User Guide

PowerCenter Connect for Hyperion Essbase
(Version 8.1.1.0.0)
# Table of Contents

## List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>vii</td>
</tr>
</tbody>
</table>

## Preface

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Features and Enhancements</td>
<td>x</td>
</tr>
<tr>
<td>About This Book</td>
<td>xi</td>
</tr>
<tr>
<td>Document Conventions</td>
<td>xi</td>
</tr>
<tr>
<td>Other Informatica Resources</td>
<td>xii</td>
</tr>
<tr>
<td>Visiting Informatica Customer Portal</td>
<td>xii</td>
</tr>
<tr>
<td>Visiting the Informatica Web Site</td>
<td>xii</td>
</tr>
<tr>
<td>Visiting the Informatica Developer Network</td>
<td>xii</td>
</tr>
<tr>
<td>Visiting the Informatica Knowledge Base</td>
<td>xii</td>
</tr>
<tr>
<td>Obtaining Technical Support</td>
<td>xii</td>
</tr>
</tbody>
</table>

## Chapter 1: Understanding PowerCenter Connect for Hyperion Essbase

<table>
<thead>
<tr>
<th>Subchapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>2</td>
</tr>
<tr>
<td>Essbase Metadata Definition File</td>
<td>2</td>
</tr>
<tr>
<td>PowerCenter Connect for Hyperion Essbase Client Plug-in</td>
<td>2</td>
</tr>
<tr>
<td>PowerCenter Connect for Hyperion Essbase Reader Plug-in</td>
<td>2</td>
</tr>
<tr>
<td>PowerCenter Connect for Hyperion Essbase Writer Plug-in</td>
<td>3</td>
</tr>
<tr>
<td>PowerCenter and Hyperion Essbase Integration</td>
<td>4</td>
</tr>
<tr>
<td>Integration Service and Hyperion Essbase Integration</td>
<td>4</td>
</tr>
</tbody>
</table>

## Chapter 2: Installation and Configuration

<table>
<thead>
<tr>
<th>Subchapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>8</td>
</tr>
<tr>
<td>Before You Begin</td>
<td>8</td>
</tr>
<tr>
<td>Installing Hyperion Essbase</td>
<td>8</td>
</tr>
<tr>
<td>Step 1. Install PowerCenter Connect for Hyperion Essbase</td>
<td>9</td>
</tr>
<tr>
<td>Installing PowerCenter Connect for Hyperion Essbase on Windows</td>
<td>9</td>
</tr>
<tr>
<td>Installing PowerCenter Connect for Hyperion Essbase on UNIX</td>
<td>9</td>
</tr>
<tr>
<td>Step 2. Set the Library Paths</td>
<td>10</td>
</tr>
<tr>
<td>Setting the Library Paths on Windows</td>
<td>10</td>
</tr>
<tr>
<td>Setting the Library Paths on UNIX</td>
<td>11</td>
</tr>
<tr>
<td>Step 3. Register the Repository Plug-in</td>
<td>12</td>
</tr>
<tr>
<td>Step 4. Configure Application Connection Properties</td>
<td>13</td>
</tr>
<tr>
<td>Chapter 3: Working with Essbase Sources</td>
<td>17</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>Overview</td>
<td>18</td>
</tr>
<tr>
<td>Importing an Essbase Source Definition</td>
<td>19</td>
</tr>
<tr>
<td>Creating a DSN for a Source Definition</td>
<td>19</td>
</tr>
<tr>
<td>Viewing Source DSN Information</td>
<td>21</td>
</tr>
<tr>
<td>Creating a Source Definition</td>
<td>22</td>
</tr>
<tr>
<td>Viewing Source Definition Information</td>
<td>44</td>
</tr>
<tr>
<td>Viewing Column Information for a Source Definition</td>
<td>46</td>
</tr>
<tr>
<td>Using the Report Script</td>
<td>47</td>
</tr>
<tr>
<td>Previewing the Data</td>
<td>50</td>
</tr>
<tr>
<td>Creating the ROLAP Model for Essbase</td>
<td>52</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 4: Working with Essbase Targets</th>
<th>55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>56</td>
</tr>
<tr>
<td>Importing an Essbase Target Definition</td>
<td>57</td>
</tr>
<tr>
<td>Creating a DSN for a Target Definition</td>
<td>57</td>
</tr>
<tr>
<td>Viewing Target DSN Information</td>
<td>59</td>
</tr>
<tr>
<td>Modifying the Outline</td>
<td>60</td>
</tr>
<tr>
<td>Creating a Target Definition</td>
<td>64</td>
</tr>
<tr>
<td>Viewing Target Definition Information</td>
<td>76</td>
</tr>
<tr>
<td>Viewing Column Information for a Target Definition</td>
<td>78</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 5: Creating and Configuring Essbase Workflows</th>
<th>81</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>82</td>
</tr>
<tr>
<td>Configuring a Session with an Essbase Mapping</td>
<td>83</td>
</tr>
<tr>
<td>Configuring a Session for an Essbase Source definitions</td>
<td>83</td>
</tr>
<tr>
<td>Configuring a Session for a ROLAP Model</td>
<td>86</td>
</tr>
<tr>
<td>Configuring a Session for an Essbase Target</td>
<td>89</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>92</td>
</tr>
</tbody>
</table>
List of Figures

Figure 1-1. Designer Integration with Hyperion Essbase ................................. 4
Figure 1-2. Integration Service and Hyperion Essbase Integration ....................... 5
Figure 2-1. List of Plug-ins for a Repository Service .................................... 15
Figure 3-1. Type 1 Source Definition Information ....................................... 45
Figure 3-2. Type 2 Source Definition Information ....................................... 45
Figure 3-3. Column Information for a Type 1 Source Definition ....................... 46
Figure 3-4. Column Information for a Type 2 Source Definition ....................... 46
Figure 4-1. Type 1 Target Definition Information ....................................... 77
Figure 4-2. Type 2 Target Definition Information ....................................... 77
Figure 4-3. Type 3 Target Definition Information ....................................... 78
Figure 4-4. Column Information for a Type 1 Target Definition ....................... 78
Figure 4-5. Column Information for a Type 2 Target Definition ....................... 79
Figure 4-6. Column Information for a Type 3 Target Definition ....................... 79
Figure 6-1. Entering Calculation Scripts in the Session Properties .................... 94
Figure 6-2. Edit Report Script Dialog Box ............................................... 95
Preface

PowerCenter Connect for Hyperion Essbase seamlessly integrates Hyperion Essbase OLAP Server with PowerCenter. It extracts vast OLAP data stored in Hyperion Essbase into the PowerCenter data integration platform, and leverages it further for effective planning, analysis, and management. It automates extraction and loading of data from relational data sources such as data warehouses, data marts into Hyperion Essbase OLAP Server, and vice-versa.

PowerCenter Connect for Hyperion Essbase provides a user-friendly Designer Wizard, Reader and Writer plug-ins to access the OLAP data and metadata held in a Hyperion Essbase OLAP Server. It represents the enterprise OLAP metadata catalog that contains reusable data mappings, dimensions, hierarchies, aliases, and attributes in a relational format and facilitates the user customization.
New Features and Enhancements

This section describes new features and enhancements to PowerCenter Connect for Hyperion Essbase:

- **Support for Hyperion Essbase substitution variables.** PowerCenter Connect for Hyperion Essbase can now use Essbase Substitution variables during data extraction. “Report Script” now allows use of substitution variables.

- **Auto arrange source/target table definition for optimal performance.** PowerCenter Connect for Hyperion Essbase can arrange source and target definitions for optimal performance during data extraction and loading.

- **Partitioning on the basis of UDAs (user-defined attributes).** PowerCenter Connect for Hyperion Essbase supports partitioning data on the basis of UDAs. Every multiple pass through partition can be configured with UDAs for data extraction.

- **Suppress shared members.** PowerCenter Connect for Hyperion Essbase can suppress shared members during data extraction. If the option is set, the data for all shared members will be skipped.

- **New data extraction commands added.** PowerCenter Connect for Hyperion Essbase provides three new commands for data extraction. These commands are available through the Report Script option.
About This Book

This guide describes PowerCenter Connect for Hyperion Essbase, and provides installation and configuration steps. You will need the assistance of qualified Informatica experts to install, configure, and maintain PowerCenter Connect for Hyperion Essbase.

This book is useful in understanding how to:

♦ **Import data from Hyperion Essbase.** You can read data from Hyperion Essbase and load it into any of the Informatica Target database.

♦ **Export data to Hyperion Essbase.** You can read data from any of the Informatica Source databases and load it into Hyperion Essbase.

♦ **Modify Hyperion Essbase Outline.** You can manually or dynamically modify the Hyperion Essbase outline.

Document Conventions

This guide uses the following formatting conventions:

<table>
<thead>
<tr>
<th>If you see...</th>
<th>It means...</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>italicized text</em></td>
<td>The word or set of words are especially emphasized.</td>
</tr>
<tr>
<td><em>boldfaced text</em></td>
<td>Emphasized subjects.</td>
</tr>
<tr>
<td><em>italicized monospaced text</em></td>
<td>This is the variable name for a value you enter as part of an operating system command. This is generic text that should be replaced with user-supplied values.</td>
</tr>
<tr>
<td><em>Note:</em></td>
<td>The following paragraph provides additional facts.Supplies information, which may apply only in special cases.</td>
</tr>
<tr>
<td><em>Tip:</em></td>
<td>The following paragraph provides suggested uses.</td>
</tr>
<tr>
<td><em>monospaced text</em></td>
<td>This is a code example.</td>
</tr>
<tr>
<td><em>bold monospaced text</em></td>
<td>This is an operating system command you enter from a prompt to execute a task.</td>
</tr>
</tbody>
</table>
Other Informatica Resources

In addition to the product manuals, Informatica provides these other resources:

♦ Informatica Customer Portal
♦ Informatica web site
♦ Informatica Developer Network
♦ Informatica Knowledge Base
♦ Informatica Technical Support

Visiting Informatica Customer Portal
As an Informatica customer, you can access the Informatica Customer Portal site at http://my.informatica.com. The site contains product information, user group information, newsletters, access to the Informatica customer support case management system (ATLAS), the Informatica Knowledge Base, and access to the Informatica user community.

