EXAM 70-461 QUERYING MICROSOFT SQL SERVER 2012/2014

PHILLIP BURTON

WWW.SQLSERVER101.COM

OBJECTIVES

CREATE DATABASE OBJECTS (24%)

1. CREATE AND ALTER TABLES USING T-SQL SYNTAX (SIMPLE STATEMENTS)
2. CREATE AND ALTER VIEWS (SIMPLE STATEMENTS)
3. DESIGN VIEWS
4. CREATE AND MODIFY CONSTRAINTS (SIMPLE STATEMENTS)
5. CREATE AND ALTER DML TRIGGERS.

sqlserver101.com

OBJECTIVES

WORK WITH DATA (27%)

1. QUERY DATA BY USING SELECT STATEMENTS
2. IMPLEMENT SUB-QUERIES
3. IMPLEMENT DATA TYPES
4. IMPLEMENT AGGREGATE QUERIES
5. QUERY AND MANAGE XML DATA

sqlserver101.com

OBJECTIVES

MODIFY DATA (24%)

1. CREATE AND ALTER STORED PROCEDURES (SIMPLE STATEMENTS)
2. MODIFY DATA BY USING INSERT, UPDATE AND DELETE STATEMENTS
3. COMBINE DATASETS
4. WORK WITH FUNCTIONS

sqlserver101.com

OBJECTIVES

TROUBLESHOOT AND OPTIMISE (25%)

1. OPTIMISE QUERIES
2. MANAGE TRANSACTIONS
3. EVALUATE THE USE OF ROW-BASED OPERATIONS VS. SET-BASED OPERATIONS
4. IMPLEMENT ERROR HANDLING

sqlserver101.com

OBJECTIVE - CREATE DATABASE OBJECTS

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

a) Create tables without using the built in tools
b) ALTER
c) DROP
d) ALTER COLUMN
e) CREATE

sqlserver101.com

OBJECTIVE - CREATE DATABASE OBJECTS

2. Create and alter views (simple statements)

a) Create indexed views
b) create views without using the built in tools
c) CREATE, ALTER, DROP

sqlserver101.com

OBJECTIVE - CREATE DATABASE OBJECTS

3. Design views

a) Ensure code non regression by keeping consistent signature for procedure, views and function (interfaces)

b) security implications

sqlserver101.com

OBJECTIVE - CREATE DATABASE OBJECTS

4. Create and modify constraints (simple statements)

a) Create constraints on tables
b) define constraints
c) unique constraints
d) default constraints
e) primary and foreign key constraints

sqlserver101.com

OBJECTIVE - CREATE DATABASE OBJECTS

5. Create and alter DML triggers.

a) Inserted and deleted tables
b) nested triggers
c) types of triggers
d) update functions
e) handle multiple rows in a session
f) performance implications of triggers

sqlserver101.com

OBJECTIVE - WORK WITH DATA

6. Query data by using SELECT statements

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

sqlserver101.com

OBJECTIVE - WORK WITH DATA

7. Implement sub-queries

a) Identify problematic elements in query plans
b) pivot and unpivot
c) apply operator
d) cte statement
e) with statement

sqlserver101.com

OBJECTIVE - WORK WITH DATA

8. Implement data types

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

sqlserver101.com

OBJECTIVE - WORK WITH DATA

9. Implement aggregate queries

a) New analytic functions
b) grouping sets
c) spatial aggregates
d) apply ranking functions

sqlserver101.com

OBJECTIVE - WORK WITH DATA

10. Query and manage XML data

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

sqlserver101.com

OBJECTIVE - MODIFY DATA

11. Create and alter stored procedures (simple statements)

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

sqlserver101.com

OBJECTIVE - MODIFY DATA

12. Modify data by using INSERT, UPDATE and DELETE statements

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

sqlserver101.com

OBJECTIVE - MODIFY DATA

13. Combine datasets

a) Difference between UNION and UNION all
b) case versus isnull versus coalesce
c) modify data by using MERGE statements

sqlserver101.com

OBJECTIVE - MODIFY DATA

14. Work with functions

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

OBJECTIVE - TROUBLESHOOT AND OPTIMISE

15. Optimise queries

a) Understand statistics
b) read query plans
c) plan guides
d) DMVs
e) hints
f) statistics IO
g) dynamic vs. parameterised queries
h) describe the different join types (HASH, MERGE, LOOP) and describe the scenarios they would be used in

sqlserver101.com

OBJECTIVE - TROUBLESHOOT AND OPTIMISE

16. Manage transactions

a) Mark a transaction
b) understand begin tran, commit and rollback
c) implicit vs explicit transactions
d) isolation levels
e) scope and type of locks
f) trancount

sqlserver101.com

OBJECTIVE - TROUBLESHOOT AND OPTIMISE

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

a) When to use cursors

b) impact of scalar UDFs

c) combine multiple DML operations

sqlserver101.com

OBJECTIVE - TROUBLESHOOT AND OPTIMISE

18. Implement error handling

a) Implement try/catch/throw

b) use set-based rather than row-based logic

c) transaction management

WELCOME - CAN YOU SEE THIS CLEARLY?

This video course was recorded in High Definition (1280 x 720).

If you cannot see it clearly, if it looks a bit fuzzy, then please click the HD button near the button of your video.

It looks like this:

Thank you – and let's start the course.

sqlserver101.com

YOUR SPECIAL PRICE

- USD $9.99
- GBP £9.99
- JPY 1200
- EUR €9.99
- SGD 14.99
- MXN 135
- BRL 19.99
- NOK 125
- KRW 11000
- CAD $12.99
- ILS 39.99
- TWD 300
- ZAR 100
- INR 640
- PLN 34.99
- TRY 24.99
- THB 300
- IDR 140,000