

€ TRAINING

Microsoft SQL





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Introduction:

This training program provides participants with essential skills and knowledge for administering and implementing Microsoft SQL Server. It empowers them to manage databases efficiently, optimize performance, and ensure robust security for SQL Server environments.

Program Objectives:

At the end of this program, participants will be able to:

- Understand Microsoft SQL Server architecture and components.
- Implement and configure SQL Server databases and services.
- Perform database administration tasks and performance tuning.
- Manage security and backups for SQL Server databases.
- Troubleshoot and resolve common SQL Server issues.

Targeted Audience:

- Database Administrators.
- SQL Server Developers.
- IT Professionals involved in database management.
- System Administrators.
- Data Analysts.

Program Outline:

Unit 1:

Introduction to Microsoft SQL Server:

- Overview of SQL Server architecture and components.
- Understanding SQL Server editions and their features.
- Installing and configuring SQL Server.

- Exploring SQL Server Management Studio SSMS interface.
- Managing SQL Server instances and databases.

Unit 2:

Database Implementation and Configuration:

- Creating and configuring SQL Server databases.
- Implementing database objects tables, views, indexes.
- Managing data types, constraints, and relationships.
- Configuring database settings and options.
- Using SQL Server Data Tools for database development.

Unit 3:

Performance Tuning and Optimization:

- Monitoring SQL Server performance using built-in tools.
- Optimizing queries and indexes for better performance.
- Implementing database maintenance tasks rebuilds, updates.
- Analyzing and resolving performance bottlenecks.
- Using SQL Profiler and Dynamic Management Views DMVs.

Unit 4:

Security and Backup Management:

- Configuring SQL Server security settings and roles.
- Implementing authentication and authorization mechanisms.
- Creating and managing database backups and restores.
- Ensuring data encryption and compliance.
- Handling security vulnerabilities and patch management.

Unit 5:



Troubleshooting and Best Practices:

- Diagnosing common SQL Server issues and errors.
- Implementing best practices for database administration.
- Using troubleshooting tools and techniques.
- Managing SQL Server logs and alerts.
- Preparing for disaster recovery and high availability solutions.