

IBM® DB2® OLAP Server™ 8.1



Quick Path



© Copyright International Business Machines Corporation 1998, 2002. All Rights Reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Copyright 1991-2002 Hyperion Solutions Corporation. All rights reserved. This material belongs to Hyperion Solutions Corporation and its licensors. You may only use it internally in the form in which it is received. You have no right to reproduce, reprint, modify, distribute, or transfer this material to any other person, except as expressly and unambiguously stated in a separate agreement between you and Hyperion Solutions Corporation.

Portions copyright 2002 eHelp Corporation. All rights reserved.

Portions copyright 1995-2002 MERANT Solutions, Inc. All rights reserved.

IBM, AIX, DB2, DRDA, DB2 OLAP Server, and DB2 Universal Database are trademarks of International Business Machines Corporation in the United States, other countries, or both. 1-2-3, Notes, and Lotus are registered trademarks of Lotus Development Corporation and/or IBM Corporation.

Hyperion, Essbase, and the Hyperion “H” logo are registered trademarks, and Hyperion Solutions is a trademark of Hyperion Solutions Corporation

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

ActionMedia, LANDesk, MMX, Pentium and ProShare are trademarks of Intel Corporation in the United States, other countries, or both. (For a complete list of Intel trademarks, see www.intel.com/tradmarx.htm.)

UNIX is a registered trademark of The Open Group in the United States and other countries. Other company, product or service names may be the trademarks or service marks of others.

Printed in the U.S.A.

Contents

Chapter 1: Quick Path to DB2 OLAP Server	11
Understand Essbase.....	11
Design applications and databases	12
Create applications and databases.....	13
Create, remove, or modify dimensions dynamically	13
Load data into a database	14
Loading free-form data.....	14
Loading data with a rules file	15
Loading data with Hybrid Analysis.....	15
Calculate data	15
View data	16
View data using Spreadsheet Add-in	16
View data using other tools	16
Store data.....	17
Generate reports	17
Create and perform batch operations	17
Maintain security.....	18
Tune and maintain databases	18
Take the next step.....	19

Quick Path to DB2 OLAP Server

IBM DB2 OLAP Server Version 8.1, known as Essbase 6.5 in this guide, is an online analytical processing (OLAP) solution that satisfies the complex calculation requirements of financial, accounting, and marketing professionals.

Use these steps to create and maintain analytic applications in Essbase:

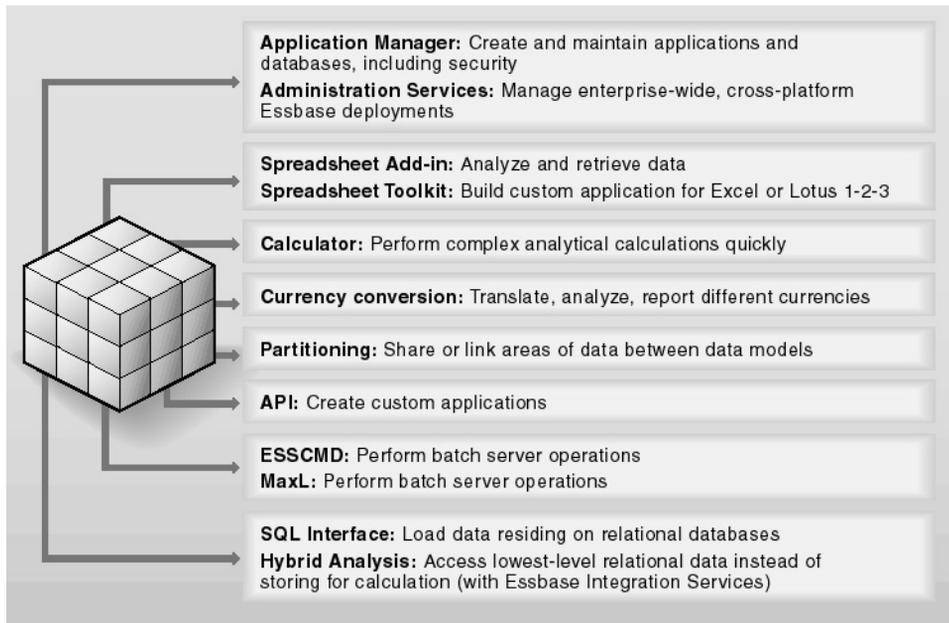
1. “Understand Essbase” on page 11
2. “Design applications and databases” on page 12
3. “Create applications and databases” on page 13
4. “Create, remove, or modify dimensions dynamically” on page 13
5. “Load data into a database” on page 14
6. “Calculate data” on page 15
7. “View data” on page 16
8. “Store data” on page 17
9. “Generate reports” on page 17
10. “Create and perform batch operations” on page 17
11. “Maintain security” on page 18
12. “Tune and maintain databases” on page 18

