SQL SERVER 2008 FOR ADMINISTRATION

Course Code: 6182

Gain the knowledge and skills to maintain a SQL Server 2008 R2 database.

This instructor-led course provides you with the knowledge and skills to maintain a Microsoft SQL Server 2008 R2 database. You will learn to use SQL Server 2008 R2 product features and tools to install and configure a database, manage database files, and create and tune indexes.

This course incorporates materials from the Official Microsoft Learning Product 6231: Maintaining a Microsoft SQL Server 2008 R2 Database.

What You’ll Learn

• Plan, install, and configure SQL Server 2008 R2
• Manage database files
• Back up and restore databases
• Manage security
• Implement SQL Server 2008 R2 audits
• Configure and assign permissions
• Monitor data by using dynamic management views
• Manage SQL Server 2008 R2 agent and jobs
• Execute multi-server queries and configure a central management server
• Deploy a data-tier-application
• Troubleshoot common issues

Who Needs to Attend

• IT professionals who administer and maintain SQL Server databases
• Individuals who develop applications that deliver content from SQL Server databases
Classroom Live Outline

1. Introduction to SQL Server 2008 R2 and Its Toolset
   - SQL Server Platform
   - Working with SQL Server Tools
   - Configuring SQL Server Services

2. Preparing Systems for SQL Server 2008 R2
   - Overview of SQL Server 2008 R2 Architecture
   - Planning Server Resource Requirements
   - Pre-Installation Testing for SQL Server 2008 R2

3. Installing and Configuring SQL Server 2008 R2
   - Preparing to Install SQL Server 2008 R2
   - Installing SQL Server 2008 R2
   - Upgrading and Automating Installation

4. Working with Databases
   - Overview of SQL Server Databases
   - Working with Files and Filegroups
   - Moving Database Files

5. SQL Server 2008 R2 Recovery Models
   - Backup Strategies
   - SQL Server Transaction Logging
   - Planning a SQL Server Backup Strategy

6. Backup of SQL Server 2008 R2 Databases
   - Backing Up Databases and Transaction Logs
   - Managing Database Backups
   - Working with Backup Options
7. Restoring SQL Server 2008 R2 Databases
   • The Restore Process
   • Restoring Databases
   • Working with Point-In-Time Recovery
   • Restoring System Databases and Individual Files

8. Importing and Exporting Data
   • Transferring Data to/from SQL Server 2008 R2
   • Importing and Exporting Table Data
   • Inserting Data in Bulk

9. Authenticating and Authorizing Users
   • Authenticating Connections to SQL Server
   • Authorizing Logins to Access Databases
   • Authorization Across Servers

10. Assigning Server and Database Roles
    • Working with Server Roles
    • Working with Fixed Database Roles
    • Creating User-Defined Database Roles

11. Authorizing Users to Access Resources
    • Authorizing User Access to Objects
    • Authorizing Users to Execute Code
    • Configuring Permissions at the Schema Level

12. Auditing SQL Server Environments
    • Options for Auditing Data Access in SQL Server
    • Implementing SQL Server Audit
    • Managing SQL Server Audit

13. Automating SQL Server 2008 R2 Management
    • Automating SQL Server Management
    • Working with SQL Server Agent
    • Managing SQL Server Agent Jobs

14. Configuring Security for SQL Server Agent
    • SQL Server Agent Security
    • Configuring Credentials
    • Configuring Proxy Accounts

15. Monitoring SQL Server 2008 R2 with Alerts and Notifications
    • Configuration of Database Mail
    • Monitoring SQL Server Errors
    • Configuring Operators, Alerts, and Notifications

16. Performing Ongoing Database Maintenance
    • Ensuring Database Integrity
    • Maintaining Indexes
    • Automating Routine Database Maintenance
17. Tracing Access to SQL Server 2008 R2
   - Capturing Activity Using SQL Server Profiler
   - Improving Performance with the Database Engine Tuning Advisor
   - Working with Tracing Options

18. Monitoring SQL Server 2008 R2
    - Monitoring Activity
    - Capturing and Managing Performance Data
    - Analyzing Collected Performance Data

19. Managing Multiple Servers
    - Working with Multiple Servers
    - Virtualizing SQL Server
    - Deploying and Upgrading Data-Tier-Applications

20. Troubleshooting Common SQL Server 2008 R2 Administrative Issues
    - SQL Server Troubleshooting Methodology
    - Resolving Service-Related Issues
    - Resolving Concurrency Issues
    - Resolving Login and Connectivity Issues

