skillsoft[⊁] global knowledge_™

MySQL Database Administration

Duration: 5 Days Course Code: MYSDBA

Delivery Method: Company Event

Overview:

MySQL Database Administration Course Overview

This MySQL Database Administration course is designed for MySQL Database Administrators who have a basic understanding of a MySQL database and a good working knowledge of SQL commands.

The course provides an understanding of MySQL Architecture and provides practical experience in the routine maintenance, administration, and backup and recovery of data in a MySQL server. Experience will be gained in the installation, configuration, and maintenance of a MySQL server This MySQL Database Administration course also covers MySQL replication and its role in high availability and scalability. Similarly, the course is targeted to closely follow the official Oracle MySQL curriculum for certification.

Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered. Versions supported 8.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

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

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

MYSDBA

- 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,M yRocks
- 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

www.globalknowledge.com/en-be/

Session 13: TRANSACTIONS AND LOCKING

- Locking Concepts
 - Levels of Locking
 - Implicit Table Locking with MyISAM and InnoDB
 - Explicit Table Locking
 - Advisory Locking
 - Monitoring Locks

Status Variables

System Variables

Per Client Variables

- 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

Performance Schema Overview

Event scheduler concepts

Event scheduler monitoring

Contents - DAY 5

High Availability Goals

Definition of Availability

Replication Overview

Replication Factors

Testing Replication

Replication

Replication

Tables

When to Use Replication

Replication Architecture
 Complex Replication Topologies

Disadvantages of Replication

Replicating from InnoDB to MyISAM

Example: Setting Up a Master Slave

Run Replication from a Remote Host

0800/84.009

Monitoring Replication ThreadsExcluding Databases or Tables from

Replication Using GTIDs

Controlled Switchover

info@globalknowledge.be

High Availability Concepts

Design for High Availability

High Availability Terminology

AVAILABILITY

REPLICATION

Event scheduler configuration

Session 16: OVERVIEW OF HIGH

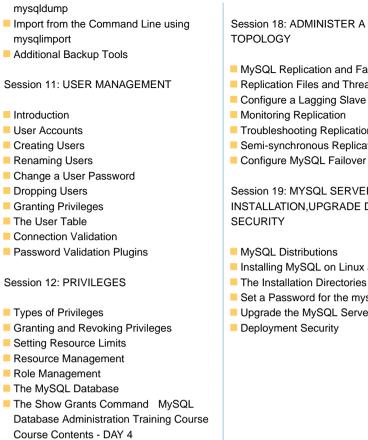
Session 15: THE EVENT SCHEDULER

Creating, altering and dropping events

Events and privileges MySQL Database

Administration Training Course Course

Session 17: CONFIGURE MASTER SLAVE



Session 18: ADMINISTER A REPLICATION

- MySQL Replication and Failover Utilities
- Replication Files and Threads
- Configure a Lagging Slave
- Monitoring Replication
- Troubleshooting Replication
- Semi-synchronous Replication
- Session 19: MYSQL SERVER

INSTALLATION, UPGRADE DEPLOYMENT

- 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 info@globalknowledge.be

www.globalknowledge.com/en-be/