

MySQL Database Administration

Duration: 5 Days Course Code: MYSDBA

Overview:

MySQL Database Administration Course Overview

English - Please note this course is only available in English.

Nederlands - Let op: deze training is alleen in het Engels beschikbaar.

Français - Veuillez noter que ce cours est uniquement disponible en anglais.

This MySQL Database Administration course is designed for MySQL Database Administrators who have a basic understanding of a MySQL databa

Target Audience:

Who will the Course Benefit?

Database Administrators, Database Developers and Technical Consultants who need to setup, administer, monitor and support MySQL databases and servers.

Objectives:

■ Course Objectives

■ At the end of the MySQL Database Administration course, delegates will have the knowledge to use the features available to administer, monitor and support MySQL databases and servers.

Prerequisites:

■ A working knowledge of MySQL is required. Delegates should have knowledge of relational database concepts; have knowledge of MySQL data types; be able run Queries using SQL; join tables and run basic DDL and DML statements. This knowledge can be gained by attendance on the Introduction to MySQL course.

This course is run on a Linux operating system platform, therefore, a good working knowledge of Linux/UNIX is strongly recommended. This knowledge can be gained by attendance on the Linux Introduction course.

Follow-on-Courses:

Further Learning

- MySQL Performance & Tuning
 - MySQL for Developers
 - Apache Web Server
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Content:

MySQL Database Administration Training Course Course Contents - DAY 1

Course Introduction

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

Session 1: THE SERVER, CLIENTS AND TOOLS

- Introduction to MySQL
- The versions of MySQL
- MySQL Database Server Releases
- MySQL Database Versions
- The MySQL Server
- MySQL Client Connections
- MySQL Client Programs
- MySQL Client Libraries
- The mysql Command Line Tool
- The mysqladmin Program

Session 2: MYSQL WORKBENCH

- Installation of MySQL Workbench
- Connecting to MySQL Workbench
- MySQL Workbench Screens

Session 3: OBTAIN METADATA

- What is Metadata?
- The mysqlshow Client Program
- The SHOW and DESCRIBE Commands
- Obtaining data from the INFORMATION_SCHEMA
- MySQL 8 INFORMATION_SCHEMA Changes
- Generate Statements using the INFORMATION_SCHEMA

Session 4: CONFIGURE THE SERVER

- Start and Stop the MySQL Server
- Status Files
- An Overview of MySQL Storage Engines
- MySQL Server Options and Variables
- MySQL Status Variables
- Configure the MySQL Enterprise Edition Auditing Plugin

Session 5: SQL MODES, LOG FILES AND BINARY LOGGING

- SQL Modes
- The General Log
- The Error Log
- The Slow Query Log
- The Binary Logs MySQL Database Administration Training Course Course Contents - DAY 2

Session 6: MYSQL ARCHITECTURE

- Communication Protocols used to connect a Client to the Server
- The SQL Parser and Storage Engine Tiers
- Installing and Uninstalling Plugins
- How MySQL Uses Disk Space
- How MYSQL Uses Memory

Session 7: THE INNODB STORAGE ENGINE

- Features of the InnoDB Engine
- The System Tablespace
- Transactions and Referential Integrity
- Physical Characteristics of InnoDB Tables
- System Tablespace Configuration
- File per Table Tablespace
- Log File and Buffer Configuration
- Undo Logs and Undo Tablespaces
- General Tablespaces
- Buffer and Lof File Configuration
- Temporary Table Tablespaces
- InnoDB Status
- InnoDB Shutdown Options

Session 8: OTHER STORAGE ENGINES

- Check Engine Usage
- The MYISAM Engine
- The Merge Engine
- Other Engines: Archive, Memory, Blackhole, CSV, Spider, MyRocks
- Mixing Storage Engines

Session 9: TABLE MAINTENANCE

- Table Maintenance Operations
- Check Table
- Repair Table
- Analyze Table
- Optimize Table
- MySQL Check
- Repair InnoDB Tables
- MyISAM Table Maintenance and Repair Utilities MySQL Database Administration Training Course Course Contents - DAY 3

Session 10: BACKUP AND RECOVERY

- The Advantages and Disadvantages of Different Backup Methods
- Backup Tool Overview
- What Should be Backed up?
- Binary Backups of MYISAM Tables
- Binary Backups of InnoDB Tables
- Performing Hot Backups
- Performing Recovery
- Import and Export Operations
- Export and Import using SQL
- Export from the Command Line using

Session 13: TRANSACTIONS AND LOCKING

- Locking Concepts
- Levels of Locking
- Implicit Table Locking with MyISAM and InnoDB
- Explicit Table Locking
- Advisory Locking
- Monitoring Locks
- Turning Autocommit on and off
- Using Transaction Blocks
- Possible Causes of Lock Contention
- Handling Concurrency Problems and Deadlocks

Session 14: TUNING THE SERVER

- Status Configuration Variables
- Status Variables
- System Variables
- Per Client Variables
- Performance Schema Overview

Session 15: THE EVENT SCHEDULER

- Event scheduler concepts
- Event scheduler configuration
- Creating, altering and dropping events
- Event scheduler monitoring
- Events and privileges MySQL Database Administration Training Course Course Contents - DAY 5

Session 16: OVERVIEW OF HIGH AVAILABILITY

- High Availability Goals
- High Availability Concepts
- Design for High Availability
- Definition of Availability
- High Availability Terminology

Session 17: CONFIGURE MASTER SLAVE REPLICATION

- Replication Overview
- When to Use Replication
- Disadvantages of Replication
- Replication Factors
- Replication Architecture
- Complex Replication Topologies
- Replicating from InnoDB to MyISAM Tables
- Testing Replication
- Monitoring Replication Threads
- Excluding Databases or Tables from Replication
- Example: Setting Up a Master Slave Replication
- Replication Using GTIDs
- Run Replication from a Remote Host
- Controlled Switchover

mysqldump
■ Import from the Command Line using mysqlexport
■ Additional Backup Tools
Session 11: USER MANAGEMENT
■ Introduction
■ User Accounts
■ Creating Users
■ Renaming Users
■ Change a User Password
■ Dropping Users
■ Granting Privileges
■ The User Table
■ Connection Validation
■ Password Validation Plugins
Session 12: PRIVILEGES
■ Types of Privileges
■ Granting and Revoking Privileges
■ Setting Resource Limits
■ Resource Management
■ Role Management
■ The MySQL Database
■ The Show Grants Command
MySQL Database Administration Training Course
Course Contents - DAY 4

Session 18: ADMINISTER A REPLICATION TOPOLOGY

- MySQL Replication and Failover Utilities
- Replication Files and Threads
- Configure a Lagging Slave
- Monitoring Replication
- Troubleshooting Replication
- Semi-synchronous Replication
- Configure MySQL Failover

Session 19: MYSQL SERVER INSTALLATION,UPGRADE DEPLOYMENT SECURITY

- MySQL Distributions
- Installing MySQL on Linux and UNIX
- The Installation Directories
- Set a Password for the mysql root user
- Upgrade the MySQL Server
- Deployment Security

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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www.globalknowledge.com/en-be/