

DB45
3 days

MySQL Database Use and Administration

A comprehensive introduction into the use and management of the MySQL client-server relational database management system (RDMBS), covering its installation, configuration, use, SQL dialect, database design, database administration, replication, backup-and-recovery, and optimization. The course focuses on 5.0 and later features. Both Unix / Linux and Windows configurations are addressed in the course
The course has extensive hands-on exercises and attendees receive a personal copy of the MySQL guide by duBois.

Course Objectives

- Show how MySQL can be professionally set up and managed
- To explain the release strategy of MySQL
- To present the core features of MySQL
- To provide experience and best practices for the complete lifecycle of MySQL installations:
 - Installation
 - Account Management
 - Optimisation
 - Data Load
 - Backup, Repair and Recovery
 - Replication
 - MySQL SQL Tuning and tools
 - The Unix / Linux and Windows platforms
 - ODBC with MySQL

Audience

- SQL or DBA staff needing to come up to speed with MySQL.
- Staff evaluating database systems
- Senior staff needing an overview of MySQL current and future

Prerequisites

- Knowledge of basics of database systems
- Some exposure to DBA role

Timetable

Register at 09:00 for 09:30 start.
Finish at 17:00.

Presentation Style

Lectures, demonstrations and group discussions.

Dates and Venues

Refer to *Course Schedules*.

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<p>The course covers:</p> <h2>MySQL Overview and Update Strategy</h2> <ul style="list-style-type: none">MySQL Versions and FeaturesMySQL Release and Update methodsMySQL FeaturesFull installation and set up of MySQL, Administration Package, Control Centre and ODBC <h2>MySQL SQL</h2> <ul style="list-style-type: none">Table creation and data-loading via scriptsSQL StandardsEntities and ER ModellingNormalisation and De-normalisationINSERT, REPLACE, UPDATE statementsBasic Use of SQL SELECT in Queries and Sub-queries (new in 4.1)Advanced querying using multiple tables and complex conditionsUse of Inner, Outer JOIN syntaxAggregate functions in MySQL such as COUNT, MAX, MIN, AVE, etc.Sorting and Ordering of resultsMySQL functions for date and time, string manipulationFormatting of output	<ul style="list-style-type: none">Atomic Transactions and Transaction Processing in MySQLUse of InnoDB tablesRollback techniques <h2>Getting started with the MySQL server</h2> <ul style="list-style-type: none">The MySQL data directoryDefault directories for binary installsHow mysqld provides access to dataMySQL database file typesStarting up and shutting down the server on Unix and WindowsMySQL logging and log filesThe error logThe general query logThe binary update logLog file locations <h2>User Management in MySQL</h2> <ul style="list-style-type: none">Creating Users and privilegesManaging MySQL Local and Remote usersThe MySQL-specific user() functionSetting and changing PasswordsControlling access rights with SQL	<h2>Optimising tables and queries</h2> <ul style="list-style-type: none">Keys and Indexes in MySQLCreating tables with unique keysNon-unique indexesCreating or Adding an indexAnalysing queries with EXPLAINWhen and when not to use indexes <h2>MySQL Backup and Recovery</h2> <ul style="list-style-type: none">Backup principles and methodsRecovering an entire databaseRecovering individual tablesChecking and Repairing tables with isamchk and myisamchkChecking tables with the check table statementRepairing tables with the REPAIR table statement <h2>MySQL Replication</h2> <ul style="list-style-type: none">Database replicationSetting up and Maintaining Replication groupsSetting up live replicationManaging and Monitoring <h2>MySQL and ODBC</h2> <ul style="list-style-type: none">ODBC Installation and configurationAccessing MySQL from Access, Excel, etcPass-through SQL in ODBC
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