SQL Server 2008: Installing, Querying, and Security

Meet the expert: Don Kiely is a featured instructor on many of our SQL Server and Visual Studio courses. He is a nationally recognized author, instructor, and consultant specializing in Microsoft technologies. Don has many years of teaching experience, is the author or co-author of several programming books, and has spoken at many industry conferences and user groups. In addition, Don is a consultant for a variety of companies that develop distributed applications for public and private organizations.

Runtime: 11:45:15

Course description: In this course, you will learn about the components that make up the comprehensive SQL Server 2008 product and the various editions that Microsoft makes available, so that you can select the right one. You will learn about installation and upgrade issues, about some of the many configuration choices available to customize it to your needs and environment, as well as how to tweak it after installation. Then you will learn how to work with database objects and data, using Management Studio and other tools, as well as Transact SQL (T-SQL), the programming language of SQL server. You will learn about the features in T-SQL for querying, inserting, updating, and deleting data, as well as the rich support in T-SQL for various data-based operations. The course finishes up with a comprehensive look at security, both to help you secure your server and data from unauthorized use as well as to avoid security hurdles as you administer and develop applications that use the server and its data.

Course outline:

Tour of SQL 08
- Introduction
- Editions
- Server Components
- Management Tools
- Documentation
- Feature Pack
- SSMS
- Demo: SSMS
- Summary

Server Activity
- Introduction
- Demo: Activity Monitor
- Tables Queries Views
- Demo: Table Designer
- Demo: Template Explorer
- SSIS
- BIDS
- Demo: BIDS
- Reporting Services
- SSAS
- Summary

Installation Preparation
- Introduction
- Requirements
- Network Software
- Service Accounts
- Multiple Instances
- Scenarios
- Named Instances
- Instance Components
- Upgrading
- Upgrade Advisor
- Demo: Upgrade Advisor
- Summary

Installation Steps
- Introduction
- Demo: Installation Center
- Setup Support Rules
- Product Key
- Feature Selection
- Instance Config
- Disk Space
- Server Configuration
- Database Engine
- Error Reporting
- Ready to Install
- Summary

Configuring
- Introduction
- Demo: Server Services
- Server Protocols
- SQL Native Client
- Management Studio
- Server Properties
- Memory Options
- Processors
- Security
- Connections
- Database Settings
- Advanced
- Permissions
- Summary

Relational Design
- Introduction
- Design Principles
- Key Terms
- Relational Theory
- Surrogate Keys
- Demo: DB Design
- Data Normalization
- First Normal Form
- Second Normal Form
- Third Normal Form
- Computed Columns
- Key Dependance
- Postal Lookup Tables
- Beyond Normal Forms
- Referentail Integrity
- Relationships
- One-to-One
- Enfrorcing Integrity
- Cascading
- Cascading Updates
- Cascading Deletes
- Cascading Actions
- Beyond Normalization
- Business Rules
- Summary

Implementation
- Introduction
- Database Storage
- Storage
- Data Integrity
- Recovery Models
- Demo: Implementation
- Rules for Identifiers
- Demo: DB Properties
- Summary

Data Types
- Introduction
- Charater-based
- Numeric Data
- Date and Time
- Binary Types
- Identifier Types
- sql_variant
- Variable-only
- XML Type
- System SQLCLR Types
- Demo: Data Types
- Creating Constraints
- Demo: Constraints
- Triggers
- Creating Indexes

(Continued on page 2)

SQL Server 2008: Installing, Querying, and Security

- Demo: Index
- Summary

Data Selection Queries
- Introduction
- Transact-SQL
- Schemas and Naming
- Demo: T-SQL Code
- Three-Valued Logic
- Demo: Nulls
- Summary

Sorting
- Introduction
- Demo: Order By
- Group By Clause
- Aggregate Functions
- Demo: Count Rows
- Demo: Top
- Joining Tables
- Demo: Join Tables
- Demo: Outer Join
- Demo: Inner and Outer
- Summary

Modifying Data
- Introduction
- Inserting Data
- Demo: INSERT
- Temporary Tables
- Demo: Temp Tables
- Uses for Temp Tables
- Demo: Global Temps
- Summary

Updating Data
- Introduction
- Demo: Update Statement
- Demo: With Transaction
- Demo: Deleting Data
- Transaction Isolation
- Isolation Levels
- Blocking and Deadlocks
- Deadlocks
- Demo: Isolation Levels
- Snapshot Isolation
- Caveats
- Demo: Snapshot Isolation
- Summary

Management Studio
- Introduction
- Demo: Connecting
- Configure Options
- Customize Toolbars
- Menu Items
- Query Designer
- Projects and Solutions
- Object Explorer
- Filter Nodes
- View Dependencies
- Object Details
- Designers
- Summary

Query Editor
- Introduction
- Demo: Overview
- Editing Options
- Script Table as
- Stored Procedure
- Debuging
- Template Explorer
- Execution Plans
- Results to a File
- SQLCMD Mode
- New Project
- Working Offline
- Books Online
- Demo: Help Features
- Summary

Transact SQL
- Introduction
- T-SQL Extenstions
- Batches and Scripts
- Demo: Batches
- Data Type Precedence
- Demo: Converting Types
- Built-In Functions
- Working with Nulls
- Demo: Nulls
- Summary

Handling Functions
- Introduction
- Demo: ISNUMERIC
- Using RAND
- ROUND
- REPLACE
- STUFF
- LEN LEFT RIGHT
- SUBSTRING
- CHARINDEX
- PATINDEX
- SPACE
- CHAR and ASCII
- LOWER and UPPER
- LTRIM and RTRIM
- GETDATE
- MONTH DATE YEAR
- DATEPART
- DATENAME
- DATE Math
- Global Functions
- Summary

Controlling Flow
- Introduction
- Demo: IF...ELSE
- BEGIN...END
- GOTO
- RETURN
- CASE
- WHILE
- WAITFOR
- Ranking Results
- Demo: Ranking
- Summary

Security
- Introduction
- The Threats
- Security Philosophy
- Two Stages
- Security Terms
- Authentication
- Windows Integrated
- Configure Settings
- Demo: SQL Security
- Summary

SQL Server Authentication
- Introduction
- Demo: New Logins
- Windows and SQL Logins
- sa Login
- Password Policy
- Demo: Passwords
- Summary

Authorization
- Introduction
- Principals
- Server Roles
- Demo: Server Roles
- Database Roles
- Demo: Database Roles
- Special Roles
- Demo: Special Roles
- Securable Objects
- Summary

Permissions
- Introduction
- Permission Types
- Permission Statements
- Granting Permissions
- Demo: Permissions
- Roles Permission...
- Demo: Schemas
- Execution Context
- Ownership Chaining
- Execution Context
- Demo: Execution Context
- Metadata Security
- Demo: Metadata
- Summary

Encryption
- Introduction
- Encryption Keys
- Key Management
- Demo: Encryption
- Summary