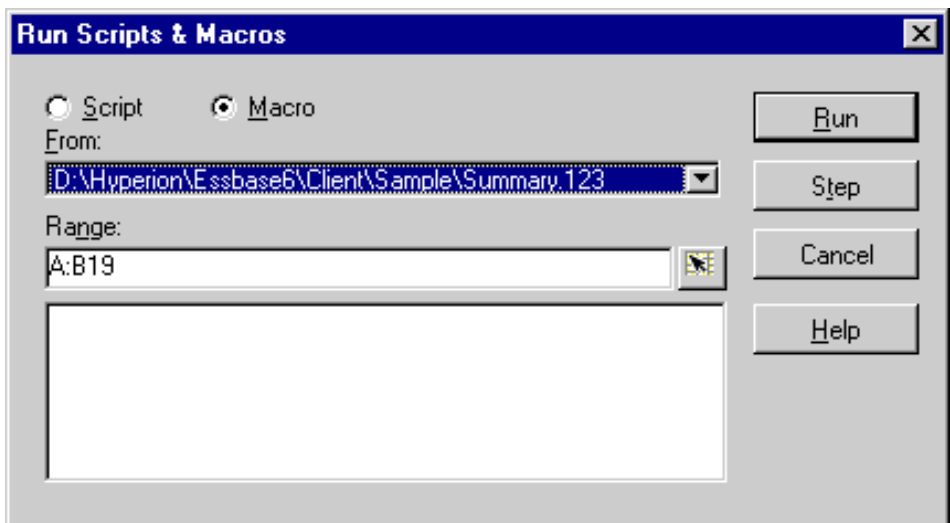
Figure 113. Run Scripts & Macros dialog box

	A	B	C	D	E	F	G
1	200						
2	Texas						
3							
4		Budget					
5		Qtr1	Qtr2	Qtr3	Qtr4	Year	
6	Sales	1460	1560	1630	1320	5970	
7	COGS	560	590	630	500	2280	
8	Margin	900	970	1000	820	3690	
9	Marketing	160	160	170	120	610	
10	Payroll	60	60	60	110	290	
11	Misc	#Missing	#Missing	#Missing	#Missing	#Missing	
12	Total Expenses	220	220	230	230	900	
13	Profit	680	750	770	590	2790	
14							
15							
16	Year Sales	5970					
17	Year Margin %	61.81					

Figure 114. Retrieval on a Worksheet Containing the EssCell Function

Now update the EssCell functions to retrieve data for a different state.

4. Change the contents of cell A2 from Texas to Florida.

Select cell B19, then select **Edit > Scripts & Macros > Run**. In the **Run Scripts & Macros** dialog box, select the **Macro** option, then click **Run**.

Hyperion Essbase recalculates the EssCell functions in cells B16 and B17.

	A	B	C	D	E	F	G
1	200						
2	Florida						
3							
4		Budget					
5		Qtr1	Qtr2	Qtr3	Qtr4	Year	
6	Sales	1460	1560	1630	1320	5970	
7	COGS	560	590	630	500	2280	
8	Margin	900	970	1000	820	3690	
9	Marketing	160	160	170	120	610	
10	Payroll	60	60	60	110	290	
11	Misc	#Missing	#Missing	#Missing	#Missing	#Missing	
12	Total Expenses	220	220	230	230	900	
13	Profit	680	750	770	590	2790	
14							
15							
16	Year Sales	5030					
17	Year Margin %	60.04					

Figure 115. Updating the EssCell Function

> **Tip:** If the worksheet contains many EssCell functions, change Lotus 1-2-3 to manual calculation mode. This change prevents the cell retrieve from calculating until you retrieve data or calculate the worksheet manually. For more information, see the Lotus 1-2-3 documentation.

Essbase returns an error message if EssCell is unsuccessful. The following table lists messages that Essbase displays in the EssCell cell and explains the conditions that cause the messages:

Message	Reason
#N/A	The worksheet is not connected to a database.
#VALUE!	A member name in the list or reference is invalid.
#NAME?	A text name in the function does not contain double quotation marks.

5. Close Summary.123 without saving it.

The sample file that you used for this tutorial task already had EssCell functions defined.

Note: Tasks that you should *not* perform as part of the tutorial are shown in light-shaded boxes.

To enter your own EssCell function into a worksheet, you do the following: Enter the EssCell syntax in the 1-2-3 formula bar at the top of the sheet.

Note: For more information on EssCell functions, see the Essbase Spreadsheet Add-in online help.

Retrieving Dynamic Calculation Members

Dynamic calculation members are database members that are excluded from the batch calculation process, thus shortening the regular database calculation time. The Essbase application designer tags dynamic calculation members in the database outline so that Essbase knows not to calculate those members until a data retrieval requests them. This process is referred to as *dynamic calculation*. Dynamically calculating database members benefits the Essbase server in the following ways:

- Reduced disk usage
- Reduced database restructuring time
- Reduced time to back up the database

Database values that Essbase calculates dynamically take slightly longer to retrieve in Essbase Spreadsheet Add-in because Essbase must perform calculations *before* retrieving data into the worksheet. For more information on dynamic calculation, see the *Database Administrator's Guide*.

Tip: Enable the Navigate Without Data feature while you arrange the spreadsheet report so that Essbase does not dynamically calculate the database when you are creating the report. For more information on the Navigate Without Data feature, see "Navigating Through the Worksheet Without Retrieving Data" on page 43.

Because there may be a performance impact on retrieving data for dynamic calculation members, define visual cues, or styles, for these members so that you can identify them in Essbase Spreadsheet Add-in.

To illustrate how to use Dynamic Calculation members, use the Asymm.123 file.

To view the Asymm.123 file:
1. Select **File > Open**.
2. From the \Essbase\client\sample directory, open the Asymm.123 file.
3. Drill up on Actual by double-clicking the right-mouse button in cell C3.
4. In cell C3, drill down on Scenario to display all members of Scenario.

   Essbase displays only the Scenario members for Qtr1.

	A	B	C	D	E	F	G
1					Sales		
2							
3			*Actual*	*Budget*	*Variance*	*Variance %*	*Scenario*
4			Qtr1	Qtr1	Qtr1	Qtr1	Qtr1
5	East	Colas	6292	5870	422	7.189097104	6292
6		Root Beer	5726	5460	266	4.871794872	5726
7		Fruit Soda	3735	3880	-145	-3.737113402	3735
8							
9	West	Root Beer	8278	7700	578	7.506493506	8278
10		Cream Soda	8043	6890	1153	16.73439768	8043

Figure 116. Displaying Scenario Members

5. Select **Essbase > Options** and select the **Style** tab.

   Note: You must be connected to the Sample Basic database to display the Style tab. For more information on connecting to a database, see "Connecting to a Database" on page 95.

6. In the **Members** group, scroll down until you see **Dynamic Calculations**.

7. Select the **Dynamic Calculations** check box and click the **Format** button.

8. In the **Font** style list, select **Bold Italic**.

9. In the **Color** list, select **Gray**.

10. Click **OK** and then select the **Display** tab.

11. In the **Cells** option group, click **Use Styles**. Click **OK**.

12. Select **Essbase > Retrieve**.

    Essbase displays the data and applies all the visual cues, or styles, that you set, including the newly set styles for dynamic calculation members and the styles you set in Chapter 3. You can tell that the columns for Variance and Variance% are dynamically calculated because Hyperion Essbase displays these members in gray, bold, italicized font. (Variance and Variance% also have a red background because that style was previously set for all members of the Scenario dimension.)

	A	B	C	D	E	F	G
1					Sales		
2							
3			Actual	Budget	*Variance*	*Variance %*	Scenario
4			Qtr1	Qtr1	Qtr1	Qtr1	Qtr1
5	East	Colas	6292	5870	422	7.189097104	6292
6		Root Beer	5726	5460	266	4.871794872	5726
7		Fruit Soda	3735	3880	-145	-3.737113402	3735
8							
9	West	Root Beer	8278	7700	578	7.506493506	8278
10		Cream Soda	8043	6890	1153	16.73439768	8043

Figure 117. Result of Retrieving Dynamic Calculation Members

> **Note:** Occasionally, other styles you have set may override a style for dynamic calculation members. For example, if a parent member is also a dynamic calculation member, and if you have styles set for both parent and dynamic calculations, the style for the parent member overrides the style for the dynamic calculation member. In this case, you need to remove the style for parent members in order to see the style for dynamic calculation members. For more information on the precedence of styles, see "Determining the Precedence of Overlapping Styles" on page 57.

13. Close the Asymm.123 file without saving it.

Specifying the Latest Time Period for Dynamic Time Series

Dynamic Time Series members are predefined database members that are used in dynamic, to-date reporting, such as year-to-date or month-to-date values. Dynamic Time Series members do not display as individual members in the database outline; instead, they correspond to a generation name that uses a key term for time, such as year, month, or day.

For example, in the Sample Basic database, a generation name called Quarter was created for generation 2 in the Year dimension. Generation 2 includes the members for Qtr1, Qtr2, Qtr3, and Qtr4. When the generation name Quarter was created, Essbase created a Dynamic Time Series member called Q-T-D, or quarter-to-date.

To take advantage of Dynamic Time Series in Essbase Spreadsheet Add-in, choose the latest time period for which you want data in a to-date calculation. The calculated value of the Dynamic Time Series member is derived when you define the latest time period to be reported. In the Sample Basic database, for example, the level 0 members of the Year dimension are the months of the year: Jan, Feb, Mar, and so on. If the current month is August, and you want

to know the sales data for the quarter up to the current month, a quarter-to-date calculation gives you the sales data for the months of July and August.

To illustrate the concept of Dynamic Time Series:

1. To open a new worksheet, select **File > New** or click the ▢ button.
2. Select **Essbase > Options** and select the **Zoom** tab.
3. In the **Zoom In** option group, select **Next Level**.
4. Clear the **Within Selected Group** check box and click **OK**.
5. Select **Essbase > Retrieve**.
6. In cell B1, drill down (double-click) on Measures.
7. In cell B2, click Year.
8. Type Q-T-D in cell B2 and press **Enter** to enter a predefined Dynamic Time Series member (Q-T-D):

	A	B	C	D	E
1			**Product**	**Market**	**Scenario**
2	**Profit**	**Q-T-D**	105522		
3	**Inventory**	**Year**	117405		
4	**Ratios**	**Year**	55.26162827		
5	**Measures**	**Year**	105522		
6					
7					

Figure 118. Entering a Dynamic Time Series Member into a Worksheet

> **Note:** For a list of other possible Dynamic Time Series members, see the Essbase Spreadsheet Add-in online help.

9. Select **Essbase > Options** and select the **Display** tab.
10. In the Dynamic Time Series area, select the **Latest Time Period** check box.
11. From the list box, select May. Click **OK**.
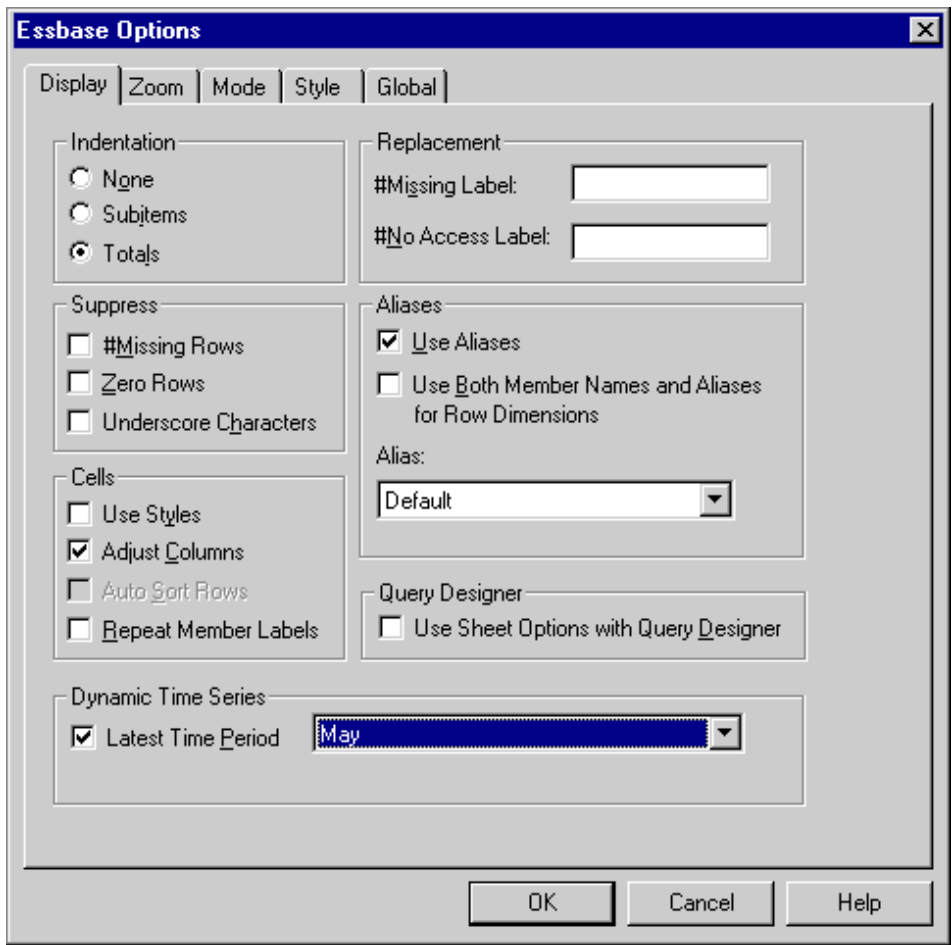
Figure 119. Specifying Latest Time Period in a Dynamic Time Series

> **Note:** If you do not specify a latest time period, Essbase uses the first
> level 0 member (Jan) as the default.

12. Select **Essbase > Retrieve**.

> **Note:** The Retrieve & Lock, Zoom In, and Zoom Out commands are not
> supported with Dynamic Time Series members.

Essbase displays data for the Q-T-D member. The data values in the
worksheet are the aggregated values for April and May, because May is
the month you specified as the latest month in the quarter-to-date
Dynamic Time Series.

Figure 120. Result of Specifying Latest Time Period in a Dynamic Time Series

13. To close the worksheet, select **File > Close**. You do not need to save the worksheet.

Note: You can also create a report like the one shown above by simply typing the name of the Dynamic Time Series member followed by the name of latest time period in parentheses: for example, Q-T-D (May). If you are using free-form retrieval mode, you must enter the Dynamic Time Series member and the latest time period in separate, adjacent cells. You can also select a Dynamic Time Series member and a latest time period through Hyperion Essbase Query Designer or through Member Selection.

Note: For more information on Dynamic Time Series, see the Essbase Spreadsheet Add-in online help.

Using Substitution Variables

The Essbase application designer uses substitution variables to define global variables to represent values that are specific to Essbase. For example, Latest can be a substitution variable representing the latest time period in a Dynamic Time Series. Using Essbase Application Manager, the application designer sets substitution variables and their corresponding values for a specific application. Essbase stores these variables and their values on the Essbase server. You can take advantage of the predefined substitution variables in Essbase Spreadsheet Add-in during Dynamic Time Series reporting

.For example, say the application designer sets a substitution variable on the server for the current month. The variable is called CurMnth and has a value of August. If you use the substitution variable in the worksheet, a retrieval returns values for August, because August is set as the current month on the server. If, at a later date, the application designer changes the value of the CurMnth substitution variable to October, a retrieval returns data for October.

The Sample Basic database you are using for this tutorial does not contain predefined substitution variables. If the application designer had set a substitution variable in the database you are using, you could enter a

substitution variable directly into a worksheet. For example, you could open a blank worksheet and type member names as follows:

	A	B	C	D	E
1		Product	Measures	Market	Scenario
2	&CurMnth				
3					
4					
5					

Figure 121. Entering a Substitution Variable in a Worksheet

Note: Notice the substitution variable (CurMnth) in cell A2. When you enter a substitution variable directly into a cell, you must precede it with an ampersand (&).

In this example, a retrieval produces the following results:

	A	B	C	D	E	F
1		Product	Measures	Market	Scenario	
2	Aug	9545				
3						
4						
5						

Figure 122. Result of Retrieval on a Substitution Variable

Essbase queries the server for the value of the substitution variable CurMnth, which is August. Data is returned only for August.

Note: If you save a worksheet containing a substitution variable as a template, make sure that you save the worksheet *before* you retrieve data. For example, if you save the worksheet shown in Figure 122 as a template, each time you retrieve the template, August rather than the substitution variable CurMnth is displayed.

Using Free-Form Reporting to Retrieve Data

So far, you have learned how to retrieve Essbase data into a worksheet through ad hoc retrieval, Hyperion Essbase Query Designer queries, and Member Selection operations. In addition to these retrieval methods, Essbase

supports *free-form reporting*. Free-form reporting enables you to tell Essbase specifically what you want to retrieve by simply typing data into the worksheet. Free-form reporting is especially useful when you are familiar with the dimensions and members in the database outline.

Essbase provides two different retrieval modes for free-form reporting:
- Advanced Interpretation
- Free-Form

In both retrieval modes, enter member names directly into the worksheet. The following sections describe the similarities and differences between the two modes.

Using Advanced Interpretation Mode

The Essbase server contains an advanced spreadsheet interpretation engine that scans a worksheet and interprets its content when fulfilling retrieval requests. When you construct a report by entering names directly into a worksheet in Advanced Interpretation retrieval mode, Essbase interprets the member names and creates a default view that is based on the location of the labels.

Keep in mind the following guidelines when you are working in Advanced Interpretation mode:
- Precede all member names that consist of numbers with a single quotation mark. For example, for Product dimension member 100, type '100 in the worksheet.
- If you define a report that does not contain all of the database dimensions, you may need to enter a dummy value, such as 0, in the first data cell. Essbase overwrites this value with the contents of the database cell upon retrieval. Be sure to use a numeric value as the dummy value.

To construct a free-form report in Advanced Interpretation retrieval mode:

1. To open a new worksheet, select **File > New** or click the ⬜ button.
2. Select **Essbase > Options** and select the **Mode** tab.
3. In the **Retrieval** option group, select **Advanced Interpretation** (the default setting) and click **OK**.
4. Enter member names and data as in the following illustration.

   Note: If a member name consists of a number, such as 100, you must precede the member name with a single quotation mark (for example, '100). This rule also applies to member names with spaces between words.

	A	B	C	D	E	F
1	Sales	East	Budget			
2						
3		Qtr1	Qtr2			
4	100					
5	200					
6	300					
7	400					
8						
9						

Figure 123. Creating a New Free-Form Report

5. Select **Essbase > Retrieve** or double-click in a data cell.

   Essbase retrieves data for the members you entered into the free-form report and implements the **Use Aliases** option that you set in the **Essbase Options** dialog box in the beginning of this chapter.

	A	B	C	D	E	F
1	Sales	East	Budget			
2						
3		Qtr1	Qtr2			
4	Colas	5870	6760			
5	Root Beer	5460	5650			
6	Cream Soda	3680	4030			
7	Fruit Soda	3880	4150			
8						

Figure 124. Retrieving Data into a Free-Form Report

Now define a free-form report that does not contain all of the dimensions from the database. In Advanced Interpretation mode, you may need to enter a dummy data value, such as 0, into the first Essbase data cell to tell Essbase where the data starts in the worksheet. Be sure to use a numeric value as the dummy value.

For example:

1. Select **Essbase > FlashBack**.
2. Delete cells A1, B1, and C1.

3. In cell B4, type 0 in cell B4 to provide Essbase with a data cell reference point.

	A	B	C	D	E	F
1						
2						
3		Qtr1	Qtr2			
4	100	0				
5	200					
6	300					
7	400					
8						

Figure 125. Defining a Free-Form Report Without All Dimensions

4. Select **Essbase > Retrieve**.

   Essbase adds the dimensions that were omitted from the free-form report to the worksheet and retrieves data.

	A	B	C	D	E	F
1						
2						
3		Measures	Market	Scenario		
4		Qtr1	Qtr2			
5	Colas	7048	7872			
6	Root Beer	6721	7030			
7	Cream Soda	5929	6769			
8	Fruit Soda	5005	5436			
9						

Figure 126. Retrieval in a Free-Form Report Without all Dimensions

5. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Using Free-Form Mode
Similar to Advanced Interpretation mode, Free-Form mode enables you to enter member names into any location in a worksheet and then interprets the

contents of the worksheet when fulfilling the retrieval request. In addition, with Free-Form mode, you can use Essbase report script commands to retrieve data into a worksheet.

Report script commands are most useful for defining member references that can bring back the most current member information dynamically. For example, if you need to create a report that shows every product, including the products added since the last retrieval, standard retrieval mode reflects changes only when you zoom in on the product. If you use the report script command <IDESCENDANTS, Essbase retrieves all descendants of a specified member, including the specified member. For more information on the syntax of report script commands and on guidelines for developing reports, see the *Technical Reference* in the docs directory and the *Database Administrator's Guide*

.Keep in mind the following guidelines when working in Free-Form retrieval mode:

- You must precede all member names that consist of numbers with a single quotation mark. For example, for the Product dimension member 100, you need to type '100 in the worksheet.
- You cannot cancel a retrieve in Free-Form mode.
- You cannot apply Essbase styles in Free-Form mode.
- Essbase removes blank rows and columns on any retrieval action.
- When you are in Free-Form mode, an Auto Sort Rows option is enabled in the Display tab of the Essbase Options dialog box. If you select this feature, Essbase retrieves data in symmetric rows. The rows are sorted according to the order specified in the database outline.
- Not all Formula Preservation and Modes options (Essbase Options dialog box, Mode tab) are available in Free-Form mode.
- To use Dynamic Time Series in Free-Form mode, do not put the Dynamic Time Series member and the latest time period (for example, Q-T-D (Feb)) in the same cell. You need to type the Dynamic Time Series member, Q-T-D in one cell, and the latest time period within parentheses, (Feb), in a separate, adjacent cell.

To construct a free-form report in Free-Form retrieval mode:

1. To open a new worksheet, select **File > New** or click the ⬜ button.
2. Select **Essbase > Options** and select the **Mode** tab.
3. In the **Retrieval** option group, select **Free Form**.
4. Select the **Display** tab.
5. In the **Cells** option group, select **Auto Sort Rows**. Click **OK**.
6. Enter the member names into the worksheet as shown in Figure 127:

	A	B	C	D	E	F
1	Product	COGS				
2	Jan					
3	East					
4	Budget					
5	Actual					
6						
7						

Figure 127. Typing Member Names In a Free-Form Report

7. Select **Essbase > Retrieve**.

   Essbase retrieves data for the members and creates a default view according to the location of the labels. Note that three members were pivoted from row groups to column groups.

	A	B	C	D	E	F
1		Product	COGS	Jan	East	
2	Budget	2590				
3	Actual	3007				
4						
5						

Figure 128. Result of Retrieving in Free-Form Retrieval Mode

8. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Now create a report by entering member names and a report script command:

1. To open a new worksheet, select **File > New** or click the ⬜ button.
2. Enter the member names into the blank worksheet as shown in Figure 129.

⌐⁻⁻⁻⌐

Figure 129. Typing Member Names in a Free-Form Report

3. In cell A3, type <IDESCENDANTS Product. Press **Enter**.

	A	B	C	D
1		Actual	Sales	East
2		Jan	Feb	Mar
3	<IDESCENDANTS			
4				
5				

Figure 130. Typing a Report Script Command in a Free-Form Report

4. Select **Essbase > Retrieve**.

   Essbase retrieves data into the worksheet for all descendants of Product and for the members you entered in the worksheet.