Classroom Live Labs

Lab 1: Introduction to SQL Server 2008 R2 and Its Toolset

Verify SQL Server component installation Alter service accounts for new instance
Enable named pipes protocol for both instances Create aliases for AdventureWorks and Proseware
Ensure SQL browser is disabled and configure a fixed TCP/IP port
Examine the SQL Server platform Work with SQL Server tools Configure SQL Server services

Lab 2: Preparing Systems for SQL Server 2008 R2

- Adjust memory configuration
- Perform pre-installation stress testing
- Check specific I/O operations
- Examine the SQL Server architecture
- Plan for server resource requirements
- Conduct pre-installation stress testing for SQL Server

Lab 3: Installing and Configuring SQL Server 2008 R2

- Review installation requirements
- Install the SQL Server instance
- Perform post-installation setup and checks
- Configure server memory
- Prepare to install SQL Server
- Install SQL Server
- Upgrade and automate the installation of SQL Server
Lab 4: Working with Databases
- Adjust tempdb configuration
- Create the RateTracking database
- Attach the OldProspects database
- Add multiple files to tempdb
- Examine the role and structure of SQL Server databases
- Work with files and filegroups
- Move database files within servers and between servers

Lab 5: SQL Server 2008 R2 Recovery Models
- Plan a backup strategy
- Configure recovery models
- Review recovery models and strategy
- Critical concepts surrounding backup strategies
- Transaction logging capabilities within the SQL Server database engine
- Plan a SQL Server backup strategy

Lab 6: Backup of SQL Server 2008 R2 Databases
- Investigate backup compression
- Transaction log backup
- Differential backup
- Copy only backup
- Partial backup
- Back up databases and transaction logs
- Manage database backups
- Work with more advanced backup options

Lab 7: Restoring SQL Server 2008 R2 Databases
- Determine a restore strategy
- Restore the database
- Using STANDBY mode
- The restore process
- Restore databases
- Work with point-in-time recovery
- Restore system databases and individual files

Lab 8: Importing and Exporting Data
- Import the Excel spreadsheet
- Import the CSV file
- Create and test an extraction package
- Compare loading performance
- Transfer data to and from SQL Server
- Import and export table data
- Insert data in bulk and optimize the bulk insert process

Lab 9: Authenticating and Authorizing Users
- Create logins
• Correct an application login issue
• Create database users
• Correct access to restored database
• How SQL Server authenticates connections
• How logins are authorized to access databases
• Examine the requirements for authorization across servers

Lab 10: Assigning Server and Database Roles
• Assign server roles
• Assign fixed database roles
• Create and assign user-defined database roles
• Check role assignments
• Work with server roles
• Work with fixed database roles
• Create user-defined database roles

Lab 11: Authorizing Users to Access Resources
• Assign schema-level permissions
• Assign object-level permissions
• Test permissions
• Authorize user access to objects
• Authorize users to execute code
• Configure permissions at the schema level

Lab 12: Auditing SQL Server Environments
• Determine audit configuration and create audit
• Create server audit specifications
• Create database audit specifications
• Test audit functionality
• Options for auditing data access in SQL Server
• Implement and manage SQL server audit

Lab 13: Automating SQL Server 2008 R2 Management
• Create a data extraction job
• Schedule the data extraction job
• Troubleshoot a failing job
• Automate SQL Server management
• Work with SQL Server Agent
• Manage SQL Server Agent jobs

Lab 14: Configuring Security for SQL Server Agent
• Troubleshoot job execution failure
• Resolve the security issue
• Perform further troubleshooting
• SQL Server Agent security
• Configure credentials
• Configure Proxy accounts

Lab 15: Monitoring SQL Agent Jobs with Alerts and Notifications
• Configure database mail
• Implement notifications
• Implement alerts
• Configure database mail
• Monitor SQL Server errors
• Configure operators, alerts, and notifications

Lab 16: Ongoing Database Maintenance
• Check database integrity using DBCC CHECKDB
• Correct index fragmentation
• Create a database maintenance plan
• Investigate table lock performance
• Ensure database integrity
• Maintain indexes
• Automate routine database maintenance

Lab 17: Tracing Access to SQL Server 2008 R2
• Capture a trace using SQL Server Profiler
• Analyze a trace using Database Engine Tuning Advisor
• Configure SQL Trace
• Capture activity using SQL Server Profiler
• Improve performance with the Database Engine Tuning Advisor
• Work with tracing options

Lab 18: Monitoring SQL Server 2008 R2
• Investigating DMVs
• Configure management data warehouse
• Configure instances for data collection
• Work with data collector reports
• Monitor current activity
• Capture and manage performance data
• Analyze collected performance data

