



MICROSOFT TRAINING

Ms Sql Course

Master Microsoft SQL Server. Develop robust databases and powerful data solutions for efficient data management.

DURATION

40 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

-
- Globally Recognized Certification
 - Expert-Led Hands-On Training
 - Flexible Scheduling

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COURSE OVERVIEW

This intermediate Microsoft SQL Server course is meticulously designed for IT professionals, data analysts, and developers seeking to deepen their expertise in relational database management. Over 40 intensive hours, participants will master advanced Transact-SQL (T-SQL) querying, robust database design principles, and essential administration tasks within the Microsoft SQL Server environment. The curriculum focuses on equipping learners with the practical skills needed to efficiently manage, manipulate, and secure data, using core technologies like T-SQL, SQL Server Management Studio (SSMS), and fundamental database engine concepts.

By focusing on real-world scenarios and hands-on exercises, this course goes beyond basic SQL syntax, delving into complex data retrieval, advanced data modification, and sophisticated object creation. Graduates will gain a profound understanding of database performance tuning, data integrity enforcement, and fundamental security practices, making them invaluable assets to any organization reliant on robust data solutions. This certification will significantly enhance your ability to contribute to data-driven decision-making, optimize database operations, and effectively troubleshoot data-related challenges, opening doors to specialized and high-demand roles in the IT landscape.

Duration	40 hours
Level	Intermediate
Vendor	Microsoft

COURSE CURRICULUM

01 Module 1: Advanced T-SQL Querying and Data Manipulation

- Complex Joins and Subqueries for Multi-Table Data Retrieval
- Utilizing Common Table Expressions (CTEs) for Recursive and Reusable Queries
- Understanding and Applying Window Functions (e.g., RANK, ROW_NUMBER, LAG, LEAD)
- Advanced Data Modification Techniques (INSERT, UPDATE, DELETE with JOINS)
- Implementing PIVOT and UNPIVOT Operators for Data Transformation
- Error Handling with TRY...CATCH Blocks in T-SQL

02 Module 2: Database Design and Implementation Essentials

- Review of Relational Database Theory and Principles
- Choosing Appropriate Data Types and Their Impact on Performance
- Creating and Managing Tables, Views, and Schemas
- Implementing and Managing Constraints (Primary Key, Foreign Key, Unique, Check, Default)
- Applying Normalization Concepts (1NF, 2NF, 3NF) for Efficient Database Design

03 Module 3: Enhancing Data Integrity and Performance with Indexes

- Understanding Clustered vs. Non-Clustered Indexes and Their Architecture
- Strategies for Creating, Managing, and Rebuilding Indexes
- Analyzing Index Usage and Fragmentation
- Optimizing Query Performance with Effective Indexing Strategies
- Ensuring Data Integrity with Transactions and Concurrency Control

04 Module 4: Programming with Stored Procedures, Functions, and Triggers

- Developing Stored Procedures for Reusability, Security, and Performance
- Creating User-Defined Functions (Scalar-Valued and Table-Valued)
- Implementing DML Triggers for Auditing, Data Validation, and Enforcement

- Working with Parameters, Output Parameters, and Return Values
- Understanding and Implementing Dynamic SQL Safely

05 Module 5: SQL Server Performance Tuning and Optimization

- Analyzing Query Execution Plans (Graphical and XML)
- Identifying and Resolving Common Performance Bottlenecks
- Utilizing SQL Server Profiler and Extended Events for Monitoring
- Optimizing Stored Procedures, Functions, and Large Queries
- Introduction to the Database Engine Tuning Advisor

06 Module 6: Essential Database Administration and Security Fundamentals

- Developing and Implementing Backup and Restore Strategies
- Managing SQL Server Logins, Users, and Roles
- Assigning and Revoking Permissions to Database Objects
- Automating Administrative Tasks with SQL Server Agent Jobs
- Basic Monitoring of SQL Server Health and Activity

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Junior Database Administrator (SQL Server)**
- > **Intermediate Data Analyst (SQL-Focused)**
- > **Business Intelligence (BI) Report Developer**

FREQUENTLY ASKED QUESTIONS

Q: What prior knowledge or experience with SQL is recommended before enrolling in this intermediate Microsoft SQL Server course?

This intermediate course assumes you have a foundational understanding of SQL Server and T-SQL. You should be comfortable with basic SELECT statements, including filtering, sorting, and simple joins. Familiarity with fundamental database concepts like tables, columns, and primary keys is essential to maximize your learning experience in this 40-hour program. While not strictly required, having completed an introductory SQL course or having a few months of practical experience querying databases would be highly beneficial.

Q: How will this course specifically help me transition into a data analysis or reporting role within an organization?

This course is designed to empower you with the advanced T-SQL skills crucial for sophisticated data analysis and reporting. You will master writing complex queries using CTEs, window functions, and subqueries to efficiently extract, transform, and aggregate data for business intelligence. By learning performance tuning and understanding robust database design principles, you'll be able to work with large datasets effectively and develop highly optimized queries, directly preparing you for creating accurate reports and deriving actionable insights.

Q: Beyond just querying, what practical database management skills will I acquire that are valuable for a junior Database Administrator (DBA) position?

For aspiring Junior DBAs, this course provides critical hands-on experience beyond just querying. You will learn to

effectively create and manage database objects (tables, views, stored procedures), implement and enforce data integrity through various constraints and transactions, and master indexing strategies vital for performance. Furthermore, you'll gain practical knowledge in essential backup and restore operations, user and role-based security management, and setting up automated tasks with SQL Server Agent, all fundamental for maintaining a healthy and secure SQL Server environment.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

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