Visiting the Informatica Web Site
You can access the Informatica corporate web site at http://www.informatica.com. The site contains information about Informatica, its background, upcoming events, and sales offices. You will also find product and partner information. The services area of the site includes important information about technical support, training and education, and implementation services.

Visiting the Informatica Developer Network
You can access the Informatica Developer Network at http://devnet.informatica.com. The Informatica Developer Network is a web-based forum for third-party software developers. The site contains information about how to create, market, and support customer-oriented add-on solutions based on interoperability interfaces for Informatica products.

Visiting the Informatica Knowledge Base
As an Informatica customer, you can access the Informatica Knowledge Base at http://my.informatica.com. Use the Knowledge Base to search for documented solutions to known technical issues about Informatica products. You can also find answers to frequently asked questions, technical white papers, and technical tips.

Obtaining Technical Support
You can contact a Customer Support Center through telephone or the WebSupport Service. WebSupport requires a user name and password. You can request a user name and password at http://my.informatica.com.
Use the following telephone numbers to contact Informatica Global Customer Support:

<table>
<thead>
<tr>
<th>North America / South America</th>
<th>Europe / Middle East / Africa</th>
<th>Asia / Australia</th>
</tr>
</thead>
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<tr>
<td><strong>Toll Free</strong></td>
<td><strong>Toll Free</strong></td>
<td><strong>Toll Free</strong></td>
</tr>
<tr>
<td>+1 877 463 2435</td>
<td>00 800 4632 4357</td>
<td>Australia: 00 11 800 4632 4357</td>
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<tr>
<td><strong>Standard Rate</strong></td>
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<tr>
<td>United States: 650 385 5800</td>
<td>Belgium: +32 15 281 702</td>
<td><strong>Standard Rate</strong></td>
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<tr>
<td></td>
<td>France: +33 1 41 38 92 26</td>
<td>India: +91 80 5112 5738</td>
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<tr>
<td></td>
<td>Germany: +49 1805 702 702</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>United Kingdom: +44 1628 511 445</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 1

Understanding PowerCenter Connect for Hyperion Essbase

This chapter includes the following topics:

♦ Overview, 2
♦ PowerCenter and Hyperion Essbase Integration, 4
Overview

PowerCenter Connect for Hyperion Essbase provides bi-directional connectivity between PowerCenter and Hyperion Essbase for extracting and loading data. It provides a way to transfer the data in Essbase database into a ROLAP cube and vice versa. PowerCenter Connect for Hyperion Essbase supports read/write access to Essbase data by making calls to the Hyperion Essbase Server. It access data from the Hyperion Essbase Server on the fly and does not require additional disk storage area for multidimensional data retrieved. It also allows dynamic building of Hyperion Essbase outlines.

The integration of PowerCenter with PowerCenter Connect for Hyperion Essbase offers powerful capabilities designed to meet your sales, marketing, and customer service requirements. PowerCenter Connect for Hyperion Essbase extends PowerCenter’s capabilities to integrate with OLAP data and processes.

PowerCenter Connect for Hyperion Essbase consists of the following components:

- Essbase Metadata Definition File
- PowerCenter Connect for Hyperion Essbase Client Plug-in
- PowerCenter Connect for Hyperion Essbase Reader Plug-in
- PowerCenter Connect for Hyperion Essbase Writer Plug-in

Essbase Metadata Definition File

This file represents the Essbase schema information in an XML format, which is compliant with the Informatica-supplied plug-in.dtd. Once this file is registered with the Repository Service, the client plug-in uses the metadata information to allow users to configure Essbase sources and targets.

PowerCenter Connect for Hyperion Essbase Client Plug-in

This module allows you to configure Essbase source and target definitions from the Designer. The client plug-in consists of a Designer Wizard that provides the GUI for configuring Essbase source and target definitions. Using the Design wizard, you can transform the de-normalized data from Essbase to a normalized star schema. You can also manually modify the Hyperion Essbase outline.

PowerCenter Connect for Hyperion Essbase Reader Plug-in

This module allows you to import Essbase sources into PowerCenter and to import Essbase information into PowerCenter. The Integration Service invokes the Reader plug-in.
PowerCenter Connect for Hyperion Essbase Writer Plug-in

This module allows you to export data from PowerCenter to Essbase targets. It helps to write data from PowerCenter to an Essbase database and to dynamically build the Hyperion Essbase outline. The Integration Service invokes the Writer.
PowerCenter and Hyperion Essbase Integration

The Designer connects to the Hyperion Essbase Server to import Essbase source and target definitions. When you connect to a Hyperion Essbase Server to import Essbase source and target metadata, the Designer starts a Hyperion Essbase session. During the session, the Designer accesses an Essbase database to import Essbase source or target metadata. After the import, the Designer allows you to define Essbase mappings.

Figure 1-1 shows how the Designer imports source and target metadata from an Essbase database by connecting to the Hyperion Essbase Server:

![Figure 1-1. Designer Integration with Hyperion Essbase](image)

Integration Service and Hyperion Essbase Integration

During a workflow, the Integration Service connects to an Essbase Server to read source data or write target data in Essbase databases. When the Integration Service reads or writes Essbase data, it connects to the Essbase Server through Hyperion Essbase C SDK.
Figure 1-2 shows how PowerCenter connects to a Hyperion Essbase Server during a session to read and write Essbase data:

When you configure a PowerCenter workflow to connect to an Essbase server, use a Hyperion Essbase application connection to connect to the Hyperion Essbase server by specifying the connection attributes appropriately. For more information about entering Hyperion Essbase server information in a Hyperion Essbase application connection, see “Step 4. Configure Application Connection Properties” on page 13.
Installation and Configuration

This chapter includes the following topics:

- Overview, 8
- Step 1. Install PowerCenter Connect for Hyperion Essbase, 9
- Step 2. Set the Library Paths, 10
- Step 3. Register the Repository Plug-in, 12
- Step 4. Configure Application Connection Properties, 13
- Uninstalling PowerCenter Connect for Hyperion Essbase, 15
Overview

PowerCenter Connect for Hyperion Essbase requires installation and configuration on the machines hosting Integration Service, Client, and Repository Service to enable integration between PowerCenter and Hyperion Essbase.

To install and configure PowerCenter Connect for Hyperion Essbase, complete the following steps:

1. **Install PowerCenter Connect for Hyperion Essbase.** For more information, see “Step 1. Install PowerCenter Connect for Hyperion Essbase” on page 9.
2. **Set library paths on Windows and UNIX.** For more information, see “Step 2. Set the Library Paths” on page 10.
3. **Register the PowerCenter Connect for Hyperion Essbase repository plug-in in a PowerCenter repository.** For more information, see “Step 3. Register the Repository Plug-in” on page 12.
4. **Create and configure Hyperion Essbase application connection properties.** For more information, see “Step 4. Configure Application Connection Properties” on page 13.

Before You Begin

Before you install PowerCenter Connect for Hyperion Essbase, complete the following tasks:

- Install Hyperion Essbase server or Install Hyperion Essbase C API
- Install PowerCenter 8.x

To install PowerCenter Connect for Hyperion Essbase, you must meet following hardware requirements:

- 50 MB hard disk space
- 128 MB or higher RAM

Installing Hyperion Essbase

You can install one of the following options on the Integration Service and Client machines:

- Install Hyperion Essbase Server
- Install Hyperion Essbase Client (Runtime Client, Excel Spreadsheet Add-Ins) and Essbase APIs
- Install Hyperion Essbase APIs

**Note:** The Essbase API toolkit is not installed on your machine by default. To install the Essbase APIs, select Custom option in the Hyperion Essbase 7.1.2/7.1.3 client installation. For more information, refer the Hyperion Essbase documentation.
Step 1. Install PowerCenter Connect for Hyperion Essbase

This section describes how to install PowerCenter Connect for Hyperion Essbase on Windows and UNIX.

Installing PowerCenter Connect for Hyperion Essbase on Windows

You can install the PowerCenter Connect for Hyperion Essbase on Windows. The installation program installs the Integration Service component, the PowerCenter Client component, and the Repository Service components in the installation location you enter during installation.

To install PowerCenter Connect for Hyperion Essbase for each PowerCenter component, install PowerCenter Connect for Hyperion Essbase on the PowerCenter Client, Integration Service, and Repository Service machines.

To install PowerCenter Connect for Hyperion Essbase on Windows:

1. Log on to the machine on which you want to install PowerCenter Connect for Hyperion Essbase.
2. Run setup.exe from the installation CD.
3. Click Next.
4. Enter your name and company name. Click Next.
5. Choose the directory where PowerCenter Connect for Hyperion Essbase is to be installed.
   The default installation location is C:\Program Files.
6. Click Next to begin the installation.
7. Restart the machine after installation.
8. Repeat this procedure for each PowerCenter component for which you want to install PowerCenter Connect for Hyperion Essbase.

Installing PowerCenter Connect for Hyperion Essbase on UNIX

You can install PowerCenter Connect for Hyperion Essbase on UNIX. The installation program installs the Repository and Integration service components on the UNIX machine.

To install PowerCenter Connect for Hyperion Essbase on UNIX:

1. Type ./install at the prompt.
2. Select the directory where PowerCenter Connect for Hyperion Essbase is to be installed.
3. Set the environment variables as prompted by the installation program.
## Step 2. Set the Library Paths

This section describes the environment setup required for proper functioning of PowerCenter Connect for Hyperion Essbase on Windows and UNIX.

