



MySQL Performance Tuning

- **Formato do curso:** Presencial
- **Preço:** 1800€
- **Nível:** Avançado
- **Duração:** 24 horas

The MySQL Performance Tuning course teaches you how to tune MySQL for optimal performance. You will learn best practices for configuring, monitoring, and troubleshooting your server, databases and queries using a range of tools.

Learn To:

- Understand performance tuning concepts.
- Benchmark your MySQL server.
- Tune MySQL server settings.
- Investigate performance metrics with a range of system databases, command-line and graphical tools.
- Design your databases for optimal performance.
- Optimize slow queries.
- Troubleshoot common performance problems.
- Scale your hardware and application environment as your database grows.

Destinatários

- Application Developers
- Database Administrators
- Database Designers
- Developer
- System Administrator
- Web Administrator

Pré-requisitos

Pré-requisitos obrigatórios:

- Experience of maintaining a database server (preferably a MySQL server)
- Ability to use MySQL tools to connect to a MySQL server
- Knowledge of general SQL statement structure and query writing principles
- Working knowledge of Linux operating systems

Pré-requisitos aconselháveis:

- Experience of maintaining a MySQL server instance and using
 - Knowledge of a programming language, such as Java or PHP
 - Familiarity with Linux command line tools and scripting
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Objetivos

- Understand performance tuning concepts
 - List factors that affect performance
 - Use a range of performance tuning tools
 - Configure and use the Performance Schema
 - Tune the MySQL server instance
 - Design a schema for optimal performance
 - Understand how MySQL optimizes queries
 - Identify and fix slow queries
 - Diagnose and resolve common performance issues
 - Optimize MySQL for your application environment
 - Identify the performance impact of hardware
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Introduction

- Course Introduction
- MySQL Overview
- MySQL Products and Tools
- MySQL Web Resources
- MySQL Courses and Certification
- MySQL Services and Support

Performance Tuning Concepts

- Introduction to Performance Tuning
- Performance Tuning Terminology
- Benchmarking
- Tuning
- Deploying and Maintaining MySQL

Performance Tuning Tools

- MySQL Monitoring Tools
- MySQL Enterprise Monitor
- MySQL Utilities
- Community Monitoring Tools
- Linux Tools

- Benchmarking Tools

Performance Schema

- Performance Schema
- Configuring Performance Schema
- Using MySQL Workbench for Performance Monitoring
- The MySQL sys Schema

Memory, Connections, and Threads

- Major Components of the MySQL Server
- Tuning the MySQL server
- Connections
- Thread Reuse

Tables, Files, and Logs

- Table Caching
- Files and File Descriptors
- Binary Logs

Statement Monitoring, Sort Buffer and Query Cache

- SQL Statement Monitoring
- Sizing the Sort Buffer
- The MySQL Query Cache

InnoDB Storage Engine

- List the key benefits of the InnoDB storage engine
- Describe how InnoDB uses log files and buffers
- Explain the SHOW ENGINE INNODB STATUS output
- Use InnoDB monitors
- Access key InnoDB metrics in Information Schema
- Tune InnoDB settings for best performance

Schema Design and Performance

- Schema Design Considerations
- Normalization and Performance
- Data Types
- Indexes
- InnoDB Table Compression
- Partitioning

Query Optimization

- MySQL Query Processing

- Understanding the Query Plan
- Using EXPLAIN
- Improving Query Performance
- Indexing
- MySQL Enterprise Monitor Query Analyzer

Troubleshooting Performance Issues

- Key Steps in Troubleshooting
- Establishing the Nature of the Problem
- Troubleshooting Locks
- Troubleshooting Locks with Information Schema
- Identifying Slow Queries
- Troubleshooting Specific Queries

Optimizing MySQL for Your Application Environment

- Improving Connector Performance
- Improving InnoDB Performance with the Memcached NoSQL API
- Backup Performance
- Improving Database Performance with Replication
- Improving Application Performance with MySQL Cluster

Hardware Optimization

- Hardware Limitations in MySQL
- Storage Devices
- MySQL and Virtualization
- Database-Driven Website Reference Architectures

Conclusion

- Course Overview
- Training and Certification Website
- Course Evaluation
- Thank You!
- Q&A Session