MySQL for Developers

Category: Software Development & Programming | **Vendor:** Various

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

This MySQL Developers training course is designed for MySQL Developers who have a good understanding of a MySQL database and experience of using SQL commands. The course provides further practical experience in more advanced MySQL commands and SQL statements including Stored Routines, Triggers and Event Scheduling.

About This Course

This MySQL Developers training course is designed for MySQL Developers who have a good understanding of a MySQL database and experience of using SQL commands. The course provides further practical experience in more advanced MySQL commands and SQL statements including Stored Routines, Triggers and Event Scheduling.

Who Should Attend

MySQL Developers who have a basic understanding of a MySQL database and SQL commands as covered on the Introduction to MySQL course.

Prerequisites & Entry Requirements

General Prerequisites:

A working knowledge of MySQL is required. This can be gained by attendance on the Introduction to MySQL course.

Learning Outcomes

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

- Using advanced features of the MySQL Client
- Using advanced data types
- Managing the structure of databases and tables
- Managing and using indexes
- Writing complex SQL query statements
- Using advanced SQL expressions
- Using advanced SQL functions
- Performing advanced Insert, Update, Delete, Replace and Truncate Operations
- Using user variable syntax and properties
- Importing and exporting data from within MySQL
- Importing and exporting data from the command line
- Performing complex joins to access multiple tables
- Performing complex subqueries
- Creating, managing and using views
- Using MySQL Connectors
- MySQL and NoSQL integration
- Using prepared statements
- Creating and using stored routines
- Creating and using triggers
- Obtaining database metadata
- Optimizing queries
- Working with the main storage engines
- Debugging MySQL applications

Detailed Course Outline

Course Contents - DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: CLIENT/SERVER CONCEPTS

- MySQL client/server architecture
- Server modes
- Using client programs
- Logging in options
- Configuration files
- Precedence of logging in options
- Exercises: Using client/server

Session 2: THE MYSQL CLIENT PROGRAM

- Using MySQL interactively
- The MySQL prompts
- Client commands and SQL statements
- Editing
- Selecting a database
- Help
- Safe updates
- Using script files
- Using a source file
- Redirecting output into a file
- Command line execution
- Mysql output formats

- Overriding the defaults
- Html and xml output
- MySQL Utilities
- Exercises: Using the MySQL client program

Session 3: DATA TYPES

- Bit data type
- Numeric data types
- Auto_increment
- Character string data types
- Character sets and collation
- Binary string data types
- Enum and Set data types
- Temporal data types
- Timezone support
- Spatial Datatypes
- Handling Missing Or Invalid Data Values
- SQL_MODE options
- Exercises: Using data types

Session 4: IDENTIFIERS

- Using Quotes with identifier naming
- Case sensitivity in Identifier naming
- Qualifying columns with table and database names
- Using reserved words as identifiers
- Function names

- Exercises: Using identifiers

Session 5: DATABASES

- Database properties
- Creating a database
- Selecting a database
- Altering databases
- Dropping databases
- Obtaining database metadata
- The SHOW command
- The INFORMATION_SCHEMA database
- The SHOW CREATE command
- Exercises: Using databases

Course Contents - DAY 2

Session 6: TABLES AND INDEXES

- Table properties
- Creating tables
- Create table using Select or Like
- Temporary tables and memory tables
- Altering tables
- Adding columns
- Changing column widths and types
- Renaming columns
- Dropping columns

- Adding constraints
- Dropping constraints
- Renaming tables
- Change the table storage engine
- Multiple alterations
- Dropping tables
- Emptying tables
- Obtaining table metadata
- Show create table
- The information_schema
- Index introduction
- Structure of a mysql index
- Creating and dropping indexes
- Creating an index
- Altering a table to add an index
- Specifying index type
- Dropping indexes
- Obtaining Index Metadata
- Exercises: Creating, altering and dropping tables/indexes

Session 7: QUERYING FOR DATA

- The SQL select statement and MySQL differences
- Advanced order by
- Order by and collation
- Order by with enum datatype
- Order by with Set datatype
- Ordering with distinct and group by
- Special features of union
- Limit and order by clauses

- Group By clause
- Group_concat
- Using Rollup in a Group By clause
- Exercises: Querying for data

Session 8: SQL EXPRESSIONS AND FUNCTIONS

- Components of expressions
- Nulls
- Numeric expressions
- String expressions
- Temporal expressions
- Comparison functions
- Flow control functions
- Numeric functions
- String functions
- Temporal functions
- Exercises: Using expressions and functions

Session 9: UPDATING DATA

- Update operations and privileges
- Inserting rows
- Insert using a set clause
- Inserting duplicate values
- Replacing rows
- Updating rows
- Update using the order by and limit clauses

- Deleting rows

- The delete and truncate statements

- Exercise: Inserting, updating, replacing and deleting data

Session 10: CONNECTORS

- MySQL client interfaces

- MySQL connectors

- Oracle and community conectors

- Connecting to MySQL server using Java and PHP connectors

- MySQL and NoSQL

- Innodb integration with memcached

Course Contents - DAY 3

Session 11: OBTAINING DATABASE METADATA

- What is metadata?

