



## Course 441 – Introduction to MySQL™ Development & Administration

Duration: 5 days

### You Will Learn How To

- Understand the features and benefits of MySQL
- Understand the basics of relational databases
- Understand the SQL and MySQL languages
- Understand Data/Column types with regard to efficient database design
- View a database design structure
- Extract basic database information using the SELECT command
- Delete or modify a database
- Delete or modify table row data
- Grouping query data using aggregation
- Connect data from multiple table rows using JOIN
- Perform nested sub-queries
- Use simple functions (String, Date, Numerical)
- Backup and restore the database
- Understand the MySQL storage engines, transactions and concurrency
- Administer databases with native tools like MySQL Administrator and MySQL Query Browser
- Enhance database performance using stored procedures and triggers

### Course Benefits

This MySQL Training course allows you to take advantage of the leading open source relational database management system that is extensively deployed around the world. MySQL runs on a variety of platforms, including UNIX/Linux, Windows and MacOS X. The combination of its low

cost, ease of maintenance and high speed makes MySQL ideal for many application areas. This course provides a comprehensive introduction to the MySQL RDBMS.

### Who Should Attend

This course is valuable for anyone involved in administering and developing on a MySQL relational database management system (RDBMS). Basic familiarity with database concepts is helpful, but not essential.

### Course Content

#### Introduction to MySQL

- Relational Database Systems
- MySQL Licensing
- Downloading MySQL
- MySQL Command Line Client
- .Basic MySQL Commands
- MySQL Query Browser

#### Database Design Basics

- Tables and Relational Databases
- Primary Keys and Foreign Keys
- Relations
- Creating a Data Model
- Normalization
- Data Types

#### Data Definition Language

- The Structured Query Language (SQL)
- Creating, Altering, Deleting Databases



- Creating Tables
- Creating Columns
- Defining Primary Keys
- Foreign Keys and Column Constraints
- Table Types
- The SHOW Command
- Altering and Deleting Tables
- Naming Conventions

### **The SELECT Statement**

- Basic Form
- Displaying Specific Columns
- Using Aliases
- Arithmetic Expressions
- Filtering Data Using the WHERE clause
- Conditional and Logical Expressions

### **Altering Data**

- Inserting Data into Tables (INSERT)
- Replacing Table Rows (REPLACE)
- Updating Table Rows (UPDATE)
- Deleting Table Rows (DELETE)

### **Working with Multiple Tables**

- Queries on Multiple Tables
- Table Aliases
- Joins
- Updating and Deleting Multiple Tables

### **Advanced Queries**

- Retrieving Unique Values (DISTINCT)
- Grouping and Aggregating Data (GROUP BY)
- Filtering Aggregated Results (HAVING)
- Sorting Results (ORDER BY)
- Limiting the Results (LIMIT)

### **Subqueries, Indexes, and Views**

- Using Subquery Operators
- Query Optimization using Indexes

- Creating and Deleting Indexes
- Creating and Editing Views

### **MySQL Functions**

- Character Strings
- Using the Date, Time, DateTime Functions
- Numeric Functions
- Full Text Search Functions

### **Concurrency and Transactions**

- ACID Principles
- Transactions
- Table Locking

### **MySQL Administration**

- Creating Users
- Setting Passwords
- Access Privileges
- Backup and Restore
- Introduction to Migration
- Using the MySQL Administrator

### **Stored Procedures and Triggers**

- Basic Concepts
- Functions and Procedures
- Variables and Parameters
- Control Flow Statements
- Loops
- Error Handling
- Cursors
- Stored Procedure Administration
- Triggers

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