

Designing and Developing Solutions with SQL Server 2008 Analysis Services

4 Days (BI-ASDVS08-301-EN)

Description

During this 4-day course, you will learn to design, develop, and deploy an analytical solution using SQL Server 2008 Analysis Services (SSAS). This course demonstrates design and development best practices as you build a fully working analytical solution.

SQL Server 2008 Analysis Services (SSAS) enables IT Professionals to rapidly build and deploy powerful analytical solutions that enable business users to analyze business data and achieve competitive advantage. SSAS enables rapid application development, increases performance and functionality, and reduces the costs and complexity of operation. This course focuses on teaching IT professionals the skills and best practices required to design and develop a well performing and successful analytical solution using SQL Server 2008 Analysis Services.

Target Audience

This course is intended for IT Professionals that are responsible for designing, developing, and deploying business intelligence solutions. The target audience for this course is database warehouse, decision support, and business intelligence solution architects, IT professionals, and business intelligence developers who want to learn the details of how to use the new capabilities provided by SSAS to build analytical applications.

Prerequisites

While this course is targeted at database professionals with some experience with data warehouse solutions, this workshop requires no prior experience with any version of SQL Server Analysis Services.

A basic understanding of relational design and theory is helpful, as is basic familiarity with Structured Query Language (SQL).

Course Objectives

Upon completion of this course, the student will be able to:

- Describe the process of building a business intelligence solution and identify where and how SSAS fits into the process.
- Create effective SSAS cubes complete with calculations, actions, aggregations, and more.
- Design solutions in SSAS that are both scalable and secure.
- Successfully manage and deploy SSAS cubes in a development/test/production environment.

Course Summary Outline

Section A: BI Solutions Overview

Module 01: Introduction to Business Intelligence Applications

- The process of creating a BI Application; The components of a BI Solution, ETL (SSIS), Relational Data Warehouse (SQL Server), Cubes (SSAS), and Delivery (PPS, SSRS, ProClarity, Excel, and more)

Lab 01A: Examining BI Data

Module 02: Dimensional Modeling

- An examination of the design of a dimensional model, including Dimension Tables, Fact Tables, and Star and Snowflake Schemas

Section B: SSAS Core Design Elements

Module 03: Getting Started With SSAS

- The SSAS Project Lifecycle, BIDS, Data Sources, Data Source Views, The Cube Wizard, Deployment and Processing

Lab 03A: Getting Started with SSAS

Module 04: Working with Dimensions

- Database and Cube Dimensions, Creating Dimensions, Dimension and Attribute Properties, Creating Hierarchies, Working with Hierarchy Properties

Lab 04A: Working with Dimensions

Module 05: Extending Dimensions

- Attribute Relationships and their Properties, Parent-Child Attributes and their Properties, Handling Slowly-Changing Dimensions

Lab 05A: Extending Dimensions

Module 06: Building Cubes

- Cubes, The Cube Wizard, Cube Properties, Measure Groups, Measures

Lab 06A: Building Cubes, Creating Cubes and Changing Properties

Module 07: Measure Groups and Dimensions

- Dimension Usage, Regular Relationships, Referenced Relationships, Fact Relationships, Many-to-Many Relationships

Lab 07A: Measure Groups and Dimensions; Working with Dimension Usage

Section C: Storage and Maintenance

Module 08: Storage Modes, Aggregations Designs, and Proactive Caching

- Storage Modes (MOLAP, HOLAP, and ROLAP), Partitions, Aggregations, Proactive Caching

Lab 08A: Aggregations and Partitions

Module 09: Basic Maintenance and Administration

- SQL Server Management Studio, Backup and Restore, Synchronization, Deployment

Lab 09A: Backup and Restore, Deployment

Section D: Enhancing the Cube

Module 10: Calculations and KPIs

- The Basics of MDX, Creating Calculated Members, Named Sets, SCOPE, KPIs

Lab 10A: Calculations and KPIs

Module 11: Actions and Perspectives

- Actions, Perspectives

Lab 11A: Actions and Perspectives

Module 12: Security

- Securing SSAS, Defining Administrative and User Access Roles, APSE, Custom Security

Lab 12A: Security; Implementing Security

Module 13: Translations

- Translations, Dimension Translations, Cube Translations

Lab 13A: Translations

Module 14: Scalability and Performance

- Optimizing Many-to-Many Dimensions, Server Properties, Reading Queries in Profiler

Lab 14A: Query Troubleshooting; Examining Query Performance