

## MySQL Performance & Tuning

Cursusduur: 3 Dagen    Cursuscode: MYSDBAPT    Trainingsmethode: Virtual Learning

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### Beschrijving:

#### MySQL Performance & Tuning Course Overview

This MySQL Performance & Tuning course is designed for Database Administrators, Application Developers and Technical Consultants who need to monitor and tune the performance of MySQL servers and databases.

The course provides practical experience in monitoring and tuning MySQL servers and databases.

Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.

Versions supported 8,5,7,5,6.

#### Virtueel en Klassikaal™

Virtueel en Klassikaal™ is een eenvoudig leerconcept en biedt een flexibele oplossing voor het volgen van een klassikale training. Met Virtueel en Klassikaal™ kunt u zelf beslissen of u een klassikale training virtueel (vanuit huis of kantoor) of fysiek op locatie wilt volgen. De keuze is aan u! Cursisten die virtueel deelnemen aan de training ontvangen voor aanvang van de training alle benodigde informatie om de training te kunnen volgen.

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### Doelgroep:

#### Who will the Course Benefit?

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### Doelstelling:

- Course Objectives
  - To provide the skills necessary to monitor and tune MySQL performance.
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### Vereiste kennis en vaardigheden:

- Delegates must have a working knowledge of MySQL Database Administration.

This course is run on a Linux operating system, a basic knowledge of Linux/UNIX is recommended but is not essential.

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### Vervolg cursussen:

Further Learning

- Apache Web Server
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## Cursusinhoud:

### MySQL Performance ; Tuning Training Course Course Contents - DAY 1

#### Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

#### Session 1: INTRODUCTION TO PERFORMANCE TUNING

- Tuning Overview
- Tuning Levels
- Resolving Performance Issues
- Recommended Approach to Tuning
- Items to Evaluate
- Where to look
- Planning a Monitoring Routine
- Building a New Database for Performance
- Tuning an Existing Database
- Setting Suitable Goals

#### Session 2: MYSQL PERFORMANCE TUNING TOOLS

- Administration Tools
- The Information Schema
- MySQL 8 Information Schema Changes
- Performance-related SHOW Commands
- Benchmarking Tools
- The MySQL Performance Schema
- MonYog
- Exercises: Obtaining Performance Information

#### Session 3: SCHEMA DESIGN

- Normalisation
- De-normalisation
- Naming Conventions
- Load Generation, Stress Testing and Benchmarking Tools
- Selecting Data Types
- Data Types
- Character Sets
- Choosing Storage Engines
- Exercises: Effects of Design on Performance

#### Session 4: STATEMENT TUNING

- Overview of Statement Tuning
- Identifying Problem Queries
- The Optimizer
- Explain
- Exercises: Identifying Problem Queries and Using Explain

#### Session 5: INDEXES

- Index Overview
- Index Size
- Types of Index
- Index Tuning
- Indexes and Joins
- Descending Indexes
- Invisible Indexes
- InnoDB Cached Indexes Information
- Exercises: Indexes and Performance  
MySQL Performance ; Tuning Training Course Course Contents - DAY 2

#### Session 6: SERVER CONFIGURATION AND MONITORING

- Server Configuration Variables
- Server Status Variables
- Table Cache
- Multi-Threading
- Connection Issues
- Query Cache
- Exercises: Setting and Interpreting Server Variables and Caching

#### Session 7: LOCKING

- Types of Locking
- Locking and Storage Engines
- Effects of Locking on Performance
- Monitoring InnoDB Locks in MySQL 5,7 and 8
- MySQL 8 Disable Deadlock Detection
- Exercises: Locking and Performance

#### Session 8: THE INNODB ENGINE

- Transactions
- Crash Recovery
- Locking
- Monitoring InnoDB
- Caches and Buffers
- Configuring Data Files
- Configuring the Log Files
- Exercises: InnoDB Configuration and Performance  
MySQL Performance ; Tuning Training Course Course Contents - DAY 3

#### Session 9: OTHER STORAGE ENGINES

- MyISAM Engine
- Merge Engine
- Archive Engine
- Memory Engine
- Blackhole Engine
- CSV Engine
- The Spider Engine
- The ColumnStore Engine
- The MyRocks Engine
- Mixing Storage Engines
- Exercises: Storage Engine Performance

#### Session 10: OVERVIEW OF CLUSTERING AND PERFORMANCE

- Advantages Performance Advantages of Clustering
- Performance Issues and Clustering
- The NDBCluster Engine
- The Galera Cluster
- The Percona XtraDB Cluster
- MySQL InnoDB Cluster
- The Federated Engine
- The FederatedX Engine
- Overview of Other High Availability Techniques
- NOSQL and Memcached Overview

#### Session 11: DUMPING AND LOADING DATA

- SQL statements versus delimited data
- Parameters affecting dump performance
- Parameters affecting load performance
- Exercises: Dump and load performance

#### Session 12: PARTITIONED TABLES

- Partitioned tables concepts
- Range partitioning
- Hash partitioning
- Key partitioning
- List partitioning
- Composite partitioning or subpartitioning
- Partition Pruning
- MySQL 8 Partitioning new features
- Exercises: Partitioned Table Performance

## Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

[info@globalknowledge.nl](mailto:info@globalknowledge.nl)

[www.globalknowledge.com/nl-nl/](http://www.globalknowledge.com/nl-nl/)

Iepenhoeve 5, 3438 MR Nieuwegein