



PROFESSIONAL SQL SERVER DATABASE BACKUP

Course ID : SQL-ADM-BK



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Duration: 2 Days

(12 Hours) 09:00 AM – 04:00 PM



Price: Call

* In-house training only

* Eligible for 200% tax deduction



Training Schedule

www.9experttraining.com

Category: Data

Professional SQL Server database backup requires a thorough understanding of the Recovery Model. This course ensures that participants can recover data without losing any committed transactions. Many SQL Server administrators lack sufficient knowledge of the Recovery Model, which often results in inappropriate backup strategies, inefficient transaction log file management, and an increased risk of data loss during restoration. This course is designed to address these misconceptions by enabling administrators to plan appropriate

database file placement, select the correct Recovery Model, and ensure zero data loss after restoration. Contrary to popular belief, data recovery is not limited to restoring from the most recent backup.

Objectives

1. Participants will gain a comprehensive understanding of the Recovery Model.
2. Participants will be able to design appropriate and effective backup strategies.
3. Participants will be able to recover all data, including data beyond the most recent backup.

Target Audience

1. Microsoft SQL Server Administrators
2. Individuals interested in SQL Server backup and restore operations
3. Professionals seeking to understand SQL Server Recovery Models

Prerequisites

1. Basic experience in administering Microsoft SQL Server

System Requirements

1. Operating System: Windows 10 or Windows 11
2. CPU: 1.6 GHz or faster processor (minimum)
3. RAM: 8 GB or higher
4. Remote Desktop Connection enabled
5. Stable internet connection

TRAINING TOPICS



DAY 1 Morning Session

9:00 AM – 12:00 PM

1. Understanding Recovery Models and Selecting an Appropriate Backup Strategy

- Key components of a Disaster Recovery Plan
- Introduction to the Write-Ahead Logging (WAL) protocol in Microsoft SQL Server
- Types of checkpoint processes in the Microsoft SQL Server Database Engine
- Virtual Log Files (VLFs)
 - Factors that increase the number of VLFs
 - Recommended best practices for managing VLF counts
- Recovery Model types
 - Simple Recovery Model
 - Full Recovery Model
 - Bulk-Logged Recovery Model
- Managing transaction log file growth across different Recovery Models
- Planning effective backup strategies
 - Implementing Full Database Backups
 - Implementing Transaction Log Backups
 - Implementing Differential Backups
 - Implementing FileGroup Backups

2. Database Backup Operations

- Syntax and usage of backup commands
 - Understanding Media Sets and Backup Sets
 - Configuring retention policies
 - Enabling and configuring checksums
 - Additional backup options
- Executing database backups
- Executing transaction log backups
- Executing filegroup backups
- Verifying backup integrity
- Reviewing and analyzing backup history

3. Database Restore Operations

- Understanding the database restore mechanism
 - Stages in the restore process
 - Types of restore operations
 - Preparing the environment for restoration
- Restoring databases
 - Restoring from a Full Database Backup
 - Restoring from a Differential Backup
 - Restoring from Transaction Log Backups

- Additional restore scenarios
 - Restoring from File and Filegroup Backups
 - Restoring from encrypted backups
 - Demonstration: Restoring encrypted backups
 - Restoring individual data pages
 - Restoring system databases
 - Master database
 - Model database
 - msdb database
- Performing point-in-time restores and Stop-at-Mark restores

4. Automating Backup Operations

- Introduction to SQL Server Agent Jobs
 - Creating Transact-SQL job steps and configuring them according to backup strategies
 - Understanding required security permissions for executing Transact-SQL job steps
 - Scheduling and managing recurring jobs
- Introduction to SQL Server Agent Alerts
 - Configuring alerts to monitor and manage transaction log capacity

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