Fundamentals of Databases Using MySQL®

Duration: 1 Day
Method: Instructor-Led

Course Description

Storing and accessing data are part of a person's day-to-day activities. One of the most efficient and powerful ways of managing data is by using databases. Information can be stored, linked, and managed using a database application such as MySQL® 5.1. In the Fundamentals of Databases Using MySQL® course, you will work with the databases using MySQL®. This will be done by identifying the fundamental concepts of databases, creating a preliminary database design, applying normalization techniques, and familiarizing yourself with relational database management systems.

Target Audience

This course is designed for:
- Database Administrators
- Web Programmers
- Web (Application) Developers
- IT systems managers who will be working within a MySQL® RDBMS-based enterprise IT department and need to interact in a productive manner with MySQL® RDBMS technical professionals
- Persons who wish to acquire competency in performing basic database operations and administration using the MySQL® RDBMS or various similar SQL-based RDBMS products
- Persons who wish to gain familiarity with database system terminologies and usage so as to pursue a career as a MySQL® RDBMS technical professional

Prerequisites

Before attending this course, participants should have the following:
- Basic understanding of the Microsoft Windows environment
- Basic understanding of Microsoft Office applications, or similar office productivity apps
- Experience with a programming language such as C++ (**helpful but not required**)
- Knowledge of basic database concepts such as tables, fields, records, and primary keys (**helpful but not required**)

Course Objectives

Upon successful completion of this course, students will be able to:

- Identify the fundamental concepts of databases and explore the MySQL® RDBMS interface elements
- Create a preliminary database design
- Apply normalization techniques to a database
- Use SQL commands to execute simple queries
- Use SQL compound statements to query efficiently
- Manage databases by creating views, indexes, and transactions
- Administer and maintain a database

Course Content

Lesson 1: Familiarizing Yourself with the Fundamentals of Databases

- Topic 1A: Identify the Database Development Life Cycle
- Topic 1B: Explore the MySQL® RDBMS

Lesson 2: Creating a Preliminary Database Design

- Topic 2A: Analyze Database Requirements
- Topic 2B: Identify Key Fields
- Topic 2C: Create Entity Relationship Diagrams

Lesson 3: Applying Normalization Techniques

- Topic 3A: Normalize Tables
- Topic 3B: Denormalize Tables

Lesson 4: Using the SQL Commands to Work with Tables

- Topic 4A: Discuss Structured Query Language (SQL)
- Topic 4B: Create Tables Using the Data Definition Language (DDL) Commands
- Topic 4C: Modify Data Using Data Manipulation Language (DML) Commands

Lesson 5: Working with Databases

- Topic 5A: Use SQL Compound Statements
- Topic 5B: Create Triggers

Lesson 6: Managing Databases

- Topic 6A: Create Indexes
- Topic 6B: Create Views
- Topic 6C: Create Transactions

Lesson 7: Administering a Database

- Topic 7A: Perform Database Administration
- Topic 7B: Perform Backup and Recovery