### Setting the Library Paths on Windows

Verify that you set the following environment variables to the specified locations:

<table>
<thead>
<tr>
<th>Environment Variable</th>
<th>Machine</th>
<th>Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATH</td>
<td>Integration Service</td>
<td>&lt;PowerCenter Connect for Hyperion Essbase Install Dir&gt;\EssbaseConnector\Bin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;Essbase Installation Directory&gt;\AnalyticServices</td>
</tr>
<tr>
<td></td>
<td>PowerCenter Client</td>
<td>&lt;PowerCenter Connect for Hyperion Essbase Install Dir&gt;\EssbaseConnector\Bin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;Essbase Installation Directory&gt;\AnalyticServices</td>
</tr>
<tr>
<td>ESSBASECONNECT</td>
<td>Integration Service</td>
<td>&lt;PowerCenter Connect for Hyperion Essbase Install Dir&gt;\EssbaseConnector\Bin</td>
</tr>
<tr>
<td>ORPATH</td>
<td>PowerCenter Client</td>
<td>&lt;PowerCenter Connect for Hyperion Essbase Install Dir&gt;\EssbaseConnector\Bin</td>
</tr>
<tr>
<td>ARBORPATH</td>
<td>Integration Service</td>
<td>&lt;Essbase Installation Directory&gt;\AnalyticServices</td>
</tr>
<tr>
<td></td>
<td>PowerCenter Client</td>
<td>&lt;Essbase Installation Directory&gt;\AnalyticServices</td>
</tr>
</tbody>
</table>
Setting the Library Paths on UNIX

**To set the library paths on Unix:**

1. Verify that you set the following environment variables to the specified locations:

<table>
<thead>
<tr>
<th>Environment Variable</th>
<th>Machine</th>
<th>Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATH</td>
<td>Integration Service</td>
<td>&lt;PowerCenter Connect for Hyperion Essbase Install Dir&gt;/EssbaseConnector/Bin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;Essbase Installation Directory&gt;/AnalyticServices</td>
</tr>
<tr>
<td>ESSBASECONNECTOR</td>
<td>Integration Service</td>
<td>&lt;PowerCenter Connect for Hyperion Essbase Install Dir&gt;/EssbaseConnector/Bin</td>
</tr>
<tr>
<td>ORPATH</td>
<td></td>
<td>&lt;Essbase Installation Directory&gt;/AnalyticServices</td>
</tr>
<tr>
<td>ARBORPATH</td>
<td>Integration Service</td>
<td>&lt;Essbase Installation Directory&gt;/AnalyticServices</td>
</tr>
</tbody>
</table>

2. Add one of the following environment variables on the Integration Service machine based on the applicable operating system:

<table>
<thead>
<tr>
<th>Environment Variable</th>
<th>Operating System</th>
<th>Locations</th>
</tr>
</thead>
</table>
| LD_LIBRARY_PATH      | Linux or Solaris  | <PowerCenter Connect for Hyperion Essbase InstallDir>/EssbaseConnector/Bin:
|                      |                   | $(LD_LIBRARY_PATH)                                                       |
| SHLIB_PATH           | HP-UX             | <PowerCenter Connect for Hyperion Essbase InstallDir>/EssbaseConnector/Bin:
|                      |                   | $(SHLIB_PATH)                                                            |
| LIBPATH              | AIX               | <PowerCenter Connect for Hyperion Essbase InstallDir>/EssbaseConnector/Bin:
|                      |                   | $(LIBPATH)                                                              |
Step 3. Register the Repository Plug-in

Use the Administration Console to register and remove the PowerCenter Connect for Hyperion Essbase repository plug-in. You can also update an existing PowerCenter Connect for Hyperion Essbase repository plug-in.

To register a plug-in:

1. Run the Repository Service in exclusive mode.
2. In the Navigator, select the Repository Service to which you want to add the plug-in.
3. Click the Plug-ins tab.
4. Click the link to register a Repository Service plug-in.
5. On the Register Plugin for <Repository Service> page, click the Browse button to locate the plug-in file Essbase.xml.
   This file is located in the PowerCenter Connect for Hyperion Essbase installation Bin directory.
6. If the plug-in was registered previously and you want to overwrite the registration, select the check box to update the existing plug-in registration.
   For example, you might select this option when you upgrade a plug-in to the latest version.
7. Enter your repository user name and password.
8. Click OK.
   The Repository Service registers the plug-in with the repository. The results of the registration operation appear in the activity log.
9. Run the Repository Service in normal mode.
Step 4. Configure Application Connection Properties

Before the Integration Service can read from Essbase sources or write data to Essbase targets, you must configure an application connection for Essbase sources and targets in the Workflow Manager. When you configure an Essbase application connection, you specify the connection attributes the Integration Service uses to connect to an Essbase database during a PowerCenter session. The application connections you define in the Workflow Manager are saved in the PowerCenter repository.

To configure Essbase application connections:

1. In the Workflow Manager, connect to a PowerCenter repository.
2. Click Connections > Application.
   
   The Application Connection Browser dialog box appears.

3. Click New.
   
   The Select Subtype dialog box appears.

4. Select EssbaseConnection from the Select Subtype list.
5. Click OK.

6. Enter a name for the application connection.

7. In User Name, enter the user name.

8. In Password, enter the password for authentication.

9. Enter a value for ServerHost.

   ServerHost is the name of the server hosting Hyperion Essbase server.

10. Click OK.

    The new application connection appears in the Application Object Browser.

**Tip:** To edit or delete an application connection, select the connection from the list and click the appropriate button.
Uninstalling PowerCenter Connect for Hyperion Essbase

You can uninstall PowerCenter Connect for Hyperion Essbase from the Integration Service, Client, and Repository Service on Windows. You can also unregister the PowerCenter Connect for Hyperion Essbase repository plug-in from any repository.

Uninstalling PowerCenter Connect for Hyperion Essbase from Windows

You can uninstall the Client, Server, and repository components of PowerCenter Connect for Hyperion Essbase from Windows.

To remove the PowerCenter Connect for Hyperion Essbase:
1. Run Add/Remove Programs from the Windows Control Panel.
2. Select PowerCenter Connect for Hyperion Essbase.
3. Click Change/Remove.
4. Select Remove.
5. Click Next, and then click OK.

Unregistering a Repository Plug-in

To unregister a repository plug-in, the Repository Service must be running in exclusive mode. Verify that all users are disconnected from the repository before you unregister a plug-in.

The list of registered plug-ins for a Repository Service appears on the Plug-ins tab.

Figure 2.1 shows a sample list of registered plug-ins:

Figure 2-1. List of Plug-ins for a Repository Service
If the Repository Service is not running in exclusive mode, the Remove buttons for plug-ins are disabled.

**To unregister a plug-in:**

1. Run the Repository Service service for the plug-in in exclusive mode.
2. In the Navigator, select the Repository Service from which you want to remove the plug-in.
3. Click the Plug-ins tab.
   
   The list of registered plug-ins appears.
4. Click the Remove button for the plug-in you want to unregister.

5. Enter a repository user name and password.
   
   The user must be the Administrator or have the Super User privilege.
6. Click OK.
7. Run the Repository Service in normal mode.
Chapter 3

Working with Essbase Sources

This chapter includes the following topics:

♦ Overview, 18
♦ Importing an Essbase Source Definition, 19
♦ Creating the ROLAP Model for Essbase, 52
♦ Troubleshooting, 54
Overview

With PowerCenter Connect for Hyperion Essbase, you can create a source definition with columns mapped to dimensions in the Essbase database outline. The data present in the Essbase database can be extracted into the PowerCenter connect environment.

You can use the Designer to import Essbase source definitions into the repository. When you import Essbase source definition, the Designer displays a table with columns and Essbase datatypes.
Importing an Essbase Source Definition

The following procedure explains the process of importing Essbase source definition.

**To import an Essbase source definition:**

1. In the Source Analyzer, click Sources > Import Essbase Source.

   The Designer Wizard appears.

   ![Designer Wizard](image)

   **Tip:** If the Essbase DSNs and Tables are already created, they appear under the EssbaseSchemaRoot in the left pane.

   **Note:** You can use existing DSN if you have an authentication to connect to it. Every DSN that you create belongs to a particular Essbase server, user name, and password. The following possibilities require you to create new DSN:

   - You want to connect to a particular Essbase Server for which DSN is not available.
   - You want to connect to a particular Essbase Server for which DSN is available but you do not have an authentication (user name and password) to connect to it.

   For performing any operations on the existing DSN, select it from the DSN Name list and click Connect, and provide the user name and password for the connection.

Creating a DSN for a Source Definition

The DSN is a name given to a set of information that is used to query data. The information includes elements like database, database user, and password.
To create a DSN for a source definition:

1. In the Designer Wizard, right-click the EssbaseSchemaRoot in the left pane and select Create DSN.
   - or -
   Click Create DSN.

   The DSN Creation Wizard dialog box appears.

2. In Data Source Name, enter a name for the DSN.
   The DSN name should follow Informatica conventions. This input is mandatory.

3. In Description, enter a brief description for the DSN.

4. In Server Name, enter the name or IP address of the computer on which the Hyperion Essbase Server resides.

5. In User Name, enter your log in ID.

6. In Password, enter your password.

7. Click Test Connectivity, to check whether the connection is successful.

8. Click Save to complete the DSN creation.

To view the complete outline in Dimension tree view, right-click Essbase Schema Root and enable the Show Complete Outline option in the pop up menu.

- or -

Disable this option to browse through the outline hierarchy only for Measure.
9. Click Cancel to exit from DSN Creation Wizard.

