MOC 6317 Upgrading Your SQL Server 2000 Database Administration (DBA) Skills to SQL Server 2008 DBA Skills

Course Summary

Description

This course provides students with the knowledge and skills to upgrade their SQL Server 2000 database administration (DBA) skills to SQL Server 2008 DBA skills. Please note that there is no certification exam related to this course.

Objectives

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

- Describe the new features of SQL Server 2008.
- Plan for a SQL Server 2008 installation, upgrade, and migration.
- Understand SQL Server data types.
- Manage SQL Server 2008.
- Secure a SQL Server 2008 database.
- Prepare for and recover from potential database disasters.
- Maintain availability to their SQL Server data even through server downtime.
- Configure replication of SQL Server 2008 databases.
- Implement policy-based management.
- Monitor database activity.
- Monitor and manage database performance.

Topics

- An Introduction to SQL Server 2008
- Installing and Upgrading to SQL Server 2008
- Storage Enhancements in SQL Server 2008
- SQL Server 2008 Administration Enhancements
- Security Enhancements with SQL Server 2008
- SQL Server 2008 Disaster Recovery
- High Availability in SQL Server 2008
- Replication Enhancements in SQL Server 2008
- SQL Server 2008 Policy-Based Management
- SQL Server 2008 Monitoring Enhancements
- SQL Server 2008 Performance

Audience

This course is intended for IT professionals who administer and maintain SQL Server databases.

Prerequisites

Before attending this course, students must have experience developing or administering SQL Server 2000 databases.

Duration

Three days

Due to the nature of this material, this document refers to numerous hardware and software products by their trade names. References to other companies and their products are for informational purposes only, and all trademarks are the properties of their respective companies. It is not the intent of ProTech Professional Technical Services, Inc. to use any of these names generically

MOC 6317 Upgrading Your SQL Server 2000 Database Administration (DBA) Skills to SQL Server 2008 DBA Skills

Course Outline

I. An Introduction to SQL Server 2008
This module will help students to understand the new features and overall architecture of SQL Server 2008.

A. Lesson 1: The Evolution of SQL Server
B. Lesson 2: SQL Server 2008 Architectural Components

After completing this module, students will be able to:

- Describe the evolution of SQL Server.
- Describe the overall architecture of SQL Server 2008.

II. Installing and Upgrading to SQL Server 2008
This module will help students to understand how to plan for a SQL Server 2008 installation, upgrade, and migration.

A. Lesson 1: Preparing for SQL Server 2008 Installation
B. Lesson 2: Installing SQL Server 2008
C. Lesson 3: Upgrading a SQL Server 2000 Instance
D. Lesson 4: Configuring a SQL Server Installation
E. Lesson 5: Using SQL Server Configuration Manager

Lab: Upgrading SQL Server 2000 to 2008

- Exercise 1: Analyzing the SQL Server 2000 Instance
- Exercise 2: Upgrading to SQL Server 2008
- Exercise 3: Validating the Upgrade
- Exercise 4: Reviewing SQL Server Books Online

After completing this module, students will be able to:

- Explain how to prepare the hardware and other resources necessary to install SQL Server 2008.
- Install SQL Server 2008.
- Upgrade to SQL Server 2008.
- Configure SQL server options with sp_configure.
- Use SQL Server Configuration Manager.

III. Storage Enhancements in SQL Server 2008
This module will teach students about changes to data storage, including data types, indexes, and partitions in SQL Server 2008.

A. Lesson 1: Data Type Enhancements
B. Lesson 2: Table Partitioning
C. Lesson 3: Indexing Enhancements
D. Lesson 4: Tuning Indexes (Optional)

Lab: Optimizing SQL Server 2008

- Exercise 1: Partitioning Tables
- Exercise 2: Using the Database Engine Tuning Advisor (Optional)

After completing this module, students will be able to:

- Understand SQL Server data types.
- Understand table partitioning.
- Create and manipulate indexes.
- Tune indexes.

IV. SQL Server 2008 Administration Enhancements
This module will help students to understand administration tools that are new or enhanced with SQL Server 2008.

A. Lesson 1: Administration Tools Overview
B. Lesson 2: Using SQL Server Management Studio
C. Lesson 3: Using the sqlcmd Utility
D. Lesson 4: Using Windows PowerShell

Lab: Administrating SQL Server 2008

- Exercise 1: Using SQL Server Management Studio
- Exercise 2: Using SQL Server Command-Line Management
- Exercise 3: Using PowerShell

Due to the nature of this material, this document refers to numerous hardware and software products by their trade names. References to other companies and their products are for informational purposes only, and all trademarks are the properties of their respective companies. It is not the intent of ProTech Professional Technical Services, Inc. to use any of these names generically

MOC 6317 Upgrading Your SQL Server 2000 Database Administration (DBA) Skills to SQL Server 2008 DBA Skills

Course Outline (cont'd)

After completing this module, students will be able to:

- Gain exposure to new administration tools.
- Use SQL Server Management Studio to manage databases.
- Use the sqlcmd utility to execute Transact-SQL from the command prompt.
- Use the Windows PowerShell provider for SQL Server.

V. Security Enhancements with SQL Server 2008

This module will help students to understand enhancements and additions to SQL Server 2008 Security.

