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ADVANCED DATA ANALYSIS IN SNOWFLAKE - SQL & AI

Comprehensive Hands-On Workshop

Description

Join our intensive 3-day workshop, “Advanced SQL Database Training with AI Integration,” designed for Data Analysts, Data Engineers, and IT Professionals with intermediate SQL knowledge. This hands-on training will immerse you in advanced SQL techniques and the use of AI tools to enhance your productivity and query efficiency within the Snowflake data platform. Engage in practical exercises and real-world scenarios to ensure you gain the skills necessary to effectively utilize advanced SQL features and AI assistance in your organization. Join us and elevate your data analysis capabilities with the power of advanced SQL and AI!

Format

Mostly workshops

Duration

3 days

Prerequisites

Good understanding of basic SQL concepts, including SELECT statements, basic joins, and aggregate functions.

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Target audience

- The Data Analysts
- Data Engineers with intermediate SQL knowledge
- IT Professionals involved in data analysis
- Anyone interested in enhancing their data analysis skills using Snowflake

Workshop program

1. Using an AI Co-pilot to Write SQL Queries
   - Overview of AI tools in Snowflake
   - Enhancing productivity with AI assistance
   - Prompting
   - Creating efficient queries with AI Co-pilot: Crafting effective SQL queries, metadata
2. Advanced Aggregations
   - Understanding ROLLUP, CUBE, and GROUPING SETS
   - Practical examples and use cases
   - Using the GROUPING function to format results
   - Hands-on exercise: Creating comprehensive reports using ROLLUP and CUBE
3. Advanced Joins
   - Concept and use cases of non-equi joins
   - Hands-on exercise: Analyzing data ranges using non-equi joins
   - Understanding self-joins and their applications
   - Practical examples of self-joins
   - Hierarchical data analysis
   - Practical use of Cartesian products

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4. Set Operators, Cartesian Products
    - Introduction to set operators (UNION, INTERSECT, EXCEPT)
    - Combining query results from multiple tables
    - Limitations and sorting results with set operators
    - Hands-on exercise: Merging customer data from different sources
5. Advanced Subqueries
    - Correlated subqueries and their applications
    - Using EXISTS and NOT EXISTS
    - Multi-column subqueries
    - Hands-on exercise: Complex filtering with correlated subqueries
    - Introduction to the WITH clause
    - Enhancing query readability and maintainability
    - Hands-on exercise: Simplifying complex queries with the WITH clause
6. Hierarchical Queries
    - Introduction to hierarchical queries
    - Filtering hierarchical data
    - Hands-on exercise: Managing organizational hierarchies
7. Window Functions
    - Built-in window functions
    - Defining windows and using window frames
    - Calculating running totals and moving averages
    - Hands-on exercise: trend analysis with window functions
8. Pivoting
    - Using PIVOT and UNPIVOT for creating pivot tables
    - Practical examples of pivoting data

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9. Regular Expressions
    - Introduction to regular expressions in SQL
    - Hands-on exercise: Data transformation and pattern matching using regular expressions

Acquired skills

By the end of this workshop, participants will be well-equipped with the knowledge and hands-on experience needed to master advanced SQL queries and leverage AI for optimizing data operations.

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