![DSN Creation Wizard](image)

**Note:** The user must be a valid user for the specified server. The password must correspond to the same user.

To create another DSN, click Save. Then click Yes.

**Viewing Source DSN Information**

You can view information about the DSN associated with a source definition.

**To view the DSN Information:**

1. In the Designer Wizard dialog, select the DSN and click View Details to view the DSN details.

![Designer Wizard](image)

2. To change the DSN description, click Modify and enter new text in Description.
3. Click Save.

Creating a Source Definition

Create source definitions to retrieve the multidimensional data in a tabular form. You can create two types of supported source definitions:

- Accounts dimension member as a column (Type 1 source definition).
- Accounts dimension as a column (Type 2 source definition).

Multiple source definitions can be created using the Table Creation Wizard following this procedure.

Note: In earlier releases, the source definition types were specified as follows:

- Represent each Hyperion Essbase MEASURE by a column (Type 1 source definition).
- Represent MEASURE dimension by a column (Type 2 source definition).

The Essbase source definition is automatically adjusted for optimal performance. It is not recommended that you rearrange the order of the source definition columns in the Designer.

Creating a Type 1 Source Definition

The following example explains how to create a source definition called EssbaseTable and selection of the appropriate Application, Database, and Database Outline.

To create a Type 1 source definition under a DSN:

1. Right-click the DSN and select Create Table to start the Table Creation Wizard.
   -or-

- Image of Table Creation Wizard
Select the DSN and click Create Table.

In DSN Name, the name of the DSN appears automatically. This value cannot be edited in this dialog box.

2. In Table Name enter EssbaseTable.
   Follow Informatica conventions for table name.

3. In Description, enter description for the table.

4. Select Application, Database, and Database Outline from the respective lists.
   PowerCenter Connect for Hyperion Essbase uses this information to fetch data on the fly.
   The Outline Type field displays the type of the outline. You cannot change it.

5. Select the Accounts dimension member as a column (Type 1) option to create Type 1 source definition.

6. Click Save to create the Type 1 source definition and exit from the Table Creation Wizard.
Click Cancel to exit from Table Creation Wizard.

Note: If you do not select any application, database, or database outline then the first application, database, and database outline are selected by default. By default the Accounts dimension member as a column (Type 1) option is selected, if the Accounts dimension exists in the selected Essbase Database Outline. This option is unavailable if the Essbase Database Outline does not contain the Accounts dimension. In this case, the Accounts dimension as a column (Type 2) option is selected by default. The dynamic dimension building (Type 3) option is not available for source definitions.

After you click Save, you are prompted to start creating columns for the Type 1 source definition. You can create columns by clicking Yes in the displayed dialog box or by right-clicking the table name in the left pane of the Designer Wizard and clicking Create Column.

Creating Columns in Type 1 Source Definition
After you create a Type 1 source definition, you can create columns.

To create columns in Type 1 source definition:
1. In the Designer Wizard, right-click the table name and click Create Column.
   -or-
Select the table EssbaseTable and click Create Column Button.

For Aggregated Storage Outline (ASO) applications, the outline contains only names for standard dimensions while for Accounts dimension, whole hierarchy is available.

The Dimension-Column Mapping dialog box appears.

The standard dimensions and the members of the measure dimension are selected as columns.

2. Click Set Filter to set filter expressions and to view filtered list of Standard Dimensions and Measure Members.
The Set Outline Filter window appears.

Enter the following information:

♦ Select Dimension option. Enter filter expression in Filter Expression For Dimensions.

♦ Select Measure option. Enter filter expression in Filter Expression for Measure Members. In Level, enter level of the measures to filter.

♦ To show all dimensions and measure members click Show All.

Filter expression is a regular expression. The only difference is that the * character is treated as a string.
3. Click OK to view filtered list of Standard Dimensions and Measure Members.

4. Select the standard dimensions or the members of the measure dimensions to be mapped as columns.

5. Select a dimension and click to map it to a column.

The Column Information dialog box appears.

To view the complete outline in Dimension tree view, right-click on the Essbase Schema Root and check the Show Complete Outline. To view the hierarchy for only Measure Dimension and not for other Dimensions, clear this option. If the size of Essbase Outline
is large, clear the Show Complete Outline option by right-clicking Essbase Schema Root on the main window.

**Tip:** For Aggregate Storage Outline, only the Standard Dimension (Generation 1) appears instead of all the members under the standard dimension. For Accounts dimension all the members appears.

6. In Column Name, enter a name for this column.

7. In Precision, enter the precision value required.

8. Select User Defined Attribute to query the database based on the UDA.
   The list of UDAs defined for the leaf members of the dimension appear.

9. Select the UDAs to be used while querying the Essbase database.

If the Column name length exceeds 69 characters, it is truncated automatically. This does not lead to any error in data extraction/load.

**Tip:** UDA option is provided only if UDAs are defined for the leaf level members of the dimension.

10. In case of Time dimension to retrieve data for Dynamic Time Series Tag, select the Dynamic Time Series name from DTS list and leaf member of Time dimension from Member Name list. Click .
To remove a Dynamic Time Series Tag, select it from the Dynamic Time Series Tag list and click .

11. To create another column, repeat steps 5 to 10.
   You cannot edit DataType and Scale in this dialog box. You can edit the precision of text columns.
   
   **Tip:** The Dynamic Time Series option appears only for time dimensions that have DTS Members enabled.

12. Select a member of measure dimension and click to map it to a column.
The Column Information dialog box appears.

13. In Column Name, enter a name for this column.

In Data Type, Scale, and Precision default values appear and cannot be edited in this dialog box.

14. Select Measure dimension and click, to map the columns based on UDA.
The list of UDAs defined for the leaf members of the dimension appear.

15. Select from the list the UDAs to be used while querying the Essbase database.

Tip: UDA option is provided only if UDAs are defined for the leaf level members of the dimension.

16. Select the UDAs based on which the columns for the measure members are to be created.

17. Repeat the above procedure for each measure required.

After creating the columns, the Dimension-Column Mapping dialog box appears.
18. To view mapped columns in a sorted order, in Columns Mapped list, click Dimension Name or Column Name headers.

The mapped columns are sorted accordingly.

![Image of Dimension - Column Mapping dialog box]

**Note:** By default the Columns Mapped list is sorted in ascending order of Dimension Name.

19. To delete a mapped column, select it in the right pane and click ![Trash Can Icon].

![Image of Dimension - Column Mapping dialog box with a column selected and delete button highlighted]

20. Click Save, to save and exit the dialog box.
You must map at least one dimension and one measure as column for the Type 1 source definition. The Designer creates the columns selected in the Dimension-Column Mapping dialog box. It also creates any columns for aliases and attributes associated with the selected dimensions.

Adding Attribute Dimensions to the Type 1 Source Definition
This section explains the procedure of adding attribute dimensions to the Type 1 source Definition.
To add Attribute Dimensions to the Type 1 source definition:

1. Right-click the column name in the left pane of the Designer Wizard.

**Note:** Add All Attributes and Select Attributes menus are enabled only for the dimensions having attributes associated with them.

This can be done in of the following ways:

- Add All Attributes.
- Select Attributes.
Adding All Attributes

You can add columns for all attributes associated with the dimension.

**To add all attributes:**

1. Click Add All Attributes to add columns for all the attributes associated with the dimension.
Selecting the Attributes

You can select the attributes associated with the dimension.

**To select attributes:**

1. To add columns for all selected attributes associated with the dimension, click Select Attributes.

2. The Select Attributes window appears.
3. From the attribute list, select the attributes to be added.

4. Click OK to add the attributes and exit. Or you can click Cancel to quit attributes selection.

Creating a Type 2 Source Definition

The following example explains how to create Type 2 source definition. A source definition called EssbaseTable is created and appropriate Application, Database, and Database Outline are selected.

To create a Type 2 source definition under a DSN:

1. Right-click the DSN and select Create Table to start the Table Creation Wizard.

   —or—
Select the DSN and click Create Table.

In DSN Name, the name of the DSN appears automatically. This value cannot be edited in this dialog box.

2. In Table Name enter EssbaseTable.
   Follow Informatica conventions for table name.

3. In Description, enter description for the table.

4. Select Application, Database and Database Outline from the respective lists.
   PowerCenter Connect for Hyperion Essbase uses this information to fetch data on-the-fly.
   In the Outline Type, the type of the outline appears. This value cannot be edited in this dialog box.

5. Select the Accounts dimension as a column (Type 2) option to create Type 2 source definition.

6. Click Save to create the Type 2 source definition and exit from the Table Creation Wizard.
Click Cancel to exit from Table Creation Wizard.

**Note:** If you do not select any application, database or database outline, the first application, database, and database outline are selected by default. By default the Accounts dimension member as a column (Type 1) option is selected, if Accounts dimension exists in the selected Essbase Database Outline. This option is unavailable if the Essbase Database Outline does not contain the Accounts dimension. In this case Accounts dimension as a column (Type2) option is selected by default. Dynamic dimension building (Type 3) option is not available for source definitions.

**Tip:** After clicking Save to create Type 2 source definition, you are prompted to start creating columns for the Type 2 source definition. You can create columns by clicking Yes in the displayed dialog box or by right-clicking the table name in the left pane of the Designer Wizard and clicking Create Column.

### Creating Columns in Type 2 Source Definition

The following section explains the procedure of creating the columns in Type 2 source definition.

**To create columns in Type 2 source definition:**

1. In the Designer Wizard, right-click the table name and click Create Column.

   -or-
Select the table EssbaseTable and click Create Column Button.

You must create the columns before using the Report Script. This option is enabled only when the columns are created. For Aggregated Storage Outline (ASO) applications, the outline will contain only names for standard dimensions while for Accounts dimension, whole hierarchy is available.

