MySQL for Database Administrators

Duration: 0 Days

What you will learn

This MySQL for Database Administrators training is a foundation course. It teaches database administrators and developers how to use this powerful database.

Students Who Will Benefit from this Course:
DBAs and developers who want to administer MySQL.
Students wishing to prepare for the MySQL Database Administrator Certification Exams.

Learn how to secure users privileges, set resource limitations and access controls. Instructors will show you how to create and use Stored Procedures, Triggers and Views.

Related Training

Required Prerequisites

Attend the MySQL for Beginners course or some experience with Relational Databases and SQL.

Course Objectives

Install and Upgrade MySQL for the most common operating systems

Utilize the MySQL Administrator Graphical User Interface (GUI) to manage a MySQL server

Use the INFORMATION_SCHEMA database to access metadata

Perform the MySQL start and shutdown operations

Configure MySQL server options at runtime

Evaluate data types and character sets for performance issues

Understand data locking concepts and the different levels of locking in MySQL

Differentiate between the multiple storage engines available in MySQL

Perform backup and restore operations utilizing multiple MySQL tools

Maintain integrity of a MySQL installation utilizing security protocols

Use stored routines and triggers for administration tasks

Manage, apply and understand the reason for using views

Improve performance through query optimization

Optimize Schemas (Databases) utilizing multiple techniques

Utilize MySQL monitoring tools to improve server performance

Compare multiple environment options to improve server performance

Course Topics

Introduction
Describing MySQL
Listing MySQL Products and Professional Services
Describing MySQL Enterprise Subscription
Currently Supported Operating Systems
Describing MySQL Certification Program
Listing Available MySQL Courses
Describing Installation of MySQL
Describing Installation of world Database

MySQL Architecture
Client/Server Architecture
MySQL Architecture Overview
How MySQL Uses Disk Space
How MySQL Uses Memory
The MySQL Plug-In Interface

The MySQL Server
Types of MySQL Distributions
Starting and Stopping MySQL on Windows
Starting and Stopping MySQL on Linux
Upgrading MySQL
Managing Multiple Servers

Configuring the MySQL Server
MySQL Configuration
Dynamic Server Variables
Server SQL Modes
Log and Status Files
Binary Logging

MySQL Clients
Overview of Administrative Clients
Invoking MySQL Client Programs
Using the mysql Client
The mysqladmin Client
MySQL Connectors
Third-Party APIs

Overview of Data Types
Data Types
Numeric Data Types
Character String Data Types
Binary String Data Types
Temporal Data Types
NULLs
Column Attributes

Metadata
Metadata Access Methods
The INFORMATION_SCHEMA Database/Schema
Using SHOW and DESCRIBE
The mysqlshow Command

Storage Engines
Storage Engine Overview
MyISAM, InnoDB, and MEMORY Storage Engines
Other Storage Engines
Choosing Appropriate Storage Engines
Using Multiple Storage Engines
Storage Engine Comparison Chart

Partitioning
Overview of Partitioning and reasons for using Partitioning
Creating a Partitioned Table
Obtaining Partition Information
Modifying and Removing Partitions
Partition Modification Performance Effects
Partition Pruning
Storage Engine Partition Information
Partitioning and Locking and Limitations

Transactions and Locking
Transactions
Transaction Control statements
Isolation Levels
Locking

Security and User Management
Security Risks
Security Measures
Privileges
Access Levels, including: 1 - User Accounts, 2 – Databases, 3 – Tables, 4 – Columns, 5 - Stored Routines
User Account Maintenance
Client Access Control
Using Secure Connections

Table Maintenance
Table Maintenance
SQL Statements for maintenance operations
Client and Utility Programs for table maintenance

Table Maintenance per Storage Engine

Exporting and Importing Data
Exporting and Importing Data
Exporting and Importing Data Using SQL
Import Data with the SQL scripts

Programming with MySQL
Defining, Executing and Examining Stored Routines
Stored Routines and Execution Security
Defining, Creating, and Deleting Triggers
Trigger Restrictions and Privileges
Defining Events
Schedule Events
DBA's Use of MySQL Programming
Backup Stored Routines

Views
What is a view?
Creating Views
Updatable Views
Managing Views

Backup and Recovery
Planning for Recovery Backup
Backup Tools Overview
Making Raw Backups
Making Logical (Text) Backups
Backup Log and Status Files
Replication as an Aid to Backup
Backup Method Comparison
Data Recovery

Introduction to Performance Tuning
Using EXPLAIN to Analyze Queries
General Table Optimizations
Setting and Interpreting MySQL Server Variables

Introduction to High Availability
MySQL Replication

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