	A	B	C	D	E	F
1		Actual	Sales	East		
2		Jan	Feb	Mar		
3	Cola	1812	1754	1805		
4	Diet Cola	200	206	214		
5	Caffeine Free Cola	93	101	107		
6	Colas	2105	2061	2126		
7	Old Fashioned	647	668	672		
8	Diet Root Beer	310	310	312		
9	Sasparilla	#Missing	#Missing	#Missing		
10	Birch Beer	896	988	923		
11	Root Beer	1853	1966	1907		
12	Dark Cream	999	1012	1026		

Figure 131. Result of a Retrieve with a Report Script Command

> **Note:** When Essbase completes the retrieval, the report script command is overwritten by the data it returns. You can use FlashBack to restore the previous view in Free-Form mode.

5. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Using Attributes in Free-Form Reporting
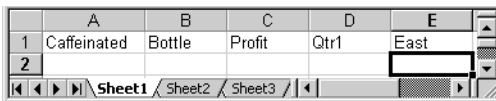
Essbase enables you to retrieve data selectively by specifying attributes that are associated with a base dimension. For example, in the Sample Basic database, the Product base dimension is associated with attributes such as

packaging and size. You can enter an attribute name into the worksheet to retrieve data that is associated with that attribute.

To use attributes in a free-form report:

1. To open a new worksheet, select **File > New** or click the ⬜ button.
2. Enter member names as shown in the Figure 132.

   Caffeinated is an attribute dimension associated with the Product base dimension. Bottle is a level 0 member of the Pkg_Type attribute dimension. The Pkg_Type dimension is associated with the Product base dimension. A level 0 member is the lowest level member in a dimension.
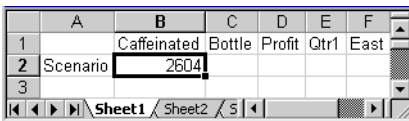
	A	B	C	D	E
1	Caffeinated	Bottle	Profit	Qtr1	East
2					

Figure 132. Using Attributes in Free-Form Reports

3. Click in any empty cell and select **Essbase > Retrieve** or double-click in an empty data cell.
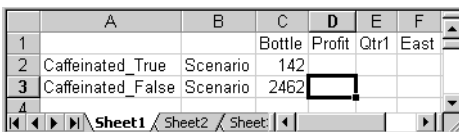
   Essbase retrieves information on profits for the first quarter of the year for all members of the Product base dimension that are associated with both the level 0 attribute members of the Caffeinated attribute dimension (Caffeinated_True and Caffeinated_False) and the level 0 member Bottle of the Pkg_Type attribute dimension. The results should display as shown below:

	A	B	C	D	E	F
1		Caffeinated	Bottle	Profit	Qtr1	East
2	Scenario	2604				
3						

Figure 133. Result of Using Attributes in Free-Form Reports

4. You can drill down to data on the level 0 attribute members of the Caffeinated attribute dimension. The results should display as shown below:

	A	B	C	D	E	F
1			Bottle	Profit	Qtr1	East
2	Caffeinated_True	Scenario	142			
3	Caffeinated_False	Scenario	2462			
4						

Figure 134. Drilling Down on Attributes in Free-Form Reports

5. To drill down further for data on profits for the first quarter for all members of the East base dimension, double-click on cell E1. The results should display as shown below:

	A	B	C	D	E	F
1				Bottle	Profit	Scenario
2	New York	Caffeinated_True	Year	-2050		
3		Caffeinated_False	Year	6754		
4		Caffeinated	Year	4704		
5	Massachusetts	Caffeinated_True	Year	30		
6		Caffeinated_False	Year	1577		
7		Caffeinated	Year	1607		
8	Florida	Caffeinated_True	Year	1727		
9		Caffeinated_False	Year	934		
10		Caffeinated	Year	2661		
11	Connecticut	Caffeinated_True	Year	1134		
12		Caffeinated_False	Year	742		
13		Caffeinated	Year	1876		
14	New Hampshire	Caffeinated_True	Year	-84		
15		Caffeinated_False	Year	842		
16		Caffeinated	Year	758		
17	East	Caffeinated_True	Year	757		
18		Caffeinated_False	Year	10849		
19		Caffeinated	Year	11606		

Figure 135. Result of Drilling Down on East

Entering Generation and Level Names

In addition to entering database member names into a free-form report, you can enter generation or level names directly into a worksheet to retrieve specific members. The Essbase application designer defines generation and level names for database dimensions in the database outline. You have two options for discovering what generation and level names are defined in the database:

- View generation and level names in the Essbase Member Selection dialog box or through Essbase Query Designer.
- Contact the Essbase application designer to see what generation and level names are defined in the database outline.

To enter generation and level names directly into a free-form report:

1. To open a new worksheet, select **File > New** or click the ⬜ button.
2. Select **Essbase > Options** and select the **Mode** tab.
3. In the **Retrieval** option group, select **Advanced Interpretation**. Click **OK**.
4. Enter member names as shown in Figure 136:

	A	B	C	D	E	F
1		Sales	Budget	West	Year	
2						
3						
4						
5						
6						

Figure 136. Entering Member Names in a Free-Form Report

5. Enter a generation name as shown in Figure 137:

   Family is a generation name in the Product dimension. The name is already defined in the Sample Basic database.

	A	B	C	D	E	F
1		Sales	Budget	West	Year	
2	Family					
3						
4						
5						
6						

Figure 137. Entering a Generation Name in a Free-Form Report

6. Select **Essbase > Retrieve**.

   Essbase retrieves data for the member and generation names that you entered. The Family generation name expands to its individual members.

	A	B	C	D	E	F
1		Sales	Budget	West	Year	
2	Colas	34830				
3	Root Beer	31810				
4	Cream Soda	30480				
5	Fruit Soda	22730				
6	Diet Drinks	35690				
7						

Figure 138. Result of Free-Form Retrieval with Generation Name

7. Change Year to a level name (Lev0,Year) as shown in the following illustration.

	A	B	C	D	E	F
1		Sales	Budget	West	Lev0,Year	
2	Colas	34830				
3	Root Beer	31810				
4	Cream Soda	30480				
5	Fruit Soda	22730				
6	Diet Drinks	35690				
7						

Figure 139. Entering a Level Name in a Free-Form Report

> **Note:** Be sure not to insert a space between the comma after 0 and the word Year. Generation and level names that are entered directly into a worksheet must be precise.

8. Select **Essbase > Retrieve**.

   Essbase retrieves data for the level 0 members of the Year dimension, which are the individual months (Jan, Feb, Mar, and so forth).

	A	B	C	D	E	F
1			Sales	Budget	West	
2	Jan	Colas	2860			
3		Root Beer	2540			
4		Cream Soda	2220			
5		Fruit Soda	1840			
6		Diet Drinks	2810			
7	Feb	Colas	2820			
8		Root Beer	2560			
9		Cream Soda	2310			
10		Fruit Soda	1840			
11		Diet Drinks	2900			
12	Mar	Colas	2820			

Figure 140. Result of Free-Form Retrieval with Level Name

9. Select **File > Close** to close the worksheet. You do not need to save the worksheet.

Using Linked Reporting Objects

A *linked reporting object* is an external file, cell note, or World Wide Web resource that you link to a cell in a Essbase database. The file, note, or Web resource (indicated by a URL, or Uniform Resource Locator) can then be retrieved by the Essbase Spreadsheet Add-in users who have access to the database.

Note: If your organization has licensed and implemented Essbase Partitioning option, you can also access *linked partitions* from cells in Essbase Spreadsheet Add-in. For more information on linked partitions, see "Accessing Linked Partitions" on page 165.

This section describes the following procedures:
- "Linking a File to a Data Cell" on page 147
- "Linking a Cell Note to a Data Cell" on page 151
- "Linking a URL to a Data Cell" on page 153
- "Accessing and Editing Linked Reporting Objects" on page 155

Note: For additional information on using linked reporting objects, see the Essbase Spreadsheet Add-in online help.

Linking a File to a Data Cell

With the linked reporting objects feature, you can link an external file to a data cell in Essbase Spreadsheet Add-in. Essbase stores the file on the Essbase server. Users who have access to the database can then retrieve the file and view the data contained in the cell.

The following example uses the Asymm.123 sample worksheet with data from the Sample Basic database. It links a sample file, Budasmp.txt, to a cell containing the Budget figure. Budasmp.txt details the budgetary assumptions for the current year.

Follow these steps to link a file to a data cell:

1. Select **File > Open**.
2. From the \essbase\client\sample directory, open the Asymm.123 file.
3. Make sure that you are connected to the Sample Basic database. If you are not connected, see "Connecting to a Database" on page 95.
4. Select cell D5.

   Note: You can link objects only to data cells, not to cells containing member names.

	A	B	C	D	E	F	G	H
1	Sales							
2								
3			Actual	Budget	Budget	Budget		
4			Qtr1	Qtr2	Qtr3	Qtr4		
5	East	Colas	6292	6760	7300	5570		
6		Root Beer	5726	5650	5600	5780		
7		Fruit Soda	3735	4150	4350	3850		
8								
9	West	Root Beer	8278	7970	8320	7820		
10		Cream Soda	8043	7720	8300	7570		
11								

Figure 141. Selecting a Data Cell for Linking an External File

5. Select **Essbase > Linked Objects**.

   Essbase displays the **Linked Objects Browser** dialog box.
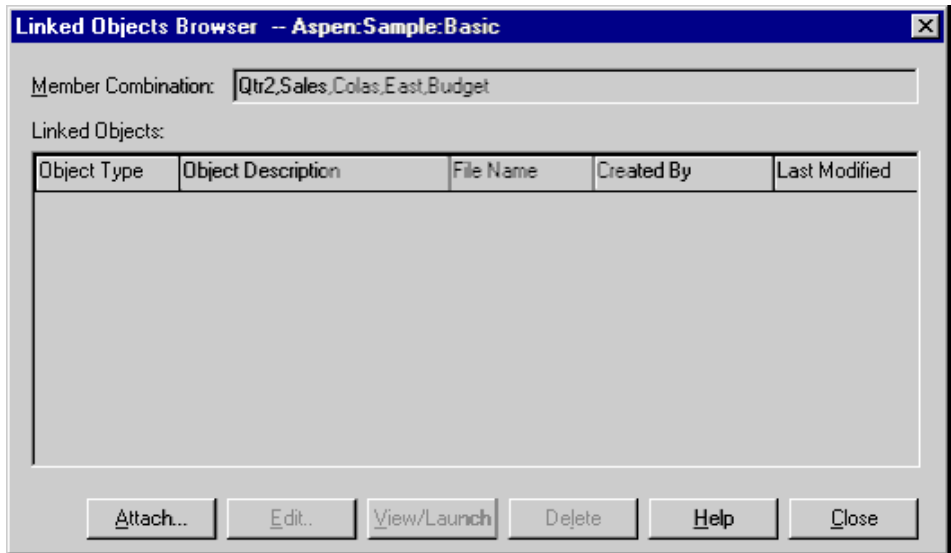
Figure 142. Linking a File

6. In the **Linked Objects Browser** dialog box, click the **Attach** button.
   Essbase displays the **Attach Linked Object** dialog box.
7. Under the **Attachment Type** option group, select **File**.
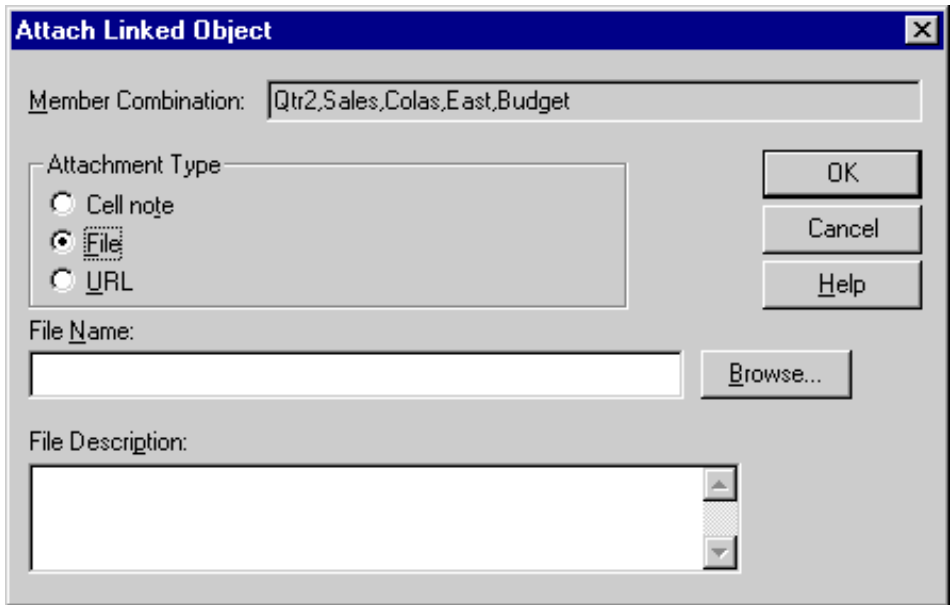
Figure 143. Linking a File to a Data Cell

8. Click the **Browse** button (next to the **File Name** text box).

   Essbase displays the **Browse Files** dialog box.

9. Go to the \Essbase\client\sample directory and select the Budasmp.txt file.

10. Click **Open**.

11. Under **File Description**, enter a brief description for the file as indicated in Figure 144.
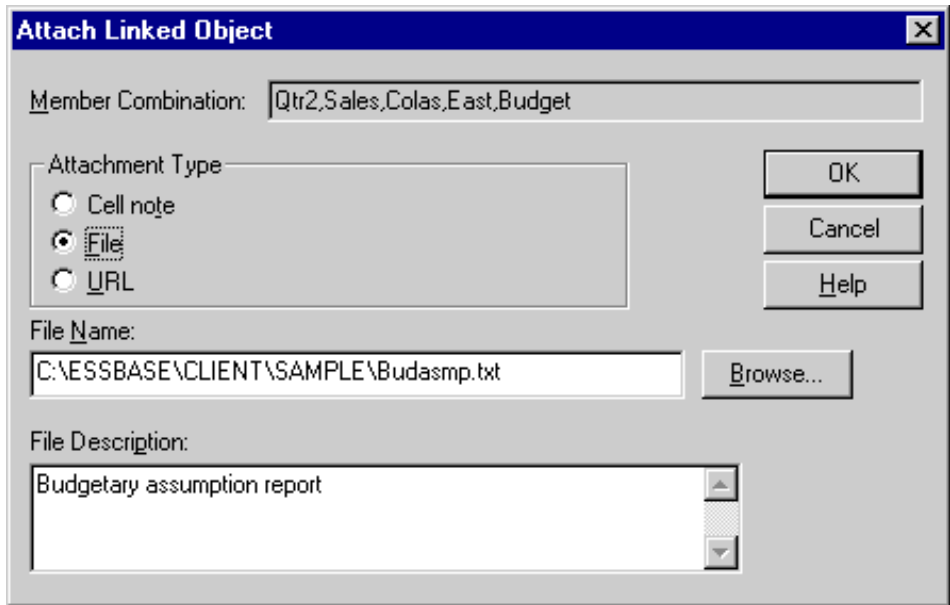
Figure 144. Selecting and Describing a File to Link

> **Note:** Entering text in the File Description text box is optional.

12. Click **OK** to close the dialog box and link the file to the cell.

    Essbase copies the file to the server and establishes a link to the current data cell.

13. Click **Close** to close the **Linked Objects Browser** dialog box.

14. Do not close the Asymm.123 file. You use it in the next tutorial task.

To recognize cells that have linked reporting objects attached to them, you may want to apply a visual cue, or style, to the cells.

To apply styles:

1. Select **Essbase > Options** and select the **Style** tab.
2. In the **Data Cells** area, select **Linked Objects**.
3. Click **Format**.
4. In the **Font style** list box, select **Italic**.
5. In the **Color** list box, select **Purple**. Click **OK**.
6. Select the **Display** tab.
7. In the **Cells** option group, select the **Use Styles** box. Click **OK**.
8. Select **Essbase > Retrieve** to refresh the worksheet and apply the styles.

Cell D5 (the cell you just attached the linked file to) is now displayed in purple, italic font. Essbase also refreshes the worksheet with the other options set in the **Essbase Options** dialog box.

	A	B	C	D	E	F
1	Sales					
2						
3			Actual	Budget	Budget	Budget
4			Qtr1	Qtr2	Qtr3	Qtr4
5	East	Colas	6292	*6760*	7300	5570
6		Root Beer	5726	5650	5600	5780
7		Fruit Soda	3735	4150	4350	3850
8						
9	West	Root Beer	8278	7970	8320	7820
10		Cream Soda	8043	7720	8300	7570

Figure 145. Result of Applying a Style to a Linked Reporting Object Cell

9. Leave the `Asymm.123` file open for the next tutorial task.

Linking a Cell Note to a Data Cell

In addition to linking external files to a data cell in Essbase Spreadsheet Add-in, you can also link individual cell notes that contain information on particular data cells. Cell notes can have no more than 599 characters. If you need to link information to a data cell that is longer than 599 characters, you need to create and save an external file and then link the file to the data cell.

To link a cell note to a data cell:

1. In the `Asymm.123` file, select cell C5.

   Note: You can link objects only to data cells, not to cells containing member names.

2. Select **Essbase > Linked Objects**.
   Essbase displays the **Linked Objects Browser** dialog box.

3. In the **Linked Objects Browser** dialog box, click **Attach**.
   Essbase displays the **Attach Linked Object** dialog box.

4. Under the **Attachment Type** option group, select **Cell Note**.

5. In the **Cell Note** box, type the note as indicated in the following illustration:
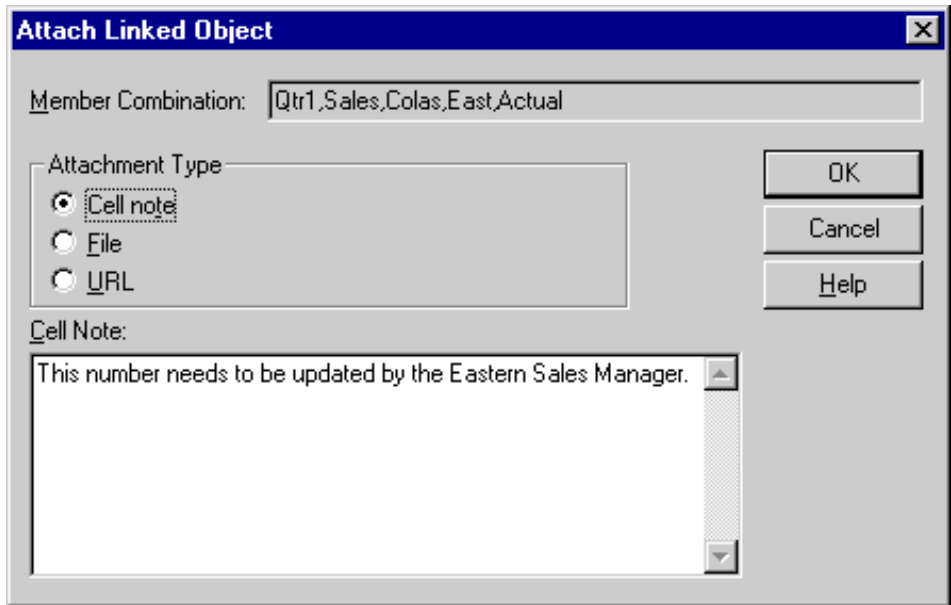
Figure 146. Creating a Cell Note to Link

6. To close the dialog box and link the cell note, click **OK**.

   Essbase copies the note to the server and establishes a link to the current data cell.

7. To close the **Linked Objects Browser** dialog box, click **Close**.

8. Select **Essbase > Retrieve** to refresh the worksheet and apply the style you defined for linked objects.

   Now Essbase displays two data cells (C5 and D5) in purple, italic font to represent a cell that contains a linked reporting object.

A	A	B	C	D	E	F	G
1	Sales						
2							
3			Actual	Budget	Budget	Budget	
4			Qtr1	Qtr2	Qtr3	Qtr4	
5	East	Colas	*6292*	*6760*	7300	5570	
6		Root Beer	5726	5650	5600	5780	
7		Fruit Soda	3735	4150	4350	3850	
8							
9	West	Root Beer	8278	7970	8320	7820	
10		Cream Soda	8043	7720	8300	7570	

Figure 147. Result of Creating a Linked Cell Note

9. Leave the Asymm.123 file open for the next tutorial task.

Linking a URL to a Data Cell

A URL is an address string that identifies resources on the World Wide Web, such as documents, images, and downloadable files. With the linked reporting objects feature, you can link a URL to a data cell so that users who have access to the database can link directly to the specified URL. When you access the cell from Essbase Spreadsheet Add-in, your default Web browser opens and displays the specified URL.

Note: For more information on URL syntax, see the Essbase Spreadsheet Add-in online help.

If you have a Web browser and Internet access, follow these steps to link a data cell to the Hyperion Web site:

1. In the Asymm.123 file, select cell E5.

    Note: You can link objects only to data cells, not to cells containing member names.

	A	B	C	D	E	F	G
1	Sales						
2							
3			Actual	Budget	Budget	Budget	
4			Qtr1	Qtr2	Qtr3	Qtr4	
5	East	Colas	6292	6760	7300	5570	
6		Root Beer	5726	5650	5600	5780	
7		Fruit Soda	3735	4150	4350	3850	
8							
9	West	Root Beer	8278	7970	8320	7820	
10		Cream Soda	8043	7720	8300	7570	

Figure 148. Selecting a Data Cell for Linking to a URL

2. Select **Essbase > Linked Objects**.

    Essbase displays the **Linked Objects Browser** dialog box.

3. In the **Linked Objects Browser** dialog box, click **Attach**.

    Essbase displays the **Attach Linked Object** dialog box.

