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# SQL – Advanced Queries

## Description

In this course, you will learn about advanced SQL expressions and operators, and how to use them efficiently to solve complex data extraction and insertion problems. You will learn how to deal with the needs of grouping, analyzing, sampling and retrieving hierarchical data.

## Meta Fields

### Contenu Cours : Module 1 : Views

- Creating a new view
- Listing views in SQL Server
- Removing a view
- Creating an indexed view

### Module 2 : Triggers

- Creating a trigger in SQL Server
- Creating a DDL trigger
- Disabling triggers
- Viewing the definition of a trigger
- Listing all triggers in SQL Server
- Removing triggers

### Module 3 : Computed Columns

- Introduction to SQL Computed Columns
- Persisted computed columns
- Adding computed columns to a table

### Module 4 : Stored Procedures

- Introduction to stored procedures
- Parameters
- Variables
- Output Parameters

### Module 5 : User Defined Functions

- Introduction to SQL User Defined Functions
- Scalar Functions
- Table-Valued Functions
- System Functions

### Module 6 : Transactions and Error Handling

- Introduction to SQL Transactions and Error Handling
- How to handle exceptions gracefully in stored procedures
- How to generate user-defined error messages

- Raising an exception and transferring the execution

## Module 7 : SQL Grouping Sets and Common Table Expressions

- SQL Grouping Functions
- Introduction to SQL Ranking Functions
- What is a Common Table Expression?
- Non-Recursive CTEs
- Recursive CTE
- Multiple CTE

## Module 8 : Partitions

- Introduction to SQL Partitions
- Creating Table Partitions
- Removing Table Partitions

## Module 9 : Optimization

- Describe SQL Server query plans
- Explain estimated and actual query plans
- Identify problematic query plans
- Identify issues with a database design

## Documentation :

- Digital courseware included

## Profils Participants :

- Developers, administrators, and advanced users who have to implement complex queries with SQL Server

## Connaissances :

- SQL user with a few years of experience in SQL or having taken the following course: [SQL - Fundamentals and Queries](#)

## Objectifs :

- Use decisional grouping functions
- Implement analytical and windowing functions
- Use complex update commands with the MERGE instruction
- Insert, modify and delete data with INSERT, UPDATE, DELETE statements

**Examen Inclus :** Non certifiant

**Duree Unite :** jour

**Duree Nombre :** 3

**Reference :** SQL-02