SQL Server Database: Comprehensive 1-Week Training Course

14 – 18 December 2026
Kigali (Rwanda)



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Why This Course

Effective database management is critical for organizations to store, retrieve, and secure data efficiently. This intensive 1-week SQL Server course equips participants with the knowledge and practical skills to design, manage, and optimize SQL Server databases. Combining theory with hands-on exercises, the program ensures participants can confidently handle real-world database challenges.

What You'll Learn and Practice

By attending this course, you will be able to:

- Design and implement efficient SQL Server databases from the ground up.
- Write complex queries to manipulate and retrieve data effectively.
- Optimize database performance using indexing and query tuning techniques.
- Implement robust security measures and manage user permissions.
- Perform backup, restoration, and routine database maintenance tasks.

The Program Flow

Day 1: Introduction to SQL Server

- SQL Server architecture and key components
- Installing and configuring SQL Server
- Creating and managing databases
- Basic T-SQL commands

Day 2: Database Design and Normalization

- Relational database concepts
- Entity-Relationship ER diagrams
- Normalization techniques
- Creating tables and defining relationships



Day 3: Advanced Querying and Data Manipulation

- Complex SELECT statements
- Joins, subqueries, and nested queries
- Aggregate functions and grouping
- Inserting, updating, and deleting data

Day 4: Performance Optimization and Indexing

- Understanding query execution plans
- Index types and strategies
- Query optimization techniques
- Using statistics and the query optimizer effectively

Day 5: Security, Maintenance, and Best Practices

- Authentication and authorization strategies
- Backup and recovery planning
- Database maintenance tasks
- Best practices for SQL Server management

Individual Impact

Participants will leave this program with:

- The ability to design and implement fully functional SQL Server databases.
- Skills to optimize slow-running queries and improve application performance.
- Knowledge to set up secure database environments with appropriate user permissions.
- Competence in developing and executing comprehensive backup and recovery strategies.

Organizational Impact

Organizations will benefit from:

- Well-structured and optimized SQL Server databases that support business applications.
- Improved data security and compliance through proper access control.
- Enhanced system performance and reduced downtime.
- Efficient database maintenance and recovery processes.



Training Methodology

- Interactive lectures and hands-on exercises
- Real-world case studies and scenario-based learning
- Group discussions and collaborative problem-solving
- Practical application of SQL Server management and optimization techniques

Beyond the Course

By the end of this 1-week program, participants will be ready to:

- Design, implement, and manage SQL Server databases in enterprise environments.
- Optimize queries and performance to support business applications.
- Maintain secure and reliable databases with effective backup and recovery strategies.
- Apply best practices for long-term database management and administration.