4. Under the **Attachment Type** option group, select **URL**.

Attach Linked Object

Member Combination: | Qtr3,Sales,Colas,East,Budget

Attachment Type
- ○ Cell note
- ○ File
- ⦿ URL

OK

Cancel

Help

Location:
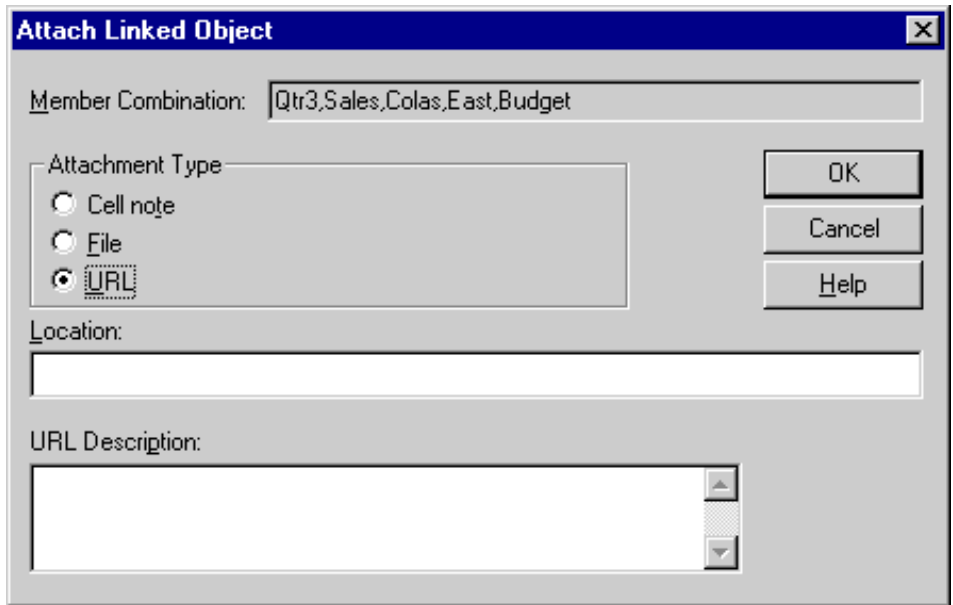
URL Description:

Figure 149. Linking a URL to a Data Cell

5. Enter a URL in the **Location** text box and a brief description in the **URL Description** text box, as indicated in Figure 150.
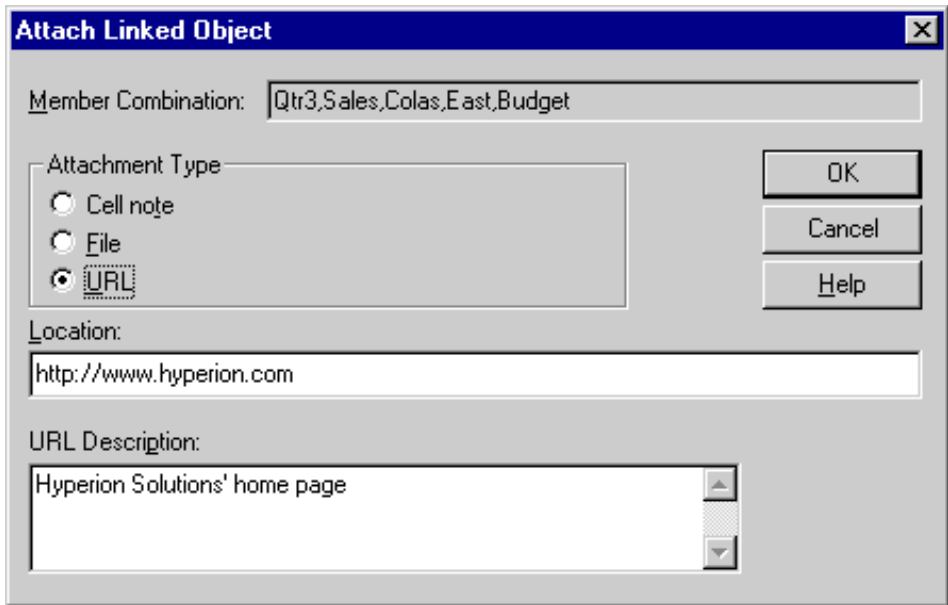
Figure 150. Entering and Describing a URL to Link

> **Note:** Entering text in the URL Description text box is optional. The text
> field for entering the URL location is limited to 512 characters. The
> text field for entering the URL description is limited to 80
> characters.

6. To close the dialog box and link the URL to the cell, click **OK**.

   Essbase copies the URL string to the server and establishes a link to the
   current data cell.

   > **Note:** The syntax for the URL is not checked at creation time; Essbase
   > checks the syntax when the user accesses the URL from the
   > worksheet. The default Web browser checks for the existence (or
   > validity) of the URL.

7. To close the **Linked Objects Browser** dialog box, click **Close**.
8. Select **Essbase > Retrieve** to refresh the worksheet and apply the style that
   you defined for linked objects.
9. Leave the Asymm.123 file open for the next tutorial task.

Now that you have learned to create linked reporting objects, you are ready to
learn how to access them from Essbase Spreadsheet Add-in.

Accessing and Editing Linked Reporting Objects

You have two options for accessing and editing a linked reporting object that
is attached to a data cell:

- Select the cell (as identified by the style applied to it) and select Essbase > Linked Objects.
- Enable double-clicking for linked object browsing.

Note: If you enable double-clicking for linked object browsing, double-clicking behavior changes for retrieving data and performing drill actions. For more information on these changes, see the Essbase Spreadsheet Add-in online help.

For this tutorial, you access the linked reporting objects that you created in the previous sections by using the Essbase menu item instead of the double-clicking action.

Accessing a Linked File
Sometimes you want to check an external file that is linked to a data cell.

To access the external file that you previously linked to a data cell:
1. In the Asymm.123 file, select cell D5.
2. Select **Essbase > Linked Objects**.
3. In the **Linked Objects Browser** dialog box, select the Budasmp.txt file.
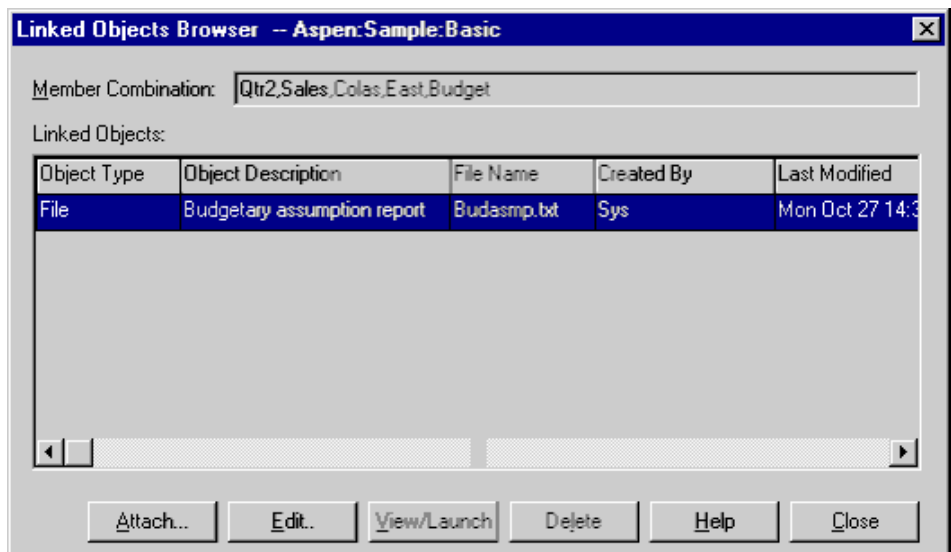
Figure 151. Accessing a Linked External File

4. To view the linked file, click **View/Launch**.

   The Budasmp.txt file is opened from the source application.
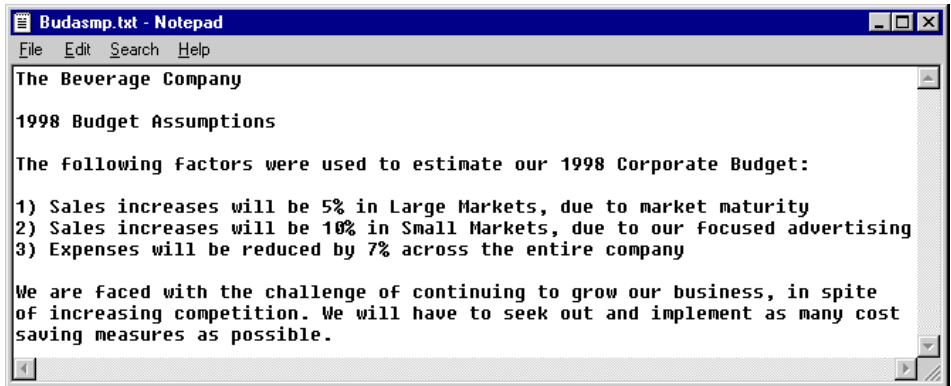
Figure 152. Viewing the Contents of a Linked External File

> **Note:** Edit the contents of a file in the source application. After the edits are made and the file saved, you can re-attach the edited file by clicking the Edit button in the Linked Objects Browser dialog box. Essbase displays the Re-attach Linked Object dialog box, which you can use to re-attach, or relink, the edited file to the data cell. For more information, see the Essbase Spreadsheet Add-in online help.

5. Close the Budasmp.txt file and click Close to close the **Linked Objects Browser** dialog box.
6. Leave the Asymm.123 file open for the next task.

Accessing a Linked Cell Note

Sometimes you have to edit a cell note that was previously created.

To access and edit the cell note that you previously created:

1. In the Asymm.123 file, select cell C5.
2. Select **Essbase > Linked Objects**.

   The **Linked Objects Browser** dialog box displays the cell note that is linked to the selected data cell.
3. In the **Linked Objects Browser** dialog box, select the cell note.
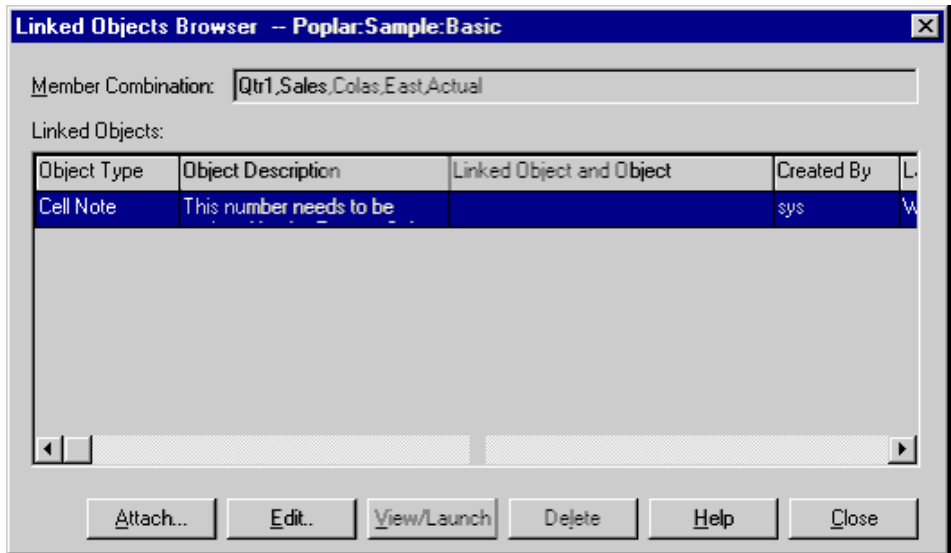
Figure 153. Accessing a Linked Cell Note

4. To edit the contents of the cell note, click **Edit**.

   Essbase displays the **Edit Cell Note** dialog box with the selected cell note displayed.
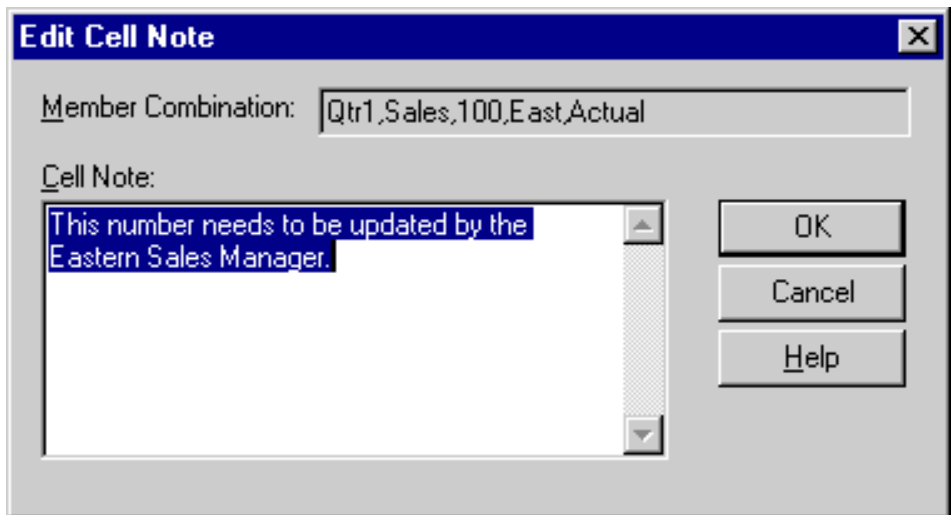
Figure 154. Editing the Contents of a Linked Cell Note

> **Note:** If you simply want to view the contents of the cell note, click the View/Launch button instead of the Edit button in the Linked Objects Browser dialog box.

5. Edit the contents of the cell note as indicated in the following illustration:
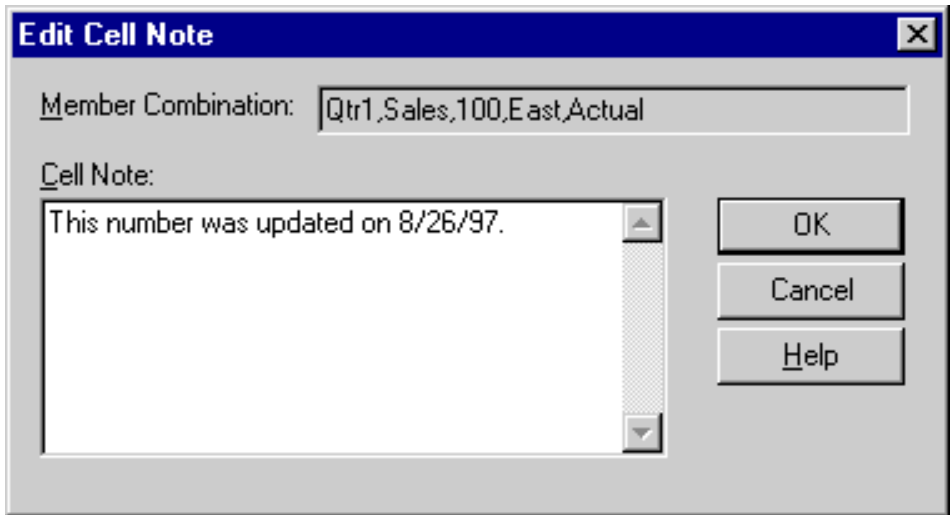
Figure 155. Result of Editing Cell Note Contents

6. Click **OK** to close the **Edit Cell Note** dialog box and save the edits you made to the note.

   Essbase saves the edits to the cell note on the server.

7. To close the **Linked Objects Browser** dialog box, click **Close**.

8. Leave the Asymm.123 file open for the next tutorial task.

Accessing a Linked URL

If you followed the steps in "Linking a URL to a Data Cell" on page 153, you can access and edit the URL that you created.

To access the URL:

1. In the Asymm.123 file, select cell E5.

2. Select **Essbase > Linked Objects**.

   The **Linked Objects Browser** dialog box displays the URL that is linked to the selected data cell.

3. In the **Linked Objects Browser** dialog box, select the URL.
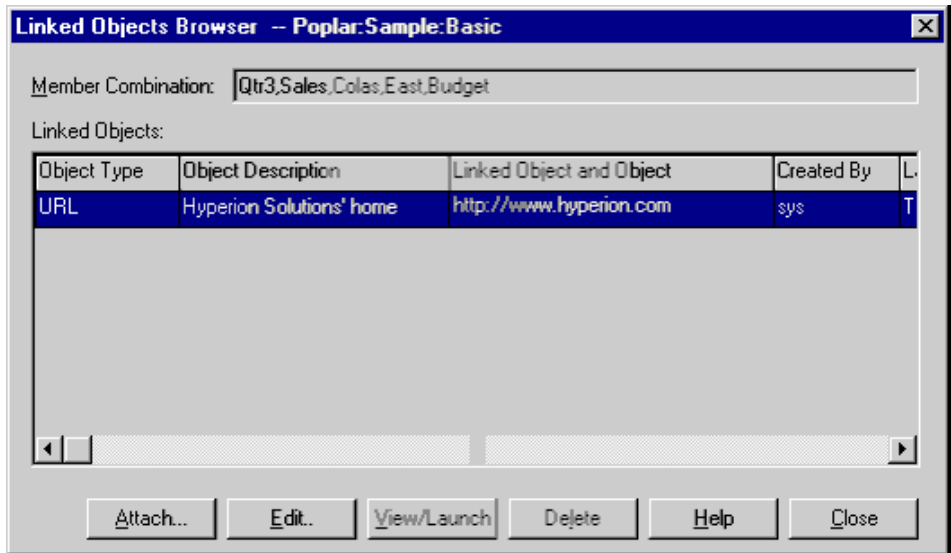
Figure 156. Accessing a Linked URL

4. To view the linked URL, click **View/Launch**.

   Essbase checks the syntax of the URL. If there are syntax errors, Essbase displays an error message. If the URL syntax is correct, the default Web browser launches and connects to the specified site. In this case, the syntax for the URL is correct, so the default Web browser launches and connects to the Hyperion Web site.
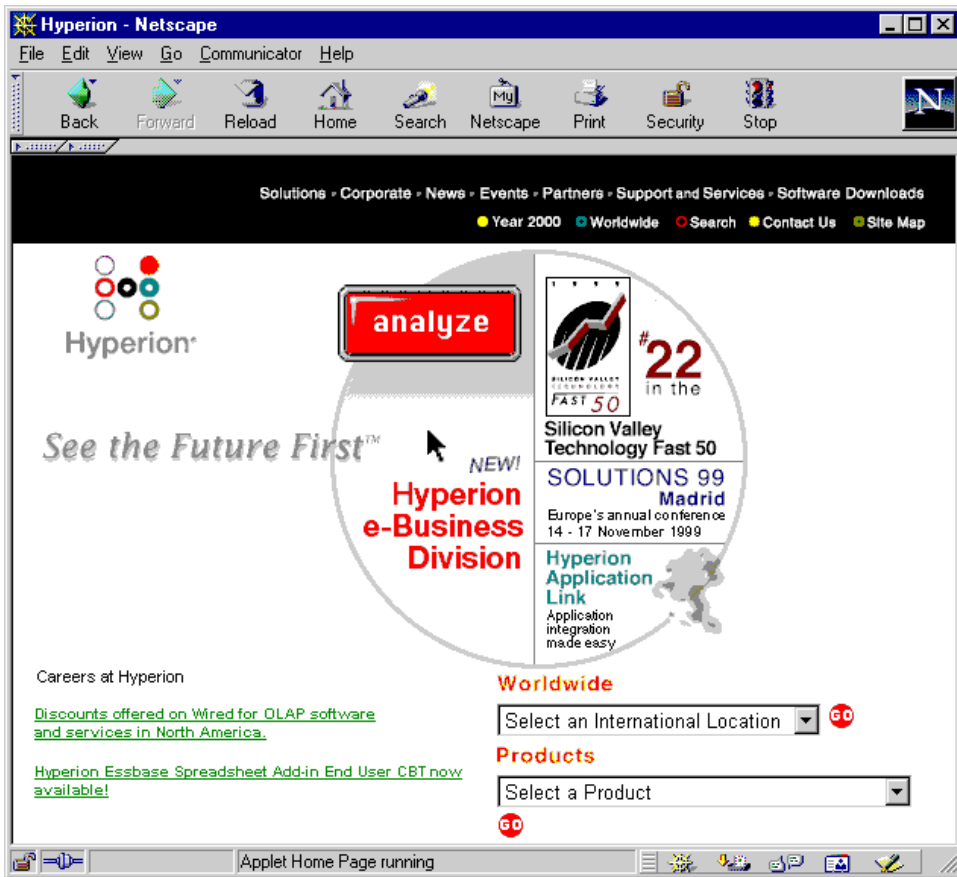
Figure 157. Viewing a Linked URL

     5. Close the Web browser.

To edit the URL:

1. In the **Linked Objects Browser** dialog box, select the URL.
2. To edit the linked URL, click **Edit**.

   Essbase displays the **Edit URL** dialog box with the selected URL displayed.
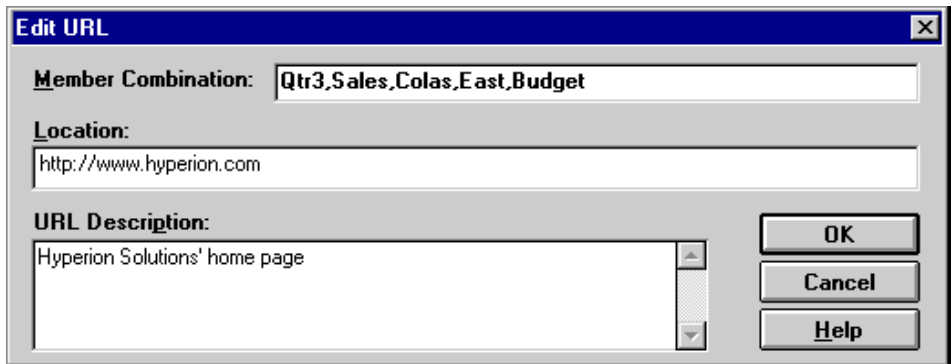
Figure 158. Preparing to Edit the Contents of a Linked URL

3. Edit the URL location and description as show in the following illustration:
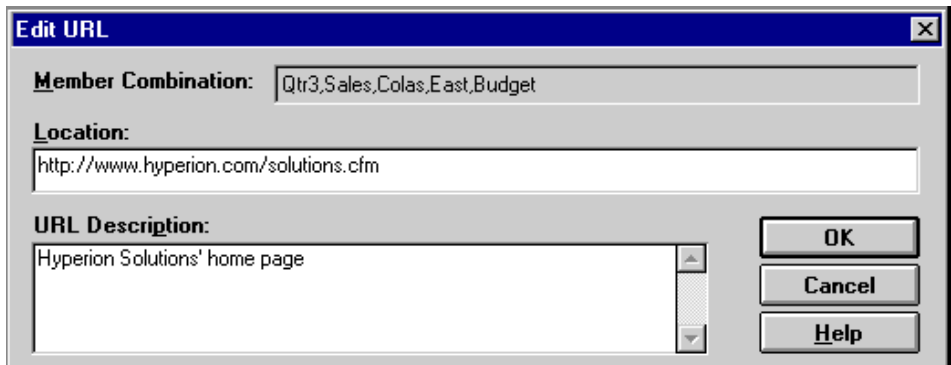
Figure 159. Editing the Contents of a Linked URL

4. To close the **Edit URL** dialog box and save the edits that you made, click **OK**.

   Essbase saves the edits to the URL on the server.

5. To view the new URL, click **View/Launch**.

   The Web browser launches and connects to the new URL.
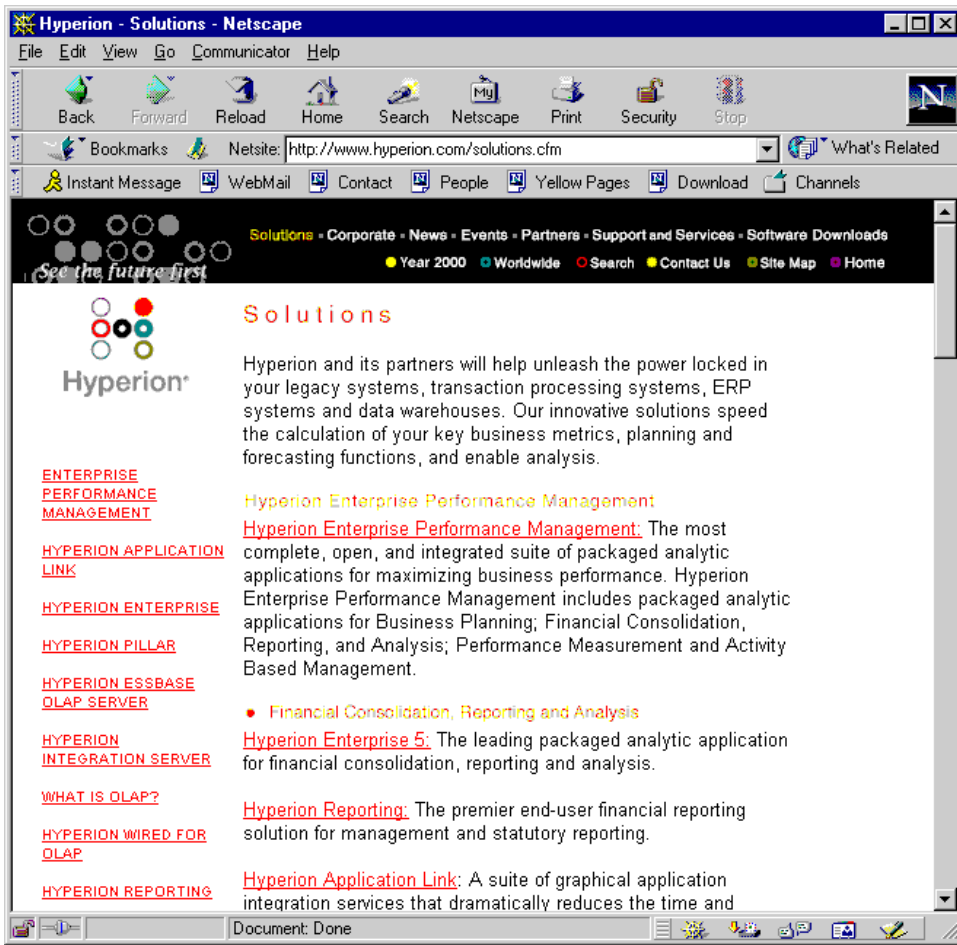
Figure 160. Viewing an Edited URL

      6. Close the Web browser.

      7. To close the **Linked Objects Browser** dialog box, click **Close**.

      8. Close the `Asymm.123` file without saving it.

Connecting to Multiple Databases

Essbase supports simultaneous access to multiple databases. The databases can be in different applications and can be stored on different servers. In Lotus 1-2-3, you can open multiple worksheets, each of which can be connected to a different database. An individual worksheet can access only one database at a time. Use the Connect command from the Essbase menu to switch the connection between databases.

