Microsoft SQL Server 2017 Administration

Duration: *(Face-to-Face & Remote-Live)*, or 35 Hours *(On-Demand)*

Price: £1,945 *(Face-to-Face & Remote-Live)*, or £1,145 *(On-Demand)*

Discounts: For multiple course purchases, please contact us for applicable discounts.

Delivery Options: Perform training at your own pace via our on-demand training option or attend regularly scheduled live courses via remote-live attendance.

Students Will Learn

- Installing and configuring SQL Server 2017
- Authenticating and authorizing users
- Assigning server and database roles
- Authorizing users to access resources
- Protecting data with encryption and auditing
- Recovery models and backup strategies
- Backing up SQL Server databases
- Restoring SQL Server databases
- Automating database management
- Configuring security for the SQL Server agent
- Managing alerts and notifications
- Tracing access to SQL Server
- Monitoring a SQL Server infrastructure
- Troubleshooting a SQL Server infrastructure
- Importing and exporting data
- Creating a high availability solution

Course Description

This hands-on course provides students with the knowledge and skills to administer a SQL Server 2017 database infrastructure. You will learn how to install, configure, manage, secure, automate, monitor, and optimize SQL Server 2017. You will also learn how to create, manage, back up, and restore individual databases, transfer and replicate data, configure for high availability, and plan disaster recovery.

Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency, including a final exercise where students perform an actual failover between two SQL Server machines.

Course Prerequisites

Familiarity with database concepts, Windows desktop navigation and Transact-SQL. Attendance at the Microsoft Transact-SQL Programming course is highly recommended

although not required.

Course Overview

Installation and Configuration

- Installing Multiple Instances of SQL Server 2017
- Applying a Service Pack
- Creating Aliases
- Setting up a Central Management Server

Assigning Server and Database Roles

- Working with Server Roles
- Working with Fixed Database Roles
- Creating User-Defined Database Roles

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

Backup of SQL Server Databases

- Backing up Databases and Transaction Logs
- Managing Database Backups
- Working with Backup Options

Tracing Access to SQL Server

- Capturing Activity Using SQL Server profiler
- Improving Performance with the Database Engine Tuning Advisor
- Working with Tracing Options

Troubleshooting SQL Server

- Resolving Service Related Issues
- Resolving Login and Connectivity Issues
- Troubleshooting Common Issues

Maintaining High Availability of Data

Authenticating and Authorizing Users

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

Authorizing Users to Access Resources

- Authorizing User Access to Objects
- Authorizing Users to Execute Code
- Configuring Permissions at the Schema Level

SQL Server Recovery Models

- Backup Strategies
- Understanding SQL Server Transaction Logging
- Planning a SQL Server Backup Strategy

Restoring SQL Server Databases

- Understanding the Restore Process
- Restoring Databases
- Working with Point-in-time Recovery
- Restoring System Databases and Individual Files

Monitoring SQL Server

- Monitoring Activity
- Capturing and Managing Performance Data
- Analyzing Collected Performance Data

Importing and Exporting Data

- Transferring Data to/from SQL Server
- Importing and Exporting Table Data
- Using BCP and BULK INSERT to Import Data

- Windows Clustering
- AlwaysOn Availability Groups
- Implementing AlwaysOn
- Implementing Log Shipping

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