

## 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

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### Schedule

Class Length: 5 Days

G2R = "Guaranteed to Run"   OLL = "Online LIVE" ILT = "Instructor-Led-Training"					
03/22/21	G2R	10:00AM - 6:00PM	Global COL	OLL	\$2,975.00
04/19/21	G2R	8:00AM - 4:00PM	Global COL	OLL	\$2,975.00
05/24/21	G2R	8:00AM - 4:00PM	Global COL	OLL	\$2,975.00
06/28/21	G2R	10:00AM - 6:00PM	Global COL	OLL	\$2,975.00

- Import and export data

## Course Outline

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### 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 Login  
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

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