Note: Depending on the status of production applications at your site, you may not have access to additional applications or databases. Check with the Essbase system administrator if you need access to other applications.

For this tutorial, you do not need to connect to another database.

Note: Tasks that you should *not* perform as part of the tutorial are shown in light colored boxes.

To access multiple databases, use the following procedure:

1. Select **Essbase > Connect**.
2. In the **Essbase System Login** dialog box, select the server you want to access from the **Server** list box (or type in the name of the server).
3. Press **Tab** to move to the **Username** text box and type your username.
4. Press **Tab** to move to the **Password** text box and type your password.
5. Click **OK** to connect to the server.

   When the server connection is complete, a list of available application and database pairs is displayed in the **Application/Database** list.
6. Double-click the **Application/Database** pair that you want to connect to in the **Application/Database** list. Alternatively, you can select the **Application/Database** pair and click **OK**.

   If the application is not already running, Essbase automatically starts it. There may be a brief pause as the application loads; the time required to start an application depends on number of databases, the sizes of the databases, and the sizes of the indexes of the databases contained within the application.
7. Open a new worksheet and repeat the steps to connect to additional databases. You can open one database at a time per worksheet.

For information on connecting to multiple databases from Essbase Query Designer, refer to Chapter 3.

Viewing Active Database Connections

If you frequently connect to multiple databases, you may need to check the active database for each worksheet. There are two ways to view the database connection status:

- The Style tab of the Essbase Options dialog box contains a Connection Information text box. This box displays connection information for the active worksheet.
- The Essbase Disconnect dialog box lists all active worksheets and their connection information. This dialog box also enables you to disconnect one or more worksheets from their respective databases.

Accessing Linked Partitions

Linked partitions are part of the Essbase Partitioning product. They provide the ability to link Essbase databases that contain different dimensions without losing access to all dimensions of both databases. If your organization has purchased and implemented the partitioning product, you can take advantage of its powerful capabilities. The *Database Administrator's Guide* describes how to design and implement a linked partition. The Essbase application designer usually sets up partitioning.

Note: The Partitioning product also enables the Essbase application designer to set up transparent or remote partitions. For more information on partitioning, see the *Database Administrator's Guide*.

You can set visual cues, or styles, for cells tagged as linked objects. These cells are access points to the linked partition within the linked database. You have two options for accessing a linked partition from a data cell in Essbase Spreadsheet Add-in:

- Select the cell and select Essbase > Linked Objects.
- Enable double-clicking for linked object browsing.

   If you enable double-clicking for linked object browsing, double-clicking behavior changes for retrieving data and performing drill actions. For more information on these changes, see the Essbase Spreadsheet Add-in online help.

When you select Essbase > Linked Objects from a linked partition cell, Hyperion Essbase completes the following actions:

- Essbase displays the Linked Objects Browser dialog box, which contains a list of possible partitions to access. From this dialog box, select the partition to connect to.

   Note: The Linked Objects Browser dialog box may also contain a list of linked reporting objects, such as cell notes and external files. For more information, see "Using Linked Reporting Objects" on page 146.

- After you select a partition, Essbase creates a new worksheet that contains corresponding members and dimensions for the cell in the linked partition.

   Note: Essbase does not preserve formulas across partitions.

- Essbase retrieves data values from the linked partition.

You can now perform operations such as drill down and drill up to get more information on the new worksheet.

Note: The Sample Basic database that you are using for this tutorial does not contain a linked partition. Tasks that you should *not* perform as part of the tutorial are shown in light colored boxes.

To access a linked partition in Essbase Spreadsheet Add-in if the Essbase application designer has a linked partition set up:

1. Locate a linked object cell, as indicated by the style applied to the cell.
2. Select **Essbase > Linked Objects** to open the **Linked Objects Browser** dialog box. **Note:** Alternatively, select the Enable Linked Object Browsing check box in the Essbase Options dialog box to enable double-clicking to view linked objects.
3. Select the partition that you want to connect to and click **View/Launch**.
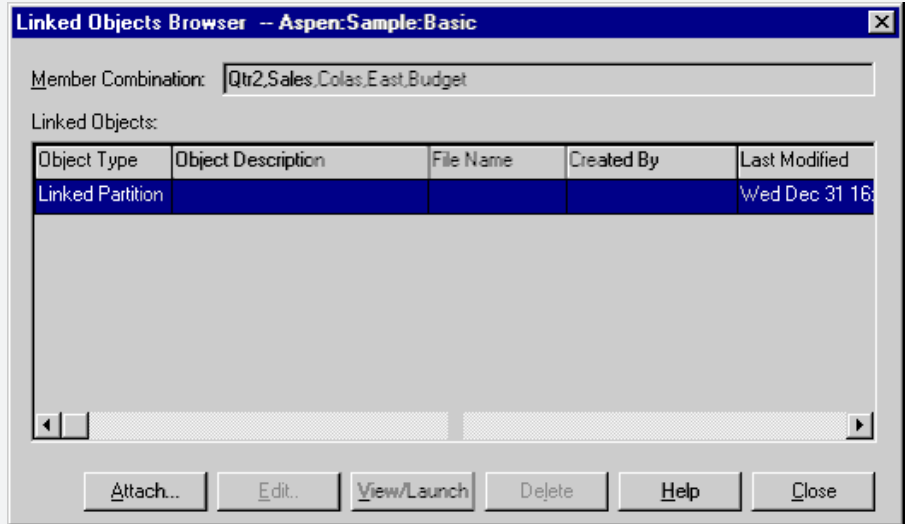
Figure 161. Linked Objects Browser Dialog Box, Linked Partition

Essbase creates a new worksheet that contains the dimensions and members for the cell in the linked partition.

Note: You need to have the proper privileges to access a linked partition. If your user account and password match the account information for the linked partition, Essbase establishes a connection with the linked partition. Otherwise, Essbase displays the Essbase System Login dialog box for you to enter the user account and password information manually.

Updating Data on the Server

Data values are changed frequently in applications that involve planning, budgeting, and forecasting. After you retrieve data into the worksheet, you can use Essbase Spreadsheet Add-in to change values, enter formulas, and format data. Essbase is also designed to permit multiuser, concurrent database access and update. Depending on your security privileges, you may be able to modify all data values or a certain subset of values. To recognize cells to which you have read/write access, apply a visual cue, or style, to the cells. For more information, see "Applying Styles to Data Cells" on page 56. To update data from a worksheet, you must lock the database area that contains the values that you want to change. Locking prohibits other users from changing the data that you want to update. Other users can retrieve locked data but cannot lock or change the data. You have exclusive update rights to that area.

Note: You cannot update attribute-related data on the server because attribute data is always calculated dynamically and, hence, is not saved.

You can lock data values in three ways:

- The Retrieve & Lock command retrieves data into the worksheet while locking the corresponding data area on the server. When you perform a subsequent retrieval, Essbase automatically unlocks the previous data values.

  Note: The Retrieve & Lock command is not supported with Dynamic Time Series members.

- The Lock command locks information that you have already retrieved. When you perform a subsequent retrieval, Essbase automatically unlocks the previous data values.
- The **Update Mode** check box in the Mode tab of the Essbase Options dialog box automatically locks the corresponding database area for each retrieval.

To update the server with data values from the worksheet, use the Send command on the Essbase menu. After updating the server, the Send command automatically unlocks data (unless you are in Update Mode). You must disable Update Mode to stop locking blocks automatically.

You can unlock data blocks in two ways:

- The Unlock command unlocks all blocks that you have locked.
- The server automatically unlocks data blocks that have been locked for the maximum time allowed as defined by the Essbase system administrator. Automatic unlock ensures that blocks are not locked for extended periods of time.

P&l.123, a sample Lotus 1-2-3 file installed as part of the default Essbase installation, illustrates how to update data on the server.

To view the P&l.123 worksheet:

1. Select **File > Open**.
2. From the \Essbase\client\sample directory, open the P&l.123 file.
3. Select **Essbase > Retrieve & Lock**.

   Essbase retrieves data and locks the appropriate area of the database.

	A	B	C	D	E	F	G	H
1	**Market:** Central					**The Beverage Company**		
2	**Product:** 200					Planning Dept.		
3	**Scenario:** Budget							
4								
5		Jan	Feb	Mar		Qtr1	% Sales	
6	Misc	#Missing	#Missing	#Missing		0	0.00	
7	Payroll	210	210	210		630	0.07	
8	Marketing	300	310	320		930	11.05	
9	Total Expenses	510	520	530		1560	18.53	
10								
11	COGS	1170	1180	1200		3550	42.16	
12	Sales	2740	2820	2860		8420	100.00	
13	Margin	1570	1640	1660		4870	57.84	
14	Profit	1060	1120	1130		3310	39.31	
15								
16	**Ratio Analysis**							
17	Markup	57.3%	58.2%	58.0%		57.8%		
18	Marketing %	10.9%	11.0%	11.2%		11.0%		

Figure 162. P&L Worksheet After Retrieve & Lock

4. Change the value for Sales in Jan (cell B12) to 4000 and press **Enter**.

   Essbase changes the affected data values.
5. Select **Essbase > Send** to update the server with the new values.

   Essbase updates the server and unlocks the data blocks.

	A	B	C	D	E	F	G	H
1	**Market:** Central					**The Beverage Company**		
2	**Product:** 200					Planning Dept.		
3	**Scenario:** Budget							
4								
5		**Jan**	**Feb**	**Mar**		**Qtr1**	**% Sales**	
6	Misc	5	10	10		25	0.30	
7	Payroll	200	200	200		600	0.07	
8	Marketing	350	350	350		1050	12.47	
9	Total Expenses	555	560	560		1675	19.89	
10								
11	COGS	1170	1180	1200		3550	42.16	
12	Sales	2740	2820	2860		8420	100.00	
13	Margin	1570	1640	1660		4870	57.84	
14	Profit	1015	1080	1100		3195	37.95	
15								
16	**Ratio Analysis**							
17	Markup	57.3%	58.2%	58.0%		57.8%		
18	Marketing %	12.8%	12.4%	12.2%		12.5%		

Figure 163. P&L Worksheet After Sending New Values to the Server

6. Close P&l.123 without saving it.

Note: Essbase provides a worksheet update logging facility that tracks and logs all data updates sent from Essbase Spreadsheet Add-in to the server. The Essbase system administrator enables this facility for extra protection against data loss. For more information, see the *Database Administrator's Guide* or contact the Essbase system administrator.

Calculating a Database

Sending updated data to the server does not automatically recalculate the database. If you have the appropriate security privileges to perform database calculations, you can calculate the database from Essbase Spreadsheet Add-in with the Calculation command. For this tutorial, you will not actually calculate the Sample Basic database. For more information on Essbase calculations, see the *Database Administrator's Guide*.

CAUTION:
Do not perform any calculation operations for this tutorial.

When you select Essbase > Calculation, Essbase displays the Essbase Calculation dialog box.
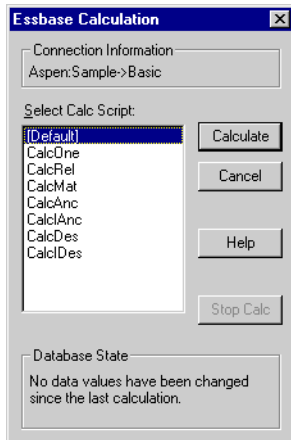
Figure 164. Essbase Calculation Dialog Box

The Essbase Calculation dialog box contains the following items:

- The Connection Information text box displays the active database connection.
- The Select Calc Script list box contains the server-based calculation scripts to which you have access.
- The Database State text box indicates the current calculation state of the database. The following states are possible:
  - Calculating—indicates that a calculation is currently running on the database.
  - Data values have been modified since the last calculation—indicates that data values have changed since the database was last calculated. The last calculation may have been an entire calculation of the database or a calculation of any subset of the database.
  - No data values have been changed since the last calculation—indicates that the data in the database has not changed since it was last calculated. The last calculation may have been an entire calculation of the database or a calculation of any subset of the database.

    CAUTION:
    If the last calculation was performed on a subset of the data, the entire database may not have been calculated since values last changed. To ensure that the results of calculations are up-to-date, you may want to run a calculation of the entire database. For more information, contact the Essbase system administrator.

Creating Multiple Worksheets from Data

One frequent requirement of budgeting and planning applications is to send worksheets to various functional areas of an organization. After the worksheets have been distributed, the recipients can review the contents, make modifications, and send updates back to the distributor. Using the Essbase Cascade feature, you can create multiple worksheet files based on a single database view. You can specify at what level of detail you want to replicate the worksheets to tailor the information to each recipient's needs.

The Sample Basic database contains data for beverage products sold in different states across the U.S. For example, assume that you want all product managers to review and respond to a proposed budget and to return their changes to the finance department. We must create a worksheet for each combination of budget and P&L data to distribute to the product managers for their respective products.

To create this set of worksheets:

1. Select **File > Open**.
2. From the \Essbase\client\sample directory, open the P&l.123 file. This file contains the data that you need to replicate for each worksheet.
3. Select **Essbase > Retrieve**.

   Notice that the retrieval uses the **Use Aliases** option, which is already set for this file in the **Essbase Options** dialog box. In this example, product 200 changes to Root Beer, which is its preassigned alias.
4. Select Central (in cell B1) and Root Beer (in cell B2) as the members to be represented in the resulting worksheets.
5. Select **Essbase > Cascade**.

   Essbase displays the **Essbase Cascade Options** dialog box.
6. Click the **Cascade Information** tab.

   The **Cascade Information** page contains the list of members that you selected and the options for specifying the level at which the selected members are retrieved into the cascaded worksheets.

   Note: For more information on each option, see the Essbase Spreadsheet Add-in online help.
7. Select Central in the **Member** list box, and select **Same level** in the **Choose Level for Selected Member** option group.
8. Select Root Beer in the **Member** list box, and select **Next level** (the default setting).
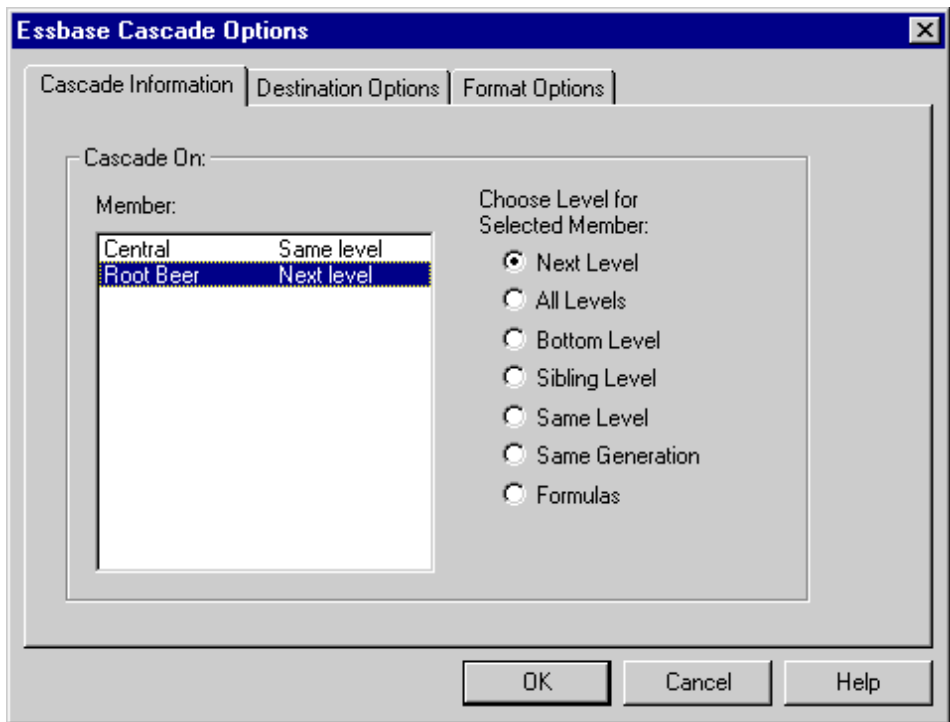
Figure 165. Cascade Information Tab

The replicated, or cascaded, spreadsheet reports now provide data for members at the *same* level as Central (East, West, and South) and for members at the level *below* Root Beer (Old Fashioned, Diet Root Beer, Sarsaparilla, and Birch Beer).

9. Click the **Destination Options** tab.

10. In the **Destination Directory** text box, enter C:\temp as the name of the directory where you want the cascaded worksheets to be stored.

   You can also click **Browse** to select a destination directory from the **Browse** dialog box.

11. In the **Destination Types** option group, select **Separate Workbooks** (the default setting) to create separate Lotus 1-2-3 files for each cascaded worksheet.

   You can also tell Essbase to create only one workbook with separate worksheets for each cascaded report, or you can send the cascaded reports to the printer.

12. In the **File Information** option group, click **Overwrite Existing Files** (the default setting). This option tells Essbase to overwrite any cascaded worksheets with the same file name.

You can also select **Open Created Files** to open each cascaded file in Lotus1-2-3 as it is created.

CAUTION:

Depending on the number of replicated worksheets that you want to create, the Cascade command can create more worksheets than can be stored in the memory of your computer. Therefore, the Open Created Files option should not be used when you are replicating large numbers of worksheets.

13. In the **Naming Information** option group, enter BUD in the **Prefix** text box.
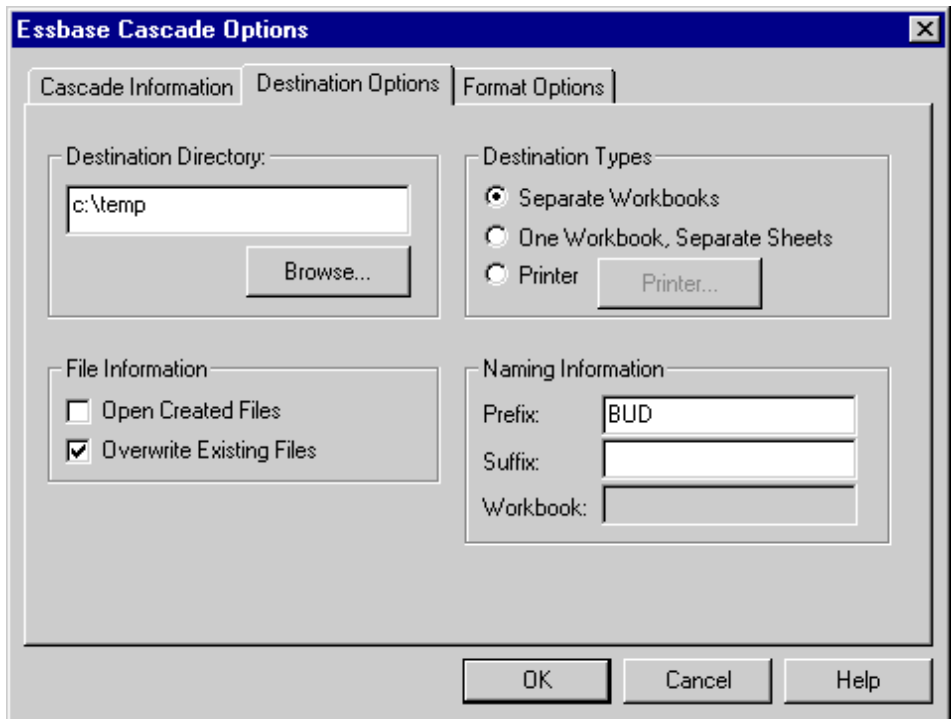
Figure 166. Destination Options Tab

When you assign a prefix or suffix in the Naming Information option group, the worksheet files that are generated as a result of executing the Cascade command are named with the prefix or suffix that you specify. The default is to generate worksheet names that are numbered 1 through *n*, where *n* is the total number of worksheets created. The syntax for the file names is *PrefixnSuffix*.123. If you do not specify a prefix or suffix, Essbase creates the worksheets 1.123, 2.123, and so on. If you are creating a single workbook, the same naming convention is used for the worksheet tab names within the workbook.

CAUTION:

Do not specify a prefix and suffix combination that leaves no characters free for Essbase to create unique file names. If file names are duplicated, Essbase overwrites the duplicate file name with the last cascaded worksheet.

14. Click the **Format Options** tab.

15. To copy the formatting of the source worksheet into each cascaded worksheet, select the **Copy Formatting** check box.

    Note: Copy formatting copies only the visual cues set using Essbase and the cell formatting that you set using the worksheet. It does not copy formulas, column formatting, worksheet formatting, or graphs.

    In the **Header and Footer** text boxes, specify a header or footer name to be used for all of the cascaded worksheets.

16. In the **Sheet Formatting** group, select the **Suppress Missing Rows** check box so that rows containing only #Missing values are not replicated.

17. In the **Table of Contents** group, select the **Include Table of Contents** check box to create a text file that lists all replicated worksheets, their creation dates, and their member content.

