



Querying Microsoft SQL Server 2012-2014 (461)

In association with : **Silver
Microsoft
Partner**



Create database objects

Create and alter tables using T-SQL syntax (simple statements)

- Create tables without using the built in tools; ALTER; DROP; ALTER COLUMN; CREATE

Create and alter views (simple statements)

- Create indexed views; create views without using the built in tools; CREATE, ALTER, DROP

Design views

- Ensure code non regression by keeping consistent signature for procedure, views and function (interfaces); security implications

Create and modify constraints (simple statements)

- Create constraints on tables; define constraints; unique constraints; default constraints; primary and foreign key constraints

Create and alter DML triggers

- Inserted and deleted tables; nested triggers; types of triggers; update functions; handle multiple rows in a session; performance implications of triggers

Work with data

Query data by using SELECT statements

- Use the ranking function to select top(X) rows for multiple categories in a single query; write and perform queries efficiently using the new (SQL 2005/8->) code items such as synonyms and joins (except, intersect); implement logic which uses dynamic SQL and system metadata; write efficient, technically complex SQL queries, including all types of joins versus the use of derived tables; determine what code may or may not execute based on the tables provided; given a table with constraints, determine which statement set would load a table; use and understand different data access technologies; case versus isnull versus coalesce

Implement sub-queries

- Identify problematic elements in query plans; pivot and unpivot; apply operator; cte statement; with statement

Implement data types

- Use appropriate data; understand the uses and limitations of each data type; impact of GUID (newid, newsequentialid) on database performance, when to use what data type for columns

Implement aggregate queries

- New analytic functions; grouping sets; spatial aggregates; apply ranking functions

Query and manage XML data

- Understand XML datatypes and their schemas and interop w/, limitations and restrictions; implement XML schemas and handling of XML data; XML data: how to handle it in SQL Server and when and when not to use it, including XML namespaces; import and export XML; XML indexing

Modify data

Create and alter stored procedures (simple statements)

- Write a stored procedure to meet a given set of requirements; branching logic; create stored procedures and other programmatic objects; techniques for developing stored procedures; different types of storeproc result; create stored procedure for data access layer; program stored procedures, triggers, functions with T-SQL

Modify data by using INSERT, UPDATE and DELETE statements

- Given a set of code with defaults, constraints and triggers, determine the output of a set of DDL; know which SQL statements are best to solve common requirements; use output statement

Combine datasets

- Difference between UNION and UNION all; case versus isnull versus coalesce; modify data by using MERGE statements

Work with functions

- Understand deterministic, non-deterministic functions; scalar and table values; apply built-in scalar functions; create and alter user-defined functions (UDFs)

Troubleshoot and optimise

Optimise queries

- Understand statistics; read query plans; plan guides; DMVs; hints; statistics IO; dynamic vs. parameterised queries; describe the different join types (HASH, MERGE, LOOP) and describe the scenarios they would be used in

Manage transactions

- Mark a transaction; understand begin tran, commit and rollback; implicit vs explicit transactions; isolation levels; scope and type of locks; truncount

Evaluate the use of row-based operations vs. set-based operations

- When to use cursors; impact of scalar UDFs; combine multiple DML operations

Implement error handling

- Implement try/catch/throw; use set-based rather than row-based logic; transaction management



Thank You

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