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## M2273-Updating Your Database Administration Skills to Microsoft SQL Server 2005

Este é um curso de 35 horas que irá dotar os participantes com know-how necessário para efectuar um upgrade de conhecimentos para o SQL Server™ 2005. Dessa forma ficaram habilitados a configurar, dar suporte, e efectuar a manutenção de um SQL Server 2005.

Este curso é destinado a Administradores e programadores de Bases de Dados que sejam responsáveis pelo suporte, configuração e manutenção dessa mesma BD.

No final do curso os participantes ficarão habilitados a:

- Descrever a arquitectura do SQL Server 2005.
- Instalar SQL Server 2005.
- Utilizar o SQL Server 2005 administrative tools and utilities.
- Manter o SQL Server 2005 servers and databases.
- Dar Segurança ao SQL Server 2005 server and database.
- Monitorizar SQL Server 2005.
- Implementar Backup and Restore solution para SQL Server 2005.
- Implementar Soluções de dados com database mirroring or clustering.

### Pre-requisitos

Antes de participar nesta acção os participantes deverão ter:

- A certificação MCDBA ou know equivalente.
- Experiência na Administração Microsoft SQL Server 2000 ou Microsoft SQL Server 7.0.
- O seguinte Know How do SQL Server 2000/7.0:
  - Database and server architecture.
  - Installation and configuration.
  - Database security.
  - Database recovery (backup and restore).
  - SQL Server technologies used for database availability such as log shipping and clustering.
  - Job automation.
  - Database and server monitoring.
  - Troubleshooting.
  - Replication.

### Course Outline

#### Module 1: Overview of SQL Server 2005 Architecture

This module introduces students to the various components and services that comprise SQL Server. Database administrators are often required to manage multiple aspects of the database server – not just the relational database engine, so an awareness of the components and functionality available in SQL Server 2005 is essential in order to prepare database administrators for SQL Server 2005 deployments and management.

#### Lessons

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- Overview of SQL Server 2005
  - System Enhancements for Administrators

After completing this module, students will be able to:

- Describe the components of SQL Server 2005.
- Describe new and enhanced features for administrators in SQL Server 2005.

### **Module 2: Installing SQL Server 2005**

This module explains how to plan for a SQL Server 2005 installation, install SQL Server 2005 and maintain a SQL Server 2005 installation.

#### **Lessons**

- Preparing to Install SQL Server 2005
- Performing a SQL Server 2005 Installation
- Maintaining a SQL Server 2005 Installation

### **Lab 2: Installing SQL Server 2005**

- Installing a SQL Server Instance.

After completing this module, students will be able to:

- Plan a SQL Server 2005 installation.
- Install SQL Server 2005.
- Maintain a SQL Server 2005 installation.

### **Module 3: SQL Server 2005 Administrative Tools**

This module explains what built-in administration tools and utilities are available in Microsoft SQL Server 2005 and how they can be used to help database administrators be successful in managing a SQL Server 2005 solution.

#### **Lessons**

- Using SQL Server Workbench
- Using SQL Server Computer Manager
- Using the sqlcmd Utility
- Using the SQL Management Objects

### **Lab 3: Administering SQL Server 2005**

- Creating the Personnel database.
- Populating the Personnel database.
- Using SMO.

After completing this module, students will be able to:

- Choose the appropriate tool or utility to perform an administrative task.
- Use SQL Server Workbench to manage databases.
- Use SQL Server Computer Manager to manage a server.
- Use the sqlcmd utility to execute Transact-SQL from the command prompt.
- Use SQL Management Objects to script common administrative tasks.

### **Module 4: Monitoring SQL Server 2005**

This module discusses the various tools and techniques you can use to monitor Microsoft SQL Server 2005.

#### **Lessons**

- Using SQL Profiler

- Using DDL Triggers
- Using Event Notifications
- Using the System Virtual Tables

#### **Lab 4: Monitoring SQL Server 2005**

- Using Profiler
- Creating DDL Triggers
- Creating Event Notifications

After completing this module, students will be able to:

- Use SQL Profiler to monitor SQL Server 2005.
- Use DDL triggers to capture DDL events.
- Use event notifications to respond to database events.
- Use the system virtual tables to monitor database activity.

#### **Module 5: Maintaining Databases and Indexes**

This module explains the tools and utilities in Microsoft SQL Server 2005 that can help you implement database maintenance plans, manage database indexes, and tune databases.

##### **Lessons**

- Using the Database Maintenance Plan Wizard
- Managing Indexes
- Using the Database Tuning Advisor

#### **Lab 5: Maintaining a Database**

- Creating a Database Maintenance Plan
- Defining Indexes
- Tuning a Database

After completing this module, students will be able to:

- Maintain SQL Server 2005 databases.
- Use the Database Maintenance Plan Wizard to automate tasks.
- Maintain indexes in a SQL Server 2005 database.
- Use the Database Tuning Advisor to assist with database design.

#### **Module 6: Securing SQL Server 2005**

This module explains the changes and enhancements to the Microsoft SQL Server security model in SQL Server 2005.

##### **Lessons**

- SQL Server 2005 Security Overview
- Managing SQL Server 2005 Security
- SQL Agent Security

#### **Lab 6: Securing a SQL Server 2005 Database**

- Managing securables
- Managing principals
- Managing Permissions
- Dropping a User that Created Objects.

After completing this module, students will be able to:

- Describe the security architecture of SQL Server 2005.

- Manage securables, principals, and permissions.
- Manage SQL Agent security.

### **Module 7: Disaster Recovery**

This module you will learn about the enhanced backup and restore functionality in Microsoft SQL Server 2005.

#### **Lessons**

- Disaster Recovery in SQL Server 2005
- Using Database Snapshots
- Backup and Restore Operations

#### **Lab 7: Managing Disaster Recovery**

- Creating a Database Snapshot
- Backing up a Database

After completing this module, students will be able to:

- Describe common disaster recovery strategies for SQL Server 2005.
- Create database snapshots.
- Perform backup and restore operations.

### **Module 8: Data Availability**

This module teaches you how to take advantage of the high availability features found in SQL Server 2005

#### **Lessons**

- Introduction to Data Availability
- Introduction to Database Mirroring
- Configuring Database Mirroring

#### **Lab 8: Maintaining Availability**

- Preparing the Principal and Mirror Server
- Establishing a Mirroring Session
- Establishing a Witness Server
- Executing Transactions
- Simulating Principal Server Failure
- Restarting the Failed Server
- Terminating the Mirror Session

After completing this module, students will be able to:

- Describe the data availability technologies included in SQL Server 2005.
- Describe the concepts of database mirroring.
- Configure database mirroring.

### **Module 9: Replication**

This module explains the new and enhanced replication features in SQL Server 2005

#### **Lessons**

- Overview of Replication Enhancements
- New Types of Replication
- Configuring Replication

After completing this module, students will be able to:

- Describe the enhancements to replication functionality in SQL Server 2005.
- Describe the new types of replication available in SQL Server 2005.
- Configure replication using SQL Server 2005.