A. Lesson 1: SQL Server 2008 Security Overview
B. Lesson 2: Managing SQL Server 2008 Security
C. Lesson 3: Managing Permissions
D. Lesson 4: Managing Keys and Certificates
E. Lesson 5: Data Encryption

Lab: Securing a SQL Server 2008 Database

- Exercise 1: Managing Principals
- Exercise 2: Managing Securables
- Exercise 3: Managing Permissions
- Exercise 4: Configuring Column Encryption
- Exercise 5: Transparent Data Encryption

After completing this module, students will be able to:

- Describe the security architecture of SQL Server 2008.
- Manage securables and principals.
- Manage permissions.
- Use keys and certificates in SQL Server 2008.
- Encrypt SQL Server data.

SQL Server 2008 Disaster Recovery

This module will teach student how to prepare for and recover from potential database disasters.

A. Lesson 1: Database Backup
B. Lesson 2: Backup Compression
C. Lesson 3: Database Restoration
D. Lesson 4: Database Snapshots

Lab: SQL Server 2008 Disaster Recovery

- Exercise 1: Making a Copy-Only Backup
- Exercise 2: Using Compression for Backup Files
- Exercise 3: Creating the Database Snapshot
- Exercise 4: Restoring From a Database Snapshot

After completing this module, students will be able to:

- Backup a database.
- Implement backup compression.
- Restore databases and transaction logs.
- Use Database Snapshot to backup and restore data.

High Availability in SQL Server 2008

This module will teach students how to maintain availability to their SQL Server data even through server downtime.

A. Lesson 1: Log Shipping
B. Lesson 2: Database Mirroring
C. Lesson 3: Determining the Best High Availability Solution

Lab: SQL Server 2008 High Availability

- Exercise 1: Implementing Log Shipping
- Exercise 2: Implementing Database Mirroring
- Exercise 3: Implementing Peer-to-Peer Replication

After completing this module, students will be able to:

- Use Log Shipping to ensure high availability.
- Use database mirroring to ensure high availability.
- Determine the best high availability solution.

Due to the nature of this material, this document refers to numerous hardware and software products by their trade names. References to other companies and their products are for informational purposes only, and all trademarks are the properties of their respective companies. It is not the intent of ProTech Professional Technical Services, Inc. to use any of these names generically

MOC 6317 Upgrading Your SQL Server 2000 Database Administration (DBA) Skills to SQL Server 2008 DBA Skills

Course Outline (cont'd)

VI. Replication Enhancements in SQL Server 2008
This module helps students to take advantage of the replication enhancements in SQL Server 2008.

A. Lesson 1: New Types of Replication
B. Lesson 2: Additional Replication Enhancements

Lab: Implementing Replication

- Exercise 1: Implementing Peer-to-Peer Transactional Replication
- Exercise 2: Implementing HTTP Replication

After completing this module, students will be able to:

- Understand the new types of replication available in SQL Server 2008.
- Understand other replication enhancements in SQL Server 2008.

VII. SQL Server 2008 Policy-Based Management
The students will be introduced to new SQL Server 2008 policy-based management features.

A. Lesson 1: Understanding Central Management Servers
B. Lesson 2: Understanding Policy-Based Management
C. Lesson 3: Implementing Policy-Based Management

Lab: Using Policy-Based Management

- Exercise 1: Creating a Central Management Server and Server Group
- Exercise 2: Creating and Applying a Policy

After completing this module, students will be able to:

- Understand Central Management Servers.
- Understand Policy-Based Management.
- Implement Policy-Based Management.

SQL Server 2008 Monitoring Enhancements
This module helps students to use SQL Server 2008 monitoring features.

A. Lesson 1: Monitoring a Database
B. Lesson 2: Using DDL Triggers
C. Lesson 3: Auditing in SQL Server
D. Lesson 4: Event Notifications
E. Lesson 5: Using Static and Dynamic Metadata

Lab: Monitoring SQL Server 2008

- Exercise 1: Monitoring SQL Server Activity
- Exercise 2: Tracing SQL Server Activity
- Exercise 3: Using DLL Triggers
- Exercise 4: Using Event Notification

After completing this module, students will be able to:

- Monitor database activity.
- Use DDL triggers to respond to DDL events.
- Use SQL Server audit.
- Use event notifications to capture database events.
- Query SQL Server metadata.

SQL Server 2008 Performance
This module helps students to take advantage of the performance enhancements in SQL Server 2008.

A. Lesson 1: Managing Workloads with Resource Governor
B. Lesson 2: Monitoring Performance with the Data Collector
C. Lesson 3: Managing Performance with Plan Freezing

Lab: Managing SQL Server Performance

- Exercise 1: Using Resource Governor
- Exercise 2: Using the Data Collector
- Exercise 3: Using Plan Freezing

After completing this module, students will be able to:

- Manage workloads with Resource Governor.
- Monitor performance with the Data Collector.
- Manage performance with Plan Freezing.

Due to the nature of this material, this document refers to numerous hardware and software products by their trade names. References to other companies and their products are for informational purposes only, and all trademarks are the properties of their respective companies. It is not the intent of ProTech Professional Technical Services, Inc. to use any of these names generically