Course : SQL Server 2014/2012: Implementation

Practical course - 5d - 35h00 - Ref. QSM
Price : 3220 CHF E.T.

Teaching objectives

At the end of the training, the participant will be able to:

- Become familiar with the Management Studio environment
- Create the database's tables, and set up primary keys and uniqueness constraints
- Load data into the database using BULK INSERT and BCP
- Implement indices on the database to improve its performance.
- Create queries and stored procedures, triggers and functions, to update the database
- Integrate exception management and transactions in triggers and procedures

Course schedule

1 Overview of SQL Server 2012

- Architecture of SQL Server 2012.
- Development and administration tools

Hands-on work
Getting started with the configuration manager and Management Studio.

2 SQL databases and schemas

- Identifiers: Naming SQL Server objects.
- Creating the database. SQL schemas.
- Lifecycle of a database's objects.

PARTICIPANTS

PREREQUISITES

TRAINER QUALIFICATIONS
The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS
The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

TEACHING AIDS AND TECHNICAL RESOURCES
• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

3 Tables, views, and constraints

- DDL language: Creating objects and constraints.
- Types of native data and user types.
- Creating tables and views.
- Domain and column constraints.
- Primary key and alternative keys. Managing referential integrity.

Hands-on work
Creating user types. Creating tables and views. Adding constraints. Setting up primary keys and uniqueness constraints.

4 Loading data and exports

- The BULK INSERT command.
- Importing/exporting from the command line with BCP.
- OPEN functions for querying outside data.
- Overview of Integration Services.

Hands-on work
Loading data using BULK INSERT and BCP. Using OPENROWSET.

5 Indexing and query plans

- Index structure: Balanced tree, clustered index, etc.
- Creating an index: Approach to creation, etc.
- Performance analysis.
- Using the Database Tuning Advisor.

Hands-on work
Setting up indices in the database and observations about performance.

6 Advanced SQL with Transact SQL, procedural code

- OLAP groupings and OUTPUT, SELECT INTO clauses, etc.
- SQL MERGE order. Data encryption.
- Functions, stored procedures, cursors, triggers.

Hands-on work
Creating advanced TransactSQL requests. Producing a multiinstruction table function. Stored procedure for combined insertion.

7 Transactions and exception management.

- Transactions. Insulation levels. Exception management. Nested transactions.

Hands-on work
Integrating exception management and transactions in triggers and stored procedures.

(8) Introduction to advanced techniques

- Overview of the Geographic Information System.GIS Use of XML within SQL Server 2012.

Hands-on work
Use of the SIG. XML querying.

Dates and locations

REMOTE CLASS
2026 : 22 June, 29 June