The Dimension-Column Mapping dialog box appears. To view filtered list of Standard Dimensions and Measure Members, follow the steps as for Type 1 source definition.
To view the complete outline in Dimension tree view, the Show All in the Set Outline Filter should be selected. Or to view the hierarchy for only Measure Dimension and not for other Dimensions de-select this option. If the size of Essbase Outline is large then it is desirable to de-select the Show Complete Outline by right clicking on the EssbaseSchemaRoot on the main window.

**Tip:** For Aggregate Storage Outline, Only the Standard Dimension (Generation 1) appears instead of all the members under the dimension. For Accounts dimension all the members appear.

2. Select the dimension to be mapped and click to map the dimensions to columns. The Column Information dialog box appears.

   **Note:** You can select the standard dimensions including measure dimension as columns.

3. In Column Name, enter a name for this column.

4. In Precision, enter the precision value required.

5. If you want to query the database based on the UDA, select the option User Defined Attribute. The list of UDAs defined for the leaf members of the dimension appear.

6. Select from the list the UDAs to be used while querying the Essbase database.

![Column Creation Wizard](image)

UDA option is provided only if UDAs are defined for the leaf level members of the dimension.

7. In case of Time dimension to retrieve data for Dynamic Time Series Tag, select Dynamic Time Series name from DTS list and leaf member of Time dimension from Member Name list. Click .
To remove a Dynamic Time Series Tag, select one from Dynamic Time Series Tag list and click .

Dynamic Time Series option appears only for Time dimensions having DTS Members enabled.

8. Repeat steps 2 to 8 for each dimension required.

In Data Type, Scale, and Precision, default values appear. Data Type and Scale cannot be edited in this dialog box. Precision is editable only for Text columns.

9. To delete a mapped column, select it in the right pane and click .
The Dimension-Column Mapping dialog box appears.

To view mapped columns in sorted order in Columns Mapped list, click Dimension Name or Column Name headers. The mapped columns are sorted accordingly.

10. Click Save to save and exit the dialog box.

By default Columns Mapped list is sorted in ascending order of Dimension Name. You must map at least one dimension as column for the Type 2 source definition.

Tip: The Designer creates the columns selected in the Dimension-Column Mapping dialog box. Additionally, a Data column and columns for aliases and attributes associated with the selected dimensions, if any, are also created. To add the columns for attributes
associated with the dimensions, follow the steps as given in Adding attribute dimensions for Type 1 source definition.

![Designer Wizard](image)

### Viewing Source Definition Information

Once you create a source definition, you can view the source definition information.

**To view details of the source definition:**

1. On the main window, select the table and click View Details.
   
   The information appears in the Table Wizard.

2. To change the table description, click Modify and enter new text in Description.

3. Click Save.
Type 1 Source Definition Information

Figure 3-1 shows a Type 1 source definition information:

Figure 3-1. Type 1 Source Definition Information

Type 2 Source Definition Information

Figure 3-2 shows a Type 2 source definition information:

Figure 3-2. Type 2 Source Definition Information
Viewing Column Information for a Source Definition

You can view the details of the columns created by selecting the column on the Designer Wizard.

Column Information for a Type 1 Source Definition

Figure 3-3 shows column information for a Type 1 source definition:

![Image of Column Information for a Type 1 Source Definition]

Column Information for a Type 2 Source Definition

Figure 3-4 shows column information for a Type 2 source definition:

![Image of Column Information for a Type 2 Source Definition]
Using the Report Script

Report Script is used to change the default Report Script for retrieving data from Hyperion Essbase. The following ways show the use of Report Script for Type 1 and Type 2 tables using the Designer Wizard.

**Note:** You must create columns before using the Report Script. This functionality was available as “Query Builder” in previous releases.

**To use the Report Script for Type 1 source definition:**

1. In the Designer Wizard dialog box, right-click a table name and in the menu click Report Script or after selecting table, click the Report Script.

For Type 1 source definition, the dialog box appears.
The Edit Report Script dialog box appears. The dialog box is used to change default Essbase Report Script for retrieving Hyperion Essbase data.

The Member Selection list shows the standard dimension columns created by you using the Dimension - Column Mapping.

2. To change the Member Selection condition, under Column Name, select the column for which you want to change the condition.

3. From the Member Selection Command list, select a command.

4. In Command Parameters, enter the command parameters.

5. To specify the order in which members are sorted while retrieving the data, select a sort order from the Member Sort Order list and a sort option from the Member Sort Option list.

6. Click Save.

7. If required, modify Data Filter by using the Data Range Command list, select a command.

8. In Command Parameters, enter appropriate range of column values.

9. Click Save.

10. To get data only for DTS members, check the option Get Data for DTS members only. This option is enabled only if there is a column associated with the Time dimension for which DTS members are selected.

**Note:** To parameterize the query for Essbase source definition, you can select `<PARAMETERIZED` in Member Selection Command. The value for the Command
Parameters should be supplied through Informatica Mapping Parameters and using a parameter file. The declaration of the command parameter for `<PARAMETERIZED` should start with `$$`. For example, `$$VAR`.

Following is an example of declaring the value for `$$VAR` either in Parameter file or as default value in mapping:

- Single Value: `$$VAR = “Jan”`
- Multiple Value: `$$VAR= “Jan” “Feb” “Mar”`

Substitution variables can be used in the Report script as a ‘Command Parameter.’ The substitution variable should start with `&` sign and must be declared in Essbase. For example: `&Sub_Var`, where `Sub_Var` must be declared as a Substitution variable in Essbase environment. Substitution variable are used with every selection command except:

- `<PARAMETERIZED`
- `<LINK`
- `<WITHATTR`

While extracting the data, the substitution variable is replaced by the value defined for it in the Essbase environment.

**Tip:** All filter conditions in the report script are reset to default values if you add, modify, or delete columns in the table using the Dimension - Column Mapping dialog box.

11. Click Show Report Script, to view and check the resulting report script.

The Report Script dialog box appears.

12. Click Validate Report Script, to check if the resulting script is correct. If not, go back to Report Script dialog box and rectify the filter commands and their parameters.

13. If there is any error with the modified report script as obtained so far, you can click Reset to restore all Member Selection and Data Filter conditions and their parameters to the previously stored valid values.
14. Click OK, to validate and save the report script. If the report script is invalid you can either Reset and save it or rectify it before saving.

Note: The report script must be valid before you close the Report Script dialog box.

Using Report script for Type 2 source definition, follow the same procedure as described for Type 1 source definition.

Previewing the Data

You can use Preview Data to view existing data for the Hyperion Essbase Source Definition. The following steps show the use of Preview Data option for Type 1 source definition using the Designer Wizard.

Note: You must create the columns before using the Preview Data. This option is enabled only when the columns are created.

To use Preview Data for source definitions:

1. In the Designer Wizard, right-click a table name and click Preview Data.

-or-

After selecting table, click the Preview Data.

For Type 1 source definition, the Designer Wizard appears.
The Preview Data dialog box appears. The dialog box displays data from Hyperion Essbase source definition.

![Preview Data Table]

**Note:** The data is retrieved from Hyperion Essbase on the basis of standard dimensions and measures mapped.
Creating the ROLAP Model for Essbase

In a Hyperion Essbase database, data is stored in a multidimensional format. Each dimension is associated with a table in relational database semantics. This OLAP data is extracted in a relational format called as “ROLAP” for which we need to create tables for the dimensions along with a Fact table.

The dimension tables store all the members below the appropriate dimensions and the Fact table actually stores the intersections of these dimensions along with the data across these intersections. This process is no longer manual as PowerCenter Connect for Hyperion Essbase has the ability to convert the OLAP source into a ROLAP model for normalization.

The ROLAP model is a star schema model, containing one central Fact table and multiple dimension tables. Upon normalizing the Essbase source definition, PowerCenter Connect for Hyperion Essbase creates the fact table and the appropriate dimension tables. A mapping is automatically created for the normalized Essbase source definition.

**To create the ROLAP model:**

1. In the Mapping Designer, click Mapping > Normalize Essbase Cube.
   
   The Normalize Essbase Cube dialog box appears.

   ![Normalize Essbase Cube Dialog Box](image)

2. In Select Source Table, select the source definition to be normalized from the list.

3. In New Target Fact Table, enter the name for the target Fact table.
   
   The names of the dimension tables are the same as the corresponding column names in the Essbase source definition.

   In Target Database Type, Oracle appears as the default target database. This cannot be modified.

4. Click Finish.
The Normalize Essbase Cube creates the target definitions in the Designer. It also creates a mapping consisting of a mapplet.

5. From the left pane drag the Essbase source definition into the Mapping Designer in the right pane.

6. Link the Essbase source definition Qualifier to the Input transformation of the mapplet.

7. Save and validate the mapping.

8. Create the physical tables for the Dimensions and Fact in Oracle (default database) before running the workflow.

For more information about creating physical tables in Oracle through Designer, see the PowerCenter documentation.

The database for the Fact and Dimension tables can be changed from the Warehouse Designer.
Troubleshooting

The Designer Wizard fails to create the DSN with the error “Essbase Initialization Failed.”
Make sure the ARBORPATH and Path environment variables are set properly. For more information, see “Step 2. Set the Library Paths” on page 10.

The Designer Wizard hangs while opening Essbase Outline for columns creation.
The problem may occur when the size of the Essbase Outline is large. In this case do the following:
1. Click View menu in the Designer Wizard.
2. Clear the Complete Outline option.
This views the hierarchy for only Measure Dimension and not for other Dimensions while opening Essbase Outline for columns creation.
Working with Essbase Targets

This chapter includes the following topics:

- Overview, 56
- Importing an Essbase Target Definition, 57
- Troubleshooting, 80
Overview

You can use PowerCenter Connect for Hyperion Essbase to create a target definition with columns mapped to dimensions in the Essbase database outline. The data present in the source database can be transferred into the Essbase database.

