MySQL Training: Stored Procedures and Triggers

Introduction

Overview of MySQL.
Course objectives: optimize stored procedures, explore alternatives, and master advanced data processing functions.

Module 1: Review of SQL Query Writing

- Write simple and complex SQL queries.
- Use WHERE, GROUP BY, HAVING, and ORDER BY clauses.
- Joins (INNER, LEFT, RIGHT, FULL) to combine tables.
- Use subqueries and nested queries.

Module 2: Optimization and Alternatives to Stored Procedures

- What is a stored procedure and when to use it?
- Advantages and limitations of stored procedures.
- Optimization techniques: indexing, reducing nested queries, managing transactions.
- Alternatives: materialized views, prepared statements, and application-level solutions.

Module 3: Best Practices and Data Management in MySQL

- Table structuring, efficient indexing, and performance diagnostics.
- Query optimization: specific SELECTs, pagination, and join techniques.
- Text management: CONCAT(), SUBSTRING(), REPLACE(), cleaning and formatting.
- Number processing: SUM(), AVG(), ROUND(), MOD(), statistical and financial calculations.

Module 4: Advanced Data Comparison and Manipulation Functions

- Date comparison functions: NOW(), CURDATE(), DATEDIFF(), TIMESTAMPDIFF().
- Combined processing of text and numeric data in MySQL.
- Use of regular expressions for advanced data cleaning.

Module 5: Using Cursors and Looping Techniques

- Definition, syntax, and usage context of cursors in MySQL.
- Practical examples: iterating through records and performing repetitive operations.

Conclusion and Final Case Study

- Summary of key concepts.
- Integrated case study: implementing optimization, advanced functions, and cursors.

SQL Training for SQL Server

Introduction to **SQL Server** Training

Overview of the **SQL Server** course

- Definition of a database and the different types of objects

Data Manipulation Language (DML)

- Inserting rows (INSERT)
- Inserting multiple rows
- Inserting from a SELECT statement
- Updating with UPDATE
- UPDATE with subqueries
- Deleting records (DELETE)
- *Practical workshop:* Modifying the content of our database

Data Query Language (DQL)

- Data types (date, float, etc.)
- Selecting data: SELECT
- TOP, WHERE, HAVING, and other criteria
- Joins: INNER / LEFT / RIGHT / OUTER
- Creating and modifying data: INSERT / UPDATE / DELETE

SQL Training: Mastering SQL Queries

Introduction to **SQL Training**

- Definition of a **database**
- Definition of a Database Management System
- Defining a relational model

- Overview of the different SQL languages: DDL, DML, DCL

Module 1: Course on DCL (Data Control Language)

- SELECT FROM query
- SELECT WHERE query
- SELECT ORDER query
- SELECT LIMIT query
- SELECT EXPR … query
- SELECT FROM JOIN query
- SELECT AGGR GROUP query
- SELECT AGGR GROUP HAVING query

Module 2: Course on Data Manipulation (DML)

- Introduction to DML
- INSERT query
- INSERT SELECT query
- INSERT MULTI TABLE query
- UPDATE query
- UPDATE MULTI TABLE query
- DELETE query
- DELETE MULTI TABLE query

Module 3: Course on Data Definition (DDL)

- CREATE TABLE query
- DROP TABLE query
- ALTER TABLE query

Module 4: Theory on Advanced SQL Concepts

- Indexes and index types
- Foreign key constraints
- Basic modeling, explanation of 1st, 2nd, and 3rd normal forms
- Natural keys versus complex keys

SQL Triggers and Stored Procedures

SQL Training, Conceptual Data Modeling

Introduction to SQL training

Definition of a database

Definition of a Database Management System

Define a relational model

Presentation of different SQL languages: LID, DML, LDD

Module 1: Course on LID

SELECT FROM
SELECT WHERE
SELECT ORDER
SELECT LIMIT
SELECT EXPR …
SELECT FROM JOIN
SELECT AGGR GROUP
SELECT AGGR GROUP HAVING

Module 2: Course on data manipulation (LMD)

