

## SQL Server® 2008 Skills Upgrade: Hands-On - 3 Days Updating Your SQL Server 2005 Skills to 2008

### *Course 136 Overview*

- You Will Learn How To**
- Leverage new SQL Server 2008 features and tools to support database administration and development
  - Simplify server-side programming with new Transact-SQL commands
  - Enforce standards with policy-based management
  - Capture data changes for posting to a data warehouse
  - Enhance security through improved encryption
  - Exploit the performance data collector and the Management Data Warehouse (MDW)
- Course Benefits** SQL Server 2008 Enterprise edition offers cutting-edge capabilities for database administration and development. This skills upgrade course provides hands-on experience that ranges from coding new statements in T-SQL to managing SQL Servers with new capabilities. Throughout this course, you learn to translate the strengths of SQL Server 2008 into improvements in your organization's data processes.
- Who Should Attend** Experienced SQL Server 2005 administrators and developers considering or currently migrating to SQL Server 2008 Enterprise Edition. Knowledge at the level of Course 532, "SQL Server Transact-SQL Programming," or equivalent experience is assumed.
- Hands-On Training** Throughout this course, extensive hands-on exercises provide experience with SQL Server 2008 new features. Practical exercises include:
- Upgrading from SQL Server 2005 to SQL Server 2008 Enterprise Edition
  - Manipulating hierarchies
  - Saving space with backup compression
  - Maintaining and viewing FILESTREAM data
  - Setting up CDC with Transact-SQL
  - Restoring an encrypted database to a different instance of SQL Server
  - Collecting performance data into an MDW database

## SQL Server® 2008 Skills Upgrade: Hands-On - 3 Days

### Updating Your SQL Server 2005 Skills to 2008

Course 136 Outline

#### Introducing SQL Server 2008 New Features

- Exploring new and enhanced administration and development features
- Upgrading from SQL Server 2005
- SQL Server Management Studio
- Coding with Intellisense

#### Easing Development with Transact-SQL Working with new data types

- Date
- Time
- DateTimeOffset
- DateTime2
- HierarchyID

#### Programming with new statements

- Inserting multiple rows
- Managing GROUP BY queries with GROUPING SETS
- Handling "upserts" with the MERGE statement
- Defining SPARSE columns and filtered indexes

#### Manipulating geospatial data

- Storing and retrieving geographic information
- Querying data with Spatial Index

#### Extending beyond relational data

- Enabling the storage and access of binary files with FILESTREAM
- Reading FILESTREAM data from clients

#### Improving Data Management

##### Performance and scalability enhancements

- Expanding system hardware with Hot Add CPU and memory
- Compressing backup files on the fly

##### Allocating processor time and memory

- Specifying resource limits
- Prioritizing workloads with Resource Governor

#### Policy-Based Management

##### Establishing policy-based management

- Defining guidelines for SQL Server instances
- Reducing TCO by simplifying administrative tasks

#### Enforcing policy compliance

- Creating policies and conditions
- Subscribing to policies and applying policies to SQL Servers
- Detecting compliance issues with alerts and notifications

#### Central Management Servers (CMS)

##### Administering multiple servers

- Creating a CMS
- Registering server groups to CMS
- Adding SQL servers to CMS groups
- Multiserver management

##### Working with Central Management Servers

- Issuing queries on CMS groups
- Evaluating policies against CMS groups

#### Proactively Monitoring Data

##### Recording modifications

- Configuring Change Tracking
- Logging primary keys for rows that have changed
- Administering performance implications
- Applying the CHANGETABLE function

#### Implementing Change Data Capture (CDC)

- Enabling CDC for history logging
- Tracking Data Manipulation Language (DML) and Data Definition Language (DDL) statements

#### Securing Your Data through Encryption

##### Managing Transparent Data Encryption (TDE)

- Creating the database encryption key
- Demystifying the encryption key hierarchy
- Comparing cell-level encryption to TDE

##### Extensible key management

- Storing keys externally and restoring encrypted data
- Querying and managing encryption key data

#### Boosting SQL Server Performance

##### Optimizing I/O performance

- Compressing tables and indexes
- Selecting row or page compression

##### Collecting performance data

- Creating the MDW database

- Establishing the data collector
- Analyzing data capture from queries
- Reporting on performance bottlenecks

#### Monitoring with the extended events engine

- Handling events uniformly across SQL Server
- Dynamically inspecting active processes