Understand Essbase

Essbase is a feature-rich, multidimensional database server:

- 32-bit, multithreaded software application
- Optimized for planning, analysis, and management reporting applications

- Multiple users work with multiple clients simultaneously. The server performs most of the database processing, enabling the clients to minimize query run time.
- Supports standard applications, operating systems, and networking protocols.
- Contains over 100 analytical functions.
 - Manages data models, calculations, reports, partitions and security:



Design applications and databases

- Identify business and user requirements, including security.
- Identify source data and determine the scope of the Essbase database.
- Choose whether to leave lowest-level member data in a relational database and access with Hybrid Analysis, or to load all data.
- Define standard dimensions and designate sparse and dense storage.
- Identify any need for attribute dimensions.
- Identify any need for partitioning.

- Identify any need for currency conversion applications that track data in different currencies.
- Define calculations needed for outline dimensions and members.
- If possible, calculate the size of the database, check disk space, and ensure that the sizes of the index, data files, and data caches in memory are adequate.

Create applications and databases

1. Start OLAP Server.
2. Connect to OLAP Server using Application Manager or Essbase Administration Services.
3. Create a new application and database. You can create the application and database on the server or on the client.
4. Open the database outline and add dimensions and members to the outline, or use the next section to create, removing, or modify the outline dynamically.
5. Set dimension and member properties, such as labels, calculations, and storage properties.
6. Check the automatic configuration of dense and sparse dimensions. You can turn off automatic configuration and choose sparse and dense dimensions manually.
7. Create attribute dimensions and associate them with the appropriate base dimensions.
8. Create partitions.
9. Create currency applications.
10. Save the database outline.

Create, remove, or modify dimensions dynamically

If your outline has many members, you may want to create, remove, or modify the dimensions dynamically, using a rules file and a data source:

1. Create a data source file that contains the dimensions and members that are to be added to the Essbase database.
2. Start Application Manager.
3. Connect to OLAP Server.

4. In the Application Manager desktop window, select an application and a database. The database must contain at least one dimension.
5. To open a new rules file in the Data Prep Editor, select New > Data Load Rules from the File menu.
6. Open the data source file in the Data Prep Editor.
7. Associate the rules file with the outline.
8. To ensure that Data Prep Editor displays dimension building fields, select Dimension Building Fields from the View menu.
9. In the rules file, specify the names of the new dimensions.
10. Specify operations, such as the build type method, that the rules file should perform on the data file before loading the data file into the database.
11. Define dimension build properties for each field in the rules file.
12. Validate and save the rules file.
13. To update the outline, open the outline and select the File > Update Outline command.

Load data into a database

You can load data in these ways:

- “Loading free-form data” on page 14
- “Loading data with a rules file” on page 15
- “Loading data with Hybrid Analysis” on page 15

Loading free-form data

1. Connect to OLAP Server.
2. Ensure that the data source is valid and correctly formatted for the database.
3. Select the application, database and the data file, and start loading data.
4. Check results to ensure that the data load was successful. If the data load fails or is only partially successful, check the error log file, correct the problem, and reload the data.

Loading data with a rules file

1. Create a rules file to map the data source to your Essbase database. Specify the changes that the rules file should perform on the data before loading it from the source into the database.
2. Validate and save the rules file.
3. Associate the rules file with the database outline.
4. Load the data.
5. Check results to ensure that the data load was successful. If the data load fails or completes only partially, check the error log file, correct the problem, and reload the data.

Loading data with Hybrid Analysis

1. Enable Hybrid Analysis on the OLAP Server.
2. Use Essbase Integration Services to access the lowest-level member data in a relational database.
3. Check results to ensure that the data load was successful. If the data load fails or completes only partially, check the error log file, correct the problem, and reload the data.

