

PROFESSIONAL TRAINING COURSE



4 Days Course on  
**MySQL for Database  
Administrators**



**Two Sigma Technologies**

19-2, Jalan PGN 1A/1, Pinggiran Batu Caves,  
68100 Batu Caves, Selangor  
Tel: 03-61880601/Fax: 03-61880602  
sales@2-sigma.com  
www.2-sigma.com

## About the Course

The MySQL for Database Administrators course is the foundation course for database administrators and developers who want to use this powerful database. In this course you will learn how to secure users privileges, set resource limitations, and access controls. In addition, you will learn multiple new features such as creating and using Stored Procedures, Triggers and Views.

## Prerequisites

Attend the MySQL for Beginners course or some experience with Relational Databases and SQL.

## Course Objectives

- Install and Upgrade MySQL for the most common operating systems
- Utilize the MySQL Administrator Graphical User Interface (GUI) to manage a MySQL server
- Use the INFORMATION\_SCHEMA database to access metadata
- Perform the MySQL start and shut down operations
- Configure MySQL server options at runtime
- Evaluate data types and character sets for performance issues
- Understand data locking concepts and the different levels of locking in MySQL
- Differentiate between the multiple storage engines available in MySQL
- Perform backup and restore operations utilizing multiple MySQL tools
- Maintain integrity of a MySQL installation utilizing security protocols
- Use stored routines and triggers for administration tasks
- Manage, apply and understand the reason for using views
- Improve performance through query optimization
- Optimize Schemas (Databases) utilizing multiple techniques
- Utilize MySQL monitoring tools to improve server performance
- Compare multiple environment options to improve server performance

## Course Settings

Venue/Date	Refer to Training Calendar
Timings	0900-1700
Inclusive	Certificates and notes
Course Fee	Contact Us at sales@2-sigma.com
Exam Fee	Contact Us at sales@2-sigma.com
Audience	IT Officer, Web Developer and Programmer
Level	Preparation towards Certification

## MySQL Admin – Schedule

Day 1	
9.00am – 10.00am	<b>Introduction</b> <ul style="list-style-type: none"> <li>• MySQL Overview, Products, Services</li> <li>• MySQL Enterprise Services</li> <li>• Supported Operating Services</li> <li>• MySQL Certification Program</li> </ul>
10.00am – 10.30am	Breakfast
10.30am – 1.00pm	<ul style="list-style-type: none"> <li>• Training Curriculum Paths</li> <li>• MySQL Website</li> <li>• Installing MySQL</li> <li>• Installing the 'world' Database</li> </ul> <b>MySQL Architecture</b> <ul style="list-style-type: none"> <li>• Client/Server Architecture</li> <li>• MySQL Architecture Overview</li> <li>• How MySQL Uses Disk Space</li> <li>• How MySQL Uses Memory</li> <li>• The MySQL Plug-In Interface</li> </ul>
1.00pm – 2.00pm	Lunch
2.00pm – 5.00pm	<b>The MySQL Server</b> <ul style="list-style-type: none"> <li>• Types of MySQL Distributions</li> <li>• Starting and Stopping MySQL on Windows</li> <li>• Starting and Stopping MySQL on Linux</li> <li>• Upgrading MySQL</li> <li>• Managing Multiple Servers</li> </ul> <b>Configuring the MySQL Server</b> <ul style="list-style-type: none"> <li>• MySQL Configuration</li> <li>• Dynamic Server Variables</li> <li>• Server SQL Modes</li> <li>• Log and Status Files</li> <li>• Binary Logging</li> </ul>
Day 2	
9.00am – 10.00am	<b>MySQL Clients</b> <ul style="list-style-type: none"> <li>• Overview of Administrative Clients</li> <li>• Invoking MySQL Client Programs</li> <li>• Using the mysql Client</li> <li>• The mysqladmin Client</li> <li>• MySQL Connectors</li> <li>• Third-Party APIs</li> </ul>
10.00am – 10.30am	Breakfast
10.30am – 1.00pm	<b>Overview of Data Types</b> <ul style="list-style-type: none"> <li>• Data Types</li> <li>• Numeric Data Types</li> <li>• Character String Data Types</li> <li>• Binary String Data Types</li> <li>• Temporal Data Types</li> <li>• NULLs</li> <li>• Column Attributes</li> </ul> <b>Metadata</b> <ul style="list-style-type: none"> <li>• Metadata Access Methods</li> <li>• The INFORMATION_SCHEMA Database/Schema</li> </ul>