Lab 19: Managing Multiple Servers
• Configure CMS and execute multi-server queries
• Deploy a data-tier-application
• Register and extract a data-tier-application
• Upgrade a data-tier-application
• Work with multiple servers
• Options for virtualizing SQL Server

Lab 20: Troubleshooting Common Issues
• Troubleshoot and resolve SQL Server administrative issues
• SQL Server troubleshooting methodology
• Resolve service-related issues
• Resolve concurrency issues
• Resolve login and connectivity issues
Virtual Classroom Live Outline

1. Introduction to SQL Server 2008 R2 and Its Toolset
   • SQL Server Platform
   • Working with SQL Server Tools
   • Configuring SQL Server Services

2. Preparing Systems for SQL Server 2008 R2
   • Overview of SQL Server 2008 R2 Architecture
   • Planning Server Resource Requirements
   • Pre-Installation Testing for SQL Server 2008 R2

3. Installing and Configuring SQL Server 2008 R2
   • Preparing to Install SQL Server 2008 R2
   • Installing SQL Server 2008 R2
   • Upgrading and Automating Installation

4. Working with Databases
   • Overview of SQL Server Databases
   • Working with Files and Filegroups
   • Moving Database Files

5. SQL Server 2008 R2 Recovery Models
   • Backup Strategies
   • SQL Server Transaction Logging
   • Planning a SQL Server Backup Strategy

6. Backup of SQL Server 2008 R2 Databases
   • Backing Up Databases and Transaction Logs
   • Managing Database Backups
   • Working with Backup Options
7. Restoring SQL Server 2008 R2 Databases
   • The Restore Process
   • Restoring Databases
   • Working with Point-In-Time Recovery
   • Restoring System Databases and Individual Files

8. Importing and Exporting Data
   • Transferring Data to/from SQL Server 2008 R2
   • Importing and Exporting Table Data
   • Inserting Data in Bulk

9. Authenticating and Authorizing Users
   • Authenticating Connections to SQL Server
   • Authorizing Logins to Access Databases
   • Authorization Across Servers

10. Assigning Server and Database Roles
    • Working with Server Roles
    • Working with Fixed Database Roles
    • Creating User-Defined Database Roles

11. Authorizing Users to Access Resources
    • Authorizing User Access to Objects
    • Authorizing Users to Execute Code
    • Configuring Permissions at the Schema Level

12. Auditing SQL Server Environments
    • Options for Auditing Data Access in SQL Server
    • Implementing SQL Server Audit
    • Managing SQL Server Audit

13. Automating SQL Server 2008 R2 Management
    • Automating SQL Server Management
    • Working with SQL Server Agent
    • Managing SQL Server Agent Jobs

14. Configuring Security for SQL Server Agent
    • SQL Server Agent Security
    • Configuring Credentials
    • Configuring Proxy Accounts

15. Monitoring SQL Server 2008 R2 with Alerts and Notifications
    • Configuration of Database Mail
    • Monitoring SQL Server Errors
    • Configuring Operators, Alerts, and Notifications

16. Performing Ongoing Database Maintenance
    • Ensuring Database Integrity
    • Maintaining Indexes
    • Automating Routine Database Maintenance
17. Tracing Access to SQL Server 2008 R2
   • Capturing Activity Using SQL Server Profiler
   • Improving Performance with the Database Engine Tuning Advisor
   • Working with Tracing Options

18. Monitoring SQL Server 2008 R2
   • Monitoring Activity
   • Capturing and Managing Performance Data
   • Analyzing Collected Performance Data

19. Managing Multiple Servers
   • Working with Multiple Servers
   • Virtualizing SQL Server
   • Deploying and Upgrading Data-Tier-Applications

20. Troubleshooting Common SQL Server 2008 R2 Administrative Issues
   • SQL Server Troubleshooting Methodology
   • Resolving Service-Related Issues
   • Resolving Concurrency Issues
   • Resolving Login and Connectivity Issues

Virtual Classroom Live Labs

Lab 1: Introduction to SQL Server 2008 R2 and Its Toolset
Verify SQL Server component installation
   Alter service accounts for new instance
Enable named pipes protocol for both instances
Create aliases for AdventureWorks and Proseware
Ensure SQL browser is disabled and configure a fixed TCP/IP port
Examine the SQL Server platform
Work with SQL Server tools
Configure SQL Server services

Lab 2: Preparing Systems for SQL Server 2008 R2
   • Adjust memory configuration
   • Perform pre-installation stress testing
   • Check specific I/O operations
   • Examine the SQL Server architecture
   • Plan for server resource requirements
   • Conduct pre-installation stress testing for SQL Server