You can use the Designer to import target definition into the Repository. When you import Essbase target definition, The Designer displays a target definition with columns and Essbase datatypes.
Importing an Essbase Target Definition

Use the Designer Wizard to create an Essbase target definition.

**To import an Essbase target definition:**

1. In the Warehouse Designer, click Target > Import Essbase Target.

The Designer Wizard appears.

**Tip:** If any of the DSNs and Tables are already created, they appear under the EssbaseSchemaRoot in the left pane.

**Note:** You can use existing DSN if you have an authentication to connect to it. The DSN that you create belongs to particular Essbase server, user name, and password.

You must create a new DSN in the following circumstances:

- You want to connect to a particular Essbase server for which DSN is not available.
- You want to connect to a particular Essbase server for which DSN is available but you do not have an authentication (user name and password) to connect the Essbase Server.

**Note:** To perform any operations on the existing DSN, select the DSN from the DSN Name list. Then enter the user name and password and click Connect.

Creating a DSN for a Target Definition

A DSN is a name given to a set of information that is used to load data. The information includes such elements as database, database user, password.
To create a new DSN for a target definition:

1. In the Designer Wizard, right-click the EssbaseSchemaRoot in the left pane and select Create DSN.

   -or-

   Click Create DSN.

   The DSN Creation Wizard dialog box appears.

   ![DSN Creation Wizard](image)

   **Note:** To view the complete outline in tree view, right-click Essbase Schema Root and check the Show Complete Outline. To view the hierarchy for only Measure Dimension and not for other dimensions, clear this option.

2. In Server Name, enter the name or IP address of the computer on which the Hyperion Essbase Server resides.

3. In User Name, enter the log in ID of the user.

4. In Password, enter the password of the same user.

5. Click Test Connectivity, to check whether the connection is successful.

6. Click Save to complete the DSN creation.

   To create another target definition, click Yes in the displayed dialog box.

   -or-

   Right-click the DSN name in the left pane of the Designer Wizard and click Create Table.
7. Click Cancel to exit from DSN Creation Wizard.

![DSN Creation Wizard](image)

**Note:** The user must be a valid user for the specified server. The password must correspond to the same user. Multiple DSNs can be created using the DSN Creation Wizard following the above procedure.

### Viewing Target DSN Information

This section describes the process of viewing the Target DSN information.

**To view Target DSN information:**

1. Click the View Details in the Designer Wizard.
2. To change DSN Description, click Modify.
3. Enter New Description and click Save.

![DSN Wizard](image)
Modifying the Outline

This option is available only while loading data into Essbase. Using this option you can add leaf level members to the dimensions in Essbase Outline.

To modify the outline:

1. Right-click the DSN and select Modify Outline to start the Modify Outline.
   -or-
   Select the DSN and click Modify Outline.

2. Select Application, Database, and Database Outline from the respective lists for the outline that is to be modified.
The Designer uses this information to fetch the outline information for modification.

For Aggregate Storage Outline, this functionality is not available. Instead use Dynamic Dimension Building.

3. Click the parent node to add the dimension member.

Dimension members are added only at the leaf level.

**Note:** Add Member is enabled for adding the leaf members only.

4. Enter the information for the member node to be added.
In Hyperion Essbase, some of the standard dimensions are associated with attributes. Hence while adding members for such dimensions, the dimension member should be associated with appropriate attribute values in the outline.

While adding members, default values are shown for each attribute. You can select desired values for each attribute from the lists.

For example, Product dimension is associated with Caffeinated and Pkg Type attributes. Therefore, the Member Information dialog box appears as follows:

![Member Information Dialog Box]

Therefore, while adding a member to Product, also enter the values for the associated attributes. Measure dimension in the outline is not associated with any attribute.
Therefore, while adding a member to Measure, attribute information is not required and the Member Information dialog box appears as follows:

Follow Hyperion Essbase conventions for Member Name and Alias Name.

The outline after adding the member node is as follows:

5. Repeat steps 3 to 4 to add the leaf members to the Essbase Outline.

6. Click Close after adding all the members to the outline.
Creating a Target Definition

You need to create target definitions to load the multidimensional data in Essbase. You can create target definitions of one of the following types:

- Accounts dimension member as a column (Type 1 target definition).
- Accounts dimension as a column (Type 2 target definition).
- Dynamic dimension building (Type 3 target definition).

**Note:** In previous release the target definition type were specified as below:

- Represent each Hyperion Essbase MEASURE by a column (Type 1 target definition).
- Represent MEASURE dimension by a column (Type 2 target definition).
- Dynamic Dimension Building (Type 3 target definition).

The Essbase target definition is automatically adjusted for optimal performance. It is not recommended to shuffle the order of the target definition columns in the Designer.

Creating a Type 1 Target Definition

In the following example, we create a target definition called EssbaseTable and select appropriate Application, Database and Database Outline.

**To create a Type 1 target definition under a DSN:**

1. Right-click the DSN and select Create Table to start the Table Creation Wizard.  
   -or-
   Select the DSN and click Create Table.

In DSN Name, the name of the DSN appears automatically.
2. In Table Name, enter EssbaseTable.
3. In Description, enter a description for the table.
4. Select Application, Database and Database Outline from the respective lists.
   In the Outline Type, the type of the outline appears.
   Note: This value cannot be edited in this dialog box.
5. Select Account dimension member as a column (Type 1) to create the Type 1 target definition.
6. Click Save to create the Type 1 target definition and exit from the Table Creation Wizard.
   Click Cancel to exit from Table Creation Wizard.

   Note: The first application, database, and database outline are selected by default. By default, Accounts dimension member as a column (Type 1) is selected if Measure dimension exists in the selected Essbase Database Outline. This option is unavailable if the Essbase Database Outline does not contain Measure dimension. Multiple Tables can be created using the Table Creation Wizard following above procedure.

   Tip: After clicking Save to create the Type 1 target definition, you are prompted to start creating columns for the target definition. You can create columns by clicking Yes in the displayed dialog box or by right-clicking the table name in the left pane of the Designer Wizard and clicking Create Column.

Creating Columns for Type 1 Target Definition
After you create a Type 1 target definition, you can create columns.
To create columns in a Type 1 target definition:

1. In the left pane of the Designer Wizard, right-click the table name and click Create Column.

   -or-

   Select the table EssbaseTable and click Create Column.

   ![](image)

   The Dimension-Column Mapping dialog box appears.

2. In the left pane, select the members of the measure dimensions to be mapped as columns.

3. Click 🔄 to map the Measure member to a column.
The Column Information dialog box appears.

![Column Information Dialog Box]

**Note:** To view the complete outline in Dimension tree view, select the Show All option in the Set Outline Filter. To view the hierarchy only for Measure Dimension, de-select this option. If the size of Essbase Outline is large then it is desirable to de-select the Show complete Outline option by right clicking on the EssbaseSchemaRoot on the main window.

For viewing filtered list of dimensions and measure members, follow the steps as in Dimension-Column Mapping for Source tables.

**Tip:** For Aggregate Storage Outline, Only the Standard Dimension (Generation 1) appears instead of all the members under the dimension. For Accounts dimension all the members appear.

4. In Column Name, enter a name for this column.
Note: In Data Type, Scale, and Precision, default values appear and cannot be edited in this dialog box.

5. To delete a mapped column, select it in the right pane and click .

After mapping the dimensions to columns, the Dimension-Column Mapping dialog box appears.

6. To view mapped columns in a sorted order in Columns Mapped list, click Dimension Name or Column Name headers. The mapped columns are sorted accordingly.

By default Columns Mapped list is sorted in ascending order of Dimension Name.
7. Click Save to save and exit the dialog box.

**Note:** You must map at least one measure as column for the table. The Designer creates the columns selected in the Dimension-Column Mapping dialog box. Additionally, the columns for all the dimensions in the Essbase outline are also created.

Type 2 Target Definition

In the following example, we create a target definition called EssbaseTable and select appropriate Application, Database and Database Outline.

**To create a Type 2 target definition under a DSN:**

1. Right-click the DSN and select Create Table to start the Table Creation Wizard.

   -or-
Select the DSN and click Create Table.

2. In DSN Name, the name of the DSN appears automatically. This value cannot be edited in this dialog box.

3. In Table Name, enter EssbaseTable that consist alphanumeric characters. Typing spaces or special characters is not allowed. This input is mandatory.

4. In Description, enter the description for the table.

5. Select Application, Database and Database Outline from the respective lists.

6. In the Outline Type, the type of the outline appears. This value cannot be edited in this dialog box.

7. Select the Accounts dimension as a column (Type 2) option to create Type 2 target definition.

8. Click Save to create the Type 2 target definition and exit from the Table Creation Wizard.
Click Cancel to exit from Table Creation Wizard.

**Note:** The first application, database, and database outline are selected by default. By default the 'Accounts dimension member as a column (Type 1)' is selected if Measure dimension exists in the selected Essbase Database Outline. This option is unavailable if the Essbase Database Outline does not contain Measure dimension. Multiple Tables can be created using the Table Creation Wizard following above procedure.

**Tip:** After clicking Save to create the Type 2 target definition, you are prompted to start creating columns for the target definition. You can create columns by clicking Yes in the displayed dialog box or by right-clicking the table name in the left pane of the Designer Wizard and clicking Create Column.
Creating Columns in a Type 2 Target Definition

In a Type 2 target definition, the Designer Wizard creates columns for all the dimensions in the Essbase outline and a 'Data' column to receive the data that is to be loaded into Essbase. Create column is disabled as all the columns are created by the Designer Wizard.

Type 3 Target Definition

In the following example, we create a target definition called EssbaseTable and select appropriate Application, Database and Database Outline.

