

MySQL Fundamentals

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Learn To

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Learn To:

- Explain the relational database model.
- Describe the features and benefits of MySQL.
- Install and configure the MySQL server and clients.
- Design efficient databases.
- Use Structured Query Language (SQL) to build your database and query data.
- Employ appropriate MySQL tools.
- Gain an understanding on the MySQL Cloud Service.

Benefits to You

This course will teach you everything you need to know to start using the incredibly popular MySQL database in your Web, Cloud and embedded applications. In learning about MySQL you will also gain an understanding of relational databases in general, learning how to design your database so it's robust and efficient. Furthermore, you will harness that power by learning SQL and using it to build databases, populate them with data and query that data through extensive hands-on practices.

Manage Your MySQL Database

In addition to covering core concepts, this course introduces you to more advanced tools and techniques to help you manage your MySQL database and data. At the end of the course, you will be confident in your ability to use the MySQL database and put your new skills to work.

Prerequisites

Audience

- Architect
- Database Administrator
- Developer

Course Objectives

- Describe the features and benefits of MySQL
- Explain the basics of relational databases

- Design an effective database
- Issue MySQL statements from the mysql command-line client
- Perform database operations by using MySQL Workbench
- Select appropriate data types for your database
- Build a database and tables by using SQL
- Modify the structure of your database
- Create indexes and keys
- Add or update database data
- Query data with SELECT statements
- Join data from multiple tables
- Use built-in MySQL functions
- Export and import database data
- Explain database transactions
- Gain an understanding on the MySQL Cloud Service

Course Topics

Introduction to MySQL

- Course Goals
- Course Lesson Map
- Classroom Environment
- MySQL Overview
- What is MySQL Cloud Service
- What it means to provision a MySQL Cloud Service instance
- How an instance of MySQL Cloud Service differs from having an on-premises instance
- How MySQL course content covers material that applies whether you run MySQL locally or in MySQL Cloud Service

MySQL Server and Client

- MySQL Client/Server Model
- MySQL Connectors
- Installation of the MySQL server
- Setting the root Password
- Starting and stopping the MySQL server
- Using the mysql client
- MySQL Workbench

Database Basics

- Basics of Relational Databases
- Spreadsheet Versus Database
- Entities and Relationships
- Relationship Categories
- SQL Language and MySQL
- SQL data definition language
- SQL data manipulation language

Designing Your Database

- Database Modeling

- Keys
- Normalization
- Database Design
- Viewing and Evaluating a Database

Data Types

- Data Types as Part of Database Design
- Numeric Data Types
- Temporal Data Types
- String Data Types
- Character Set and Collation Support
- Data Type Considerations
- The Meaning of NULL

Creating Databases and Tables

- Creating a Database
- Creating a Table
- Showing How a Table Was Created
- Column Options
- Table Options
- Indexes, Keys, and Constraints

Modifying Databases and Tables

- Deleting databases and tables
- Creating a New Table Using an Existing Table
- Confirming the Creation of a New Table
- Copying an Existing Table Structure
- Creating a Temporary Table
- Adding, removing and modifying table columns
- Adding, removing and modifying Indexes

Querying Table Data

- The SELECT Statement
- Creating Views
- Querying Data from an Application
- Exporting and Importing a Delimited File
- Troubleshooting: Authorization Levels

Modifying Table Data

- Manipulating Data
- Inserting records
- Replacing existing records
- Updating existing records
- Deleting records
- Exporting and importing a script
- Multistatement Transactions
- Modifying Data from an Application

Functions

- Functions in MySQL Expressions
- Using Functions
- String Functions
- Date and time functions
- Numeric Functions
- Aggregate Functions
- Spaces in Function Names

Joining Tables

- Querying Multiple Tables
- Joining Tables with SELECT
- Inner Joins
- Outer Joins
- Table Name Aliases

Conclusion

- Course Goals
- MySQL Curriculum Path
- MySQL Resources
- Evaluation
- Final Q&A