Lab 3: Installing and Configuring SQL Server 2008 R2
   • Review installation requirements
   • Install the SQL Server instance
   • Perform post-installation setup and checks
   • Configure server memory
   • Prepare to install SQL Server
   • Install SQL Server
   • Upgrade and automate the installation of SQL Server
Lab 4: Working with Databases
- Adjust tempdb configuration
- Create the RateTracking database
- Attach the OldProspects database
- Add multiple files to tempdb
- Examine the role and structure of SQL Server databases
- Work with files and filegroups
- Move database files within servers and between servers

Lab 5: SQL Server 2008 R2 Recovery Models
- Plan a backup strategy
- Configure recovery models
- Review recovery models and strategy
- Critical concepts surrounding backup strategies
- Transaction logging capabilities within the SQL Server database engine
- Plan a SQL Server backup strategy

Lab 6: Backup of SQL Server 2008 R2 Databases
- Investigate backup compression
- Transaction log backup
- Differential backup
- Copy only backup
- Partial backup
- Back up databases and transaction logs
- Manage database backups
- Work with more advanced backup options

Lab 7: Restoring SQL Server 2008 R2 Databases
- Determine a restore strategy
- Restore the database
- Using STANDBY mode
- The restore process
- Restore databases
- Work with point-in-time recovery
- Restore system databases and individual files

Lab 8: Importing and Exporting Data
- Import the Excel spreadsheet
- Import the CSV file
- Create and test an extraction package
- Compare loading performance
- Transfer data to and from SQL Server
- Import and export table data
- Insert data in bulk and optimize the bulk insert process

Lab 9: Authenticating and Authorizing Users
- Create logins
• Correct an application login issue
• Create database users
• Correct access to restored database
• How SQL Server authenticates connections
• How logins are authorized to access databases
• Examine the requirements for authorization across servers

Lab 10: Assigning Server and Database Roles
• Assign server roles
• Assign fixed database roles
• Create and assign user-defined database roles
• Check role assignments
• Work with server roles
• Work with fixed database roles
• Create user-defined database roles

Lab 11: Authorizing Users to Access Resources
• Assign schema-level permissions
• Assign object-level permissions
• Test permissions
• Authorize user access to objects
• Authorize users to execute code
• Configure permissions at the schema level

Lab 12: Auditing SQL Server Environments
• Determine audit configuration and create audit
• Create server audit specifications
• Create database audit specifications
• Test audit functionality
• Options for auditing data access in SQL Server
• Implement and manage SQL server audit

Lab 13: Automating SQL Server 2008 R2 Management
• Create a data extraction job
• Schedule the data extraction job
• Troubleshoot a failing job
• Automate SQL Server management
• Work with SQL Server Agent
• Manage SQL Server Agent jobs

Lab 14: Configuring Security for SQL Server Agent
• Troubleshoot job execution failure
• Resolve the security issue
• Perform further troubleshooting
• SQL Server Agent security
• Configure credentials
• Configure Proxy accounts

Lab 15: Monitoring SQL Agent Jobs with Alerts and Notifications
• Configure database mail
• Implement notifications
• Implement alerts
• Configure database mail
• Monitor SQL Server errors
• Configure operators, alerts, and notifications

Lab 16: Ongoing Database Maintenance
• Check database integrity using DBCC CHECKDB
• Correct index fragmentation
• Create a database maintenance plan
• Investigate table lock performance
• Ensure database integrity
• Maintain indexes
• Automate routine database maintenance

Lab 17: Tracing Access to SQL Server 2008 R2
• Capture a trace using SQL Server Profiler
• Analyze a trace using Database Engine Tuning Advisor
• Configure SQL Trace
• Capture activity using SQL Server Profiler
• Improve performance with the Database Engine Tuning Advisor
• Work with tracing options

Lab 18: Monitoring SQL Server 2008 R2
• Investigating DMVs
• Configure management data warehouse
• Configure instances for data collection
• Work with data collector reports
• Monitor current activity
• Capture and manage performance data
• Analyze collected performance data

Lab 19: Managing Multiple Servers
• Configure CMS and execute multi-server queries
• Deploy a data-tier-application
• Register and extract a data-tier-application
• Upgrade a data-tier-application
• Work with multiple servers
• Options for virtualizing SQL Server

Lab 20: Troubleshooting Common Issues
• Troubleshoot and resolve SQL Server administrative issues
• SQL Server troubleshooting methodology
• Resolve service-related issues
• Resolve concurrency issues
• Resolve login and connectivity issues
SQL SERVER 2008 FOR ADMINISTRATION

Course Code: 6182

PRIVATE GROUP TRAINING 5 days

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

Date created: 11/24/2019 12:44:56 PM
Copyright © 2019 Global Knowledge Training LLC. All Rights Reserved.