    By default, Essbase names the Table of Contents file with the extension `.lst`.
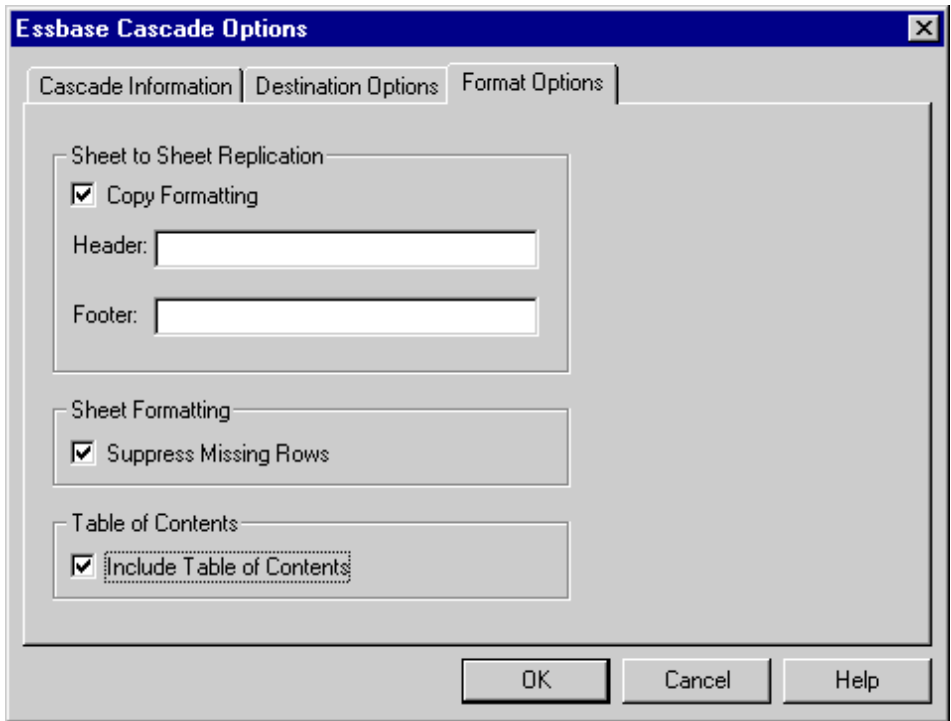
Figure 167. Format Options Tab

18. Click **OK** to create the cascaded worksheets.

Essbase rapidly creates the cascaded worksheets (nine total worksheets in this example). As each worksheet is created, it is automatically saved, closed, and logged in the Table of Contents. Each individual file is saved in the directory that you specified, named Bud1.123 through Bud9.123. When the Cascade is completed, Essbase returns you to the original worksheet view (that is, the source file).

19. Using a text editing application, open the Table of Contents file from the destination directory that you specified earlier. This file is named BUD0.LST and contains a list of all cascaded worksheets.

```
/***********************************************************/
/*  File name:      c:\temp\BUD0.lst */
/*  Creation date:  Mon Nov 10 11:48:34 1997 */
/***********************************************************/
c:\temp\BUD1.xls          /*  East, Old Fashioned  */
c:\temp\BUD2.xls          /*  East, Diet Root Beer  */
c:\temp\BUD3.xls          /*  East, Sasparilla  */
c:\temp\BUD4.xls          /*  East, Birch Beer  */
c:\temp\BUD5.xls          /*  West, Old Fashioned  */
c:\temp\BUD6.xls          /*  West, Diet Root Beer  */
c:\temp\BUD7.xls          /*  West, Sasparilla  */
c:\temp\BUD8.xls          /*  South, Old Fashioned  */
c:\temp\BUD9.xls          /*  South, Diet Root Beer  */
c:\temp\BUD10.xls         /*  South, Sasparilla  */
```

Figure 168. Table of Contents File for Cascaded Worksheets

20. Select **File > Close** to close the worksheet.

    You do not need to save the worksheet.

Note: You can create multiple worksheet files based on the attributes of a
product. Type in the attribute names in the top row of the worksheet.
Select the attribute names and select Essbase > Cascade. Proceed as
described in the above example.

Working with Currency Conversions

Organizations with offices in different countries generally do business in the
currency of the host country (known as the *local* currency). Such organizations
must convert data entered in local currencies to a common currency for
consolidation and analysis.

The Essbase Currency Conversion product can be purchased separately for
Essbase. If your organization has purchased this product and has
implemented a currency conversion application, you can take advantage of
the powerful capabilities of Hyperion Essbase Currency Conversion. The
Database Administrator's Guide describes how to design and implement a
currency conversion application.

The following sections provide a brief tutorial for working with currency
conversions:

Retrieving Currency Conversion Data

This section focuses on basic currency conversion concepts, including the easy-to-use Currency Report command.

A currency conversion application consists of two databases:
- A main database that contains data in local and converted values
- A currency rates database that contains exchange rates

Apply exchange rates from the currency rates database to local values from the main database to derive converted values.The Essbase server product installation includes a sample currency conversion application (installation options) that consists of two sample databases: a main database called Interntl and a currency rates database called Xchgrate.

The Sample Interntl database consists of five dimensions: Year, Measures, Product, Market, and Scenario. All but the Market and Scenario dimensions are identical to the Sample Basic database. The Market dimension includes Toronto, Vancouver, Montreal, France, Germany, Spain, and the UK. The Scenario dimension handles different currency types (such as Actual and Budget) in both local and converted currencies. In this database, all local currencies are converted to the common currency of U.S. dollars.

The Sample Xchgrate database, which is a subset of the main database, contains four dimensions:
- The CurTime dimension accommodates different exchange rates by month.
- The CurName dimension contains names of currencies from their respective markets.
- The CurCategory dimension contains the names of the various currency categories that may be applied to the categories of Measures. For example, one rate is applied to Profit and Loss items and another rate is applied to Balance Sheet items.
- The CurType dimension enables a currency database to contain rates for different scenarios, such as Actual and Budget.

Connecting to the Sample Currency Databases

To complete the following exercises, the Sample Interntl and Sample Xchgrate databases must be installed on the server. Contact the Essbase system administrator if these application and database pairs are unavailable.

To retrieve data from the Sample Interntl database:
1. Select **Essbase > Connect**.
2. Select the Sample Interntl database and click **OK** to complete the connection.

The Essbase installation also includes sample Lotus 1-2-3 files that illustrate currency conversion concepts.

3. From the \Essbase\client\sample directory, open Local.123.

The worksheet contains actual (Act) and budget (Bud) data entered in local currencies for New York and Germany.

	A	B	C	D	E	F
1		Jan	100-10			
2						
3		*Act*		*Bud*		
4		**New York**	**Germany**	**New York**	**Germany**	
5	Sales	678	210	640	190	
6	COGS	271	84	260	80	
7	Margin	#Missing	#Missing	#Missing	#Missing	
8						
9	Marketing	94	27	80	20	
10	Payroll	51	31	40	20	
11	Misc	0	0	#Missing	#Missing	
12	Total Expenses	#Missing	#Missing	#Missing	#Missing	
13						
14	Margin %	#Missing	#Missing	#Missing	#Missing	
15	Profit %	#Missing	#Missing	#Missing	#Missing	
16						
17						
18						

Figure 169. Retrieving Local Data

4. From the \Essbase\client\sample directory, open Convert.123.

5. Select **Essbase > Retrieve**.

The worksheet contains values for Actual and Budget as they display after conversion.

	A	B	C	D	E	F	G
1		Jan	100-10				
2							
3		*Actual*		*Actual @ Bud XChg*		*Budget*	
4		New York	Germany	New York	Germany	New York	Germany
5	Sales	678	130	678	210	640	133
6	COGS	271	52	271	84	260	56
7	Margin	407	78	407	126	380	77
8							
9	Marketing	94	17	94	27	80	14
10	Payroll	51	19	51	31	40	14
11	Misc	0	0	0	0	#Missing	#Missing
12	Total Expenses	145	36	145	58	120	28
13							
14	Margin %	60.03	60.00	60.03	60.00	59.38	57.89
15	Profit %	38.64	32.38	38.64	32.38	40.63	36.84

Figure 170. Retrieving Converted Data Values

Notice that the worksheet contains data that is converted to U.S. dollars. Values for New York remain the same, but Germany values are converted. Essbase converts the values by using the exchange rates from the Sample Xchgrate database.

6. From the \Essbase\client\sample directory, open Rates.123. Connect to the Sample Xchgrate database.

7. Select **Essbase > Retrieve**.

	A	B	C	D	E	F	G	H	I	J
1				Jan	Feb	Mar	Apr	May	Jun	Jul
2	US$	Act xchg	P&L	1	1	1	1	1	1	1
3			B/S	1	1	1	1	1	1	1
4		Bud xchg	P&L	1	1	1	1	1	1	1
5			B/S	1	1	1	1	1	1	1
6	CN$	Act xchg	P&L	1.53	1.53	1.53	1.53	1.53	1.53	1.53
7			B/S	1.55	1.55	1.55	1.55	1.55	1.55	1.55
8		Bud xchg	P&L	1.5	1.5	1.5	1.5	1.5	1.5	1.5
9			B/S	1.5	1.5	1.5	1.5	1.5	1.5	1.5
10	Mark	Act xchg	P&L	0.62	0.62	0.62	0.62	0.62	0.62	0.62
11			B/S	0.63	0.63	0.63	0.63	0.63	0.63	0.63
12		Bud xchg	P&L	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Figure 171. Retrieving Exchange Rates from a Currency Database

The worksheet contains all possible combinations of exchange rate scenarios, categories, and types by month. Because this example converts to U.S. dollars (US$), the sample file contains a base rate of 1 for US$. Therefore, the local

and converted figures remain the same for New York. Essbase converts the figures for Germany, however, by using data values in the currency database, as follows:

- Essbase divides data values from Actual by values in the Act xchg currency type.
- Essbase divides data values from Actual @ Bud xchg by values in the Bud xchg currency type.
- Essbase divides data values from Budget by values in the Bud xchg currency type.
- Essbase bases all figures in `Convert.123` on the CurCategory of P&L and the CurTime of Jan.

> **Note:** A conversion can be defined as a multiplication or division operation on exchange rates. The definition is determined by the application designer.

Performing Ad Hoc Currency Reporting

A main database, such as Sample Interntl, usually contains values that are converted and stored in the database. You may want to perform currency conversions dynamically, as well. Essbase provides this capability with the Currency Report command. This command enables you to interactively change the currency rates and types applied to the retrieval.

To perform an ad hoc conversion on data in the `Convert.123` file:

1. From the `\Essbase\client\sample` directory, open Convert.123.

   The worksheet contains data that is already converted to U.S. dollars.
2. Select **Essbase > Connect** and connect to the Sample Interntl database.
3. Select **Essbase > Retrieve**.
4. Select **Essbase > Currency Report**.

   Essbase displays the **Essbase Currency Report** dialog box.
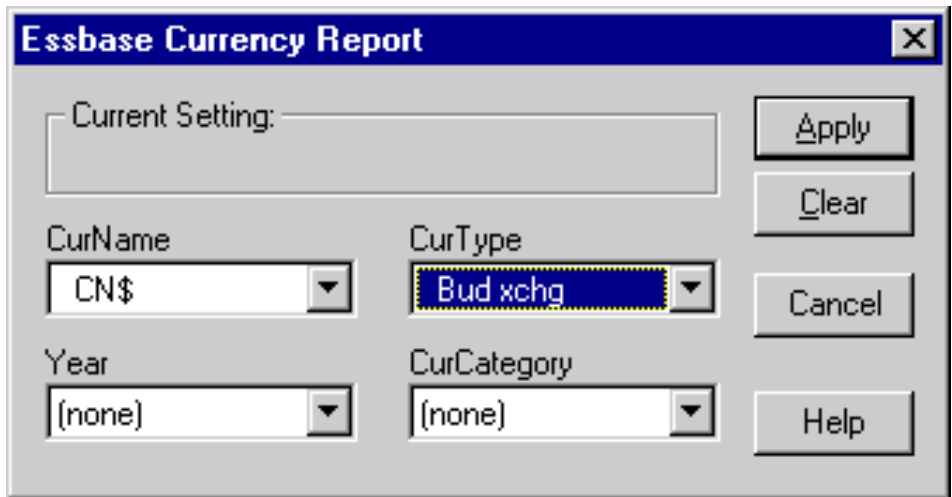
Figure 172. Essbase Currency Report Dialog Box

The **Essbase Currency Report** dialog box enables you to interactively modify the exchange rates applied to the retrieval. The box contains options for currency settings, names, categories, and years. For more information on these options, see the Essbase Spreadsheet Add-in online help.

Note: The dimension names CurName, CurType, and CurCategory are default names for a currency database. The application designer can use different names for any of these dimensions.

5. Select the currency settings that you want to apply.

   For example, select CN$ from the **CurName** list box and Bud xchg from the **CurType** list box.

6. Click **Apply** to apply the settings.

7. Select **Essbase > Retrieve** to refresh the data in the worksheet with the results of the ad hoc conversion.

	A	B	C	D	E	F	G
1		Jan	Cola				
2							
3		*Actual*		*Actual @ Bud XChg*		*Budget*	
4		**New York**	**Germany**	**New York**	**Germany**	**New York**	**Germany**
5	Sales	452	61	452	69	427	62
6	COGS	181	24	181	27	173	26
7	Margin	271	36	271	41	253	36
8							
9	Marketing	63	8	63	9	53	7
10	Payroll	34	9	34	10	27	7
11	Misc	0	0	0	0	#Missing	#Missing
12	Total Expenses	97	17	97	19	80	13
13							
14	Margin %	60.03	60.00	60.03	60.00	59.38	57.89
15	Profit %	38.64	32.38	38.64	32.38	40.63	36.84
16							

Figure 173. Performing an Ad Hoc Currency Conversion

Essbase converts the New York and Germany figures to Canadian dollars (CN$).

8. Click the **Clear** button in the **Essbase Currency Report** dialog box to disable currency reporting and return to standard retrieval mode.

Note: Performing a currency report retrieval does not change values in the database. It simply performs a temporary conversion as part of the retrieval. Converted data values may not always balance, because the ad hoc conversion is performed on values that were previously calculated or previously consolidated in another currency.

If values must balance and verify, they must be converted to the target currency in the database, calculated, and retrieved. This procedure differs from the ad hoc currency conversion retrievals described in this section; see the Essbase system administrator for more information.

Chapter 5. Using Drill-Through

Essbase Integration Services is a product that works with Essbase and Essbase Spreadsheet Add-in for Microsoft Excel and Lotus 1-2-3. Essbase Integration Services is a suite of tools and data integration services that serves as a bridge between relational data sources and the Essbase server. Drill-through is one of these tools. Drill-through enables you to view and customize spreadsheet reports that display data retrieved from relational databases. Your organization must license Essbase Integration Services for you to use the drill-through tool.

This chapter provides the following information:
- A brief overview of the drill-through feature
- A description of the sample database, Lotus 1-2-3 file, and drill-through report used for the tutorial
- A tutorial that guides you through tasks for using drill-through

What Is Drill-Through?

Despite the benefits of the multidimensional database for storing analytic data, some data elements required for analysis are better suited to the relational structure of a relational database. The scope of data residing in an Essbase database is typically at a summary level, where data is summarized and calculated for planning and analysis. Detailed, transactional data usually is not examined during the planning and analysis of a business.

For example, say you are using Essbase to analyze retail sales for the first quarter in the Eastern region. Detailed data, such as a list of customers who purchased a particular product in a particular size, is not used during the normal course of analyzing business performance. However, as you analyze sales results, you may want to view more detailed information. Drill-through is a tool that enables you to drill from the summarized and calculated data stored in the Essbase server of your organization into detailed data stored in a relational database.

The database administrator predefines a data mapping for you from Essbase to the relational source. For example, the Essbase members East, West, South, and Central might map to a field called Region in a relational database. As you navigate through data in the spreadsheet, Essbase knows how the current data maps to the relational source. For example, suppose you select cell G4 in the following sheet:

Figure 174. Example of Drill-Through Sheet

The dimensional attributes of the cell are as follows: Actual, Profit, New York, Feb, and Product. The combination of one or more of these attributes becomes the basis of a drill-through query that returns data from the relational source.

From Essbase Spreadsheet Add-in, you can access a predefined drill-through report that is based on the dimension or member intersections of Essbase data cells in the sheet. Using an Essbase Integration Services tool called Integration Services Console, an administrator at your organization sets up drill-through reports for you to access; that is, each drill-through report is already defined in terms of what to retrieve from the relational source.

In Essbase Spreadsheet Add-in, you can access drill-through reports from the Linked Objects Browser dialog box. When you select a drill-through cell in the sheet and select Essbase > Linked Objects, the Linked Objects Browser dialog box displays an entry for drill-through that you can select and launch.
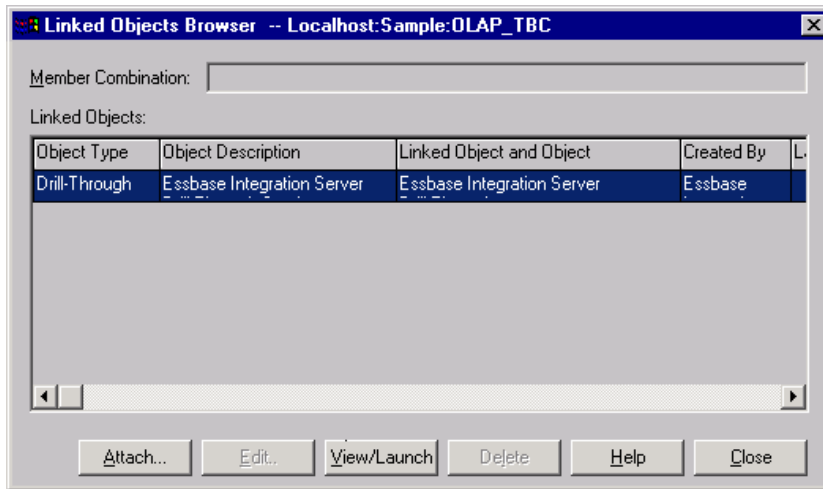
Figure 175. Linked Objects Browser Dialog Box with Drill-Through Entry

You can define a style for cells tagged as drill-through to identify which cells in the spreadsheet are associated with drill-through reports. For more information, see "Accessing Drill-Through from the Spreadsheet" on page 194.

What Is the Drill-Through Wizard?

An administrator at your organization can predefine drill-through reports for you to view or customize. The person who develops a report determines whether the report can be customized by drill-through users. If a report can be customized, use the Drill-Through Wizard to customize it. The Drill-Through Wizard is a graphical user interface that steps you through the following customization tasks:

- Selecting columns to retrieve from the relational data source

  Decide which columns from the predefined report you need to see.

- Selecting the display order for columns

  Change the default display order of columns across the sheet.

- Selecting a sort order for data

  Select an ascending or descending sort order for a particular column; for example, sort a list of store managers in alphabetical order.

- Selecting data filters

  Define a filter on a column so that only data meeting certain criteria is retrieved.

Before You Start

Before starting the tutorial, you should have a working familiarity with the Essbase product through the use of the Essbase Spreadsheet Add-in interface. Review in this guide Chapter 3, "A Basic Essbase Tutorial" on page 11 and Chapter 4, "An Advanced Essbase Tutorial" on page 95 as prerequisite reading.

A sample Essbase database is the basis for the examples in this tutorial. The database administrator creates this sample Essbase database using the sample metaoutline supplied with Essbase Integration Services. For more information, see the *OLAP Metaoutline User's Guide*. A sample Lotus 1-2-3 file, `Essdt.123`, contains a sheet with the appropriate member intersections for the sample drill-through report. For more information on the sample database, Lotus 1-2-3 file, and drill-through report, see "About the Samples Used in This Tutorial" on page 192.

If you plan to follow the examples in a live working session, check with the person at your organization who installs the Essbase Integration Services product family for information on the sample database you need for drill-through, and to which Essbase server you should connect.

Note: The `Essdt.123` file also contains sample results of the drill-through reports when you run them without customizing the reports. The results are provided in separate sheets in the workbook so that you can see the sample report results without working through the tutorial For more information about the sample reports, see "About the Samples Used in This Tutorial" on page 192.

Before starting the tutorial, make sure you meet the following requirements:

- You must install the following components on your client PC:
  - A 32-bit version of Lotus 1-2-3
  - Essbase Spreadsheet Add-in for Lotus 1-2-3
  - Drill-through

    The drill-through module is installed automatically when you install Essbase Spreadsheet Add-in. This module is transparent until you invoke it from the Linked Objects Browser. For more information on installation, contact the Essbase system administrator.
- The Essbase system administrator must install the Essbase server.
- You must have access to Essbase Integration Services and to the Essbase server. For more information, contact the Essbase system administrator or the person who administers Essbase Integration Services at your organization.
- You must have access to the underlying relational database (typically using a user name and password that are different from those you use for Essbase). For more information, contact the Essbase system administrator or the person who administers Essbase Integration Services at your organization.
- Make sure that the sample Lotus 1-2-3 file, `Essdt.123`, is available in the `\Essbase\client\sample` directory.
- In order to use the sample drill-through report, Essdt.123, you need to login to a machine that has both the Essbase server and Essbase Integration Services installed. You must run member and data load and calculate the data for the sample Essbase Integration Services database that you will access from Essbase Spreadsheet Add-in.
- The sample database that contains the drill-through report must be set up and running. The sample drill-through reports used in this tutorial (called "Market Detail," "Measures Detail," and "Product Detail") are available with the sample database. Contact the person at your organization who installs Essbase Integration Services to find out the name of the sample database needed for drill-through.

Note: For more information on Essbase Integration Services installations, see the *Installation Guide*. For more information on Essbase installations, see the *Installation Guide*.

Keep in mind the following guidelines during the tutorial:

- Each tutorial task builds upon the previous one, and tasks must be followed in succession.
- Tasks that should *not* be performed as part of the tutorial are displayed in gray boxes. These tasks are included for your reference. You can find more information on these tasks in the Drill-Through online help.
- The examples used in this tutorial are based on the sample database that is included with the Essbase Integration Services installation. Contact the person at your organization who installs Essbase Integration Services for information about accessing the sample database.
- Set the options in the Essbase Options dialog box as described in the following section, "Setting Essbase Options" on page 187. If the option settings are different, the illustrations presented in this chapter may not match the spreadsheet view.
- If you make a mistake during the tutorial, select Essbase > FlashBack to return to the previous spreadsheet view.

Setting Essbase Options

Before you begin the tutorial, make sure that the spreadsheet options are set to the initial settings, as illustrated in Figure 176 through Figure 180. If your option settings are different, the illustrations presented in this chapter may not match the spreadsheet view.

Note: For information about each option in the Essbase Options dialog box, click Help to see the Essbase Spreadsheet Add-in online help.

