6234 Implementing and Maintaining Microsoft SQL Server 2008 Analysis Services
Course Summary

Description

This course teaches students how to implement an Analysis Services solution in an organization. The course discusses how to use the Analysis Services development tools to create an Analysis Services database and an OLAP cube, and how to use the Analysis Services management and administrative tools to manage an Analysis Services solution.

Objectives

At the end of this course, students will be able to:

- Describe how SQL Server Analysis Services can be used to implement analytical solutions.
- Create multidimensional analysis solutions with SQL Server Analysis Services.
- Implement dimensions and cubes in an Analysis Services solution.
- Implement measures and measure groups in an Analysis Services solution.
- Query a multidimensional Analysis Services solution.
- Customize an Analysis Services cube.
- Deploy and secure an Analysis Services database.
- Maintain a multidimensional Analysis Services solution.
- Implement a Data Mining solution.

Topics

- Introduction to Microsoft SQL Server Analysis Services
- Creating Multidimensional Analysis Solutions
- Working with Cubes and Dimensions
- Working with Measures and Measure Groups
- Querying Multidimensional Analysis Solutions
- Customizing Cube Functionality
- Deploying and Securing an Analysis Services Database
- Maintaining a Multidimensional Solution
- Introduction to Data Mining

Audience

The primary audience for this course is individuals who design and maintain business intelligence solutions for their organization. These individuals work in environments where databases play a key role in their primary job and may perform database administration and maintenance as part of their primary job responsibilities. The secondary audience for this course is individuals who develop applications that deliver content from SQL Server Analysis Services to the organization.

Prerequisites

Before attending this course, students must have:

- Conceptual understanding of OLAP solutions.
- Experience navigating the Microsoft Windows Server environment.
- Experience with Windows services (starting and stopping).

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- Experience creating service accounts and permissions.
- Experience with Microsoft SQL Server, including:
- SQL Server Agent.
- SQL Server query language (SELECT, UPDATE, INSERT, and DELETE).
- SQL Server System tables.
- SQL Server accounts (users and permissions).

Duration

Three days

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Course Outline

I. Introduction to Microsoft SQL Server Analysis Services

This module introduces common analysis scenarios and describes how Analysis Services provides a powerful platform for multidimensional OLAP solutions and data mining solutions. The module then describes the main considerations for installing Analysis Services.

A. Overview of Data Analysis Solutions
B. Overview of SQL Server Analysis Services
C. Installing SQL Server Analysis Services

Lab: Using SQL Server Analysis Services

- (Level 200) Installing SQL Server Analysis Services
- (Level 200) Verifying Installation

After completing this module, students will be able to:

- Describe data analysis solutions.
- Describe the key features of SQL Server Analysis Services.
- Install SQL Server Analysis Services.

II. Creating Multidimensional Analysis Solutions

This module introduces the development tools you can use to create an Analysis Services multidimensional analysis solution, and describes how to create data sources, data source views, and cubes.

A. Developing Analysis Services Solutions
B. Creating Data Sources and Data Source Views
C. Creating a Cube

Lab: Creating Multidimensional Analysis Solutions

- (Level 200) Creating a Data Source
- (Level 200) Creating and Modifying a Data Source View
- (Level 200) Creating and Modifying a Cube

After completing this module, students will be able to:

- Develop Analysis Services solutions.
- Create a data source and a data source view.
- Create a cube.

III. Working with Cubes and Dimensions

This module describes how to edit dimensions and to configure dimensions, attributes, and hierarchies.

- Configuring Dimensions
- Defining Attribute Hierarchies
- Sorting and Grouping Attributes

Lab: Working with Cubes and Dimensions

- (Level 200) Configuring Dimensions
- (Level 200) Defining Relationships and Hierarchies
- (Level 200) Sorting and Grouping Dimension Attributes

After completing this module, students will be able to:

- Configure dimensions.
- Define hierarchies.
- Sort and group attributes.

IV. Working with Measures and Measure Groups

This module explains how to edit and configure measures and measure groups.

A. Working With Measures
B. Working with Measure Groups

Lab: Working with Measures and Measure Groups

- (Level 200) Configuring Measures
- (Level 200) Defining Dimension Usage and Relationships
- (Level 200) Configuring Measure Group Storage

After completing this module, students will be able to:

- Work with measures.
- Work with measure groups.

V. Querying Multidimensional Analysis Solutions

This module introduces multidimensional expressions (MDX) and describes how to implement calculated members and named sets in an Analysis Services cube.

A. MDX Fundamentals
B. Adding Calculations to a Cube

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Course Outline (cont'd)

Lab : Querying Multidimensional Analysis Solutions

- (Level 200) Querying a Cube by Using MDX
- (Level 200) Creating a Calculated Member
- (Level 200) Defining a Named Set

After completing this module, students will be able to:

- Describe Multidimensional Expression (MDX) fundamentals.
- Add calculations to a cube.

VI. Customizing Cube Functionality

This module explains how to customize a cube by implementing key performance indicators (KPIs), actions, perspectives, and translations.

A. Implementing Key Performance Indicators
B. Implementing Actions
C. Implementing Perspectives
D. Implementing Translations

Lab: Customizing Cube Functionality

- (Level 200) Implementing a KPI
- (Level 200) Implementing an Action
- (Level 200) Implementing a Perspective
- (Level 200) Implementing a Translation

After completing this module, students will be able to:

- Implement Key Performance Indicators (KPIs).
- Implement actions.
- Implement perspectives.
- Implement translations.

VII. Deploying and Securing an Analysis Services Database

This module describes how to deploy an Analysis Services database to a production server, and how to implement security in an Analysis Services multidimensional solution.

A. Deploying an Analysis Services Database
B. Securing an Analysis Services Database

Lab: Deploying and Securing an Analysis Services Database

- (Level 200) Deploying an Analysis Services Database
- (Level 200) Securing an Analysis Services Database

After completing this module, students will be able to:

- Deploy an Analysis Services database.
- Secure an Analysis Services database.

VIII. Maintaining a Multidimensional Solution

This module discusses the maintenance tasks associated with an Analysis Services solution, and describes how administrators can use the Analysis Services management tools to perform them.

A. Configuring Processing
B. Logging, Monitoring, and Optimizing an Analysis Services Solution
C. Backing Up and Restoring an Analysis Services Database

Lab: Maintaining a Multidimensional Solution

- (Level 200) Configuring Processing
- (Level 200) Implementing Logging and Monitoring
- (Level 200) Backing Up and Restoring an Analysis Services Database

After completing this module, students will be able to:

- Configure processing settings.
- Log, monitor, and optimize an Analysis Services solution.
- Back up and restore an Analysis Services database.

IX. Introduction to Data Mining

This module introduces data mining, and describes how to implement data mining structures and models. It then explains how to validate data model accuracy.

A. Overview of Data Mining
B. Creating a Data Mining Solution
C. Validating Data Mining Models

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Lab: Introduction to Data Mining

- (Level 200) Creating a Data Mining Structure
- (Level 200) Adding a Data Mining Model
- (Level 200) Exploring Data Mining Models
- (Level 200) Validating Data Mining Models

After completing this module, students will be able to:

- Describe data mining.
- Create a data mining solution.
- Validate data mining models.

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