Global Horizon
TRAINING CENTER

Training Course:
Advanced SQL Bootcamp

22 - 26 July 2024
Casablanca (Morocco)
New Hotel

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Advanced SQL Bootcamp

Training Course code: IT1960 From: 22 - 26 July 2024 Venue: Casablanca (Morocco) - New Hotel Training Course Fees: 4675 ⏃ Euro

Introduction

Welcome to the Advanced SQL Bootcamp! Building on the foundational knowledge of SQL, this training program takes your skills to the next level, delving into advanced concepts and techniques that will empower you to tackle complex database challenges. Whether you're a business analyst, data scientist, or professional working with data, this program will equip you with the expertise to master advanced SQL operations and optimize database performance.

Objectives

By the end of this training program, participants will:

- Examine the characteristics of data, and the necessity to process data to produce and value information as the basis of decision-making.

- Analyze and design a database from a logical and physical perspective.
- Draw ERDs Entity Relationship Diagrams to depict the transformation of the business problem into a documented solution.
- Create and select advanced SQL statements to manage a database using MySQL or Workbench.

Methodologies

The Advanced SQL Bootcamp employs a combination of interactive learning methods to ensure an effective and engaging training experience. Participants will benefit from the following methodologies:

1. Hands-on Exercises: Throughout the program, participants will actively engage in hands-on exercises that reinforce the concepts taught. These exercises provide practical experience and help solidify understanding through direct application of advanced SQL techniques.
2. Real-world Scenarios: The training program incorporates real-world scenarios to simulate the challenges faced in professional database environments. By working through these scenarios, participants will gain insights into how advanced SQL concepts are applied to solve complex problems.
3. Instructor Guidance: Experienced instructors will guide participants through the program, providing clear explanations, examples, and demonstrations of advanced SQL concepts. They will be available to answer questions, offer support, and provide valuable insights from their own industry experience.
4. Coding Practice: Participants will have ample opportunities to practice their SQL coding skills. They will be given coding exercises and challenges that allow them to apply their knowledge and develop proficiency in writing advanced SQL queries.
5. Case Studies: Case studies will be used to illustrate real-world applications of advanced SQL techniques. Participants will analyze and discuss these cases, gaining a deeper understanding of how advanced SQL

can be used to solve complex data problems.

6. Collaborative Learning: Participants will engage in group discussions and collaborative activities to foster a dynamic learning environment. Sharing insights, discussing challenges, and collaborating with peers will enhance understanding and provide different perspectives on advanced SQL concepts.

7. Real-world Projects: Participants will have the opportunity to apply their advanced SQL skills to real-world projects. These projects will allow them to showcase their abilities, gain practical experience, and develop a portfolio of work that demonstrates their proficiency in advanced SQL operations.

8. Ongoing Support: The training program will provide ongoing support to participants, even after the completion of the course. This support may include access to resources, forums, or additional learning materials to further enhance their understanding of advanced SQL concepts.

Target Audience

The Advanced SQL Bootcamp is designed for individuals who already possess a strong foundation in SQL and are eager to expand their skills and knowledge. The program is suitable for:

1. Business analysts seek to enhance their ability to analyze complex data sets and extract valuable insights.
2. Data scientists who want to refine their SQL skills to manipulate and analyze large datasets efficiently.
3. Database administrators and developers looking to deepen their understanding of advanced SQL techniques and optimize database performance.
4. Software engineers and programmers who want to improve their ability to work with SQL databases and design efficient database operations.
5. IT professionals responsible for database management, performance tuning, and security implementation.
6. Anyone with a solid understanding of SQL who wants to gain mastery over advanced SQL concepts and techniques.

Course Outline

Day 1: Data Modeling and Database Design

- Recap of basic SQL queries.
- Performing simple calculations and using built-in functions.
- Understanding data modeling concepts
- Designing a database schema
- Creating tables and defining relationships between them
- Setting primary and foreign keys

Day 2: Advanced Queries and Joins

- Reviewing basic queries and expanding on complex queries
- Using aliases to simplify queries and improve readability.
- Working with multiple tables and understanding the concept of relationships.
- Using JOIN statements INNER JOIN, LEFT JOIN, RIGHT JOIN
- Using subqueries and nested queries

Day 3: Data Manipulation and Transaction Management

- Understanding the importance of data integrity and constraints.
- Working with primary keys, foreign keys
- Modifying table structure using ALTER TABLE statements.
- Grouping and sorting query results.
- Filtering data using the HAVING clause.

Day 4: Advanced Queries with many to many relationships

- Querying an m:m relationship - EXISTS
- Querying an m:m relationship - EXISTS, NOT EXISTS
- Set Operations - UNION - INTERSECTS
- Normalization concepts and techniques

Day 5: Optimization and Performance Tuning

- Analyzing query performance and identifying bottlenecks
- Index optimization: creating, modifying, and removing indexes.
- Query optimization techniques: EXPLAIN statement, query hints.
- Profiling and monitoring database performance
- Optimizing database configuration parameters
- Troubleshooting common performance issues

Registration form on the Training Course:
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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

Delegate Information

Full Name (Mr / Ms / Dr / Eng): ....
Position: ....
Telephone / Mobile: ....
Personal E-Mail: ....
Official E-Mail: ....

Company Information

Company Name: ....
Address: ....
City / Country: ....

Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): ....
Position: ....
Telephone / Mobile: ....
Personal E-Mail: ....
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Payment Method

☐ Please find enclosed a cheque made payable to Global Horizon

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Easy Ways To Register

Telephone: +201095004484 to provisionally reserve your place.	Fax your completed registration form to: +20233379764	E-mail to us : info@gh4t.com or training@gh4t.com	Complete & return the booking form with cheque to:Global Horizon 3 Oudai street, Aldouki, Giza, Giza Governorate, Egypt.