



## Advanced SQL Skills Training Course





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## Introduction:

This advanced SQL skills training course provides learners with an understanding of advanced SQL skills. Expanding your SQL capabilities is our priority, and this course offers abundant opportunities for practical application, ensuring that you can implement advanced SQL techniques, code, and concepts confidently.

Whether participants are looking to achieve advanced SQL course certification with practice advanced SQL, this advanced SQL skills training allows them to engage deeply with the content and prioritize one-on-one attention, ensuring every question and every concept is crystal clear.

By completing this advanced SQL skills course, participants will have the expertise to navigate complex SQL queries confidently, tackle advanced SQL challenges with finesse, and obtain an advanced SQL certificate.

## Targeted Groups:

- Experienced database administrators.
- Seasoned SQL developers.
- Data analysts and BI professionals.
- IT professionals.
- Software engineers.
- Computer science students/graduates.
- Data scientists.
- Professionals are transitioning careers.
- Individuals seeking career advancement.
- Freelancers/consultants.

## Course Objectives:

At the end of this advanced SQL course, participants will be able to:

- Write basic SELECT statements, including wildcard characters and comparison operators.
- Perform mathematical calculations within SQL environments.
- Group and count data effectively.
- Utilize conditional logic within queries using IF and CASE statements.
- Master UNION queries to consolidate results from different SELECT statements.
- Implement basic error-trapping techniques and understand transaction control using commit and rollback.
- Create views and manipulate data using stored procedures, contributing to advanced SQL programming proficiencies.

## Targeted Competencies:

Upon the end of this advanced SQL training, participants competencies will be able to:

- Advanced SQL querying techniques.
- Mastery of SQL functions and operators.
- Query optimization for performance.
- Advanced join techniques.
- Subquery implementation.
- Transaction control commands.
- Utilizing window functions.
- Index creation and optimization.
- Stored procedures and triggers.
- Recursive queries and common table expressions.

## Course Content:

### Unit 1: SQL Scripts:

- Best practices for writing efficient and reliable SQL queries.
- Exploration of the myriad templates and stored procedures available in tools like SSMS.
- The distinctions between saving script files and saving stored procedures.
- Employing Parameterised queries to enhance SQL code.

### Unit 2: Advanced SQL SELECT Statements:

- A thorough recap on crafting JOIN statements, columns, and table aliases.
- Differentiating between the ISNULL function and IS NULL criteria.
- Utilizing powerful string, date, and convert functions.
- Using aggregate functions and the group by clause, including with rollup.
- Delving into conditional logic with IF and CASE statements in advanced SQL.
- Understanding UNION queries and their application.

### Unit 3: DML and Transaction Control:

- Mastering INSERT, UPDATE, and DELETE operations.
- Creating computed columns to simplify complex calculations.
- Using Begin transactions combined with Commit and Rollback for transaction control.
- Introduction to simple error trapping for robust advanced SQL programming.

### Unit 4: Subqueries and Window Functions:

- Writing precise and effective subqueries.
- Understanding the use of Over and OverPartition by functions.
- Distinguishing between Row and Rank for advanced SQL practice.



## **Unit 5: Managing Views:**

- A step-by-step guide to creating a view.
- Selecting data proficiently using a view.
- Altering and dropping views as part of advanced SQL techniques.

## **Unit 6: Stored Procedures USP:**

- An introduction to the advantages and construction of Stored Procedures.
- In-depth walkthrough of creating and utilizing Stored Procedures.
- Managing data manipulation through stored procedures with an INSERT.

## **Conclusion:**

By the end of the advanced SQL training course, participants will have a heightened understanding of advanced SQL. Thanks to hands-on practice and expertly guided learning, they will be prepared for real-world SQL challenges and advanced SQL certification.