Beginning of the DML
INSERT
INSERT SELECT
MULTI TABLE INSERT
UPDATE
UPDATE MULTI TABLE
DELETE
DELETE MULTI TABLE

Module 2: Course on the Basics of Data Definition (DDL)

CREATE TABLE
DROP TABLE
ALTER TABLE

Module 3: Theory

Indexes and types of indexes
FK constraints

Basic modeling, explanation of normal forms 1, 2 and 3
Natural key versus complex key

Course – SQL and PL / SQL Training

SQL part

Introduction to SQL training
Definition of a database

Definition of a Database Management System

Define a relational model

Tables and referential integrity

Practical workshop: Installing tools (wampserver and mysqlworkbench)

Understand modeling

Vocabulary of the relational model

Normal forms

Practical Workshop: Creating a Conceptual Data Model

The data definition language (LDD)

Creating tables: syntax

Data types

Types of constraints

Changing the definition of a table

Deleting a table

Introduction to views

Indexes

Transactions overview

Practical workshop: Setting up and modifying the structure of our database

Data manipulation language (DML)

Insertion of lines (INSERT)

Insert multiple rows

Insert from a SELECT

Updated with UPDATE

UPDATE with subqueries

Deletion of registration (DELETE)

Practical Workshop: Modifying the contents of our database

The data query language (LID)

Projection

Selection (or restriction)

The join

Sorting

Practical Workshop: Extraction of data meeting a defined need using restriction criteria, operations and sorting.

Advanced Use

GROUP BY and HAVING

Arithmetic functions

String functions

Transactions: COMMIT and ROLLBACK
Data access control: GRANT, REVOKE

PL / SQL part

Understand PL / SQL
Structure of a PL / SQL program block
Use the Declare Clause
Use the Begin Clause
Creating stored procedures and functions
Running Stored Procedures and Functions

Training for engineers

As an engineer in Quebec, you are required to complete 30 hours of continuing education each year, in accordance with the requirements of the Ordre des Ingénieurs du Québec (OIQ). At Doussou Formation, we understand the challenges you face in keeping your skills up to date while meeting the demands of your profession. This is why we have designed training programs tailored to your professional needs and aligned with OIQ standards.

Training Designed for Engineers

We offer a complete range of technical and professional training programs to help you excel in your field while meeting your continuing education requirements.

1. Training on Specialized Software Tools

Software is at the heart of modern engineering. Our courses enable you to master essential tools to remain competitive:

AutoCAD: Learn how to create precise technical designs.

3D Studio Max, Rhino 3D, and Lumion: For 3D modeling and photorealistic rendering.

Blender and Unreal Engine: Ideal for prototyping and complex simulations.

Maya: Enhance your skills in design and simulation.

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2. Project Management and Performance in Technical Environments

In an environment where projects are becoming increasingly complex, project management skills are essential:

- **MS Project and Planner:** Manage your projects efficiently.
- **Power BI and Advanced Excel:** Leverage your data for informed decision-making.
- **Leadership and Technical Communication:** Develop your influence as a manager or project leader.

3. Artificial Intelligence

- **Introduction to AI:** Understand the fundamental concepts of artificial intelligence, neural networks, machine learning, and modern models.
- **AI for Engineers:** Leverage your data for informed decision-making and learn how to integrate AI into your technical projects.
- **Generative AI and Automation:** Discover how to use tools such as ChatGPT, Copilot, and generative models to automate engineering tasks.
- **Programming and Applied AI:** Learn to develop Python scripts to train models, analyze data, and implement operational AI solutions.

Why Choose Doussou Formation?

- **Training Recognized by the OIQ:** All our courses comply with the requirements of the Ordre des Ingénieurs du Québec, allowing you to validate your hours with confidence.
- **Expert Trainers:** Our instructors are experienced professionals in their field, ensuring hands-on and valuable training.
- **Flexible Learning:** Choose online or in-person sessions according to your schedule and preferences.
- **Personalized Learning Paths:** We can tailor our training programs to your specific needs or those of your company.

