

Course Code: K04009GW

Course Title: dashDB SQL for Subqueries, Functions, Procedures, and Performance

Description:

This course is intended for Developers, Database Administrators, and System Programmers who require further insight into the SQL language.

Note: Guided eLearning is a self-paced offering which includes web-based content for self-study and videos (including audio) that demonstrate activities.

If you are enrolling in a Self Paced Virtual Classroom or Web Based Training course, before you enroll, please review the Self-Paced Virtual Classes and Web-Based Training Classes on our Terms and Conditions page, as well as the system requirements, to ensure that your system meets the minimum requirements for this course. <http://www.ibm.com/training/terms>

Objectives:

Please refer to course overview

Prerequisites:

- dashDB SQL for Basic Queries (K04001)
- dashDB SQL for tables, views, advanced queries, and analytic constructs (K04004)
- Or equivalent experience or knowledge

Duration:

8 Hrs

Topics:

1. Using Subqueries
 - Subquery in a basic predicate
 - Subquery with IN predicate
 - Subquery with a NOT IN predicate
 - Subquery with ORDER BY
 - Subquery with ALL predicate
 - Subquery with ANY or SOME predicate
 - Subquery with EXISTS predicate
 - Activity
 - SQL challenges
2. Using correlated subqueries
 - Correlated subquery with an EXISTS predicate
 - Scalar fullselect as a correlated subquery
 - Update statement including a subquery
 - Activity
 - SQL Challenges
3. Scalar functions (other than DATE/TIME functions)
 - Scalar function – SUBSTR – substring
 - Scalar function – POSSTR – string position
 - Scalar function – COALESCE/VALUE
 - Scalar function – DECIMAL
 - Scalar function – ROUND
 - Scalar function – DIGITS
 - Scalar function – SQRT and POWER
 - Scalar function – CHAR with arguments other than date/time
 - Scalar function – LENGTH
 - Scalar functions – LTRIM/RTRIM – Left Trim/Right Trim
 - Activity
 - SQL challenges
4. Scalar functions – DATE/TIME functions
 - DATE, TIME, and TIMESTAMP formats
 - Scalar function – CHAR with date/time arguments
 - Scalar functions – date related (part 1)
 - Scalar functions – date related (part 2)
 - Scalar functions – time related
 - Labelled DATE/TIME durations
 - Activity
 - SQL challenges
5. Table expressions
 - Nested table expressions
 - Nested table expressions in Joins
 - Common table expressions (CTEs)
 - SQL challenges
6. Recursive SQL
 - SQL challenges
7. Introduction to UDTs, UDFs, and stored procedures
 - User-defined distinct Types (UDTs)
 - User-defined functions (UDFs)
 - Sourced user-defined functions
 - External user-defined functions
 - User-defined SQL functions
 - User-defined stored procedures
 - Activity
 - SQL challenges
8. SQL and dashDB performance
 - Note on indexes
 - dashDB optimizer
 - Index overview
 - Clustered and non-clustered

indexes• Index utilization• Predicate processing• General guidelines – correlated subqueries• General guidelines – minimize dashDB sorts• General guidelines – view usage• General guidelines – expressions• General guidelines – NOT EQUAL predicates• General guidelines – arithmetic• General guidelines – conversion• General guidelines – retrieve only necessary data• Monitor the SQL workload and use the EXPLAIN facility• SQL challenges

Audience:

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