

## Course 2791 — Instructor-led

### Course Length: 3 days

#### 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 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.

### Prerequisites:

#### To ensure your success, we recommend training or the equivalent knowledge of:

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

### Course Outline

#### Module 1: Introduction to Microsoft SQL Server 2005 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.

##### Lessons

- Overview of Data Analysis Solutions
- Overview of SQL Server 2005 Analysis Services
- Installing SQL Server 2005 Analysis Services

#### After completing this module, students will be able to:

- Describe data analysis solutions.
- Describe the key features of SQL Server 2005 Analysis Services.
- Install SQL Server 2005 Analysis Services.

#### Module 2: 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.

##### Lessons

- Developing Analysis Services Solutions
- Data Sources and Data Source Views
- Creating a Cube

#### Lab 2: Creating a Multidimensional Analysis Solution

- Exercise 1: Creating a Data Source
- Exercise 2: Creating and Modifying a Data Source View
- Exercise 3: Creating and Modifying a Cube

#### Module 3: Working with Dimensions

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

##### Lessons

- Configuring Dimensions
- Defining Hierarchies
- Sorting and Grouping Attributes

#### Lab 3: Defining Dimensions

- Exercise 1: Configuring Dimensions
- Exercise 2: Defining Relationships and Hierarchies
- Exercise 3: Sorting and Grouping Dimension Attributes

# Implementing and Maintaining Microsoft SQL Server 2005 Analysis Services

## Course 2791 — continued

### Module 4: Working with Measures and Measure Groups

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

#### Lessons

- Working with Measures
- Working with Measure Groups

#### Lab 4: Configuring Measures and Measure Groups

- Exercise 1: Configuring Measures
- Exercise 2: Defining Dimension Usage and Relationships
- Exercise 3: Configuring Measure Group Storage

### Module 5: 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.

#### Lessons

- MDX Fundamentals
- Adding Calculations to a Cube

#### Lab 5: Querying a Cube

- Exercise 1: Querying a Cube by Using MDX
- Exercise 2: Creating a Calculated Member
- Exercise 3: Defining a Named Set

### Module 6: Customizing Cube Functionality

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

#### Lessons

- Implementing Key Performance Indicators
- Implementing Actions
- Implementing Perspectives
- Implementing Translations

#### Lab 6: Customizing a Cube

- Exercise 1: Implementing a KPI
- Exercise 2: Implementing an Action
- Exercise 3: Implementing a Perspective
- Exercise 4: Implementing a Translation

### Module 7: Deploying and Securing an Analysis Services Database

This module describes how to deploy an Analysis Ser-

vices database to a production server, and how to implement security in an Analysis Services multidimensional solution.

#### Lessons

- Deploying an Analysis Services Database
- Securing an Analysis Services Database

#### Lab 7: Deploying and Securing an Analysis Services Database

- Exercise 1: Deploying an Analysis Services Database
- Exercise 2: Securing an Analysis Services Database

### Module 8: 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.

#### Lessons

- Configuring Processing Settings
- Logging, Monitoring, and Optimizing an Analysis Services Solution
- Backing Up and Restoring an Analysis Services Database

#### Lab 8: Maintaining an Analysis Services Database

- Exercise 1: Configuring Processing
- Exercise 2: Implementing Logging and Monitoring
- Exercise 3: Backing Up and Restoring an Analysis Services Database

### Module 9: 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.

#### Lessons

- Overview of Data Mining
- Creating a Data Mining Solution
- Validating Data Mining Models

#### Lab 9: Implementing Data Mining

- Exercise 1: Creating a Data Mining Structure
- Exercise 2: Adding a Data Mining Model
- Exercise 3: Exploring Data Mining Models
- Exercise 4: Validating Data Mining Models