

## 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 132, "SQL Server 2005 Database Administration," or equivalent experience is assumed. Knowledge of Transact-SQL is helpful.
- 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