

Oracle Essbase 11.1.2 Bootcamp

Volume I – Student Guide

D63979GC20

Edition 2.0

November 2011

D74750

ORACLE®

Author

Pete DeHaan

**Technical Contributors
and Reviewers**

Sergiy Pecherskyy

Lisa Alexander

Stan Ziolkowski

Art Hetherington

Frank Laffey

Eleanor Salerno

Yulia Stolerman

Editor

Susan Moxley

Copyright © 2011, Oracle and/or its affiliates. All rights reserved.

Disclaimer

This document contains proprietary information and is protected by copyright and other intellectual property laws. You may copy and print this document solely for your own use in an Oracle training course. The document may not be modified or altered in any way. Except where your use constitutes "fair use" under copyright law, you may not use, share, download, upload, copy, print, display, perform, reproduce, publish, license, post, transmit, or distribute this document in whole or in part without the express authorization of Oracle.

The information contained in this document is subject to change without notice. If you find any problems in the document, please report them in writing to: Oracle University, 500 Oracle Parkway, Redwood Shores, California 94065 USA. This document is not warranted to be error-free.

Restricted Rights Notice

If this documentation is delivered to the United States Government or anyone using the documentation on behalf of the United States Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS

The U.S. Government's rights to use, modify, reproduce, release, perform, display, or disclose these training materials are restricted by the terms of the applicable Oracle license agreement and/or the applicable U.S. Government contract.

Trademark Notice

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Table of Contents

Preface

Course Objectives	xiii
Course Structure	xiii
Course Materials	xiv
Student Guide	xiv
Activity Guide	xiv
Conventions	xiv
Additional Resources	xv
Related Courses	xv

Lesson 1: Introduction to Essbase

About Multidimensional Analysis	1-2
Avoiding Pitfalls of Spreadsheet-Based Analysis	1-3
Providing Business Perspective	1-5
Appealing to Analysts	1-7
About Essbase	1-9
Essbase Architecture	1-11
Client Tier	1-12
Middle Tier	1-14
Database Tier	1-15
Essbase Cube Development Cycle	1-16
Essbase Business Scenarios and Training Environment	1-17
Business Scenario: Bigcorp Corporation	1-18
Business Scenario: Country Kitchen Desserts	1-20
Training Environment: Setup	1-22
Training Environment: Developer Interface	1-23

Lesson 2: Designing Applications and Databases

Essbase Implementation Process	2-2
Analyzing and Planning Implementations	2-4
Identifying Business Results	2-5
Examining Data Sources	2-7

Analyzing Sample Reports	2-8
Selecting a Database Type	2-9
Designing Outlines	2-11
Creating Applications and Databases	2-13
Creating Block Storage Applications	2-16
Creating Block Storage Databases	2-18
Block Storage Database: Server File Structure	2-20
Outlines	2-21
Rules Files	2-22
Calculation Scripts	2-24
Dense and Sparse Dimensions	2-25
Data Blocks and the Index	2-26
Design Recommendations	2-28
Creating Outlines	2-30
Creating Dimensions and Members	2-32
Moving Dimensions and Members	2-34
Modifying Member Properties	2-36

Lesson 3: Designing Data Descriptor Dimensions

Data Descriptor Dimensions Overview	3-2
Designing Time Dimensions	3-4
Tracking Time in Multiple Dimensions	3-6
Tracking Time in a Single Dimension	3-8
Designing Scenario Dimensions	3-10
Tracking Data Sets	3-11
Tracking Processes	3-12
Outline Calculations	3-14
Hierarchy Structures: Consolidation Operators	3-15
Hierarchy Structures: Shared Members	3-17
Member Formulas	3-19
Designing Accounts Dimensions	3-20
Consolidation Order	3-22
Design Considerations	3-24
Creating Accounts Hierarchies	3-26
Testing Outline Calculations	3-27
Intelligent Calculation	3-29
Setting the Default Database Calculation	3-30

Lesson 4: Optimizing Data Descriptor Dimensions

Creating Member Aliases	4-2
Dimension Types	4-4
Creating Period-to-Date Totals	4-6
Creating Period-to-Date Calculated Members	4-7
Implementing Dynamic Time Series	4-9
Dynamic Calc Members	4-12
Advantages of Dynamic Calc Members	4-12
Considerations for Dynamic Calc Members	4-13
Dynamic Calc and Store Option	4-13
Enhancing Accounts Dimensions	4-14
Implementing Time Balance Reporting	4-15
Calculating Variances	4-17
Optimizing Data Storage	4-19
Optimizing with Label-Only Members	4-20
Automatic Optimization: Implied Shares	4-22
Reducing Report Maintenance	4-23