- The mysqlshow utility

- The show and describe commands

- Describing tables

- The information_schema

- Listing tables

- Listing columns

- Listing views

- Listing key_columns_usage

- Exercises: Obtaining database metadata

Session 12: DEBUGGING

Mysql error messages

The show statement

Show errors

Show count(*) errors

Show warnings

Show count(*) warnings

Note messages

The perror utility

Exercises: Debugging

Session 13: JOINS

- Overview of inner joins
- Cartesian product
- Inner joins with original syntax
- Non equi-join
- Using table aliases to avoid name clashes
- Inner Joins With ISO/ANSI Syntax
- Outer Joins
- Left outer joins
- Right outer joins
- Full outer joins
- Updating multiple tables simultaneously
- Updating rows in one table based on a condition in another
- Updating rows in one table reading data from another
- Deleting from multiple tables simultaneously
- Deleting rows in one table based on a condition in another
- Exercises: Coding joins

Session 14: SUBQUERIES

- Types of subquery
- Multiple-column subqueries
- Correlated subqueries
- Using the ANY, ALL and SOME operators
- Using the EXISTS operator
- Subqueries as scalar expressions
- Inline views
- Converting subqueries to joins
- Using subqueries in updates and deletes
- Exercises: Coding subqueriess

Session 15: VIEWS

- Why views are used
- Creating views
- View creation restrictions
- View algorithms
- Updateable views
- Altering and dropping views
- Displaying information about views
- Privileges for views
- Exercises: Using views

Course Contents - DAY 4

Session 16: IMPORT AND EXPORT

- Exporting using SQL
- Privileges required to export data
- Importing using SQL
- Messages when loading data
- Privileges required to load data
- Exporting from the command line
- Mysqldump main options
- Importing from the command line
- Mysqlimport main options
- Exercises: Importing and exporting

Session 17: USER VARIABLES AND PREPARED STATEMENTS

- Creating User variables
- User variables in a select
- Prepared statements
- The prepare statement
- The execute statement
- The deallocate statement
- Using prepared statements in code, with connectors
- Exercises: Using variables and prepared statements

Session 18: INTRODUCTION TO STORED ROUTINES

- Types of stored routines
- Benefits of stored routines
- Stored routine features
- Differences between procedures and functions
- Introduction to the Block
- Declaring variables and constants
- Assigning values to variables
- Definer rights and invoker rights
- Using SELECT in stored routines
- Altering and dropping stored routines
- Obtaining stored routine metadata
- Stored routine privileges and execution security
- Exercises: Writing simple stored routines

Session 19: STORED ROUTINES - PROGRAM LOGIC

- The IF .. THEN .. ELSEIF construct
- The CASE statement
- The basic loop
- The while loop
- The repeat loop
- The iterate statement
- Nested loops
- Exercises: Writing stored routines with program logic

Session 20: STORED ROUTINES - EXCEPTION HANDLERS & CURSORS

- Dealing with errors using Exception handlers

- Cursors
- What is a cursor?
- Cursor operations
- Declaring cursors
- Opening and closing cursors
- Fetching rows
- Status checking
- Exercises: Writing stored routines with program logic

Course Contents - DAY 5

Session 21: PROCEDURES WITH PARAMETERS

- Creating procedures with parameters
- Calling Procedures With Parameters
- Exercises: Writing stored routines with parameters

Session 22: FUNCTIONS

- What is a function?
- The create function statement
- Executing functions
- Executing functions from code
- Executing functions from SQL statements
- The deterministic and SQL clauses
- Exercises: Writing functions

Session 23: TRIGGERS

- Trigger creation
- Restrictions on triggers
- The create trigger statement
- Using the old and new qualifiers
- Managing triggers
- Destroying triggers
- Required privileges
- Exercises: Writing triggers

Session 24: BASIC OPTIMIZATIONS

- Normalisation of data to third normal form
- Using indexes for optimization
- General query enhancement
- Using Explain to analyze queries
- Choosing an INNODB or MYISAM storage engine
- Using MySQL Enterprise Monitor in query optimization
- Exercises: Making use of basic optimizations

Session 25: MORE ABOUT INDEXES

- Indexes and joins
- Exercises: Investigating indexes and joins

Skills You Will Learn:

- Using advanced features of the MySQL Client
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Frequently Asked Questions

Q: What delivery options are available for MySQL for Developers?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day MySQL for Developers course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the MySQL for Developers training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for MySQL for Developers?

Yes, we provide corporate training, dedicated training, and closed classes for MySQL for Developers. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: MySQL for Developers, Programming, MYSD

Q: Why choose Nexus Human for MySQL for Developers?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your MySQL for Developers training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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