Training: Microsoft

MS-55353 Administering a SQL Database Infrastructure

TRAINING GOALS:

This five-day instructor-led course provides students who manage SQL Server and Azure SQL databases with the knowledge and skills needed to administer a SQL server database infrastructure. The material will also be useful to individuals who develop applications that deliver content from SQL Server databases. This material updates and replaces course 20764C.

Audience profile:

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.

At Course Completion

- Authenticate and authorize users
- Assign server and database roles
- Authorize users to access resources
- Use encryption and auditing features to protect data
- Describe recovery models and backup strategies
- Backup and 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

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CONSPECT:

- Module 1: SQL Server Security
  - Authenticating Connections to SQL Server
  - Authorizing Logins to Connect to databases
  - Authorization Across Servers
  - Partially Contained Databases
  - Lab: SQL Server Security
- Module 2: Assigning Server and Database Roles
  - Working with Server Roles
  - Working with Fixed Database Roles
  - User-Defined Database Roles
  - Lab: Assigning Server and Database Roles
- Module 3: Authorizing Users to Access Resources
  - Authorizing User Access to Objects
  - Authorizing Users to Execute Code
  - Configuring Permissions at the Schema Level
  - Lab: Authorizing Users to Access Resources
- Module 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
  - Lab: Using Auditing and Encryption
- Module 5: Recovery Models and Backup Strategies
  - Understanding Backup Strategies
  - SQL Server Transaction Logs
  - Planning Backup Strategies
  - Lab: Understanding SQL Server Recovery Models
- Module 6: Backing Up SQL Server Databases
  - Backing Up Databases and Transaction Logs
  - Managing Database Backups
  - Advanced Database Options
  - Lab: Backing Up Databases
- Module 7: Restoring SQL Server Databases
  - Understanding the Restore Process

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- Restoring Databases
- Advanced Restore Scenarios
- Point-in-Time Recovery
- Lab: Restoring SQL Server Databases

- Module 8: Automating SQL Server Management
  - Automating SQL Server management
  - Working with SQL Server Agent
  - Managing SQL Server Agent Jobs
  - Multi-server Management
  - Lab: Automating SQL Server Management
- Module 9: Configuring Security for SQL Server Agent
  - Understanding SQL Server Agent Security
  - Configuring Credentials
  - Configuring Proxy Accounts
  - Lab: Configuring SQL Server Agent
- Module 10: Monitoring SQL Server with Alerts and Notifications
  - Monitoring SQL Server Errors
  - Configuring Database Mail
  - Operators, Alerts, and Notifications
  - Alerts in Azure SQL Database
  - Lab: Monitoring SQL Server with Alerts and Notifications
- Module 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
  - Lab: Using PowerShell to Manage SQL Server
- Module 12: Tracing Access to SQL Server with Extended Events
  - Extended Events Core Concepts
  - Working with Extended Events
  - Lab: Using SQL Server Extended Events
- Module 13: Monitoring SQL Server
  - Monitoring activity
  - Capturing and Managing Performance Data
  - Analyzing Collected Performance Data
  - Lab: Monitoring SQL Server

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- Module 14: Troubleshooting SQL Server
  - Applying a Troubleshooting Methodology
  - Resolving Service-Related Issues
  - Resolving Connectivity and Login issues
  - Lab: Troubleshooting SQL Server
- Module 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 Data-Tier Applications
  - Lab: Importing and Exporting data

Difficulty level



CERTIFICATE:

Certificate of completing an authorized Microsoft training

TRAINER:

Microsoft Certified Trainer

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