**To create a Type 3 target definition under a DSN:**

1. Right-click the DSN and select Create Table to start the Table Creation Wizard.

   -or-

[Image of Table Creation Wizard]

Chapter 4: Working with Essbase Targets
Select the DSN and click Create Table.

2. In DSN Name, the name of the DSN appears automatically. You cannot edit this value in this dialog box.

3. In Table Name, enter EssbaseTable that consist alphanumeric characters. Typing spaces or special characters is not allowed. This input is mandatory.

4. In Description, enter a description for the table.

5. Select Application, Database and Database Outline from the respective lists.

6. In the Outline Type, the type of the outline appears. This value cannot be edited in this dialog box.

7. Select Dynamic dimension building (Type 3) to create the Type 3 target definition.

8. Click Save to create the Type 3 target definition and exit from the Table Creation Wizard.
9. Click Cancel to exit from Table Creation Wizard.

Note: If you do not select any application, database, or database outline, the first application, database, and database outline are selected by default.

Multiple Tables can be created using the Table Creation Wizard following the above procedure.

Tip: After clicking Save to create Type 3 target definition, you are prompted to start creating columns for the target definitions. You can create columns by clicking Yes in the displayed dialog box or by right-clicking the table name in the left pane of the Designer Wizard and clicking Create Column.

Creating Columns in a Type 3 Target Definition
This section describes the process of creating columns in a Type 3 target definition.

To create columns in a Type 3 target definition:

1. In the left pane of the Designer Wizard, right-click the table name and click Create Column.

   -or-

   Select the table EsbaseTable and click Create Column.
The Dimension-Column Mapping dialog box appears.

2. To create Columns and specify Rules File, enter a Column name.

3. Select a Column Type.

4. Click to add the column.

   The columns created appear in the Columns Added list.

5. To remove the columns added to the list, select the column from the Columns Added list and click .

6. Specify Rule File Selection as follows:
   - To use a rules file existing on the Hyperion Essbase server, select the Server option and then select a rules file from the available list.
♦ To use rules file local to the Integration Service, select Client option and enter the fully qualified path to the rules file.

7. Click Save and exit the dialog box.

You must create at least one column.

![Designer Wizard](image)

**Note:** The type 3 table involves flat file staging. The default column separator for the data rows in the flat file is comma (,). This can be changed in the Designer.

**Viewing Target Definition Information**

This section describes the procedure of viewing the target definition information.

**To view details of the target definition:**

1. In the left pane, select the table and click View Details.

   The information is in the Table Wizard.

2. To change the table description click Modify, enter new text in Description.

3. Click Save.
Type 1 Target Definition Information

Figure 4-1 shows Type 1 target definition information:

Figure 4-1. Type 1 Target Definition Information

Type 2 Target Definition Information

Figure 4-2 shows Type 2 target definition information:

Figure 4-2. Type 2 Target Definition Information
Type 3 Target Definition Information

Figure 4-3 shows Type 3 target definition information:

![Type 3 Target Definition Information](image)

Viewing Column Information for a Target Definition

You can view the details of the columns created by selecting the column on the Designer Wizard.

Column Information for a Type 1 Target Definition

Figure 4-4 shows column information for a Type 1 target definition:

![Column Information for a Type 1 Target Definition](image)
Column Information for a Type 2 Target Definition

Figure 4-5 shows column information for a Type 2 target definition:

Figure 4-5. Column Information for a Type 2 Target Definition

Column Information for a Type 3 Target Definition

Figure 4-6 shows column information for a Type 3 target definition:

Figure 4-6. Column Information for a Type 3 Target Definition
Troubleshooting

Designer Wizard fails to create the DSN giving error “Essbase Initialization Failed.”
Make sure that the ARBORPATH and Path environment variables are set properly. For more information, see “Step 2. Set the Library Paths” on page 10.

Designer Wizard hangs while opening Essbase Outline for columns creation.
The problem may occur when the size of the Essbase Outline is large. In this case do the following:
1. Click View menu in the Designer Wizard.
2. Clear the Complete Outline option.
This views the hierarchy for only Measure Dimension and not for other Dimensions while opening Essbase Outline for columns creation.

Error occurs while using Designer Wizard.
If error occurs related to Hyperion Essbase then do the following steps:
1. Check if Hyperion Essbase API libraries are installed.
2. Check if Hyperion Essbase environment variables are set.
3. Get the Hyperion Essbase Error Code from EssbaseConnector_TraceLog.log file generated in following directory path:
   `<PowerCenter Connect for Hyperion Essbase Install Dir>/EssbaseConnector/Bin`
4. Check the detailed description of that error code on Hyperion Essbase site.
Creating and Configuring Essbase Workflows

This chapter includes the following topics:

- Overview, 82
- Configuring a Session with an Essbase Mapping, 83
- Troubleshooting, 92
Overview

After you create mappings in the Designer, you can create a session and use the session in a workflow to extract, transform, and load data. You create sessions and workflows in the Workflow Manager.

Before configuring an Essbase workflow, you must complete the following tasks:

- **Configure an Integration Service.** Configure an Integration Service to run workflows. For more information about configuring an Integration Service, see the PowerCenter Administrator Guide.

- **Configure source and target connections.** To read data from Essbase or write data to Essbase during a workflow, you need to configure an application connection for Essbase source definitions and target definition in the Workflow Manager. For more information about configuring connections, see “Step 4. Configure Application Connection Properties” on page 13.

You cannot use a connection variable for an application connection. For more information about connection variables, see the PowerCenter Workflow Administration Guide.
Configuring a Session with an Essbase Mapping

When you configure a session using an Essbase source definitions or target definitions, you must set the following session properties:

♦ Connection type for Essbase source definitions
♦ Connection type for Essbase target definitions

The Essbase Connection must be set in the Session for the Essbase source or target, before we execute the workflow from the Workflow Manager.

Configuring a Session for an Essbase Source definitions

This section explains the process of configuring a session for Essbase Source definitions.

To set the session attributes:

1. In the Task Developer, right-click the session.
   The Edit Tasks dialog box appears.
2. Click the Sources tab.
3. From the Type list, select Application.
4. From the Value list select EssbaseConnection.
For information about how to create the Essbase connection object, see “Configuring a Session with an Essbase Mapping” on page 83.

5. Optionally, to specify a Hyperion Essbase Calculation Script to calculate the database, click the Properties tab and enter the name of the calculation script against Calculation Script Name attribute.

To specify a local calculation script file existing on the Integration Service machine, the Calculation Script Name field must contain the fully qualified path to the file otherwise it is assumed to exist on the Hyperion Essbase server. For more information about using calculation scripts, see “Calculation Scripts and Retrieval of Aggregated Data” on page 94.

6. To run only the calculation script against the Essbase database, check Run Only Calculation Script.
   
   **Note:** No data can be extracted if this option is set.
7. To suppress the rows containing only missing data, click the Properties tab, and select Suppress MISSING data.

Multiple pass through partitions can be created for the session.

8. To suppress the Shared members while data extraction, click Properties and select Suppress shared members.

9. Through Partition Query Condition, the query for each partition can be set on the basis of condition set for Attribute dimensions, Measure members or User Defined Attributes.

Use the following syntax to specify the condition:
- Data extraction on the basis of Attribute dimension: {ATTR “standard-dimension-name”} attribute-dim-name "operator" value.
- Data extraction on the basis of Measure members: {MSR} Measure-member-name "operator" value.
- Data extraction on the basis of User Defined Attributes (UDA): {UDA “standard-dimension-name”} UDA1 name, UDA2 name.

When the Partition Query Condition is based on a UDA, the UDAs specified in the condition must be applied while mapping the corresponding standard dimension in the table. If the UDA used in the Partition Query Condition is not used while mapping the dimension, that UDA is ignored while extracting data. If all the UDAs mentioned in the Partition Query Condition are not used while mapping the standard dimension then the data is extracted for all UDAs used while mapping the dimension. This is the default behavior.

You can supply only one of the query conditions.
Configuring a Session for a ROLAP Model

The source and target connection information is to be set before running the workflow from the Task Developer.

To set the session attributes for the source and target:

1. In the Task Developer, right-click the session.
   The Edit Tasks dialog box appears.
2. Click the Sources tab.
3. From the Type list, select Application.
4. From the Value list, select an EssbaseConnection object.
5. Click the Targets tab.
6. For each of the target definitions in the Instances column, select Relational in the Type column list.
7. In Connections column, select DB Connection.
In Value column, Oracle appears as the default target database.
8. To set the Target load type for each of the Oracle tables to Normal, select Normal from the Value list.
9. Click the Properties tab. Select the connection object name for $Target connection value.

![Edit Tasks dialog box](image)

**Note:** Before running the workflow, create the physical tables corresponding to the Dimensions and Fact tables in Oracle, the default database.

**Configuring a Session for an Essbase Target**

The Essbase Connection is to be set in the Session for the Essbase Target running the workflow from the Workflow Manager.

**To set the session attributes:**

1. In the Task Developer, right-click the session.
   The Edit Tasks dialog box appears.
2. Click the Targets tab.
3. From the Type list, select Application.
4. From the Value list select EssbaseConnection.
For information about creating the Essbase connection object, see “Configuring a Session with an Essbase Mapping” on page 83.

5. Optionally, to specify a Hyperion Essbase Calculation Script to calculate the database, go to the Properties tab of the Target and enter the name of the calculation script against Calculation Script Name attribute.

To specify a local calculation script file existing on the Integration Service machine, the Calculation Script Name field must contain the fully qualified path to the file otherwise its assumed to exist on the Hyperion Essbase server. For more information about using calculation scripts, see “Calculation Scripts and Retrieval of Aggregated Data” on page 94.

6. If you want to run only the calculation script against the Essbase database, check the ‘Run Only Calculation Script’ option.