Calculate data

1. Decide on a type of calculation: outline or calculation script, or a combination of both.
2. Ensure that relationships between members and member consolidations in the database outline are correct.
3. Consider whether tagging some members as Dynamic Calc or whether using Intelligent Calculation will improve calculation efficiency.
4. Consider which members you need to tag as two-pass calculation to ensure correct calculation results.
5. Select the application and database.
6. Select a calculation script or the default calculation and run the calculation. If you select a calculation script:

- Use calculation commands and formulas in the calculation script to perform specific calculations on the database.
- Group formulas and dimensions in the calculation script to improve calculation performance.
- Associate the calculation script with the database and run the calculation script.

7. Optimize your calculations.

View data

You can view data with the Spreadsheet Add-in, other Hyperion tools, or third-party tools.

View data using Spreadsheet Add-in

1. Add Spreadsheet Add-in to Microsoft Excel or Lotus 1-2-3.
2. Install the Essbase Toolbar (for Excel only).
3. Start Spreadsheet Add-in.
4. Connect to the database on OLAP Server.
5. To retrieve data, select Essbase > Retrieve in the spreadsheet.
6. To drill down to more detailed data for a member, select the member and select Essbase > Zoom-in (also called drill-down).
7. Alternatively, to create a query with Essbase Query Designer (EQD), select Essbase > Query Designer.
8. To view the results of the query, in the navigation panel, click the right-mouse button and select Apply Query.

View data using other tools

You can also use other Hyperion tools, for example Hyperion Analyzer, or third-party tools to view data. For details, see the documentation for that particular tool. For a list of tools, visit the Hyperion site: <http://www.hyperion.com>.

Store data

Essbase automatically sets the default Essbase kernel storage settings. However, you can customize the major Essbase kernel settings in Application Manager or Essbase Administration Services:

- **Data compression:** Specify data compression on disk and the compression scheme.
- **Cache sizes:** You can specify the index, data file, and data cache sizes. To prevent a slow-down of the operating system, ensure that the sum of index and data cache sizes for all the active databases on the server is not more than two-thirds of the system's RAM.
- **Cache memory locking:** You can lock the memory that is used for the index, data file, and data caches into physical memory.
- **Disk volumes:** You can specify the storage location of Essbase index files and data files, specify the appropriate disk volume names and configuration parameters.
- **Isolation level:** Specify either committed access or uncommitted access.

Generate reports

1. Choose a structured report or a free-form report.
2. Plan the elements of the report, such as page layout, number of columns, identity of members, format of data values, and content of titles.
3. For a structured report, create page, column, and row headings (unnecessary for a free-form report).
4. Create and test a report script, use Application Manager's Report Editor or any other text editor.
5. Save the report on OLAP Server or on a client computer.

Create and perform batch operations

Use MaxL or ESSCMD to perform server operations in a shell interface, using either scripts or interactive mode. Use script or batch files for commands that are frequently used or for completing tasks that require many commands.

1. Choose either the interactive method or scripting method to enter commands. The remaining steps describe how to use the shells interactively.

2. Start OLAP Server.
3. At the operating system command prompt, enter `essmsh` to start the MaxL Shell, or `esscmd` to start the ESSCMD prompt.
4. Log on to OLAP Server with the MaxL **login** statement, or the ESSCMD LOGIN command.
5. Enter any valid MaxL statement or ESSCMD command and press Enter. For a complete listing of ESSCMD commands, type `HELP`.
6. To exit either shell, type `EXIT`.

Maintain security

1. Create a security plan for your environment based on database security needs.
2. Create users and groups and assign them administrative or data-access permissions, if necessary.
3. Define common data access permissions at the scope of the server, applications, databases, or data-cell levels.
4. To define global application or database permissions, select the relevant application or application and database and adjust the settings.

Note: Higher permissions take precedence in the case of overlap, whether they are at the global or user-assigned level. For example, higher user-assigned settings override all global settings for applications and databases.

Tune and maintain databases

- Ensure that block size is not excessively large.
- Set the correct size for the index, data file, data, and calculator caches.
- Validate the database to ensure data integrity.
- Consider using partitioning to distribute data across multiple cubes for better scalability and performance.
- Ensure that disk space is adequate to allow the application to grow over time.
- Archive data from OLAP Server on a regular basis.

- Enable logging for spreadsheet update to ensure that log files are updated after archiving.
- If sorting on retrievals, increase the size of the retrieval sort buffer.

Take the next step

Now that you understand the process, install Essbase and begin developing your applications and databases. For detailed information, start with the *Essbase Information Map*, available in the `/docs` directory of your Essbase installation.

For information about using Hybrid Analysis, see the Essbase Integration Services documentation and online help.