To set Essbase options:

1. From the spreadsheet menu, select **Essbase > Options**.
2. In the **Essbase Options** dialog box, select the **Display** tab.
3. Select the appropriate check boxes and option buttons so that your display matches the following illustration:
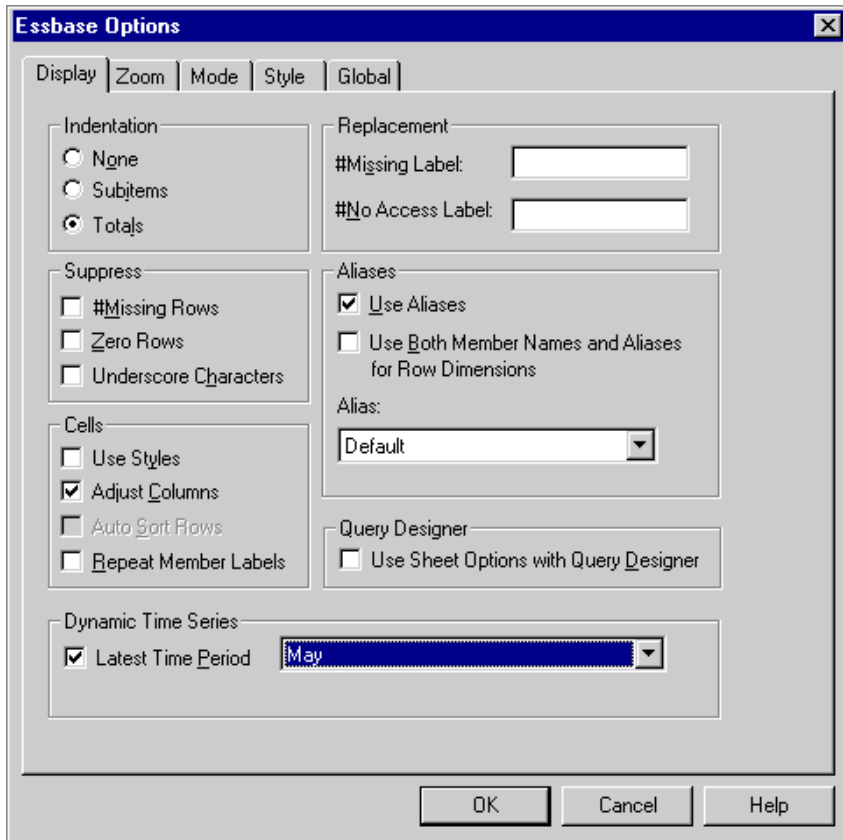
Figure 176. Initial Settings for Display Options

4. Select the **Zoom** tab.

5. Select the appropriate check boxes and option buttons so that your display matches the following illustration:
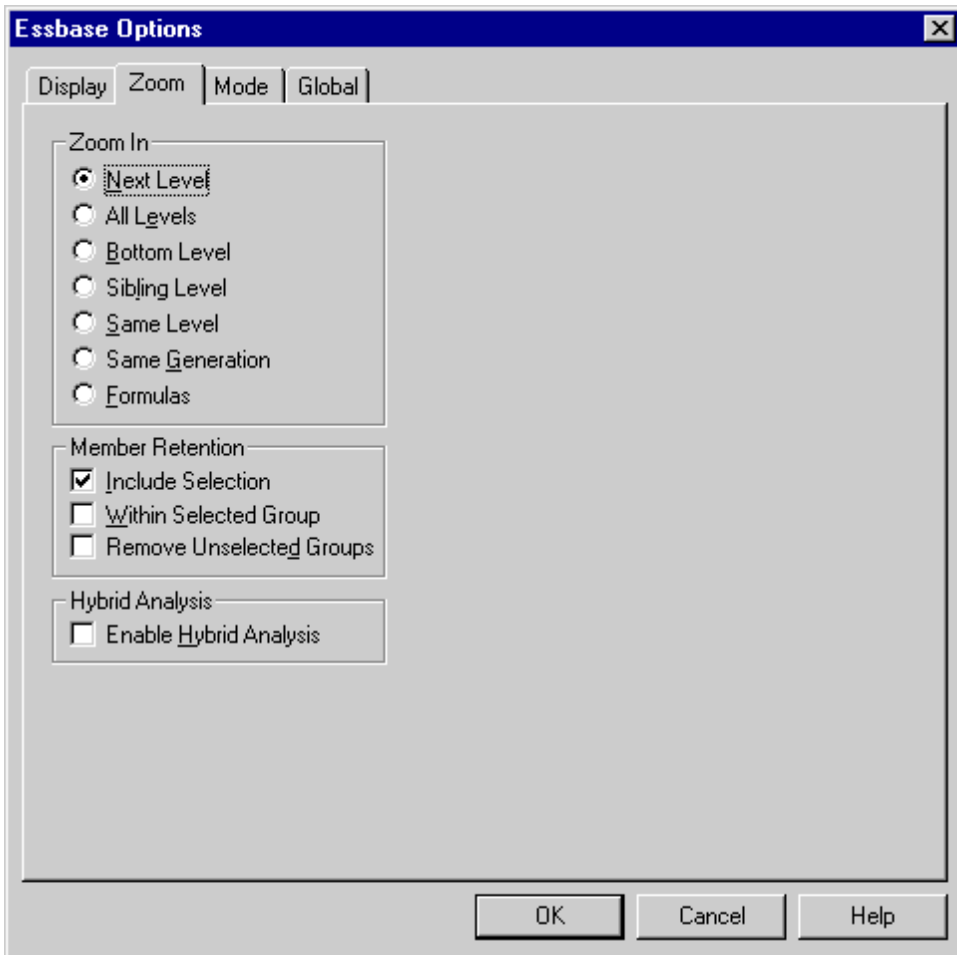
Figure 177. Initial Settings for Zoom Options

6. Select the **Mode** tab.

7. Select the appropriate check boxes and option buttons so that your display matches the following illustration:
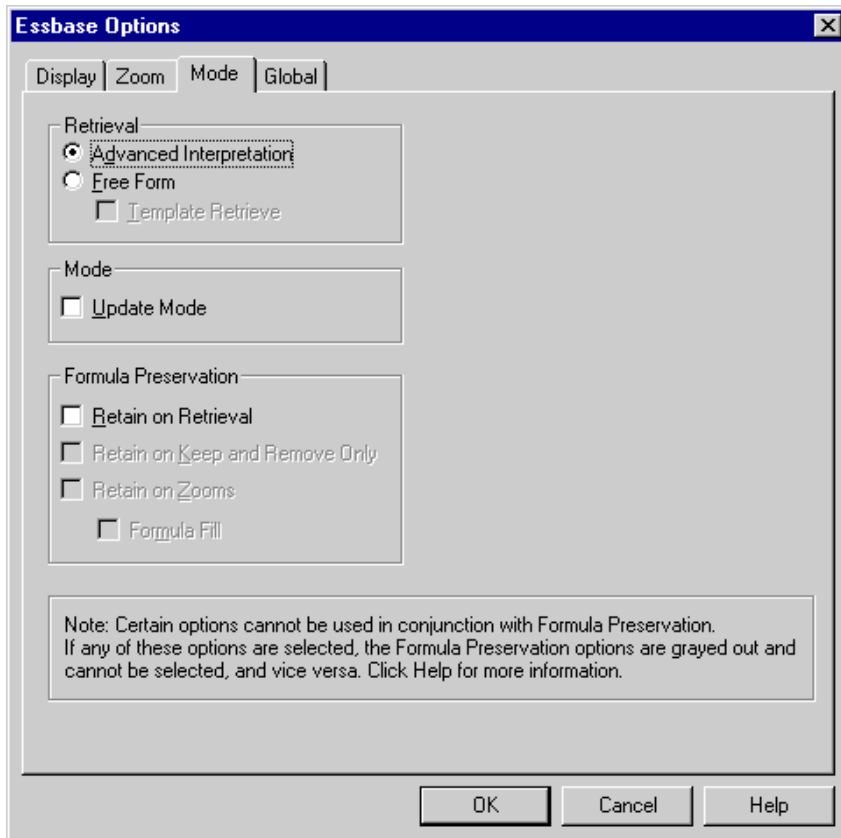
Figure 178. Initial Settings for Mode Options

8. Select the **Style** tab.
9. Select the appropriate check boxes and option buttons so that your display matches the following illustration:
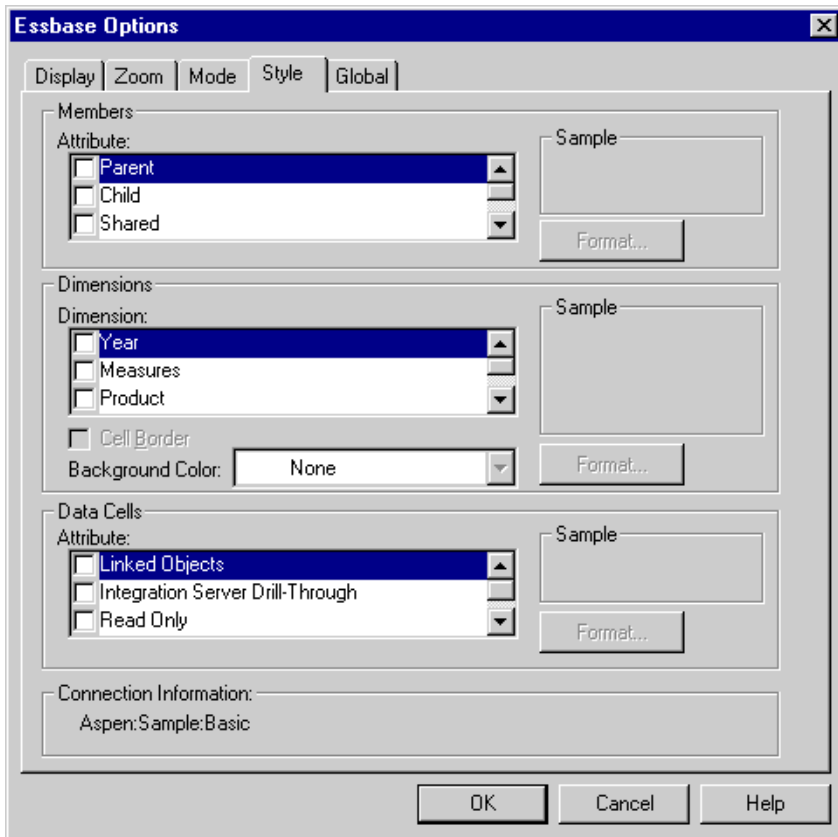
Figure 179. Initial Settings for Style Options

10. Select the **Global** tab.
11. Select the appropriate check boxes and option buttons so that your display matches the following illustration:
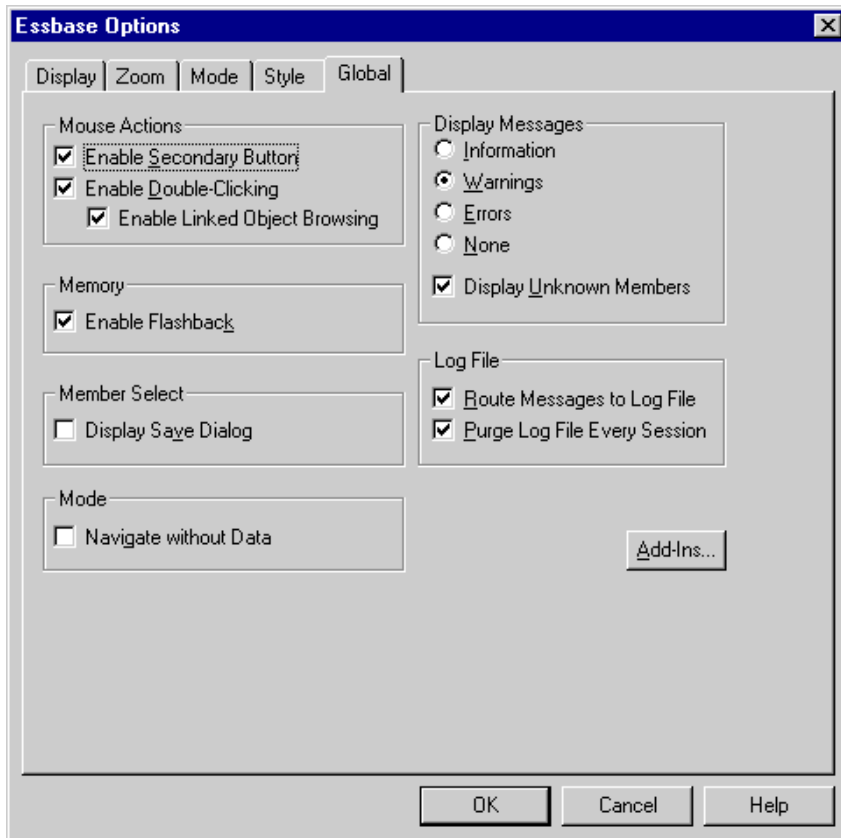
Figure 180. Initial Settings for Global Options

12. Click **OK** to save the settings for this session and close the **Essbase Options** dialog box.

About the Samples Used in This Tutorial

The sample database used for this tutorial contains the following dimensions: Scenario, Product, Market, Measures, and Year. The sample Lotus 1-2-3 file shown in Figure 181 provides a particular view from this database:

		B	C	D	E	F	G	H	I	J	K	L	M
1		Profit	Product										
2			Scenario				Actual				Budget		
3		Jan	Feb	Mar	Qtr1	Jan	Feb	Mar	Qtr1	Jan	Feb	Mar	Qtr1
4	New York	512	601	543	1,656	512	601	543	1,656	620	710	670	2,000
5	Massachusetts	519	498	515	1,532	519	498	515	1,532	570	550	570	1,690
6	Florida	336	361	373	1,070	336	361	373	1,070	400	450	450	1,300
7	Connecticut	321	309	290	920	321	309	290	920	380	390	360	1,130
8	New Hampshire	44	74	84	202	44	74	84	202	110	130	140	380
9	East	1,732	1,843	1,805	5,380	1,732	1,843	1,805	5,380	2,080	2,230	2,190	6,500
10	West	2,339	2,394	2,404	7,137	2,339	2,394	2,404	7,137	2,980	2,990	2,990	8,960
11	South	997	1,046	1,034	3,077	997	1,046	1,034	3,077	1,330	1,440	1,410	4,180
12	Central	2,956	3,063	3,090	9,109	2,956	3,063	3,090	9,109	3,550	3,690	3,700	10,940
13	Market	8,024	8,346	8,333	24,703	8,024	8,346	8,333	24,703	9,940	10,350	10,290	30,580

Tabs: Market drill | **Market Detail** | Measures drill1 | Measures drill2 | Measures Detail | Product drill

Figure 181. View from Sample Database

For this spreadsheet view, detail-level data exists in a relational data source—data that is not available from Essbase. For example, the relational source contains columns of data for market detail, measures detail, and product detail. This tutorial walks you through a sample drill-through session, where you will drill down from the data shown in Figure 181 into the detail data from the relational source.

This tutorial uses two sample drill-through reports, "Measures Detail" and "Market Detail." As with all drill-through reports, these reports have been predefined to retrieve specific columns from the relational source. You will use the Drill-Through Wizard to customize the report, "Measures Detail."

Note: The sample file also contains two more sample reports called "Product Detail" and "Two reports" that you can use for drill-through practice. In "Two reports," select the drill-through cell B3 to select from two drill-through reports, "Product Detail" and Market Detail, select cell B6 to view "Market Detail," and cell G3 to view "Product Detail."

In addition to the sample drill-through reports, Essdt.123 provides sample results of the drill-through reports. The following list describes the drill-through results that are provided:

- The Market Detail drill tab displays the results for Market Detail when you run a drill-through report on cell G4 without customizing the report.
- The Measures Detail drill1 tab displays the results for Measures Detail when you run a drill-through report on cell C4 without customizing the report.
- The Measures Detail drill2 tab displays the results for Measures Detail when you run a drill-through report on cell G6 without customizing the report.
- The Product Detail drill tab displays the results for Product Detail when you run a drill-through report on cell D5.

Using Drill-Through

Drill-through consists of the following tasks:

- Accessing Drill-Through from Essbase Spreadsheet Add-in
- Selecting Drill-Through Reports to View or Customize
- Selecting and Ordering Columns
- Sorting Data
- Filtering Data

The following sections describe each of these tasks and step you through a live working drill-through session.

Accessing Drill-Through from the Spreadsheet

From Essbase Spreadsheet Add-in, you can access detail-level drill-through reports that are based on the member intersections of Essbase data cells in the sheet. Each drill-through report has been predefined by an administrator at your organization; that is, each drill-through report is already set up to retrieve specific columns from the relational source, to sort data in these columns in specific ways, and so forth. Using the Drill-Through Wizard, you can customize these predefined drill-through reports to retrieve only the data you want, displayed in a specific way.

To access the predefined drill-through report, double-click a drill-through cell in the spreadsheet (or select a range of cells and select Essbase > Linked Objects). You can set styles for cells tagged as drill-through to help identify which cells in the sheet are associated with drill-through reports. When you double-click a drill-through cell, Essbase displays the Linked Objects Browser dialog box, which displays an drill-through report entry. A single cell can have multiple reports associated with it. The Linked Objects Browser dialog box also displays entries for linked partitions and other linked object types, such as cell notes, URLs, and application files. After you view or customize the drill-through report, Essbase Integration Services retrieves data from the relational source and displays the results in a new spreadsheet.

Before starting the drill-through tutorial, perform the following tasks:

1. Open a sample Lotus 1-2-3 file that contains the appropriate member intersections from the sample database for the drill-through report. This file, `Essdt.123`, is provided as part of the default Essbase installation.
2. Set a style for data cells that are associated with drill-through reports.

To access the sample file and sample database:

1. Start Lotus 1-2-3.
2. Select **File > Open** and open the `Essdt.123` file from the `Essbase\client\sample` directory.

The sample file should look like the following screen. Note that the Market Detail tab is selected in this example. The default tab that is selected when you first open the file may be different.

| | Market drill | Market Detail | Measures drill1 | Measures drill2 | Measures Detail | Product drill |

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Profit	Product										
2			Scenario				Actual				Budget		
3		Jan	Feb	Mar	Qtr1	Jan	Feb	Mar	Qtr1	Jan	Feb	Mar	Qtr1
4	New York	512	601	543	1,656	512	601	543	1,656	620	710	670	2,000
5	Massachusetts	519	498	515	1,532	519	498	515	1,532	570	550	570	1,690
6	Florida	336	361	373	1,070	336	361	373	1,070	400	450	450	1,300
7	Connecticut	321	309	290	920	321	309	290	920	380	390	360	1,130
8	New Hampshire	44	74	84	202	44	74	84	202	110	130	140	380
9	East	1,732	1,843	1,805	5,380	1,732	1,843	1,805	5,380	2,080	2,230	2,190	6,500
10	West	2,339	2,394	2,404	7,137	2,339	2,394	2,404	7,137	2,980	2,990	2,990	8,960
11	South	997	1,046	1,034	3,077	997	1,046	1,034	3,077	1,330	1,440	1,410	4,180
12	Central	2,956	3,063	3,090	9,109	2,956	3,063	3,090	9,109	3,550	3,690	3,700	10,940
13	Market	8,024	8,346	8,333	24,703	8,024	8,346	8,333	24,703	9,940	10,350	10,290	30,580

Figure 182. Sample Lotus 1-2-3 File for Drill-Through

The sample file shows data for specific members of an Essbase database. This sample file contains the following three predefined drill-through reports, indicated by the tabs of the spreadsheet: "Market Detail," "Measures Detail," and "Product Detail." Using drill-through, you can access these reports and customize them so that Essbase Integration Services retrieves only the data you need and displays it in the desired format.

3. Select the **Market Detail** tab on the spreadsheet.

4. Select **Essbase > Connect** and connect to the appropriate sample database.

   Note: A specific sample database for drill-through is not automatically provided with Essbase Integration Services. For information on the sample database, contact the person at your organization who installs Essbase Integration Services to set up a database for you.

5. Select **Essbase > Options** and select the **Style** tab.

6. In the **Data Cells** option group, select the **Integration Server Drill-Through** check box and click **Format**.

   Essbase displays the **Font** dialog box.

7. Select **Bold Italic** from the **Font style** list box.

8. Select **Blue** from the **Color** drop-down list, and click **OK** to return to the Essbase **Options** dialog box.
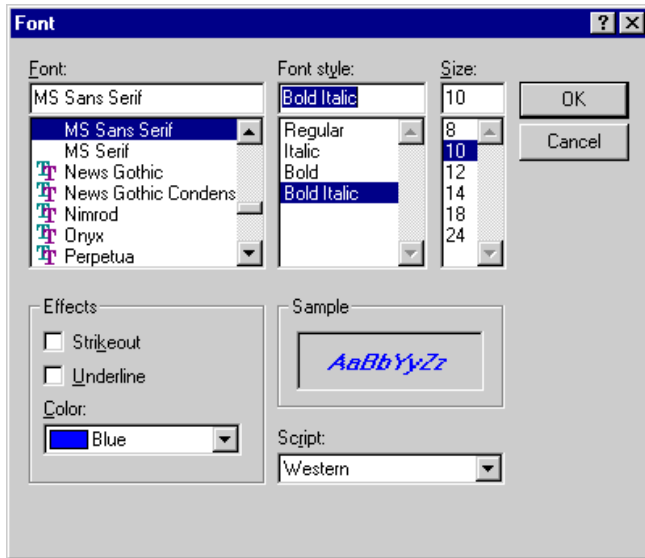
Figure 183. Font Dialog Box Selection

> **Note:** In the Essbase Options dialog box, Essbase displays an example of
> the selected style in the Sample box.

The following screen shows how the **Essbase Options Style** tab looks
with the style for drill-through cells defined:
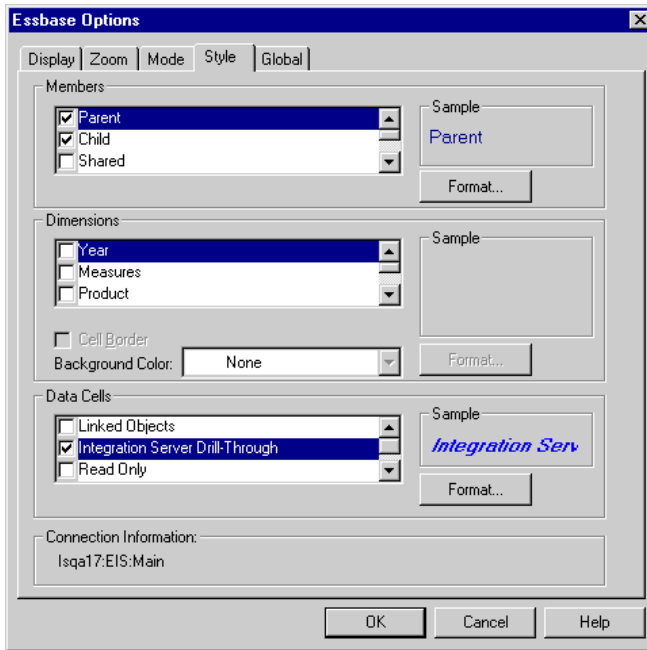
Figure 184. Sample Style for Drill-Through Data Cells

9. In the **Essbase Options** dialog box, select the **Display** tab, and then select the **Use Styles** check box.
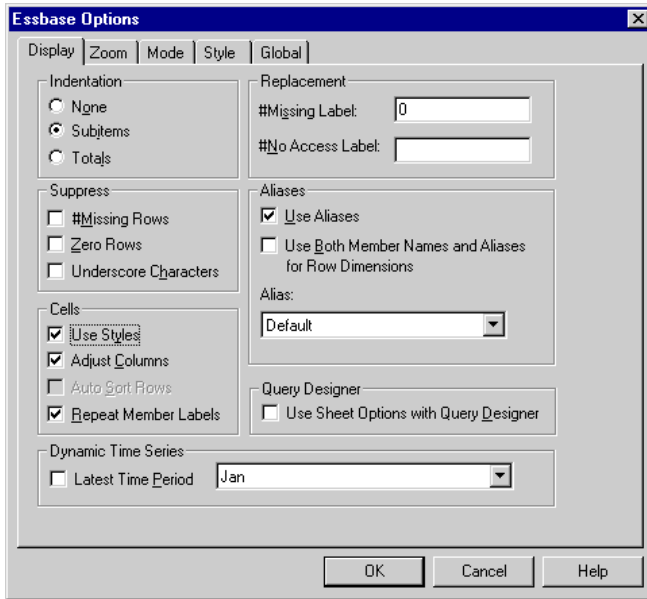
Figure 185. Setting the Use Styles Option

10. Click **OK** to close the **Essbase Options** dialog box.
11. Select **Essbase > Retrieve** to display the new style in the spreadsheet.

    In Figure 186, the sample drill-through report is associated with the data cells for Actual, Profit, and Product at the month and Eastern state levels, so that these data cells are displayed in blue, bold, italic font.