	<ul style="list-style-type: none"> <li>• Using SHOW and DESCRIBE</li> <li>• The mysqlshow Command</li> </ul>
1.00pm – 2.00pm	Lunch
2.00pm – 5.00pm	<b>Storage Engines</b> <ul style="list-style-type: none"> <li>• Storage Engine Overview</li> <li>• MyISAM, InnoDB, and MEMORY Storage Engines</li> <li>• Other Storage Engines</li> <li>• Choosing Appropriate Storage Engines</li> <li>• Using Multiple Storage Engines</li> <li>• Storage Engine Comparison Chart</li> </ul> <b>Partitioning</b> <ul style="list-style-type: none"> <li>• Overview of Partitioning and reasons for using Partitioning</li> <li>• Creating a Partitioned Table</li> <li>• Obtaining Partition Information</li> <li>• Modifying and Removing Partitions</li> <li>• Partition Modification Performance Effects</li> <li>• Partition Pruning</li> <li>• Storage Engine Partition Information</li> <li>• Partitioning and Locking and Limitations</li> </ul>
<b>Day 3</b>	
9.00am – 10.00am	<b>Transactions and Locking</b> <ul style="list-style-type: none"> <li>• Transactions</li> <li>• Transaction Control statements</li> <li>• Isolation Levels</li> <li>• Locking</li> </ul>
10.00am – 10.30am	Breakfast
10.30am – 1.00pm	<b>Security and User Management</b> <ul style="list-style-type: none"> <li>• Security Risks</li> <li>• Security Measures</li> <li>• Privileges</li> <li>• Access Levels, including: 1 - User Accounts, 2 – Databases, 3 – Tables, 4 – Columns, 5 - Stored Routines</li> <li>• User Account Maintenance</li> <li>• Client Access Control</li> <li>• Using Secure Connections</li> </ul>
1.00pm – 2.00pm	Lunch
2.00pm – 5.00pm	<b>Table Maintenance</b> <ul style="list-style-type: none"> <li>• Table Maintenance</li> <li>• SQL Statements for maintenance operations</li> <li>• Client and Utility Programs for table maintenance</li> <li>• Table Maintenance per Storage Engine</li> </ul> <b>Exporting and Importing Data</b> <ul style="list-style-type: none"> <li>• Exporting and Importing Data</li> <li>• Exporting and Importing Data Using SQL</li> <li>• Import Data with the SQL scripts</li> </ul>
<b>Day 4</b>	
9.00am – 10.00am	<b>Programming with MySQL</b> <ul style="list-style-type: none"> <li>• Defining, Executing and Examining Stored Routines</li> <li>• Stored Routines and Execution Security</li> <li>• Defining, Creating, and Deleting Triggers</li> </ul>
10.00am – 10.30am	Breakfast
10.30am – 1.00pm	<ul style="list-style-type: none"> <li>• Trigger Restrictions and Privileges</li> </ul>

	<ul style="list-style-type: none"> <li>• Defining Events</li> <li>• Schedule Events</li> <li>• DBA's Use of MySQL Programming</li> <li>• Backup Stored Routines</li> </ul> <b>Views</b> <ul style="list-style-type: none"> <li>• What is a view?</li> <li>• Creating Views</li> <li>• Updatable Views</li> <li>• Managing Views</li> </ul>
1.00pm – 2.00pm	Lunch
2.00pm – 5.00pm	<b>Backup and Recovery</b> <ul style="list-style-type: none"> <li>• Planning for Recovery Backup</li> <li>• Backup Tools Overview</li> <li>• Making Raw Backups</li> <li>• Making Logical (Text) Backups</li> <li>• Backup Log and Status Files</li> <li>• Replication as an Aid to Backup</li> <li>• Backup Method Comparison</li> <li>• Data Recovery</li> </ul> <b>Introduction to Performance Tuning</b> <ul style="list-style-type: none"> <li>• Using EXPLAIN to Analyze Queries</li> <li>• General Table Optimizations</li> <li>• Setting and Interpreting MySQL Server Variables</li> </ul> <b>Introduction to High Availability</b> <ul style="list-style-type: none"> <li>• MySQL Replication</li> </ul>

### More Information

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To register, please email to [sales@2-sigma.com](mailto:sales@2-sigma.com) or fax the registration form to 03-61880602, we will contact you for further action.