

Hands-on course , 5
day(s)
Ref : QSM

Participants

This course is intended for system engineers and developers who are to use or implement SQL Server 2012.

Pre-requisites

Good knowledge of the SQL language or knowledge equivalent to that provided by the course "SQL Server: SQL Programming" (code: PSQ).

Next sessions

SQL Server 2014/2012: Implementation

This course will provide you with all the knowledge you need to fully use SQL Server in its 2012 or 2014 version. You'll learn how to write SQL orders and use language extensions, edit structures and enter integrity conditions, load data and use transactions.

OBJECTIVES

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

[1\) Overview of SQL Server 2012](#)

[2\) SQL databases and schemas](#)

[3\) Tables, views, and constraints](#)

[4\) Loading data and exports](#)

[5\) Indexing and query plans](#)

[6\) Advanced SQL with Transact SQL, procedural code](#)

[7\) Transactions and exception management.](#)

[8\) Introduction to advanced techniques](#)

1) Overview of SQL Server 2012

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

Workshop

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.

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.

Workshop

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.

Workshop

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.

Workshop

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.

Workshop

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.

Workshop

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.

Workshop

Use of the SIG. XML querying.