Fast track SQL



Classroom or online training course 3 day course outline

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This course combines topics from the following courses (any items marked with a * will be covered if time allows).

Topics taken from our INTRODUCTION TO SQL course

Using SQL Server

- SQL Server Management Studio
- · Controlling windows
- Using Object Explorer

Creating databases - overview

- · Designing databases
- · Primary keys

Working with tables

- · Creating tables
- · Allowing nulls or not
- · Identity fields
- · Creating relationships

Simple Queries

- · Creating queries
- Comments
- · Indentation and case

Setting criteria using WHERE

- Wildcards (% and _)
- Setting criteria for dates
- Coping with nulls

Calculations

- · Calculated columns
- Using aliases
- · String functions and concatenation

Calculations using dates

- GetDate
- Converting dates
- · Useful date functions

Basic joins

- · Inner joins
- Table aliases
- · Left and right outer joins

Aggregation and grouping

- SUM, AVG, MIN, MAX
- · Various ways to count
- · Grouping by fields
- Using HAVING to filter results

Views

- · The view designer
- · Limitations of the designer
- · Scripting views

Subqueries

- · The concept of a subquery
- Syntax of subqueries
- · Using subqueries in a query

Derived tables and CTEs

- Using derived tables
- Common Table Expressions (CTEs)
- Multiple CTEs in a single query

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Topics taken from our ADVANCED SQL course

Stored procedures

- · Creating stored procedures
- · Executing stored procedures
- · System stored procedures

Variables

- · Declaring variables
- SET versus SELECT
- · Tricks with variables
- So-called global variables

Parameters and return values

- · Passing parameters
- Default values / WHERE clauses
- · Output parameters
- Using RETURN

Scalar functions (*)

- · What they are
- Writing user-defined functions
- Worked examples
- · Pros and cons of scalar functions

Testing conditions

- IF / ELSE statement
- Using CASE where possible

Looping

- Syntax of WHILE
- · Breaking out of a loop

Error-handling (*)

- Using TRY / CATCH
- · System error functions
- · Custom error messages

Deleting using SQL

- · Ways to drop tables
- DELETE versus TRUNCATE

Updating data in SQL

- The UPDATE statement
- · Updating using joins

Inserting data

- Making tables (SELECT INTO)
- Appending data (INSERT INTO)
- · Inserting individual rows

Creating tables

- · Creating tables in SQL
- Primary keys and indexes
- Adding relationships

Transactions (*)

- · Beginning a transaction
- · Committing / rolling back

Temporary tables and table variables

- Scope (local versus global)
- · Using temporary tables
- · Creating table variables
- · Pros and cons of each approach

Table-valued functions (*)

- · In-line table-valued functions
- Mult-statement table-valued functions

Dynamic SQL (*)

- · Building up dynamic SQL
- Executing dynamic SQL
- Disadvantages of dynamic SQL

Pivots (*)

- · Assembling data for pivoting
- Using PIVOT
- Dynamic column headers

Triggers (*)

- · Insert, update and delete triggers
- Using generated tables (eg INSERTED)
- Using INSTEAD OF

Maximum 6 people per course. Scheduled classroom courses include lunch at a local restaurant; you can see how our online training works here. For more information, see https://www.wiseowl.co.uk/.