- AI
- [Details]

- Python and Data Science
- [Details]

- Unreal Engine
- [Details]

- Git
- [Details]

- ReactJS
- [Details]

- Blender
- [Details]

- Mastering SQL Queries
- [Details]

- Java
- [Details]

The field of technological engineering is one that evolves the fastest. Constantly needing to update your skills to keep up with ever-changing software and methods, Doussou Formation designed tailored training programs specifically for engineers. We offer a wide range of interesting and relevant courses. Our team of instructors consists of experts in their field, and our approach promotes hands-on learning and small groups, encouraging interactions that foster meaningful and lasting learning experiences.

By completing your training with Doussou Formation, you will put your knowledge into practice, benefit from privileged access to your trainer, and receive personalized follow-up to ensure we consistently provide the best training.

DOUSSOU FORMATION

For the required 30 hours of continuing education required by the Ordre des ingénieurs, we are here to support you. Let us give you the tools to stay up to date with technological and methodological advances. At Doussou, you will certainly find a course that meets your needs. Here are a few examples below.

Our Technology Courses

- JavaScript Training
- C# – C Sharp Training
- MVC ASP.Net Training
- React.JS – Continuing Education
- VUE.JS Training
- 3D Programming (Rhino 3D)
- 3D Max Training
- HTML5 and CSS3 Training
- Java Training
- PHP Courses
- Laravel Framework Courses
- Python and R Language Training
- Cybersecurity Courses
- XML Training

Our Methodology and Office Productivity Courses

- VBA Courses
- Excel Training
- Training: Mastering Macros and Introduction to Programming
- GIT Training: Writing Technical Documentation
- Zoom Training
- Microsoft Teams Training
- Nuance eCopy Training
- Acrobat Pro Training
- PowerPoint Training
- Publisher Training

By email: info@doussou-formation.com

About

Founded in 2016

97% satisfaction

Doussou Formation — Canadian provider of market-ready IT training

Founded in 2016, **Doussou Formation** quickly established itself as a leader in training for
information technology, office productivity, human capital, project management, and graphic design, in Quebec and across Canada.

Our approach & quality commitment

- **Certifications and recognition:** over 97% satisfaction based on client evaluations.
- **Practice-based pedagogy:** 100% hands-on training, in small groups, with course materials, personalized follow-up, and certification at the end of the program.
- **Experienced trainers:** seasoned professionals, rigorously selected and assigned according to your needs.

Geographic reach & accessibility

Our training sessions are offered in person in **Montreal**, **Quebec City**, and **Gatineau/Ottawa**,
as well as in **virtual classrooms** accessible anywhere in Canada.

We serve **businesses**, **public organizations**, **NPOs**, and **individuals**
with a standardized "market-available" offering, compliant with procurement requirements (no custom development).

Montreal
Quebec City
Gatineau / Ottawa
Online (Canada)

Training domains & topics

More than **100 ready-to-start courses** — organized by major **topics** to quickly meet your needs.

Productivity & Office Tools
Data & Analytics
Development & DevOps
Collaboration & M365
Design, Graphics & Multimedia
Leadership & Human Capital
Project Management
Digital Marketing & SEO
Emerging Technologies & AI

Productivity & Office Tools

- **Spreadsheets & automation** — Excel (pivot tables, Power Pivot), Google Sheets
- **Documents & layout** — Advanced Word, templates, mail merge

- **Communication** — Outlook, email best practices

Data & Analytics

- **BI & visualization** — Power BI (Modeling, DAX), Tableau
- **Databases** — SQL (queries, optimization)
- **Data science** — Python for analysis

Collaboration & M365

- **Teams & team productivity** — meetings, channels, best practices
- **SharePoint & OneDrive** — structures, permissions, governance
- **Copilot & applied AI** — responsible use and quick wins

Design, Graphics & Multimedia

- **Adobe Suite** — Photoshop, InDesign, Illustrator
- **UX/UI & prototyping** — Figma, mockups and components
- **Animation & content** — basics of 2D/3D, visual storytelling

Leadership & Human Capital

- **Management** — leadership, two-way feedback
- **Effectiveness** — time & priority management
- **Work climate** — managing difficult employees

Project Management

- **Methods & tools** — planning, monitoring, risk management
- **Microsoft Project** — calendars, resources, reports
- **Agile/Hybrid** — practical team practices