Lesson 5: Developing Dimension Designs

Business View Dimensions Overview	5-2
Attributes in Database Design	5-4
UDAs	5-4
Attribute Dimensions	5-5
Combining Business Views	5-6
Combining Business Views: Guidelines	5-6
Redesigning Dimensions: Example	5-7
Developing Label Outlines	5-8
Designing Primary Hierarchies	5-10
Designing Secondary Hierarchies	5-11

Lesson 6: Creating Basic Dimension Build Rules Files

Rules Files Overview	6-2
Data Sources	6-3
Dimension Build Rules Files	6-5
Creating Dimension Build Rules Files	6-7
Prepping Data Prep Editor (Steps 1–6)	6-9
Creating Dimensions (Step 7)	6-14

Selecting the Dimension Build Method (Step 8)	6-17
Defining Field Properties (Step 9)	6-19
Validating Dimension Build Rules Files (Step 10)	6-22
Completing Dimension Build Rules Files (Steps 11 and 12)	6-24
Configuring Dimension Maintenance Settings	6-26
Moving Members	6-27
Modifying Member Properties	6-29
Sorting Members	6-31
Updating Members	6-33

Lesson 7: Creating Advanced Dimension Build Rules Files

Advanced Dimension Build Rules Files Overview	7-2
Creating Shared Members	7-3
Parent-Child Build Method	7-5
Other Methods for Creating Shared Members	7-7
Manipulating Fields	7-9
Arranging Fields	7-10
Altering and Ignoring Fields	7-13
Creating User-Defined Attributes	7-15
Uses for UDAs	7-15
Rules for Creating UDAs	7-16
Creating Attribute Dimensions with Rules Files	7-17
Adding Attribute Dimensions with Rules Files	7-19
Assigning Attributes in Rules Files	7-20

Lesson 8: Loading Data

Data Load Overview	8-2
Free-Form Data Sources	8-4
Data Sources That Require Rules Files	8-6
Data Load Errors	8-7
Creating Data Load Rules Files	8-8
Prepping Data Prep Editor (Steps 1–6)	8-10
Defining Field Properties (Step 7)	8-12
Defining Data Load Headers (Step 8)	8-15
Setting Data Load Values Options (Step 9)	8-17
Validating Data Load Rules Files (Step 10)	8-19
Completing Data Load Rules Files (Steps 11 and 12)	8-20
Selecting and Rejecting Records	8-22

Capturing New Members	8-24
---------------------------------	------

Lesson 9: Getting Started with Smart View

Navigating Smart View	9-2
Smart View Architecture	9-3
Smart View Excel User Interface	9-5
Enabling and Disabling Smart View	9-6
Connecting to Data Sources	9-7
Working with Shared Connections	9-8
Working with Private Connections	9-11
Managing Private Connections	9-14
Creating Ad Hoc Reports	9-15
Adding and Removing Dimensions	9-17
Zooming In and Out on Dimension Members	9-18
Pivoting Dimensions	9-20
Keeping and Removing Dimension Members	9-22
Setting the Point of View	9-23
Selecting Dimension Members	9-24
Filtering Dimension Member Selections	9-26
Associating Data Sources with Worksheets	9-28
Creating Free-Form Grids	9-29
Free-Form Label Placement Guidelines	9-29
Adding Member Names	9-30

Lesson 10: Creating Reports with Smart View

Updating Essbase Data	10-2
Adjusting Data Values	10-3
Submitting Data	10-5
Calculating Data	10-6
Integrating Essbase Data with Microsoft Office	10-8
Copying Dynamic Data Points	10-9
Visualizing Dynamic Data Points	10-11
Creating Shared Database Perspectives	10-12
Creating Smart Slices	10-14
Setting Smart Slice Preferences	10-16
Creating Custom Reports	10-18
Interactive Report Components	10-20
Creating Reports with Report Designer	10-22

