

Course duration

- 2 days

Course Benefits

- Understand the MySQL Architecture.
- Learn to start and shutdown the MySQL server.
- Learn to install MySQL.
- Learn to configure MySQL components.
- Learn to use different storage engines supported in MySQL.
- Learn to secure the elements of a MySQL installation.
- Learn to maintain security of a MySQL installation via user management and access rights.
- Learn to work with the MySQL Administrator Graphical User Interface.
- Learn to perform backup and restore operations using multiple MySQL tools.
- Learn to optimize MySQL at various levels - installation, database and queries.
- Learn to perform database replication in MySQL.

Available Delivery Methods

Public Class

Public expert-led online training from the convenience of your home, office or anywhere with an internet connection. Guaranteed to run .

Private Class

Private classes are delivered for groups at your offices or a location of your choice.

Course Outline

1. Database design and implementation
 1. How to design a database
 1. How to design a data structure
 1. The basic steps for designing a data structure
 2. How to identify the data elements
 3. How to subdivide the data elements
 4. How to identify the tables and assign columns
 5. How to identify the primary and foreign keys
 6. How to enforce the relationships between tables

7. How normalization works
 8. How to identify the columns to be indexed
2. How to normalize a data structure
 1. The seven normal forms
 2. How to apply the first normal form
 3. How to apply the second normal form
 4. How to apply the third normal form
 5. When and how to denormalize a data structure
3. How to use MySQL Workbench for database design
 1. How to open an existing EER model
 2. How to create a new EER model
 3. How to work with an EER model
 4. How to work with an EER diagram
2. How to create databases, tables, and indexes
 1. How to work with databases
 1. How to create and drop a database
 2. How to select a database
 2. How to work with tables
 1. How to create a table
 2. How to code a primary key constraint
 3. How to code a foreign key constraint
 4. How to alter the columns of a table
 5. How to alter the constraints of a table
 6. How to rename, truncate, and drop a table
 3. How to work with indexes
 1. How to create an index
 2. How to drop an index
 4. A script that creates a database
 5. How to use MySQL Workbench
 1. How to work with the columns of a table
 2. How to work with the indexes of a table
 3. How to work with the foreign keys of a table
 6. How to work with character sets and collations
 1. An introduction to character sets and collations
 2. How to view character sets and collations
 3. How to specify a character set and a collation
 7. How to work with storage engines
 1. An introduction to storage engines
 2. How to view storage engines
 3. How to specify a storage engine
 3. How to create views
 1. An introduction to views
 1. How views work
 2. Benefits of using views
 2. How to work with views
 1. How to create a view
 2. How to create an updatable view

3. How to use the WITH CHECK OPTION clause
 4. How to insert or delete rows through a view
 5. How to alter or drop a view
2. Database administration
 1. An introduction to database administration
 1. Database administration concepts
 1. Database administrator responsibilities
 2. Types of database files
 3. Types of log files
 2. How to monitor the server
 1. How to view the server status
 2. How to view and kill processes
 3. How to view the status variables
 4. How to view the system variables
 3. How to configure the server
 1. How to set system variables using MySQL Workbench
 2. How to set system variables using a text editor
 3. How to set system variables using the SET statement
 4. How to work with logging
 1. How to enable and disable logging
 2. How to configure logging
 3. How to view text-based logs
 4. How to manage logs
 2. How to secure a database
 1. An introduction to user accounts
 1. An introduction to SQL statements for user accounts
 2. A summary of privileges
 3. The four privilege levels
 4. The grant tables in the mysql database
 2. How to work with users and privileges
 1. How to create, rename, and drop users
 2. How to specify user account names
 3. How to grant privileges
 4. How to view privileges
 5. How to revoke privileges
 6. How to change passwords
 7. A script that creates users
 3. How to work with roles
 1. How to create, manage, and drop roles
 2. A script that creates users and roles
 4. How to use MySQL Workbench
 1. How to work with users and privileges
 2. How to connect as a user for testing
 3. How to backup and restore a database
 1. Strategies for backing up and restoring a database
 1. A backup strategy
 2. A restore strategy

2. How to back up a database
 1. How use mysqldump to back up a database
 2. A SQL script file for a database backup
 3. How to set advanced options for a database backup
3. How to restore a database
 1. How to use a SQL script file to restore a full backup
 2. How to execute statements in the binary log
4. How to import and export data
 1. How to export data to a file
 2. How to import data from a file
5. How to check and repair tables
 1. How to use the CHECK TABLE statement
 2. How to repair a MyISAM table
 3. How to repair an InnoDB table
 4. How to use the mysqlcheck program
 5. How to use the myisamchk program

Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

Class Prerequisites

Experience in the following *is required* for this MySQL class:

- General SQL knowledge and principles

Experience in the following *would be useful* for this MySQL class:

- Understanding of DDL objects - tables, Indexes, constraints and others
- Basic knowledge of hardware and OS