Designing and Implementing OLAP Solutions with Microsoft® SQL Server™ Analysis Services 2000

Microsoft Official Curricula: 2074A

The course provides a comprehensive introduction to building and deploying powerful OLAP databases using Microsoft SQL Server 2000 Analysis Services for business analysts, database developers and database administrators. At the end of the course the trainee will be able to deliver to their business, solutions that can unlock information and convert it to real-time business intelligence, providing a mechanism for quicker decision-making and improved business performance. Our breadth of knowledge in BI will be invaluable on the course in helping attendees gain an insight into developing their own solutions for Budgeting, Sales Reporting, Performance Management and Financial Reporting.

Prerequisites

This course assumes the attendees have some prior knowledge of Data Warehousing concepts and terminology.

Duration

3 Days

Detailed Course Agenda

DAY 1

Introduction to Data Warehousing and OLAP introduces you to data warehousing and online analytical processing (OLAP). After completing this module, you will be able to describe characteristics, goals, and applications of a data warehouse, explain the need and use for OLAP solutions, and describe data warehouse design. You also will be able to explain the reasons for implementing OLAP models, describe their components, and visualize a multidimensional database. ***

Introducing Analysis Manager Wizards gives you a comprehensive introduction to cube building fundamentals by using the Analysis Manager wizards. After completing this module, you will be able to describe Microsoft SQL Server 2000 Analysis Server components, navigate through the basic interfaces of Analysis Manager, and prepare to create a cube by reviewing data sources and initiating the Cube Wizard. You also will be able to create an OLAP cube by using the Cube Wizard and the Dimension Wizard, process the cube, and browse the cube data and metadata by using the Analysis Manager browser.

Understanding Analysis Services Architecture provides an architectural foundation for the various system components. After completing this module, you will be able to describe the components of the Microsoft data warehousing strategy, the SQL Server Analysis Server architecture, and the function of the metadata repository. You also will be able to explain the basic differences between the three storage modes for OLAP cubes, describe client architecture and the role of Microsoft PivotTable® Service (PTS), and recognize Microsoft Office 2000 OLAP capabilities. ***

M² Business Intelligence Solutions Ltd,

Abbey House,
25 Clarendon Road,
Redhill. Surrey RH1 1QZ +44 (0)1737 852370 +44 (0)1737 852375 training@m2bis.com

Building Dimensions Using the Dimension Editor, teaches you about the Dimension Editor and how to use it to create and manage dimensions. After completing this module, you will be able to describe dimension fundamentals, explain when to use shared and private dimensions, and describe the characteristics of standard dimensions. You also will be able to add level properties to dimensions and develop parent-child dimensions.

Using Advanced Dimension Settings consists of a solutions-oriented discussion of various advanced dimension settings and methods used to develop OLAP dimensions and cubes. After completing this module, you will be able to work with dimension levels and hierarchies, understand and work with time dimensions, and create custom rollup dimensions. You also will be able to define member properties at dimension levels and create virtual dimensions from member properties and member levels.

DAY 2

Working with Cubes and Measures explains how to use the Cube Editor to create and manipulate cubes, add measures and dimensions, and use properties to enhance cubes. After completing this module, you will be able to define the required components of cubes, create cubes by using the Cube Editor, and describe the characteristics of measures. You also will be able to assign properties to measures, modify cube properties by using the Cube Editor, and disable levels of shared dimensions.

Case Study—Creating the Store Expense Cube, allows you to create an OLAP cube and several dimensions from start to finish. After completing this module, you will be able to create a cube based on end-user requirements, update dimensions, and add new dimensions to a cube.

Managing Storage and Optimisation explains that designing the storage mode and aggregations for a cube is one of the most crucial steps in cube development. After completing this module, you will be able to explain the advantages and disadvantages of the three data storage modes, use the Storage Design Wizard to set storage design, and describe how aggregations work. You also will be able to design aggregations for cubes, describe the concepts and mechanics of usage-based optimization, and override aggregation settings per dimension.

Processing Dimensions and Cubes describes how to manage dimension and cube processing with Analysis Services. After completing this module, you will be able to understand the difference between OLAP schema and data, process dimensions, and perform the three types of cube processes. You also will be able to optimize and troubleshoot cube processing.

DAY 3

Managing Partitions explains how to create partitions, how to define slices and filters, and the benefits of using partitions in cubes to improve scalability. At the end of this module, you will be able to explain the benefits of partitioning, describe the mechanics of the Partition Wizard, explain when to define slices and when to define filters, and describe the purpose and mechanics of merging partitions.

Implementing Calculations Using MDX allows you to learn about calculated members and how to use them in OLAP cubes to enhance analysis. After completing this module, you will be able to describe how calculated members work, explain the mechanics of the Calculated Member Builder, create calculated members in Measure dimensions, and create calculated members in non-Measure dimensions. You also will be able to describe the use of functions in calculated members, explain other calculation methods in Analysis Services, and describe the importance of Solve Order to generate accurate results. ***

Working with Virtual Cubes defines virtual cubes and explains when to use them and the mechanics of how to build them in Analysis Services. After completing this module, you will be able to describe when to use virtual cubes, explain the rules for constructing meaningful virtual cubes, build virtual cubes by using the Virtual Cube Wizard, and define calculated members in virtual cubes by using the Calculated Member Builder.

M² Business Intelligence Solutions Ltd,



Abbey House,
25 Clarendon Road,
Redhill. Surrey RH1 1QZ +44 (0)1737 852370 +44 (0)1737 852375 training@m2bis.com

Using Actions, Drillthrough, and Writeback teaches you how to implement three important features: actions, drill-through, and write-back. At the end of this module, you will be able to create and view actions, implement and test drill-through, and describe the applications for cube write-back.

Implementing Security teaches you how to implement security in Analysis Services. At the end of this module, you will be able to understand the use of security, explain administrator security, and describe authentication methods. You also will be able to assign database roles, apply dimension security, and manage cube roles.

Deploying an OLAP Solution explains how to automate cube processing, copy server objects, and move databases from testing to production environments. After completing this module, you will be able to describe the role of Data Transformation Services (DTS), create a DTS package, and define an Analysis Services processing task. You also will be able to copy, archive, and restore OLAP databases.

*** **In order to compress this course into 3 days these units are covered in less depth than the standard 4 day course.**

M² Business Intelligence Solutions Ltd,

Abbey House,
25 Clarendon Road,
Redhill. Surrey RH1 1QZ +44 (0)1737 852370 +44 (0)1737 852375 training@m2bis.com