Figure 186. Sample Lotus 1-2-3 File with Drill-Through Style Applied

To access the sample drill-through report from Essbase Spreadsheet Add-in:

1. Select any drill-through cell; for example, cell G4.

Figure 187. Selecting a Drill-Through Cell

> **Note:** You can also select a continuous range of cells in the sheet to display all drill-through reports associated with cells you select. In this example, we have only one drill-through report attached to the range of cells.

2. Select **Essbase > Linked Objects** to open the **Linked Objects Browser** dialog box.

   Alternatively, select the **Enable Linked Object Browsing** check box in the **Essbase Options** dialog box (**Global** tab), which enables you to double-click a linked object cell to open the **Linked Objects Browser** dialog box. This option works only with single-cell selection. If you select a range of cells, use the **Essbase > Linked Objects** menu command.
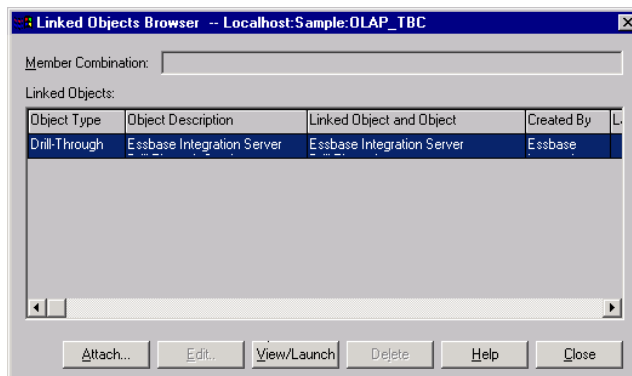
Figure 188. Linked Objects Browser Dialog Box with Drill-Through Entry Selected

3. Select the drill-through report entry and click **View/Launch**.

4. In the **Select Drill-Through Report** dialog box, select Market detail and click **Execute**.

   The results of the drill-through report are displayed in a spreadsheet. The results of the Market Detail report shows that the regional director for the

East region is John West and that the population for New York is between 18,000,001-21,000,000.

	A	B	C	D	E
1	REGION	DIRECTOR	STATE	POPULATION_ALIAS	
2	East	John West	New York	18,000,001--21,000,000	
3					
4					

Figure 189. Results of Market Detail Drill-Through Report

> **Note:** If there is only one report available for the cells you select in the spreadsheet, and if that report is not designed to be customized, drill-through generates the report and immediately displays the results in the spreadsheet. The person at your organization who develops drill-through reports specifies whether you can customize a report and whether you need to log in to drill-through and the relational data source.

5. Follow the steps in the next section, "Selecting Drill-Through Reports to View or Customize" on page 200 to select a report to customize.

Selecting Drill-Through Reports to View or Customize

After you launch drill-through from the Linked Objects Browser dialog box, Essbase Integration Services displays the Select Drill-Through Report dialog box under the following conditions:

- More than one drill-through report exists for the cell or cell range that you select in the spreadsheet, or
- Only one report exists, but you have the option of customizing it using the Drill-Through Wizard.

The Select Drill-Through Report dialog box displays the list of drill-through reports available for the cells you select in the spreadsheet. Depending on how a report is defined in Integration Services Console, you may have access only to view, not customize, the report.

Note: Tasks that you should *not* perform as part of the tutorial are shown in light colored boxes.

The sample report used for this tutorial is the Measures Detail report. You will use the Drill-Through Wizard to customize this sample report. To execute a predefined drill-through report without customizing it, perform these tasks:

1. Select the report that you want to view from the **Available Reports** list box.
2. Click **Execute**.

Essbase Integration Services retrieves the data from the relational source and displays the results in a new spreadsheet. The new sheet is added before the current sheet.

To customize the sample drill-through report:

1. In Essdt.123, select the **Measures Detail** tab.
2. Select **Essbase > Connect** and connect to the appropriate sample database.

    Note: A specific sample database for drill-through is not automatically provided with Essbase Integration Services. For information on the sample database, contact the person at your organization who installs Essbase Integration Services to set up a database for you.

3. Select **Essbase > Options** and select the **Style** tab to define styles for this sheet.
4. In the **Data Cells** option group, select the **Integration Server Drill-Through** check box and click **Format**.

    Essbase displays the **Font** dialog box.

    Note: The style for drill-through cells may already be set as blue, bold, italic font because you set the style in the previous exercise. If this is the case, then go to Step 7.

5. Select **Bold Italic** from the **Font style** list box.
6. Select **Blue** from the **Color** drop-down list, and click **OK** to return to the **Essbase Options** dialog box.
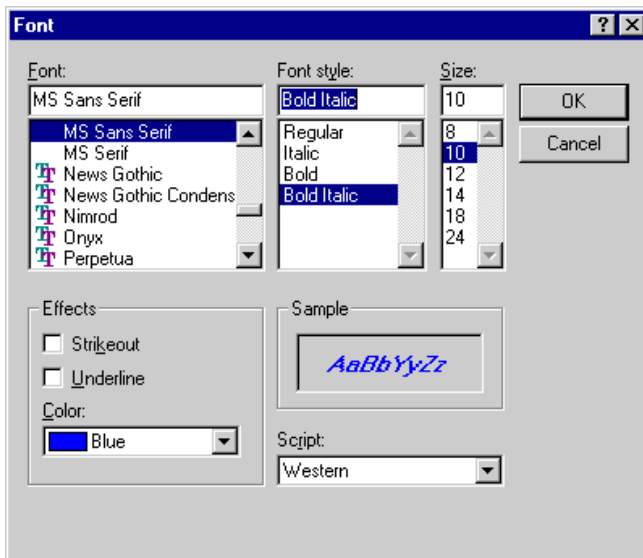
Figure 190. Font Dialog Box Selection

Note: In the Essbase Options dialog box, Essbase displays an example of the selected style in the Sample box.
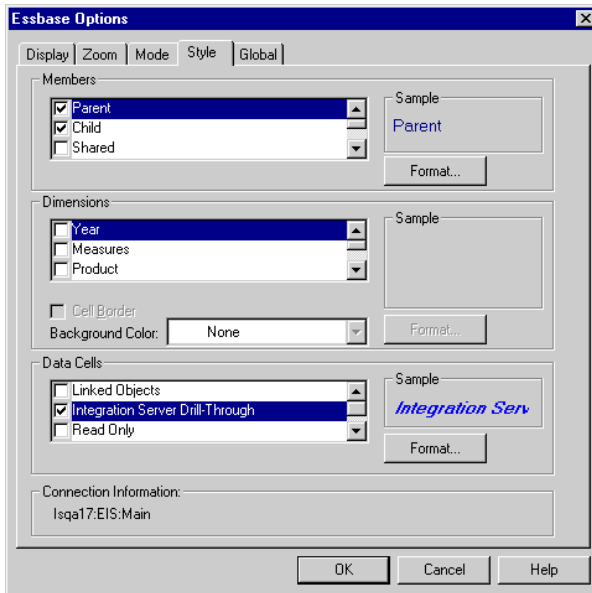
Figure 191. Sample Style for Drill-Through Data Cells

7. In the Essbase **Options** dialog box, select the **Display** tab and select the **Use Styles** check box.
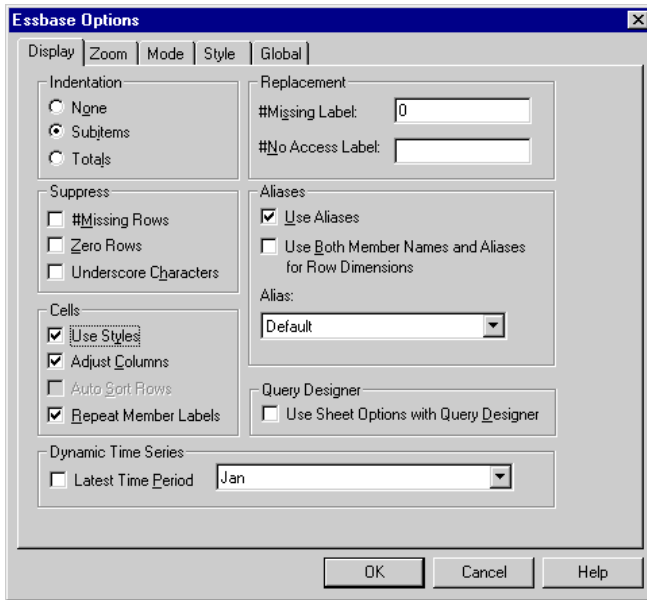
Figure 192. Setting the Use Styles Option

8. Click **OK** to close the **Essbase Options** dialog box.
9. Select **Essbase > Retrieve** to display the new style in the spreadsheet.

   In this example, the sample drill-through report is associated with every member intersection at the state level in the East region, so that all data cells associated with an Eastern state and children of Cola are now displayed in blue, bold, italic font.

Figure 193. Sample File with Drill-Through Style Applied

To access the sample drill-through report from the Essbase Spreadsheet Add-in:

1. Select any drill-through cell; for example, cell G6.

Figure 194. Selecting the Drill-Through Cell for the Measures Detail Report

Note: If Essbase Integration Services is not running, drill-through does not launch properly. For more information, contact the Essbase system administrator.

Note: If you are prompted with the Drill-Through Login dialog box to connect to Essbase Integration Services and the relational data source, enter the appropriate connection information. The person at your organization who administers Essbase Integration Services and develops drill-through reports should provide you with this information.

2. Select **Essbase > Linked Objects** to open the **Linked Objects Browser** dialog box.

   Alternatively, select the **Enable Linked Object Browsing** check box in the **Essbase Options** dialog box (**Global** tab), which enables you to double-click a linked object cell to open the **Linked Objects Browser** dialog box. This option works only with single-cell selection. If you select a range of cells, use the **Essbase > Linked Objects** menu command.
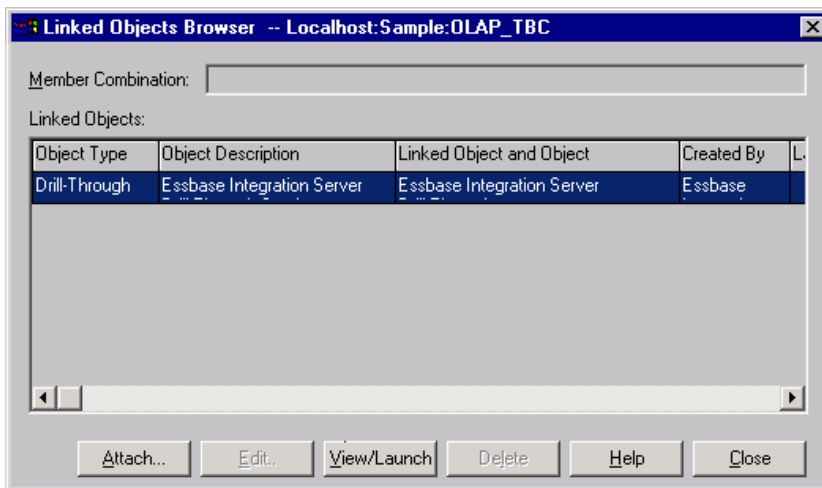
Figure 195. Linked Objects Browser Dialog Box with Drill-Through Entry Selected

3. Select the drill-through report entry and click **View/Launch**.

The **Select Drill Through Report** dialog box is displayed.

Note: In the Select Drill Through Report dialog box, if the Customize button is selectable, then you can customize the report. If more than one drill-through report is displayed, then you can select from the different drill-through reports. In this tutorial, only one report, "Measures detail," is displayed and customizable.

4. Select the Measures detail report from the **Available Reports** list box.
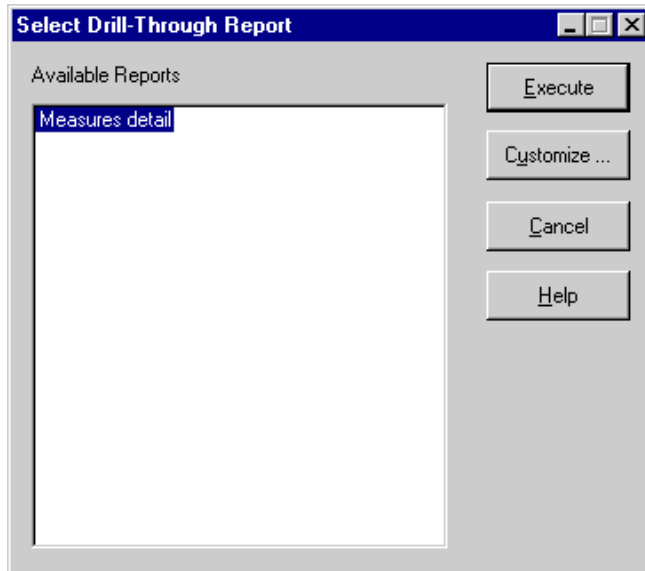
Figure 196. Selecting the Sample Drill-Through Report

5. Click **Customize**.

Note: The Customize button may be selectable or not selectable for any given report, depending on how the report was defined in Integration Services Console.

Essbase Integration Services displays the first screen of the Drill-Through Wizard.
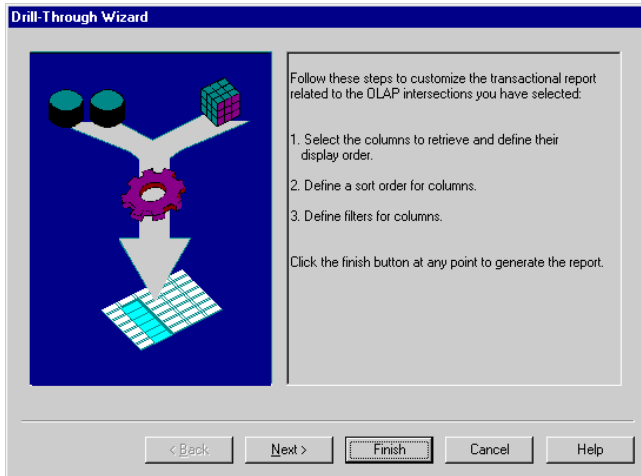
Figure 197. Drill-Through Wizard Dialog Box, Introductory Screen

6. Click **Next** to display the **Select Columns and Display Order** dialog box.
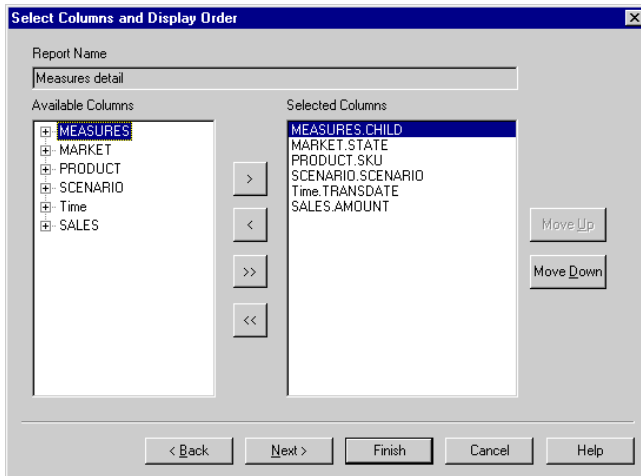
Figure 198. Select Columns and Display Order Dialog Box

7. Follow the steps in the next section, "Selecting and Ordering Columns" on page 206, to select and order rows for the customized report.

Selecting and Ordering Columns

Using the Drill-Through Wizard, you can customize predefined drill-through reports. The first task in the Drill-Through Wizard is selecting and ordering columns to retrieve from the relational database. These columns contain detailed information that is not available in the Essbase database.

In the Select Columns and Display Order dialog box, you can select which columns you want Essbase Integration Services to retrieve from the relational data source. From this dialog box, you can also specify how the columns are displayed in the resulting report.

The Available Columns list box displays a list of columns available from the relational data source for this report (as defined in Integration Services Console). The Selected Columns list box displays the columns from the Available Columns list box in expanded form. You can remove columns from the Selected Columns list box to exclude them from the drill-through report.

In this example, the columns from the Available Columns list box are selected for inclusion in the sample Measures detail report. These columns are displayed in expanded form in the Selected Columns list box.

To remove one of the selected columns from the drill-through report:

1. In the **Selected Columns** list box, select the MARKET.STATE column.

    Note: To select multiple columns in the list that are not adjacent to each other, hold down the Ctrl key and select each column. To select a range of columns, hold down the Shift key and click the first and last columns in the list, which also selects all columns in between them.
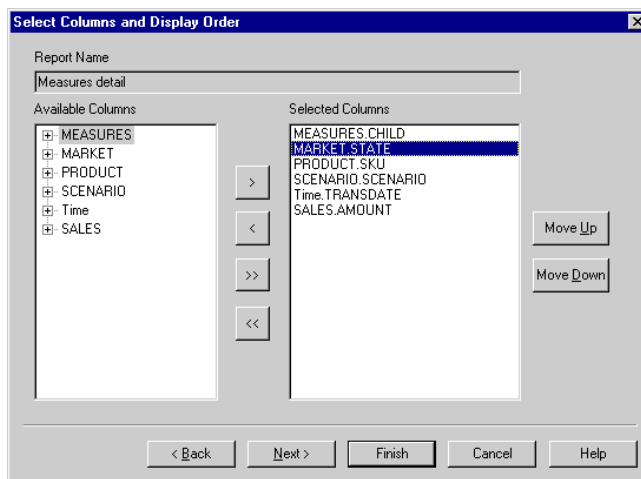
Figure 199. Selecting Columns to Remove From the Drill-Through Report

2. Click to move the selected column from the **Selected Columns** list box back to the **Available Columns** list box.

Note: To move a column from one list box to another, click ⌈ > ⌉ or ⌈ < ⌉.

To move all columns from one list box to another, click ⌈ >> ⌉ or
⌈ << ⌉.

3. Click **Next** to display the **Select Data Sort Order** dialog box, and follow
   the steps in the following section, "Ordering Data" on page 208 to further
   customize the report.

   Note: When you finish customizing the report, click Finish at any time to
   generate the report and view the results in a new sheet. The new
   sheet is placed before the current sheet.

Ordering Data

In the Select Data Sort Order dialog box, you can select an ascending or
descending sort order for the data in a column. Sort order determines the
order in which rows will be displayed in the drill-through report. For
example, you can sort the contents of the Time.TRANSDATE column, which
represents the transaction dates, in ascending order in the drill-through report.

To define the sort order of rows in the drill-through report:

1. In the **Available Columns** list box, select the Time.TRANSDATE column.

   The columns in the **Available Columns** list box are those that you selected
   in "Selecting and Ordering Columns" on page 206. The columns in the
   Column list box are those for which a sort order has already been defined
   in Integration Services Console.

   If a data sort order was selected when the report was created in Essbase
   Integration Services Console, the **Order By** list box displays that selection.
   Otherwise, the default sort order is Ascending.

2. Click ⌈ > ⌉ to move the Time.TRANSDATE column to the **Column** list box
   so that you can define a sort order for the column.

   Note: To move a column from one list box to another, click ⌈ > ⌉ or ⌈ < ⌉.

   To move all columns from one list box to another, click ⌈ >> ⌉ or
   ⌈ << ⌉.
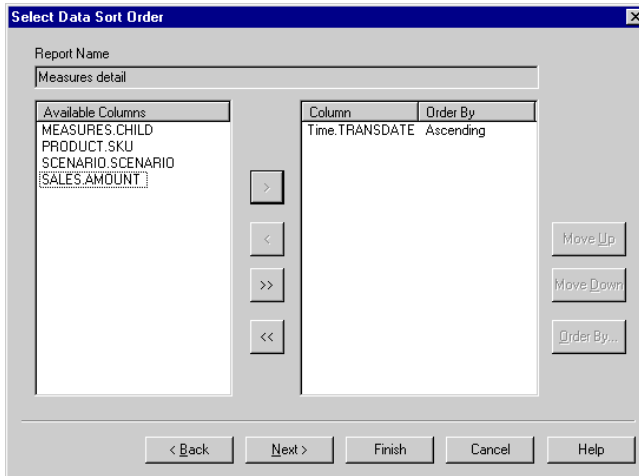
Figure 200. Moving a Column to the Column List Box for Sorting

3. In the **Column** list box, double-click the Time.TRANSDATE column to change the data sort order from Ascending to Descending so that transaction date values are displayed in reverse chronological order in the drill-through report.
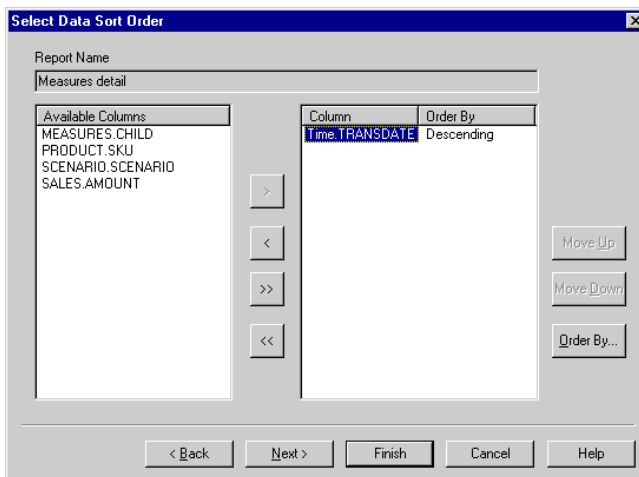
Figure 201. Selecting the Data Sort Order

4. Click **Next** to display the **Select Data Filters** dialog box, and follow the steps in the following section, "Filtering Data" on page 210 to further customize the report.

To change the data sort order for multiple columns at one time, perform these tasks:

1. Hold down the Ctrl key and select the desired columns from the **Column** list box.
2. Click **Order By**.

   Essbase Integration Services displays the **Order By** dialog box.
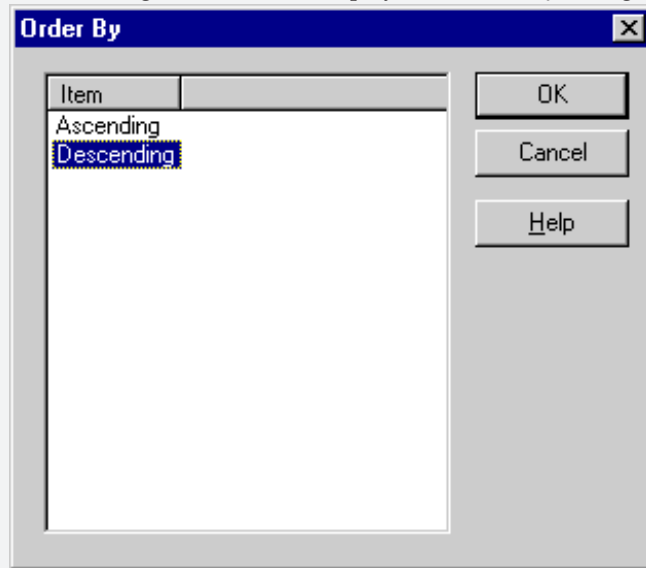
Figure 202. Order By Dialog Box

3. *Select **Ascending** or **Descending** and click **OK** to return to the **Selecting Data Sort Order** dialog box.*

Filtering Data

You can apply filters to determine what Essbase Integration Services retrieves for the drill-through report. For any given column, you may want to retrieve only data that meets certain conditions. For example, the MEASURES.CHILD column in the sample database contains all children of the Measures dimension. In the sample drill-through report, if you did not apply a filter to this list of measures, Essbase Integration Services would retrieve all children from the relational source, because the sample drill-through report applies to all children of Measures. In this section, you will apply a filter to the MEASURES.CHILD column so that all children of Measures, except Misc, are included in the report.

