Course Content

Course Description:
MySQL® is the open source community's most popular Relational Database Management System (RDBMS) offering, and is a key part of LAMP – Linux™, Apache™, MySQL®, PHP/Perl/Python®. Many Fortune 500 companies adopt MySQL® to reap the benefits of an open source, platform-independent RDMS, such as simplifying conversion from other platforms and lowering database Total Cost of Ownership by 90%. This class walks the admin through the basics of MySQL® administration. Included are an introduction to the available MySQL® client software and its use in performing administrative functions, optimization tasks, and general performance tuning. This course covers MySQL® 5.5.

Prerequisites:
Prior experience installing software and programming in any language, such as HTML, is recommended but not required.

Audience:
System administrators

Topics:

Course Introduction
- Course Objectives
- Course Overview
- Using the Workbook
- Suggested References

Introduction to Database Concepts and MySQL
- Features of a Relational Database
- Where does SQL Fit in?
- Database Access
- Why MySQL?
- The History of MySQL

Installation, Configuration, and Upgrading
- MySQL Software
- MySQL Software Features
- Preparing to Install MySQL
- Available Client Software
- After the Download
- Configuring the Server
- Starting the Server

- The Initial User Accounts
- Verifying Server Operation
- Upgrading
- Copying a Database between Architectures
- Environment Variables

MySQL Client Software and the MySQL Command-Line Tool
- Running the MySQL Client
- Customizing the MySQL Prompt
- MySQL Commands
- Using the Help Command
- Some Useful MySQL Options
- Working with a Database
- Examining Table Definitions
- Other SHOW Options

MySQL Storage Engines
- Storage Engine Overview
- Other Storage Engine Types
- The Basics of Commonly Used Storage Engines

- MyISAM Limits and Features
- InnoDB and Hardware Limitations
- InnoDB Shared Tablespace Configuration
- InnoDB Per-Table Tablespaces
- InnoDB Data Management
- MEMORY and FEDERATED
- MERGE and ARCHIVE

Utilities
- Client Overview
- Specifying Options for Command-Line Clients
- Client Option Files
- MySQL® Administration
- © ITCourseware, LLC 2
- MySQL® Administration Rev 2.1.2
- Checking Tables with myisamchk and MySQLchk
- Using myisamchk and MySQLchk for Repairs
- MySQLshow and MySQLimport
- Using MySQLdump
- The MySQL Workbench – General
- MySQL Workbench - Execution
- MySQL Administration via the Workbench
- Data Modeling with the Workbench
- SQL Development
- Third Party Tools

Administering a Database and Users
- The Server-Side Programs
- Starting the MySQL Server
- Using SET for Server Options
- Table Management
- Server Log Files
- MySQLadmin
- Backup and Restore
- Miscellaneous Functions
- User Account Management
- Understanding User Privileges
- User Account Rights Management
- User Account Privileges
- Managing Access to the Database Environment

Optimization and Performance Tuning
- Hardware Limitations
- Optimizing the MySQL Server's Interaction with the External World
- Adjusting the MySQL Server Configuration
- Optimizing Your Database
- Optimizations Specific to MyISAM
- Optimizations Specific to InnoDB