DESIGNING SOLUTIONS FOR MICROSOFT SQL SERVER 2014 (M20465)  
Course Code: 6403

Learn to design and monitor high performance and high available data solutions with Microsoft SQL Server 2012 and 2014.

In this course, you will learn to plan and implement enterprise database infrastructure solutions using Microsoft SQL Server 2014 and other Microsoft technologies. You will be introduced to Enterprise Data Architecture, multi-server configuration management, Data Collector and the SQL Server Utility Control Point (UCP). You’ll then delve into database solutions including: consolidating database workloads, cloud data, high availability, clustering, AlwaysOn Availability Groups, disaster recovery, and data replication.

This course is designed for customers who are interested in learning SQL Server 2012 or SQL Server 2014, but also the important capabilities across the SQL Server data platform.

This course incorporates material from the Official Microsoft Learning Product 20465 and covers the skills and knowledge measured by Exam 70-465: Designing Database Solutions for Microsoft SQL Server 2012 and, in conjunction with on-the-job experience, can help you prepare for the exam.

What You’ll Learn

• Access an Existing Enterprise Environment
• Plan and Implement Policy-Based Management
• Data Collector and SQL Server Utility Control Point (UCP) of SQL Server 2014
• Consolidation Workloads with SQL Server 2014
• Private Cloud Considerations for SQL Server 2014
• High-Availability and Disaster-Recovery Solutions
• Windows Server Failover Clustering and SQL Server AlwaysOn Failure Cluster Instances
• Plan and Implement Database Replication

Who Needs to Attend

Database professionals who need to plan, implement, and manage database solutions whose primary responsibilities include the planning and implementation of
a database infrastructure, consolidation strategies, as well as high-availability and disaster recovery solutions.

Prerequisites
You should have technical knowledge of relational databases, including

- Minimum two years of experience with relational databases
- Database planning, implementation, and management
- Querying with Transact-SQL
- Basic knowledge of high availability and disaster recovery
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Classroom Live Outline

1. Introduction to Enterprise Data Architecture
   • Enterprise Data Considerations
   • Access an Existing Infrastructure
2. Multi-Server Configuration Management
   • Policy-based Management
   • Microsoft System Center
3. Consolidate Database Workloads with SQL Server 2014
   • Database Server Consolidation Considerations
   • Resource Management in a Consolidated Database Infrastructure
4. Introduction to Cloud Data Solutions
   • Cloud Computing
   • SQL Server in a Private Cloud
5. Introduction to Microsoft Azure
   • Microsoft Azure Overview and Microsoft Storage
6. Microsoft Azure SQL Database
   • Introduction to Microsoft Azure SQL Database
   • Microsoft Azure SQL Database Security
   • Implement and Manage Databases
7. SQL Server in Microsoft Azure Virtual Machines
   • Introduction to Microsoft Azure Virtual Machines
   • Microsoft Azure Virtual Machine Connectivity and Security
   • Create Databases in a Microsoft Azure Virtual Machine
8. Introduction to High Availability in SQL Server 2014
   • High Availability Concepts and Options in SQL Server 2014
   • Log Shipping

9. Clustering with Windows Server and SQL Server 2014
   • Introduction to Windows Server Failover Clustering
   • SQL Server AlwaysOn Failover Cluster Instances

10. Automating Multi-Server Maintenance AlwaysOn Availability Groups
    • AlwaysOn Availability Groups Introduction and Considerations

11. Plan High Availability and Disaster Recover
    • High Availability and Disaster Recovery with SQL Server 2014
    • High Availability and Disaster Recovery for Databases in Microsoft Azure

12. Replicating Data
    • SQL Server Replication
    • Planning Replication

Classroom Live Labs

Lab 1: Assess an Existing Enterprise Data Infrastructure
   • MAP Toolkit
   • Review MAP Toolkit Reports

Lab 2: Plan and Implement Policy-Based Management

Lab 3: SQL Server Consolidation
   • Prepare for Database Consolidation
   • Manage Resources for an Instance of SQL Server
   • Manage Resources for Multiple Instances on a Windows Server

Lab 4: Prepare a SQL Server Installation in a Virtual Machine Template
   • Create and Complete a Prepared Instance

Lab 5: Microsoft Azure
   • Create a Microsoft Azure Storage Account
   • Backup a Database to Microsoft Azure

Lab 6: Microsoft Azure SQL Database
   • Provision a Microsoft Azure SQL Database
   • Configure Microsoft Azure SQL Database Security
   • Migrate a Database to Microsoft Azure SQL Database

Lab 7: Plan Policy-Based Management Microsoft Azure Virtual Machines
   • Create a Microsoft Azure Virtual Machine
   • Configure Microsoft Azure Virtual Machine Security and Connectivity
   • Create Databases on a Virtual Machine

Lab 8: Log Shipping
• Configure and Test Log Shipping
• Test Failover

Lab 9: Implement an AlwaysOn Failover Cluster Instance
• Windows Server Failover Cluster Configuration
• Install an AlwaysOn Failover Cluster Instance
• Configure tempdb to use Local Storage
• Test Automatic Failover and Failback

Lab 10: Implement and Test an AlwaysOn Availability Group
• Implement and Connect to an AlwaysOn Availability Group
• Test Failover
• Configure Quorum Voting

Lab 11: Plan High Availability and Disaster Recovery
• High Availability and Disaster Recovery Solutions with SQL Server 2014 and using Microsoft Azure

Lab 12: Plan and Implement Replication
Virtual Classroom Live Outline

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   - Enterprise Data Considerations
   - Access an Existing Infrastructure

2. Multi-Server Configuration Management
   - Policy-based Management
   - Microsoft System Center

3. Consolidate Database Workloads with SQL Server 2014
   - Database Server Consolidation Considerations
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PRIVATE GROUP TRAINING  3 days

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