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YOUR COURSE, YOUR WAY - MORE EFFECTIVE IT TRAINING

(TSQL) SQL Server Transact SQL Programming

Duration: 3 days

Overview:

This course is aimed at SQL Server database developers, administrators and analysts who need a little bit more than SQL can do alone. SQL Server provides a powerful scripting language called Transact SQL, which enables developers to extend the capabilities of the SQL language. Using Transact SQL (TSQL) powerful scripts, stored procedures, functions and triggers can be produced to enable extracted information to be processed further, or to enable complex transformations of data prior to, during or after an insert, update or delete, or to implement automated updates and audit trails.

Covers SQL Server 2005 through to SQL Server 2016.

Prerequisites:

Delegates should have SQL Server SQL language experience to the level of the Aspect Training's Advanced Querying of SQL Server Databases.

Topics:

1 - Transact SQL Scripting

The USE Statement

Using Variables

Data Types

Variable Scope

Table Variables

The PRINT Statement

The IF Statement

BEGIN and END

The WHILE Statement

2 - Error Handling

The @@ERROR Variable

The RETURN Statement

The RAISERROR Statement

Structured Error Handling

TRY CATCH Blocks

3 - Transaction Logging

BEGIN TRAN

COMMMIT TRAN

ROLLBACK TRAN

4 - Locking

Row Level Locking

Key Level Locking

Page Level Locking

Extent Level Locking

Table Level Locking

Database Level Locking

Transactions and Locks

Transaction Isolation Levels

Deadlocks

5 - Implementing Cursors

Transact-SQL Cursors

Monitoring Transact-SQL Cursor Activity

Declaring A Cursor With The DECLARE Statement

Opening A Cursor With The OPEN Statement

Fetching Records with The FETCH Statement

Closing The Cursor With The CLOSE Statement

Freeing A Cursor With The DEALLOCATE Statement

Working With Cursors

INSENSITIVE Cursor

SCROLL Cursors

Fetching Data With A SCROLL Cursor

The @@CURSOR_ROWS Variable

Working With Very Large Data Sets

Changing Data Through Cursors

READ ONLY Cursors

Limited UPDATE Cursors

Programming With Cursors

Cursors & Locking

6 - Stored Procedures

Pre-Compiled Code

Creating Stored Procedures

Encrypting Stored Procedures

Recompiling Stored Procedures

Creating A Stored Procedure WITH RECOMPILE

Altering Stored Procedures

Deleting A Stored Procedure

Stored Procedure Security

Passing In Parameters

Initialising Parameters

Outputting Values

The RETURN Statement

Modular Design

7 - User Defined Functions

What is a User-Defined Function?

Usage of User-Defined Functions

Creating a User-Defined Scalar Function

Using a User-Defined Scalar Function

Table-Valued Functions

Creating a User-Defined Inline Table-Valued Function

Multi-Statement Table-Valued Functions

Viewing Existing User-Defined Functions

Modifying and Dropping User-Defined Functions

8 - Triggers

Creating Triggers

Update & Insert Triggers

Altering Triggers

Triggers & Constraints

Realistic Application Of Triggers

Automatic Updates

Data Integrity

Auditing

Stored Procedures & Triggers

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