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MySQL training: getting started and administration

3 days (21 hours)

Presentation

[MySQL](#) is an Open Source database management system (DBMS) in development since 1995. Since its creation, it has become one of the most widely used database systems. MySQL is ideally suited to the processing of small to medium-sized volumes of data. The use of MySQL is necessary for the proper functioning of the database server. The system can also be used by web developers and system administrators. MySQL is a multi-user environment. It includes several storage engines, so you can define one of these engines for each of your databases. This optimizes application performance. Our MySQL training course will teach you the architecture of the MySQL database, its [administration features](#), how to create and manage a database, as well as best practices in database security. At the end of this course, you'll be able to install and administer MySQL databases. We'll teach you the latest version of the program, [MySQL 8](#).

Objectives

- Master SQL database architecture
- Installing and configuring MySQL
- Understand the main MySQL database administration functions
- Create and manage a relational database
- Manage user access
- Restoring and backing up data
- Securing your database

Target audience

- System administrators
- Database administrators
- Developers

Prerequisites

- Basic knowledge of RDBMS
- Knowledge of SQL language
- Knowledge of Windows or Linux/Unix operating system administration

Our MySQL training program: Getting started and administration

MySQL architecture

- MySQL's logical architecture
- Client/server model
- Connection management and security
- Optimization and execution
- Competition control
- Read/write locks
- Lock granularity
- Transactions
- Insulation levels
- Impasses
- Transaction logging

MySQL installation

- MySQL Forks
- MySQL Community Edition
- MySQL SGDB installation
- MySQL vs MariaDB
- MySQL Enterprise Edition
- Choosing the right system for your organization :
 - Install MySQL on Linux, CentOS, Ubuntu, Mac or Windows
 - Configuration
- Upgrade

Manage your databases

- Database design process
- Creating and using a database
- MySQL database management
 - Data backup
 - Data restoration
- Using SQL script files
- Creating and deleting tables

SQL on MySQL

- Using the Sakila database
- SELECT statement and basic query techniques
- SELECT for a single table
- Column selection
- Line selection using the
 - WHERE
 - ORDER BY
 - LIMIT
- Linking two tables
- Basic principles of the INSERT statement
- Alternative syntaxes
- DELETE instruction
- Deleting with TRUNCATE
- UPDATE instruction

Transactions

- Competition control
- Replication
- Data file structure
- The InnoDB engine
- JSON document support
- Modifying the data dictionary

Administration functionality

- Main MySQL DB administration features
- Administration tools
- MySQL Administration
- MySQL Workbench
- Manage instances
- Server configuration
- System variables
- Log files

Database security

- User access management
- User authentication
- View rights and stored processing
- Complete security
- Operating system security
- Managing users and their privileges
- Use the SSL protocol

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.