



# Designing a Data Solution with Microsoft SQL Server (20465)

Duration: **3 days**

## Who should attend?

This course is intended for individuals who design database solutions for organizations and have experience with database development and administering SQL Server databases. These individuals design databases as their primary area of responsibility. They are responsible to plan and design database structure, storage, objects, and servers. They also create the plan for the environment in which the database solution runs.

## Certifications

This course is part of the following Certifications:

1. **MCSE Data Management and Analytics** (MCSE)

## Prerequisites

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

1. Experience with Transact-SQL
2. Familiarity with SQL Server 2012 components and tools
3. Familiarity with objects in a SQL Server database
4. Familiarity with enterprise Windows network and security architecture

## Course Objectives

This course describes how to design and monitor high performance, highly available data solutions with SQL Server 2012. This course focuses on creating plans and designs for database structure, storage, objects, and servers. Students will have the opportunity to practice hands-on skills and design tasks in a virtual lab environment and will learn about topics such as data compression, high availability, data migration, security, and scalability. This course maps to skills and knowledge measured by Microsoft Exam 70-465, and in conjunction with on-the-job experience, can help prepare you for the exam. After completing this course, students will be able to:

1. Design an appropriate database server infrastructure for a given business application scenario
2. Design a logical schema for a database based on application requirements

3. Design the physical implementation of a database for a given set of requirements
4. Evaluate options for including binary large object data in a database design
5. Plan and manage indexes to optimize performance
6. Describe the key considerations for designing security for SQL Server instances and databases
7. Plan policy-based management to manage server instances, databases, and other SQL Server 2012 objects more efficiently
8. Plan SQL Server health monitoring
9. Implement SQL Server health monitoring by using SQL Server Utility
10. Identify and implement the appropriate backup strategy for a given scenario
11. Plan and manage multi-server maintenance and automation
12. Understand the benefits of using PowerShell to manage SQL Server 2012
13. Design an optimal replication strategy from a given set of business and technical requirements
14. Plan and implement a high availability solution

## Course Content

- Module 1: Designing a Database Server Infrastructure
- Module 2: Designing a Logical Database Schema
- Module 3: Designing a Physical Database Implementation
- Module 4: Incorporating Data Files into Databases
- Module 5: Tuning Database Performance
- Module 6: Designing Database Security
- Module 7: Policy Based Management
- Module 8: Monitoring Server Health
- Module 9: Designing a Database Backup Solution
- Module 10: Automating Multi-Server Maintenance
- Module 11: Managing SQL Server with PowerShell
- Module 12: Replicating Data
- Module 13: Planning High Availability