Digital Marketing & SEO

- **SEO** — technical, content, linking, monitoring
- **Acquisition** — Google Ads, social media
- **Content** — editorial guidelines, conversion pages

Emerging Technologies & AI

- **Generative AI** — ChatGPT, Copilot, best practices
- **Systems & dev** — Linux, JavaScript, React, DevOps
- **Automation** — scripts, integrations, workflows

*Indicative lists: each topic is available at **beginner**, **intermediate**, and **advanced** levels, in person or in virtual classrooms.*

Our clients & references

- **Governments:** federal, provincial, municipal.
- **Public institutions:** CNESST, SAAQ, BAnQ…
- **Education & NPOs:** universities, colleges, community organizations.
- **Private sectors:** Hydro-Québec, Vidéotron, Bell, Desjardins…
- **International presence:** France, DRC, Guadeloupe, Mali.

Why choose Doussou Formation?

Strength	Description
Pan-Canadian reach	In-person in Quebec + virtual across Canada.
Standardized offering	Clear, ready-to-use catalog.
Small groups & support	Better learning through personalized guidance.
Bilingual accessibility	Materials and training in French and English.
Transparent pricing	Public rates, discounts under conditions (FO1).
Proven credibility	Expert trainers, recognized clients.

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They trust us

Many companies, institutions, and organizations place their trust in us and continue to attend our training.
Here are some examples:

Sector	Organizations
Financial services, real estate and insurance	Desjardins, National Bank of Canada, Intact, Olympus, Global Pay
Leisure, culture and hospitality	Caraïbes Nordiques, Tangente Danse, PPS Danse, Théâtre de la Dame de Cœur, Le Carrousel, Productions Roméo et Fils, Tidan
Federal government agencies	Government of Canada, RCMP, Department of Fisheries and Oceans, National Defence

Sector	Organizations
Provincial government agencies	Ministry of Families, Ministry of the Environment, MSSS (Ministry of Health and Social Services), CNESST, Québec Research Fund, SAAQ, Public Curator, BAnQ (National Library and Archives of Québec), Tourisme Québec, UPAC
Municipalities	City of Montréal, Municipality of Sayabec
Education services	Laval University, Université de Montréal, Cégep de Trois-Rivières, Royal Military College Saint-Jean, University of Ottawa, CPE de la Courtepointe
Technology & communications	Captel, Blue Solutions, Progi, PMG Technologies, Hydro-Québec, Vidéotron, Bell Canada, TC Transcontinental, GRICS
Non-profit organizations	Résidence Le Monarque, Réseau-Femmes Ontario, Sphère Québec, Alzheimer Outaouais, Valoris, Culture Laval, Québec Logistics Innovation Institute
Social & public services	Urgences-Santé, IDDPNQL, CSS des Patriotes (School Service Centre), SIS Immigration, RDÉE Canada, Société Économique de l'Ontario
Associations & professional orders	Ordre de la Physiothérapie du Québec, Professions Québec, CPA Québec, Public Service Alliance, Association des cadres des CPE
Construction & manufacturing	ENERGI Fenestration, APL Construction, Canatal, MSP, Veolia, Acti Solutions, Photon, Les Bois de Plancher PG, KID Toy
Transport & logistics	Groupe Morneau, Communauto, STO Outaouais (Public Transit Service)
Agriculture & food	F. Ménard
Retail & e-commerce	Jackfield, Safran
Cosmetics & wellness	Institut de Beauté Manon Simard
International	RATP (France), IMIE (France), Davidson Paris, Koala Web (Guadeloupe), Malitel (Mali), AAC/RDC (Congo)

Drupal Training: the most complete training

Introduction to Drupal Training: the most complete training

Make Basic Configurations

Set time

Set up error pages

The rewriting of url

The search engine

The translations

Put an editor for Drupal

Text format

Intsaller a WYSIWYG

Install an editor

Practical workshop: create a text format for our editor

Learn Drupal Taxonomy

The vocabulary

Terms

Manage vocabulary

Create a content type

Practical workshop: create a particular type of content for our project

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Content Management with Drupal

Manage fields for display

User right for our new content type

Create a content management role

User management

The roles

Add rights

Practical Workshop: Creating Users and Assigned Rights

Managing the display of a Drupal site

The structure of the Drupal site

The theme

The menus

The blocks

The regions

Block Management

Install a Drupal theme

Theme Management

Retouching and Style Changes

Site Administration

Manage spam

Moderate comments and users.

