MariaDB for Developers

Cursusduur: 5 Dagen **Cursuscode: MARD**

Beschrijving:

MariaDB for Developers Course Overview

English - Please note this course is only available in English.
Nederlands - Let op: deze training is alleen in het Engels beschikbaar.
Français - Veuillez noter que ce cours est uniquement disponible en anglais.
This MariaDB Developers training course is designed for MariaDB Developers who have a good understanding of a MariaDB database and experience of

Doelgroep:

Who will the Course Benefit?

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

Doelstelling:

- Course Objectives
- To provide the skills needed to write more advanced queries and database maintenance statements on a MariaDB database.

Vereiste kennis en vaardigheden:

- A working knowledge of MariaDB (or MySQL) is required. This can be gained by attendance on the Introduction to MariaDB.

Vervolgcursussen:

Further Learning

- MariaDB Database Administration

Cursusinhoud:

MariaDB for Developers Training Course Course Contents - DAY 1

Course Introduction

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

Session 1: CLIENT/SERVER CONCEPTS

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

Session 2: THE MYSQL CLIENT PROGRAM FOR MariaDB

- Using MariaDB interactively
- The MariaDB 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
- MariaDB output formats
- Overriding the defaults
- Html and xml output
- Exercises: Using the MariaDB client program to connect to MariaDB

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

Session 8: CONNECTORS

- MariaDB connectors
- Connecting to MariaDB server using Java and PHP connectors
- MariaDB and NoSQL

Session 9: OBTAINING DATABASE METADATA

- What is metadata?
- Using mariadb-show 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 10: DEBUGGING

- MariaDB error messages
- The show statement
- Show errors
- Show count(*) errors
- Show warnings
- Show count(*) warnings
- Note messages
- The perror utility
- Exercises: Debugging MariaDB for Developers Training Course Course Contents - DAY 3

Session 11: 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
- Mariadb-export main options
- Importing from the command line
- Mariadb-import main options
- Exercises: Importing and exporting data

Session 12: SUBQUERIES

- Types of subquery
- Multiple-column subqueries
- Correlated subqueries
- Using the ANY,ALL and SOME operators
- Using the EXISTS operator
- Subqueries as scalar expressions
- Derived Table
- WITH Clause (Common Table Expression - CTE)
- Recursive CTEs
- Using subqueries in updates and deletes
- Exercises: Coding subqueriess

Session 17: 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 18: 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 19: PROCEDURES WITH PARAMETERS

- Creating procedures with parameters
- Calling Procedures with Parameters
- Exercises: Writing stored routines with parameters MariaDB for Developers Training Course Course Contents - DAY 5

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

Session 21: FUNCTIONS

- What is a function?
- The create function statement
- Executing functions
- Executing functions from code

- Function names
- Exercises: Using identifiers

Session 5: QUERYING FOR DATA

- The SQL select statement
- 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 MariaDB for Developers Training Course Course Contents - DAY 2

Session 6: 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 7: 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 13: 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

Session 14: USING WINDOW FUNCTIONS

- Description
- Non-aggregate window functions
- Using RANK,DENSE_RANK,ROW_NUMBER,NTILE
- Window partition clause
- Using LAG. LEAD,FIRST_VALUE,LAST_VALUE,NTH_VALUE
- Aggregate window functions - SUM,AVG etc
- Window frame clause
- Exercises: Using Window Functions

Session 15: REGULAR EXPRESSION SUPPORT

- Overview of Regular Expression
- Regular Expression Notation
- The REGEXP_LIKE operator
- The REGEXP_INSTR function
- The REGEXP_SUBSTR function
- The REGEXP_INSTR function
- The REGEXP_REPLACE function
- Exercises: Regular Expression Support MariaDB for Developers Training Course Course Contents - DAY 4

Session 16: 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

- Executing functions from SQL statements
- The deterministic and SQL clauses
- Exercises: Writing functions

Session 22: 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 23: 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
- Exercises: Making use of basic optimizations

Session 24: MORE ABOUT INDEXES

- Indexes and joins
- Exercises: Investigating indexes and joins

Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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