

20764 Administering a SQL Database Infrastructure

Overview

Are you ready to learn how to administer a SQL Server database? This course from New Horizons will equip you with the skills you need to manage databases with confidence.

In this course, you'll learn the ins and outs of database administration and gain hands-on experience automating, backing up, restoring and troubleshooting SQL Server. With expert guidance from New Horizons' certified instructors, you'll master the modern database techniques companies are desperately seeking out.

Prerequisite Comments

Your success is our top priority. To ensure you get the most value out of this course, you should already be familiar with the Microsoft Windows operating system. You will also feel more prepared if you have working knowledge of Transact-SQL and relational databases and experience with database design.

Target Audience

If you're a database administrator, developer or engineer responsible for administering or maintaining database technologies, this course is for you. Taking this course will also benefit you if you develop applications that deliver content from SQL Server databases.

Course Objectives

Once you complete this course, you'll have the skills required to manage key elements of SQL Server database administration, including user management, data backup, automation and security monitoring.

This course empowers you to:

- Authenticate and authorize users
- Assign server and database roles
- Backup and restore SQL Server databases
- Protect data with encryption and auditing
- Automate database management
- Configure security for the SQL Server agent
- Manage alerts and notifications
- Administer SQL Server using PowerShell
- Monitor and troubleshoot a SQL Server infrastructure
- Import and export data

Course Outline

1 - SQL Server Security

Authenticate Connections to SQL Server
Authorize Logins to Access Databases Across Servers
Understand Partially Contained Databases
Lab: Authenticating Users

2 - Assigning Servers & Database Roles

Work with Server Roles and Fixed Database Roles
Create User-Defined Database Roles
Lab: Assigning Server and Database Roles

3 - Authorizing Users to Access Resources

Provide User Access to Objects
Approve Users to Execute Code
Configure Permissions at the Schema Level
Lab: Authorizing Users to Access Resources

4 - Protecting Data with Encryption and Auditing

Learn the Options for Auditing Data Access in SQL Server
Implement and Manage SQL Server Audits
Protect Data with Encryption
Lab: Using Auditing and Encryption

5 - Recovery Models and Backup Strategies

Deploy Secure Backup Strategies
Understand SQL Server Transaction Log
Plan a SQL Server Backup Strategy
Lab: Understanding SQL Server Recovery Models

6 - Backing Up SQL Server Databases

Back up Databases and Transaction Logs
Manage Database Backups
Deploy Different Backup Options
Lab: Backing up SQL Server Databases

7 - Restoring SQL Server 2016 Databases

Learn About the Restore Process
Work with Point-in-Time Recovery
Restore System Databases and Individual Files
Lab: Restoring SQL Server User Databases

8 - Automating SQL Server Management

Automate SQL Server Management
Explore the SQL Server Agent
Manage SQL Server Agent Jobs
Understand Multi-Server Management
Lab: Automating SQL Server Management

9 - Configuring Security for SQL Server Agent

Maintain SQL Server Agent Security
Configure Credentials and Proxy Accounts
Lab: Configuring Security for SQL Server Agent

10 - Monitoring SQL Server with Alerts & Notifications

Create Settings for Database Mail
Monitor SQL Server Errors
Work with Operators, Alerts and Notifications
Learn How Alerts Work in Azure SQL Database
Lab: Monitoring SQL Server with Alerts and Notifications

11 - Introduction to Managing SQL Server by using PowerShell

Configure and Administer SQL Server Using PowerShell
Maintain the SQL Server Environment Using PowerShell
Manage Azure SQL Server Databases Using PowerShell
Lab: Administering SQL Server Using PowerShell

12 - Tracing Access to SQL Server with Extended events

Capture Activity Using SQL Server Profiler
Improve Performance with the Database Engine Tuning Advisor
Work with Tracing Options
Perform Distributed Replays
Monitor Locks
Lab: Tracing Access to SQL Server

13 - Monitoring SQL Server

Oversee SQL Server Activity
Capture and Manage Performance Data
Analyze Collected Performance Data
Assess SQL Server Utility
Lab: Monitoring SQL Server

14 - Troubleshooting SQL Server

Learn the SQL Server Troubleshooting Methodology

Fix Service Related Issues

Resolve Login and Connectivity Issues

Troubleshoot Other Common Issues

Lab: Troubleshooting Common Issues

15 - Importing and Exporting Data

Transfer Data to and from SQL Server

Import and Export Table Data

Apply BCP and BULK INSERT to Import Data

Deploy and Upgrade Data-Tier Applications

Lab: Importing and Exporting Data
