



Course Title: M55353A - Administering a SQL Database Infrastructure	Course Duration: 5.0 Days
Exam: Not Included	Exam Type: Proctored Exam
Qualification: Microsoft Certified: Database Administrator Skills	

Course Syllabus

1 - SQL Server Security

- Authenticating Connections to SQL Server
- Authorizing Logins to Connect to databases
- Authorization Across Servers
- Partially Contained Databases

2 - Assigning Server and Database Roles

- Working with server roles
- Working with Fixed Database Roles
- Assigning User-Defined Database Roles

3 - Authorizing Users to Access Resources

- Describe and use server roles to manage server-level security.
 - Describe and use fixed database roles.
 - Use custom database roles and application roles to manage database-level security.
- ### 4 - Protecting Data with Encryption and Auditing

- Options for auditing data access in SQL Server
- Implementing SQL Server Audit
- Managing SQL Server Audit
- Protecting Data with Encryption

5 - Recovery Models and Backup Strategies

- Understanding Backup Strategies
- SQL Server Transaction Logs
- Planning Backup Strategies

6 - Backing Up SQL Server Databases

- Backing Up Databases and Transaction Logs
- Managing Database Backups
- Advanced Database Options

7 - Restoring SQL Server Databases

- Understanding the Restore Process
- Restoring Databases
- Advanced Restore Scenarios
- Point-in-Time Recovery

**8 - Automating SQL Server Management**

- Automating SQL Server management
- Working with SQL Server Agent
- Managing SQL Server Agent Jobs
- Multi-server Management

9 - Configuring Security for SQL Server Agent

- Understanding SQL Server Agent Security
- Configuring Credentials
- Configuring Proxy Accounts

10 - Monitoring SQL Server with Alerts and Notifications

- Monitoring SQL Server Errors
- Configuring Database Mail
- Operators, Alerts, and Notifications
- Alerts in Azure SQL Database

11 - Introduction to Managing SQL Server by using PowerShell

- Getting Started with Windows PowerShell
- Configure SQL Server using PowerShell
- Administer and Maintain SQL Server with PowerShell
- Managing Azure SQL Databases using PowerShell

12 - Tracing Access to SQL Server with Extended events

- Extended Events Core Concepts
- Working with Extended Events

13 - Monitoring SQL Server

- Monitoring activity
- Capturing and Managing Performance Data
- Analyzing Collected Performance Data
- SQL Server Utility

14 - Troubleshooting SQL Server

- A Trouble Shooting Methodology for SQL Server
- Resolving Service Related Issues
- Resolving Connectivity and Log-in issues

15 - Importing and Exporting Data

- Transferring Data to and from SQL Server
- Importing and Exporting Table Data
- Using bcp and BULK INSERT to Import Data
- Deploying and Upgrading Data-Tier Application

Course Overview

Authenticate and authorize users Assign server and database roles Authorize users to access resources Protect data with encryption and auditing Describe recovery models and backup strategies Backup SQL Server databases Restore SQL Server databases Automate database management Configure security for the SQL Server agent Manage alerts and notifications Managing SQL Server using PowerShell Trace access to SQL Server Monitor a SQL Server infrastructure Troubleshoot a SQL Server infrastructure Import and export data



Course Learning Outcomes

By the end of this course, learners will be able to install and configure SQL Server instances, manage databases and objects, implement security and permissions, perform backups and restores, monitor and optimize database performance, configure high availability solutions, and troubleshoot common database issues, ensuring SQL Server environments run efficiently and securely.

Audience

The primary audience for this course is individuals who administer and maintain SQL Server databases. These individuals perform database administration and maintenance as their primary area of responsibility, or work in environments where databases play a key role in their primary job. The secondary audiences for this course are individuals who develop applications that deliver content from SQL Server databases.

Entry-Level Requirements

Experience with relational databases, basic SQL querying knowledge, and familiarity with Windows Server

Recommended Reading

Microsoft Docs: SQL Server Administration

What's Included

Instructor-led sessions, lab exercises, course slides, practice datasets

Exam Information

This course prepares learners for the Microsoft DP-300: Administering Relational Databases certification exam. The exam evaluates your ability to implement, manage, and monitor SQL Server databases, including performance tuning, security, high availability, backup and recovery, and troubleshooting. The assessment includes multiple-choice questions, scenario-based questions, and practical exercises that reflect real-world SQL Server administration tasks. Passing the exam demonstrates readiness for a database administrator role and validates expertise in managing SQL Server infrastructure.

What's Next

After this course, learners can pursue advanced SQL Server certifications, such as Azure Database Administrator Associate or specialized database administration and performance tuning courses.

Additional Information

Prerequisites



- Basic knowledge of the Microsoft Windows operating system and its core functionality.
- Working knowledge of Transact-SQL.
- Working knowledge of relational databases.
- Some experience with database design.