

kod szkolenia: AA\_20764 / ENG DL 5d

# Administering a SQL Database Infrastructure 2017





# Purpose of the training

The primary audience for this course is IT Professionals who want to become skilled on SQL Server product features and technologies for implementing a database.

The secondary audiences for this course are individuals who are developers from other product platforms looking to become skilled in the implementation of a SQL Server database.



### Benefits of completing the training

After completing this course, students will be able to:

- 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 SOL Server infrastructure
- Import and export data





## **Expected Listener Preparation**

In addition to their professional experience, students who attend this training should already have the following technical knowledge:

- 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.



### Training Language

Training: English Materials: English



### Training Includes

- manual in electronic form available on the platform: https://www.altkomakademia.pl/
- access to Altkom Akademia's student portal



### Czas trwania

5 dni / 35 godzin

### Training agenda

- 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
  - Authorizing User Access to Objects
  - Authorizing Users to Execute Code
  - Configuring Permissions at the Schema Level
- 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 2016 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
  - $\circ\,$  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