No data is loaded if this option is set.
7. If you want to clear the database before loading the data into Essbase go to the Properties tab of the Target and set it.

The error log file maintains the records that are rejected or that cause the errors while loading the data into the Hyperion Essbase.

8. Optionally, specify the name and absolute path for the error log file. Each partition has its own error log file.

If no name is provided for the error log file, the errors will not be logged. The error log file path must be local to the Integration Service. If full path for error log file is not specified, then it is created in ESSBASECONNECTORPATH directory.

For improved performance, you can configure PowerCenter partitioning information in the session. For more information about partitioning, see the Workflow Administration Guide.
Troubleshooting

Essbase Reader/Writer library could not be loaded (on UNIX).

If this error occurs then please check the Library path settings. If the same problem exists after setting correct library path, please restart your Integration Service to allow the server to pick correct Library Path.

For any other errors, generate the EssbaseConnector_TraceLog.log file and contact Informatica Technical Support.
Calculation Scripts and Data Retrieval

This chapter includes the following topic:

♦ Calculation Scripts and Retrieval of Aggregated Data, 94
Calculation Scripts and Retrieval of Aggregated Data

A calculation script contains a series of calculation commands, equations, and formulas. You can create your own script for calculation other than the available predefined calculating in the database outline.

A Retrieval of aggregated data provides options to retrieve data from Essbase for different level.

Running Calculation Scripts

You can use a session attribute wherein to enter the Hyperion Essbase calculation script to run. The Integration Service can run the calculation script before reading data from Essbase or after writing data into Essbase. If no calculation script is run after loading data then the dynamic calc members of the outline are automatically calculated after data load according to the default formulae defined in the outline.

Figure 6-1 shows the Edit Tasks dialog where you can enter a calculation script name:

Retrieving Aggregated Data

If you want to retrieve the data for non-leaf members of the dimension in Essbase, then you can change the report script through the Edit Report Script Dialog box. By default, only the leaf level members are retrieved. Using the Edit Report Script, you can change the column
filter command to extract data for all level members. For example, the `<DIMBOTTOM` command is used to get leaf level data (default). The `<ONSAMELEVELAS` or `<OFSAMEGEN` command can be used to get different level data.

In the Edit Report Script dialog box, you can view a list of commands under the Member Selection Command.

Figure 6-2 shows the Edit Report Script dialog box:

**Figure 6-2. Edit Report Script Dialog Box**
Datatypes

This appendix includes the following topic:
- Datatypes, 98
Datatypes

PowerCenter uses the following datatypes in Essbase mappings:

- **Essbase datatypes.** Essbase datatypes appear in Essbase source and target definitions.
- **Transformation datatypes.** Transformation datatypes are generic datatypes that PowerCenter uses during the transformation process. They appear in all transformations in a mapping.

PowerCenter supports the following Essbase datatypes:

- **Text.** Text string.
- **Numeric.** Numeric value.
- **Date.** Date.
- **Boolean.** Boolean value.

The Essbase datatypes appear as follows in Essbase source and target definitions:

- **SQL_VARCHAR.** String (corresponds to Text).
- **SQL_NUMERIC.** Decimal value (corresponds to Numeric).
- **SQL_DATE.** Date (corresponds to Date).
- **SQL_BIT.** Boolean value (corresponds to Boolean).
Code Pages

This appendix includes the following topic:

♦ Using Code Pages, 100
Using Code Pages

When you configure an Essbase application connection in the Workflow Manager for an Essbase source or target, the Integration Service automatically selects a code page for the document data, which is the code page of the Integration Service.

For a complete discussion of code page compatibility, see the PowerCenter Administrator Guide.
Glossary

This appendix includes the following topic:
- Glossary, 102
Glossary

alias
An alternate name for a dimension, member, or description.

Application
A management structure containing one or more Hyperion Essbase databases and the related files that control many system variables, such as memory allocation and auto load parameters.

ARBORPATH
An environment variable that specifies the Hyperion Essbase root directory.

attribute
A classification of a member in a dimension. You can specify an attribute to select and group members who have the specified attribute associated with them and to perform calculations and application-specific functions.

For example, a Product dimension can have several attributes, such as Size and Flavor. A specific member of the Product dimension can have the Size attribute 8 and the Flavor attribute Cola.

attribute association
A relationship in a database outline where a member in an attribute dimension describes a characteristic of a member of its base dimension.

For example, if product 100-10 has a grape flavor, the product 100-10 has the Flavor attribute association of grape. Thus, the 100-10 member of the Product dimension is associated with the Grape member of the Flavor attribute dimension.

attribute dimension
A type of dimension that enables analysis based on the attributes or qualities of the members of its base dimension.

base dimension
A standard dimension that is associated with an attribute dimension. To classify a member of a base dimension, you can associate it with a member of an attribute dimension that describes the classification, such as a specific flavor.

For example, assuming products have flavors, the Product dimension is the base dimension for the Flavors attribute dimension.

calculation
The process of aggregating or of running a calc script on a database.
calculation script
A text file containing a set of instructions telling Hyperion Essbase how to calculate a database.

dimension
A data category used to organize business data for retrieval and consolidation of values. A dimension usually contains a hierarchy of related members grouped within it. For example, a Year dimension often includes members for each time period, such as quarters and months. Other common business dimensions might be Measure, Natural Accounts, Product, and Market.

dimension build rules
Specifications, similar to data load rules, that Hyperion Essbase uses to modify an outline. The modification is based on data in an external data source file.

Dynamic Calc Members
Members that the Hyperion Essbase server calculates only at retrieval time. The server discards calculated values after the retrieval request is complete.

Dynamic Time Series
A process that is used to perform dynamic period-to-date reporting.

Dynamic Time Series Members
Predefined members that are used to perform Dynamic Time Series reporting.

hierarchy
A set of multidimensional relationships in an outline, often created in a tree formation. For example, parents, children, and generations represent a hierarchy.

leaf member
A member that has no children.

member
A discrete component within a dimension. For example, a time dimension might include members such as Jan, Feb, and Qtr1.

Member Selection Report Command
A type of Report Writer command that selects ranges of members based on database outline relationships, such as sibling, generation, and level.
**missing data**
A marker (#MISSING) indicating that data in the labeled location does not exist, contains no meaningful value, or was never entered or loaded. Missing data exists when an account contains data for a previous or a future period but not for the current period.

**On-line Analytical Processing**
Online Analytical Processing (OLAP) is 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**
The database structure of a multidimensional database, including all dimensions, members, tags, types, consolidations, and mathematical relationships. Data is stored in the database according to the structure defined in the outline.

**standard dimension**
A dimension that is not an attribute dimensions.

**substitution variable**
A variable that acts as a global placeholder for information that changes regularly. The variable and a corresponding string value is set; the value can then be changed at any time. Substitution variables can be used in calculation scripts and report scripts.

**suppress rows**
The option to exclude rows that contain missing values.

**time series reporting**
A process of reporting data based on a date calendar, such as year, quarter, month, or week.

**UDA**
Formerly called user-defined attribute. A UDA is a term associated with members of an outline to describe a particular characteristic of the members. Users can specify UDAs within calc scripts and reports to return lists of members that have the specified UDA associated with them. UDAs can be applied to dense as well as sparse dimensions.
Index

A
About this Guide xi
Adding Attribute Dimensions to the Type 1 Source definition 33

C
Configuring a Session for a ROLAP Model 86
Configuring a Session for an Essbase Source 83
Configuring a Session for an Essbase Target 89
Configuring a Session with an Essbase Mapping 83
Configuring Application Connection Properties 13
Creating a DSN for a Source Definition 19
Creating a DSN for a Target Definition 57
Creating a DSN for Target Definition 57
Creating a Source Definition 22
Creating a Target Definition 64
Creating a Type 1 Source Definition 22
Creating a Type 1 Target Definition 64
Creating a Type 2 Source Definition 37
Creating Columns for a Target Definition 78
Creating Columns for Type 1 Target Definition 65
Creating Columns in a Type 2 Target Definition 72
Creating Columns in a Type 3 Target Definition 74
Creating Columns in Type 2 Source Definition 39
Creating the ROLAP Model for Essbase 52

D
Datatypes 97, 98
Designer Wizard fails 54
Designer Wizard hangs 54
Document Conventions xi

E
Error occurs while using Designer Wizard 54
Essbase Source Definition in the Designer 52

G
Glossary Terms 102

I
Importing 57
Importing an Essbase Source Definition 19
Importing an Essbase Target Definition 57
Installing on UNIX 9
Installing on Windows 9
Installing PowerCenter Connect for Hyperion Essbase 9
Modifying the Outline 60
Modifying the outline 60

New Features and Enhancements x

Previewing the Data 50

Registering for PowerCenter 7.x 12
Registering the Repository Plug-in 10
registering the repository plug-in 12

Setting Library Paths on UNIX 11
Setting Library Paths on Windows 10
Settings Library Paths 10
Source Definition
  Type 2 37
Source definition
  Adding Attribute Dimensions 33
Source Definition Information
  Type 1 45
  Type 2 45
Source Definition Type 2
  Creating Columns 39

Troubleshooting 80
Type 1 Target Definition
  Column Information 78
  Creating Columns 65
  Information 77
Type 2 Target Definition
  Column Information 79
  Creating Columns 72
  Information 77
Type 3 Target Definition
  Column Information 79
  Creating Columns 74
  Information 78

Uninstalling PowerCenter Connect for Hyperion Essbase from Windows 15
Using Code Pages 100
Using the Report Script 47

Viewing Column Information for a Source Definition 46
Viewing Column Information for a Target Definition 78
Viewing Source Definition Information 44
Viewing Source DSN Information 21
Viewing Target DSN Information 59
Viewing Target Table Information 76