Note: When you apply a filter on a non-level 0 member using Essbase Integration Services, the filter may return more members than expected. To work around this problem, use the Drill-Through Wizard.

To define a filter:

1. Select the MEASURES.CHILD column from the **Column** list box.

   The columns in the **Column** list box are those that you selected in "Selecting and Ordering Columns" on page 206.
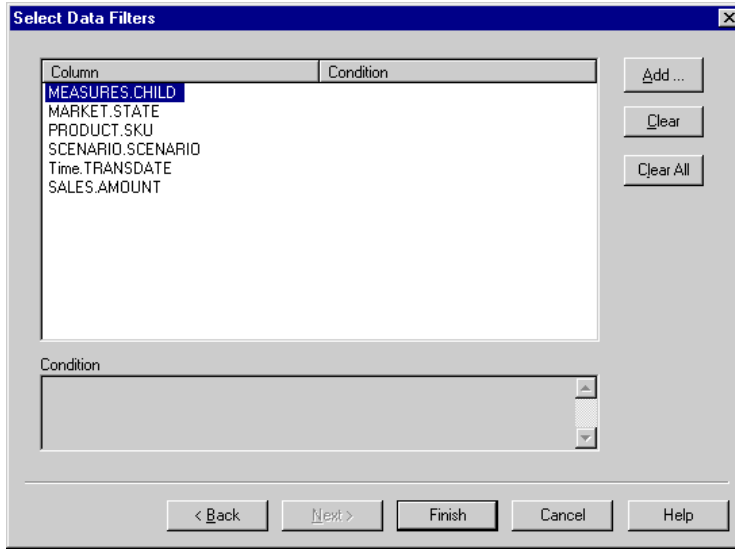
Figure 203. Select Data Filters Dialog Box

> **Note:** If there is a filter already attached to the column, it is displayed in the Condition list box. The full string of the filter is displayed in the lower Condition text box.

2. With the MEASURES.CHILD column selected, click **Add**.

   The **Set Filter on Column** dialog box is displayed.
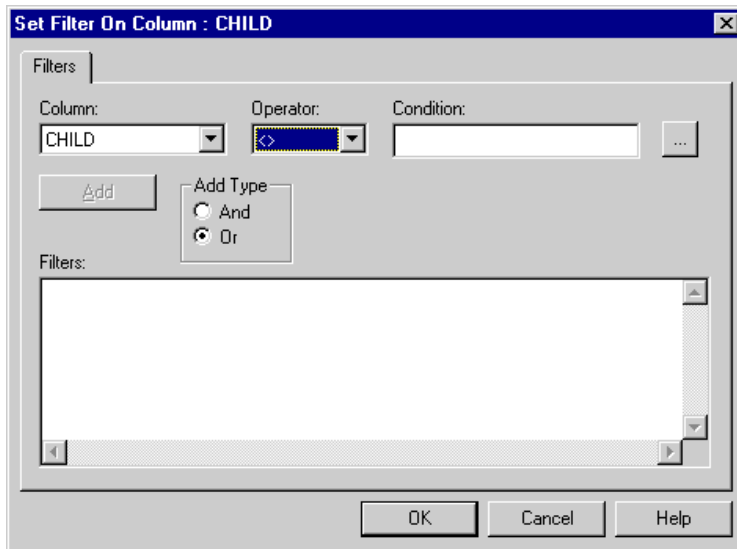
Figure 204. Set Filter on Column Dialog Box

3. Select CHILD from the **Column** drop-down list box.

   The column displayed in the **Column** drop-down list box is the one that you selected in "Filtering Data" on page 210.

4. Select the **< >** operator, which represents not equal to, from the **Operator** drop-down list box.

   Note: You can select multiple values at one time only if you have selected In or Not In as the filter operator. For more information on filter operators, see the Drill-Through online help.

5. Click the **Browse** [...] button to open the **Select Filter Values from the List** dialog box, which lists all possible values for that column.

   The **Select Filter Values from the List** dialog box is displayed.

   Note: Essbase Integration Services retrieves these values directly from the relational data source. If the relational data source contains many values, Essbase Integration Services confirms if you want to view them all before it retrieves them from the data source.

6. In the **Select Filter Values from the List** dialog box, select **Misc** and click **OK**. The **Set Filter On Column** dialog box is displayed.
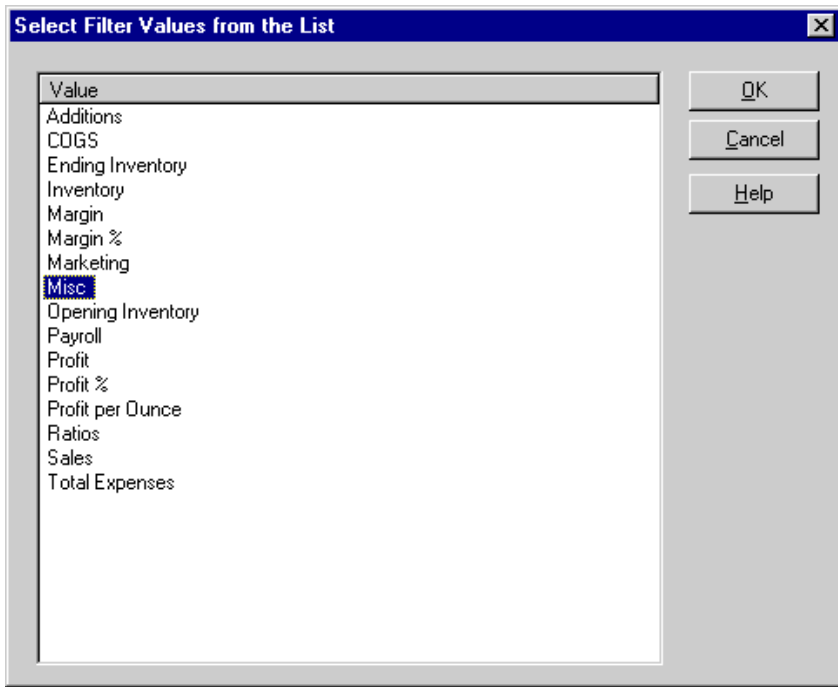
Figure 205. Selecting Filter Values from the List

7. Click **Add** to add the condition to the **Filters** list box.

    Note: For information on using multiple filter conditions, see the
             Integration Server Drill-Through online help.

    The **Set Filter on Column** dialog box should now look like Figure 206:
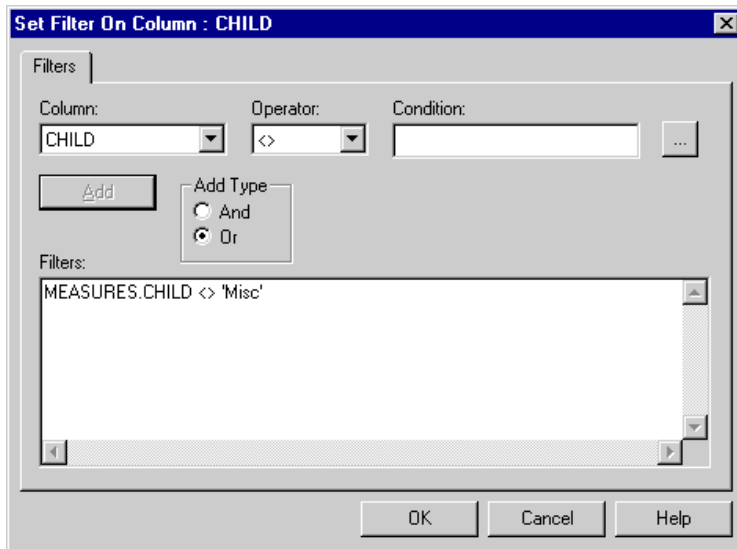
Figure 206. Defining a Filter for a Column

The filter defined above causes all children of Measures, except Misc data, to show in the drill-through report.

Note: The Add button becomes unselectable after creating the first filter, but becomes selectable when you create another filter. In this tutorial, you are creating only one filter. The And and Or options are used when combining multiple filters. The default value is Or, which means that Essbase Integration Services applies the filter if any of the conditions you specify are met. If you select And, Essbase Integration Services applies the filter only if all the conditions are met.

8. Click **OK** to return to the **Select Data Filters** dialog box. Notice that the filter defined in the **Set Filter on Column** dialog box is displayed in the **Condition** list box and text box of the **Select Data Filters** dialog box.
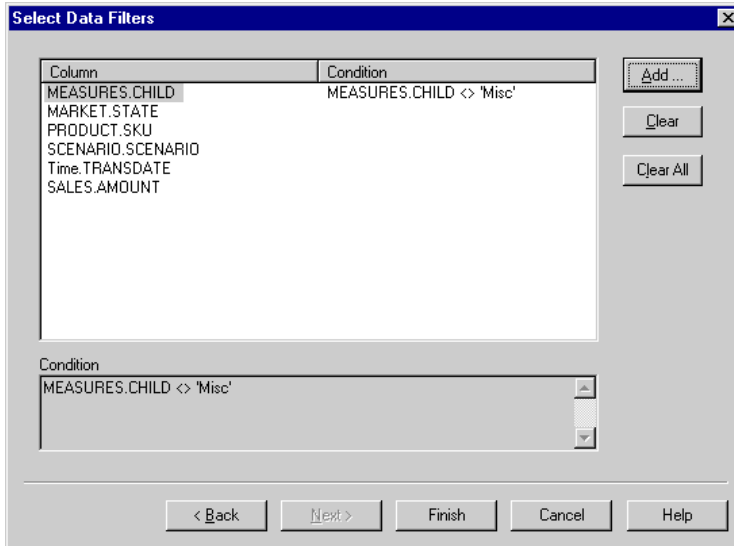
Figure 207. Result of Defining a Filter for a Column

> **Note:** You can also create a filter by typing the filter conditions directly into the **Filters** list box of the Set Filter on Column dialog box. For more information, see the Drill-Through online help.
>
> To delete a filter, select the filter and click Clear. To delete all filters, click Clear All.

9. Click **Finish**.

   Essbase Integration Services generates the customized drill-through report and displays the results in a new spreadsheet. The new spreadsheet is added to the workbook before the current spreadsheet.

	A	B	C	D	E
1	CHILD	SKU	SCENARIO	TRANSDATE	AMOUNT
2	Additions	100-10	Actual	2000-12-09 00:00:00.000	123.97
3	COGS	100-10	Actual	2000-12-09 00:00:00.000	51.59
4	Marketing	100-10	Actual	2000-12-09 00:00:00.000	16.94
5	Payroll	100-10	Actual	2000-12-09 00:00:00.000	23.87
6	Sales	100-10	Actual	2000-12-09 00:00:00.000	392.7
7	Additions	100-10	Actual	2000-12-04 00:00:00.000	37.03
8	COGS	100-10	Actual	2000-12-04 00:00:00.000	15.41
9	Marketing	100-10	Actual	2000-12-04 00:00:00.000	5.06
10	Payroll	100-10	Actual	2000-12-04 00:00:00.000	7.13
11	Sales	100-10	Actual	2000-12-04 00:00:00.000	117.3
12	Additions	100-10	Actual	2000-11-28 00:00:00.000	53.82
13	COGS	100-10	Actual	2000-11-28 00:00:00.000	19.5
14	Marketing	100-10	Actual	2000-11-28 00:00:00.000	6.24
15	Payroll	100-10	Actual	2000-11-28 00:00:00.000	8.06
16	Sales	100-10	Actual	2000-11-28 00:00:00.000	118.04
17	Additions	100-10	Actual	2000-11-19 00:00:00.000	153.18
18	COGS	100-10	Actual	2000-11-19 00:00:00.000	55.5
19	Marketing	100-10	Actual	2000-11-19 00:00:00.000	17.76
20	Payroll	100-10	Actual	2000-11-19 00:00:00.000	22.94
21	Sales	100-10	Actual	2000-11-19 00:00:00.000	335.96
22	Additions	100-10	Actual	2000-10-16 00:00:00.000	191
23	COGS	100-10	Actual	2000-10-16 00:00:00.000	72

Figure 208. Customized Drill-Through Report

In this sample, the customized drill-through report reflects the specifications that you set using the Drill-Through Wizard:

- The Time.TRANSDATE column is sorted in descending order, displaying the transaction dates in reverse chronological order.
- All children of Measures, Additions, COGS, Marketing, Payroll, Sales, and Opening Inventory, except Misc, are displayed as you specified in the filtering part of the Drill-Through Wizard.

Disconnecting from Essbase

When you finish using drill-through, disconnect from the Essbase server to free up a port on the server for other Essbase Spreadsheet Add-in users.

To disconnect from the server:

1. Select **Essbase > Disconnect**.

   Essbase displays the **Essbase Disconnect** dialog box, where you can disconnect any spreadsheet that is connected to a database.
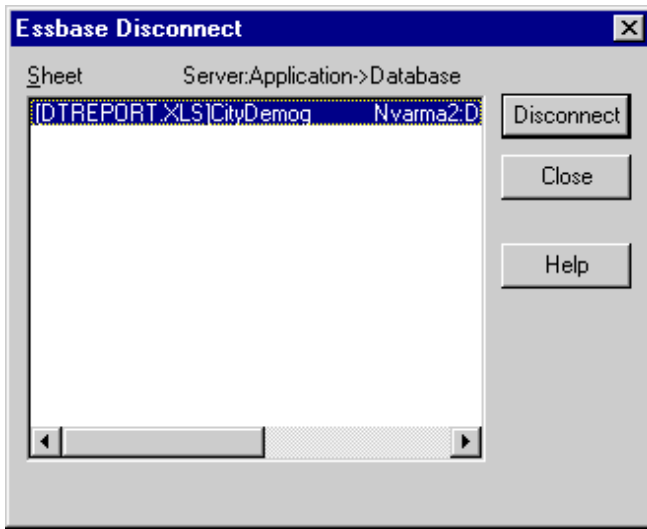
Figure 209. Essbase Disconnect Dialog Box

> **Note:** Essbase may return an error message when you attempt to
> disconnect after using drill-through. If an error message is returned,
> select Essbase > Retrieve from the sheet and then disconnect.

2. Select a sheet name from the list and click **Disconnect**.
3. Repeat Step 2 until you have disconnected from all active sheets.
4. Click **Close** to close the **Essbase Disconnect** dialog box.

> **Note:** You can also disconnect from the server by closing Lotus 1-2-3. An
> abnormal termination of a Lotus 1-2-3 session, such as a power loss
> or system failure, does not disconnect your server connection.

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Glossary

This glossary defines terms that are used in this book and throughout the IBM DB2 OLAP Server library.

accounts dimension. A dimension type that makes accounting intelligence available. You can tag one dimension as an accounts dimension, but an accounts dimension is not required.

administrator. A person who is responsible for installing and maintaining DB2 OLAP Server and for setting up user accounts and security.

agent. A process that starts and stops applications and databases, manages connections from users, and handles user-access security.

alias ID table. A table created by DB2 OLAP Server in your relational database that contains a mapping of multidimensional alias table names to ID numbers allocated by DB2 OLAP Server.

alias ID view. A view created by DB2 OLAP Server in your relational database that contains one row for each multidimensional alias table used with a relational cube. There is one alias ID view for each relational cube.

alias name. An alternate name for a dimension or member.

anchor dimension. A dense dimension that is specified as the dimension that DB2 OLAP Server uses to help define the structure of the fact table it creates in the relational cube for a multidimensional database.

API. Application programming interface. The DB2 OLAP Server API is a library of functions that you can use in a custom C or Visual Basic program to access DB2 OLAP Server.

Application Manager. A tool that you can use to create and maintain OLAP applications.

block. A string of data elements recorded or transmitted as a unit.

cache. A component of memory. Each multidimensional database contains a data cache and an index cache.

calculation. An equation within a database outline, a calculation script, or a report script that calculates a value for a particular member or point in a report.

calculation script. A text file that contains instructions to perform calculations within a multidimensional database. Also called a calc script.

Commit Block parameter. A parameter on the Transaction page of the Database Settings notebook in the Application Manager that you use to set the number of blocks that can be changed before DB2 OLAP Server commits the blocks.

cube catalog table. A table that DB2 OLAP Server creates in your relational database that contains a list of all the multidimensional databases that are stored in your relational database. The cube catalog table also shows the application with which each cube is associated. Each time that you create a multidimensional database, DB2 OLAP Server creates a new row in this table.

cube catalog view. A view that DB2 OLAP Server creates in your relational database that allows an SQL user to access a list of OLAP applications and relational cubes.

cube table. A table that DB2 OLAP Server creates in your relational database that contains a list of dimensions in a relational cube and information about each dimension.

cube view. A view that DB2 OLAP Server creates in your relational database that allows an

SQL user to access the names of all dimensions in a relational cube and associated information for each dimension. There is one cube view for each relational cube in your relational database.

data load.   The process of populating a multidimensional database with data. Loading data establishes actual values for the values of the cells defined in the database outline for the database.

data load rules.   A set of operations that DB2 OLAP Server performs on data as it is loaded from an external source file.

database administrator.   A person responsible for administering a relational database.

database log file.   A set of primary and secondary log files consisting of log records that record all changes to a database. The database log file is used to roll back changes for units of work that are not committed and to recover a database to a consistent state.

database managed space (DMS).   Space in a table that is managed by the database.

database name.   The name of the relational database where you want DB2 OLAP Server to store your multidimensional data.

database outline.   The structure that defines all elements of a database within DB2 OLAP Server. It contains definitions of dimensions and members, dense or sparse dimension tags and attributes, the anchor dimension attribute, calculations, shared members, and alternations to the basic roll-up structure of the database.

database password.   The password for the user ID that you want DB2 OLAP Server to use to log on to your relational database.

database section.   A section in the Relational Storage Manager configuration file that contains values for parameters that override the values for the same parameters for the current application.

database settings.   Settings that you can modify to improve performance and space utilization for

your relational database. You can change database settings by using utilities or commands supplied with your relational database management system.

database user ID.   The user ID that you want DB2 OLAP Server to use to log on to your relational database. The default is the supervisor ID that you specify when you start DB2 OLAP Server for the first time.

dense dimension.   A dimension with a high probability for occupying one or more data points in every combination of dimensions that occurs.

dimension.   A data category, such as time, accounts, products, or markets. In a multidimensional database outline, the dimensions represent the highest consolidation level.

dimension table.   A table that DB2 OLAP Server creates in your relational database that contains detailed information about the members in a dimension. There is one dimension table for each dimension in an outline.

dimension view.   A view that DB2 OLAP Server creates in your relational database that allows an SQL user to access information about members contained in a dimension.

ESSCMD.   A command-line interface used to perform server operations interactively or through a batch file.

generation name.   A unique name that describes a generation in a database outline.

generation table.   A table that DB2 OLAP Server creates in your relational database that contains generation numbers and names for each named generation specified when you created the outline. There is one generation table for each dimension in an outline.

level name.   A unique name that describes a level in a database outline.

member. A discrete component within a dimension. For example, January 1997 or 1Qtr97 are typical members of a Time dimension.

metaoutline. A template containing the structure and rules for creating a database outline from an OLAP model. Using the metaoutline, you can create a database outline and load data into it. The DB2 OLAP Integration Server desktop includes a tool called OLAP Metaoutline that you can use to create one or more metaoutlines from an OLAP model.

model. A logical model (star schema) that you create from tables and columns in a relational database. You can use the OLAP model to create a metaoutline that generates the structure of a multidimensional database. The DB2 OLAP Integration Server desktop includes a tool called OLAP Metaoutline that you can use to design and create an OLAP model based on a relational data source.

multidimensional data. The data in a multidimensional database. Data can include basic data values (loaded from an external source) that represent combinations of the lowest level of members in the dimensions of the database; data values that are calculated from the base data values; and rolled up data values that are created by combining values for members in dimension hierarchies.

multidimensional database. An OLAP database that you create using the Application Manager or ESSCMD commands (in DB2 OLAP Server) or with the DB2 OLAP Integration Server desktop, which is in the Starter Kit. An OLAP database includes a database outline, data, associated optional calculation scripts, optional report scripts, and data load rules. DB2 OLAP Server stores the actual data and a shadow of the database outline in tables in a relational database.

named pipes. An API used for special node-to-node applications and particularly for access to communications and database servers.

OLAP application. An application that you create using the Application Manager or the ESSCMD commands (in DB2 OLAP Server) or with the DB2 OLAP Integration Server desktop, which is in the Starter Kit. An OLAP application can contain one or more multidimensional databases and any associated calculation scripts, report scripts, and data load rules.

OLAP metaoutline. See *metaoutline*.

OLAP model. See *model*.

online analytical processing (OLAP). A multidimensional, multi-user, client server computing environment for users who need to analyze consolidated enterprise data in real time. OLAP systems feature zooming, data pivoting, complex calculations, trend analyses, and modeling.

outline. See *database outline*.

RDBMS. Relational database management system. A database that can be perceived as a set of tables and manipulated in accordance with the relational model of data.

relational attribute. A characteristic of a dimension table, represented by a column. You can run SQL statements against the data in relational attribute columns.

relational database. A database that is organized and accessed according to relationships between data items. A relational database contains a collection of relational tables, views, and indexes.

report script. An ASCII file that contains Report Writer commands that generate one or more production reports. Report scripts can be run in batch mode, using the ESSCMD command-line interface, or through the Application Manager. The script is a text file that contains data retrieval, formatting, and output instructions.

restructure. An operation to regenerate or rebuild the tables and views that DB2 OLAP Server created in your relational database.

shadow. Information stored in relational tables that shadows the information stored in a multidimensional database outline.

shared member. A member that explicitly shares storage space with another member of the same name. This member has an attribute that designates it as shared. Shared members prevent making extra calculations on a member that appears in more than one location in a database outline.

sibling. A child member at the same branch level.

sparse dimension. A dimension with a low percentage of available data positions filled. For example, a product that is not sold in all of a company's available markets would be a good sparse candidate.

Spreadsheet Add-in. Software that merges with Microsoft Excel and Lotus 1-2-3 to enable analysis of multidimensional databases. The software library appears as a menu Add-In to the spreadsheet and provides such features as connect, zoom-in, and calculate.

SQL application. An application that uses SQL statements. You can use SQL applications to access data in a relational cube.

SQL. Structured Query Language. A standardized language for defining and manipulating data in a relational database.

star schema. The type of relational database schema used by DB2 OLAP Server. When you use the Application Manager to create a multidimensional database, DB2 OLAP Server creates a main fact table and a set of dimension tables. The fact table holds the actual data values for the database, and the dimension tables hold data about members and their relationships.

star view. A relation view that DB2 OLAP Server creates in your relational database that allows an SQL user to access data from the star schema in a single view with the JOIN already done.

table space. An abstraction of a collection of containers into which database objects are stored. A table space provides a level of indirection between a database and the tables stored within the database. A table space:

- Has space on media storage devices assigned to it.
- Has tables created within it. These tables will consume space in the containers that belong to the table space. The data, index, long field, and LOB portions of a table can be stored in the same table space, or can be individually broken out into separate table spaces.

time dimension. A dimension type that defines how often you collect and update data. You can tag only one dimension as Time, although you do not need to have a Time dimension.

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Contacting IBM

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For information or to order any of the DB2 OLAP Server products, contact an IBM representative at a local branch office or contact any authorized IBM software remarketer.

If you live in the U.S.A., you can call one of the following numbers:
- 1-800-237-5511 for customer support
- 1-888-426-4343 to learn about available service options

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- 1-800-IBM-CALL (1-800-426-2255) or 1-800-3IBM-OS2 (1-800-342-6672) to order products or get general information.
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