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Deploying, Operating, and Tuning an Analysis Services 2008

3 Days (BI-ASTUN08-301-EN)

Description

During this 3-day course, you will learn to deploy, operate and tune an Analysis Services solution. You begin by learning how to prepare for the successful deployment of an Analysis Services solution. You will then learn to update data in a production environment while minimizing its impact on performance. Finally, you will learn to collect and analyze data to improve processing and querying performance.

Target Audience

This course is intended for IT Professionals responsible for deploying, operating and tuning an Analysis Services solution. The target audience for this course is IT professionals and business intelligence developers who want to successfully deploy and operate well-performing Analysis Services solutions.

Prerequisites

Before attending this course, it is recommended that students have the following skills:

- Experience using Business Intelligence Development Studio to develop Analysis
- Services projects
- Experience using SQL Server Management Studio to manage an Analysis
- Services database
- Experience writing T-SQL and MDX queries
- Experience collecting performance monitor counters
- Experience collecting SQL Server Profiler traces

Technologies Covered

- SQL Server 2008 Analysis Services
- Network Load Balancing
- SQL Server Profiler
- SQL Server Management Data Warehouse

Course Objectives

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

- Deploy an Analysis Services project from development to test and production

- Synchronize changes over time between development, test and production
- Determine appropriate hardware resources and software versions for your
- production environment
- Plan for security and availability requirements
- Update dimension and partition data while minimizing the impact on availability
- and performance
- Troubleshoot deployment and processing errors
- Utilize a scale-out architecture for availability and performance
- Monitor an Analysis Services solution for availability, performance and usage
- Diagnose and resolve query performance issues
- Diagnose and resolve processing performance issues

Course Summary Outline

Day 1

Module 01: Deployment Considerations

- Hardware and Scalability Considerations
  Lab 01A: Stress Testing using ASCMD
- Operating System Considerations
- SQL Server 2008 Considerations
- Installation Considerations
  Lab 01B: Configuring HTTP Access
- Security Considerations
- High Availability Considerations
- Deployment Methods
  Lab 01C: Deploying a Solution to a Production Environment
- Deploying Changes
  Lab 01D: Deploying Changes to a Production Solution
- Troubleshooting Connectivity Problems

Module 02: Updating Dimension and Partition Data

- Accessing Data Sources
- Database and Cube Processing Overview
- Dimension Processing Considerations
  Lab 02A: Processing Changes to Dimension Data
- Partition Processing Considerations
  Lab 02B: Processing Changes to Partition Data
- Updating Aggregations
  Lab 02C: Using UBO to Update Aggregations
- Troubleshooting Processing Errors

Day 2

Module 03: Maintaining Availability
- Planning for Disaster / Backing up Data
  Lab 03A: Backup and Detach
- Recovering from Disaster / Restoring Data
  Lab 03B: Restore and Attach
- Implementing Failover Clustering

Module 04: Implementing Query Scale Out
- Overview of Query Scale-Out
- Implementing a Staging Server for Processing
- Analysis Server Sync Method
- Backup/Restore, Robocopy and Attach/Detach for Synchronization*Lab 04A:*
- *Synchronizing Database Files*
- Implementing Read-Only Databases
  Lab 04B: Setting Up Read-Only Databases
- Load Balancers
- Configuring NLB

Module 05: Monitoring an Analysis Services Solution
- Understanding Available Tools
- SQL Server Profiler
  Lab 05A: Collecting an Analysis Services Trace
- Performance Monitor
- Management Data Warehouse
  Lab 05B: Collecting Performance Monitor Data
- Dynamic Management Views
  Lab 05C: Collecting DMV Data
- Auditing User Access or Administrative Activities
- Task Manager
- Monitoring for Availability
- Monitoring for Performance SLAs
- Monitoring for Capacity/Trends
  Lab 05D: Putting It All Together

Day 3

Module 06: Enhancing Query Performance
- Understanding Query Processor Architecture
- Diagnosing Bottlenecks
- Optimizing Dimensions

- Maximizing Aggregations
- Utilizing Partitions
- Writing Efficient MDX
- Cache Warming
- Advanced Techniques

Module 07: Enhancing Processing Performance

- Basics of Processing
- Diagnosing Problems
- Improving Dimension Processing
- Improving Partition Processing
- Advanced Techniques