Lesson 11: Data Storage and Calculation

Calculation Overview	11-2
Outline-Based Calculations	11-4
Script-Based Calculations	11-5
Calculation Script Editor	11-8
Database Calculation Order	11-9
Data Block Fundamentals	11-11
Data Blocks and the Index System	11-12
Data Cells	11-14
Dense Dimensions	11-16
Sparse Dimensions	11-18
Interpreting Database Statistics	11-20
Dimension Properties	11-21
Block Statistics	11-22
Data Block Creation	11-24
Data Load	11-25
DATACOPY Command	11-26
Sparse Dimension Consolidation	11-27
Member Formulas	11-29
Database Calculation Process	11-31
Input Data Load	11-32
Dense Dimension Calculation Process: Accounts	11-33
Dense Dimension Calculation Process: Time	11-34
Sparse Dimension Calculation Process: Customer	11-35
Sparse Dimension Calculation Process: Product	11-37

Lesson 12: Creating Calculation Scripts

Calculation Script Organization	12-2
Information Section	12-6
Housekeeping Section	12-8
Baseline Fix Section	12-10
Normalization Section	12-12
Main Rollup Section	12-14
Back Calculation Section	12-15
Returning Correct Calculation Results	12-16
Expected Behavior	12-17
Correcting Calculated Percentages	12-19
Design Considerations for Rates	12-22

Preventing Consolidation of Rates	12-24
Correcting Derived Rates	12-25
Correcting Input Rates	12-26
Troubleshooting CALC DIM Processes	12-28
Viewing Calculation Messages	12-30
Single-Pass Calculation with Incorrect Results	12-32
Multiple-Pass Calculation with Correct Results	12-34

Lesson 13: Controlling the Calculation Process

Top-Down Calculation	13-2
Focusing Calculations with FIX Statements	13-4
FIX Example	13-5
FIX Considerations	13-5
Calculating Conditionally with IF Statements	13-7
Boolean Functions	13-9
Syntax Requirements	13-11
Considering Performance with IF Statements	13-13
Number of Data Blocks Processed	13-14
Number of Calculation Passes	13-16

Lesson 14: Referencing Members in Calculations

Referencing Members Explicitly	14-2
Referencing Members Dynamically	14-4
Referencing Sets of Members	14-6
Referencing Related Members	14-8
Creating Calculation Variables	14-10
Creating Temporary Variables	14-11
Creating Substitution Variables	14-14

Lesson 15: Developing and Testing Complex Calculation Scripts

Implementing a Script Development Process	15-2
Following a Calculation Test Cycle	15-4
Implementing a Prototype Phase	15-6
Pilot Phase	15-9
Upper-Level Data Loads	15-13
Aggregate Missing Values	15-14
Leaf-Node Loading	15-17

Intelligent Calculation	15-18
Data Block Marking: Clean Blocks	15-20
Data Block Marking: Dirty Blocks	15-23
Usage Considerations	15-25

Lesson 16: Normalizing Data

Allocating Data	16-2
Calculating Fixed Rate Allocations	16-3
Calculating Dynamic Ratio Allocations	16-5
Planning Data Normalization	16-6
Partitioning Calculations by Scenario	16-8
Developing Normalization Tables	16-10
Developing Block Diagrams	16-13
Normalizing Rates and Drivers	16-15
Copying and Clearing Data	16-17
Copying Data	16-18
Clearing Data with CLEARDATA	16-20
Clearing Data with CLEARBLOCK	16-22

Lesson 17: Creating Attribute Dimensions

Attribute Dimensions Overview	17-2
Attribute Dimension Benefits	17-3
Attribute Calculations Dimension	17-5
Adding Attribute Dimensions to Outlines	17-7
Associating Attribute Dimensions	17-8
Assigning Attribute Members to Base Dimension Members	17-10
Design Considerations	17-12
Design Considerations: Database Size	17-14
Design Considerations: Batch Calculation Performance	17-15
Design Considerations: Report Layout	17-16
Design Considerations: Report Performance	17-18

Lesson 18: Analyzing Varying Attributes

Varying Attributes Overview	18-2
Creating Varying Attributes	18-3
Enabling Outlines for Varying Attributes	18-4
Associating Independent Dimensions	18-5

Assigning Varying Attributes to Base Dimension Members 18-7
 Viewing Varying Attribute Data. 18-9

Lesson 19: Analyzing Text and Dates

Typed Measures Overview 19-2
 Enabling Typed Measures 19-4
 Creating Text Measures 19-5
 Creating Text Lists 19-7
 Populating and Mapping Text Lists 19-8
 Associating Text Lists with Measures 19-9
 Creating Date Measures 19-10
 Viewing Typed Measures 19-12
 Calculations Based on Typed Measures 19-13
 Text Measure Calculations 19-13
 Date Measure Calculations 19-14