Expand Drupal

Adding extensions

Useful modules of Drupal

Practical workshop: installation of multiple

SEO

SEO definition

Basics of natural referencing

Drupal extension for SEO

Maintain your Drupal site

Import and export content.

Update the software.

The maintenance of the site

Backup and restoration of the site

The update of the site

Drupal theme creation

Html / css base reminder

Managing themes in Drupal

Drupal Theme System

Components of a theme

Adapt a theme (CSS, images, …)

Files of a theme

Replacement of functions

Change the behavior of a theme

Practical Workshop: Creating a Drupal Custom Theme

Using Artisteer

Download / Intsaller Artisteer

Artisteer User Interface

Define formatting

Define Columns and Content

Set the background

Set the header

Set the menu

Set the sidebar

Define navigation

Set footer

Template Export and Installation

Practical Workshop: Creating a Drupal Theme with Artisteer

Create a Drupal module

Drupal for firebug

Drupal Folder Tree 7

Organizing files of a module

The summary page

The module configuration page

Using settings for the summary page

Execute SQL queries in a module

PHP Training: The Most Comprehensive Course

Introduction to PHP Training

Learning the Basics of PHP

Why Use PHP?
Structure of a PHP Page
Embedding PHP Code in an HTML Document
Variable Types
Declaring and Using Arrays
Constants
Operators
Loops and Conditional Statements
Superglobal Variables
Retrieving Form Data
Sending Emails

Hands-on Workshop: *Review of core HTML tags and styling commands, setting up a template page*

Creating Functions and Using Built-in Functions

Declaring Functions
Parameters and the Return Statement
Creating Function Libraries
Built-in Functions: Examples, Organization, Documentation
Functions for Dates, Arrays, and Strings
Include and Require Functions

Hands-on Workshop: *Creating custom functions and using built-in functions*

Processing Form Data

Creating a Form
Retrieving Form Data
File Uploads: The $_FILES Variable and Related Functions
Sending Emails

Hands-on Workshop: *Building a job application form*

Interacting with Users

Retrieving and Using GET Parameters
Using Cookies to Store Information

File Uploads: The $_FILES Variable and Related Functions
Sending Emails

Hands-on Workshop: *Building a job application form*

phpMyAdmin

Overview of phpMyAdmin
Creating a Database with phpMyAdmin
Creating Tables and Exploring Field Types
Modifying Table Structure

Hands-on Workshop: *Creating a MySQL database and tables*

SQL

Selecting Records (SELECT)
Inserting Records (INSERT INTO)
Updating Records (UPDATE)
Deleting Records (DELETE)
Operators and Conditions

Hands-on Workshop: *Writing basic SQL queries*

Using a MySQL Database with PHP

Overview of Database Management Systems
Data Types
Connecting to a MySQL Server
Populating the Database from a Form
Inserting Data into the Database with PHP
Updating Data with PHP
Deleting Data with PHP
Securing Data Before Sending to MySQL

Hands-on Workshop: *Storing job application form data in the database*

Cookies & Sessions

Session Overview
Advantages and Disadvantages of Cookies and Sessions
Storing and Retrieving Session Variables
Storing and Retrieving Cookie Variables

Hands-on Workshop: *Building a simple shopping cart and user interface*

Working with Files

Opening and Writing Files

SQL: Advanced Concepts

Tables and Relationships
Joins: INNER, LEFT, and RIGHT JOIN

Hands-on Workshop: *Writing SQL queries across multiple tables*

Building a Mini CMS

CMS Concepts
Existing CMS Platforms
Introduction to Data Modeling
Creating the Public Interface
Creating the Admin Interface
User Management

Hands-on Workshop: *Library management application*

[XML](#)

Overview of the XML Format
Writing an XML Document
Introduction to XML

Hands-on Workshop: *Creating an RSS feed and generating a sitemap for the library project*