MCSP: SQL Server 2012 Boot Camp
H6C11S

Course Overview

Validate that you have the skills and knowledge necessary to administer Microsoft SQL Server 2012 in an enterprise environment.

Gain the cloud-related skills required for the latest Microsoft certifications through this broad and extensive hands-on training experience. This Boot Camp features an online study program and a choice of delivery methods to suit your learning style preference.

In this accelerated learning environment, you will build your skills and prepare for the MCSA: SQL Server 2012 certification exams. This extended-hours Boot Camp led by senior instructors includes targeted lectures using Microsoft Learning recommended content as well as six months

Special Note

Elements of this syllabus are subject to change.

This Boot Camp is a special offering designed to prepare you for certification in a short amount of time. The length of each class day will be extended to 12 hours of class time. Students should plan appropriately.

Course Description

This Boot Camp includes all the exam vouchers required for certification, along with one free retake voucher if needed. It also includes access to our online study program for 30 days, providing indispensable certification exam prep.

Our exclusive online study program includes:

- 24x7 chat support by certified mentors: Direct, on-demand access to live certified experts for customized training support
- Access to the online Microsoft Press E-Reference Library, including all Training Kits, Exam References, and Rapid Review books
• Recommended Microsoft Reading List designed by our instructors, including topics and chapters within the Microsoft Press E-Reference Library
• Recorded "Power Hours" for each exam: Online review session covering key exam objectives conducted by our expert instructors
• On-demand live remote labs: 24x7 on-demand access for six months so there’s no scheduling required

This course incorporates content from Microsoft Official Courses (MOC):
• Querying Microsoft SQL Server 2012 (M10774)
• Administering Microsoft SQL Server 2012 Databases (M10775)
• Implementing a Data Warehouse with Microsoft SQL Server 2012 (M10777)

You Will Prepare for These Exams:
• 70-461: Querying Microsoft SQL Server 2012
• 70-462: Administering Microsoft SQL Server 2012 Databases
• 70-461: Implementing a Data Warehouse with Microsoft SQL Server 2012

**Audience**

This course is intended for:
• IT professionals with at least two years of hands-on experience implementing and administering database systems
• Database administrators, systems engineers, systems analysts, and technical consultants who want to prepare for their MCSA: SQL Server 2012 credential in an accelerated format

**Prerequisites**

• Working knowledge of relational databases
• Two years of hands-on experience working in a SQL Server 2008 or SQL Server 2012 environment
• Basic knowledge of the Microsoft Windows operating system and its core functionality

**Course objectives**

• Learn the technical skills required to write basic Transact-SQL queries for Microsoft SQL Server 2012
• Acquire knowledge and skills to maintain Microsoft SQL Server 2012 databases
• Create a data warehouse with SQL Server 2012
• Implement ETL with SQL Server Integration Services
• Validate and cleanse data with SQL Server Data Quality Services and SQL Server Master Data Services
• Learn key topics and concepts addressed on the MCSA: SQL Server 2012 exams
Course outline

Exam 70-461: Querying Microsoft SQL Server 2012

Introduction to Microsoft SQL Server 2012
- Microsoft SQL Server 2012 Basics
- Getting Started with SQL Server Management Studio

Getting Started with SQL Azure
- Overview
- Working with SQL Azure

Introduction to T-SQL Querying
- T-SQL
  - Sets
  - Predicate Logic
  - Logical Order of Operations in SELECT Statements

Writing SELECT Queries
- Writing Simple SELECT Statements
- Eliminating Duplicates with DISTINCT
- Using Column and Table Aliases
- Writing Simple CASE Expressions

Querying Multiple Tables
- Joins
- Querying with Inner Joins
- Querying with Outer Joins
- Querying with Cross Joins and Self Joins

Sorting and Filtering Data
- Sorting Data
- Filtering Data with a WHERE Clause
- Filtering with the TOP and OFFSET-FETCH Options
- Working with Unknown and Missing Values

Working with SQL Server 2012 Data Types
- SQL Server 2012 Data Types
- Working with Character Data
- Working with Date and Time Data

Using Built-In Functions
- Writing Queries with Built-In Functions
- Using Conversion Functions
- Using Logical Functions
- Using Functions to Work with NULL

Grouping and Aggregating Data
- Using Aggregate Functions
- Using the GROUP BY Clause
- Filtering Groups with HAVING
Using Subqueries
- Writing Self-Contained Subqueries
- Writing Correlated Subqueries
- Using the EXISTS Predicate with Subqueries

Using Table Expressions
- Using Derived Tables
- Using Common Table Expressions
- Using Views
- Using Inline Table-Valued Functions

Using Set Operators
- Writing Queries with the UNION Operator
- Using EXCEPT and INTERSECT
- Using APPLY

Using Window Ranking, Offset, and Aggregate Functions
- Creating Windows with OVER
- Exploring Window Functions

Pivoting and Grouping Sets
- Writing Queries with PIVOT and UNPIVOT
- Working with Grouping Sets

Querying SQL Server Metadata
- Querying System Catalog Views and Functions
- Executing System Stored Procedures
- Querying Dynamic Management Objects

Executing Stored Procedures
- Querying Data with Stored Procedures
- Passing Parameters to Stored Procedures
- Creating Simple Stored Procedures
- Working with Dynamic SQL

Programming with T-SQL
- T-SQL Programming Elements
- Controlling Program Flow

Implementing Error Handling
- Using TRY/CATCH Blocks
- Working with Error Information

Implementing Transactions
- Transactions and the Database Engine
- Controlling Transactions

Improving Query Performance
- Factors in Query Performance
- Displaying Query Performance Data
Exam 70-462: Administering Microsoft SQL Server 2012 Databases

Introduction to SQL Server 2012 and its Toolset
- SQL Server Platform
- Working with SQL Server Tools
- Configuring SQL Server Services

Preparing Systems for SQL Server 2012
- SQL Server Architecture
- Planning Server Resource Requirements
- Pre-Installation Testing for SQL Server

Installing and Configuring SQL Server 2012
- Preparing to Install SQL Server
- Installing SQL Server
- Upgrading and Automating Installation

Working with Databases
- SQL Server Databases
- Working with Files and Filegroups
- Moving Database Files

SQL Server 2012 Recovery Models
- Backup Strategies
- SQL Server Transaction Logging
- Planning a SQL Server Backup Strategy

Backup of SQL Server 2012 Databases
- Backing Up Databases and Transaction Logs
- Managing Database Backups
- Working with Backup Options

Restoring SQL Server 2012 Databases
- The Restore Process
- Restoring Databases
- Working with Point-in-Time Recovery
- Restoring System Databases and Individual Files

Importing and Exporting Data
- Transferring Data to/from SQL Server
- Importing and Exporting Table Data
- Inserting Data in Bulk

Authenticating and Authorizing Users
- Authenticating Connections to SQL Server
- Authorizing Logins to Access Databases
- Authorization Across Servers

Assigning Server and Database Roles
- Working with Server Roles
- Working with Fixed Database Roles
- Creating User-Defined Database Roles
Authorizing Users to Access Resources
- Authorizing User Access to Objects
- Authorizing Users to Execute Code
- Configuring Permissions at the Schema Level

Auditing SQL Server Environments
- Options for Auditing Data Access in SQL
- Implementing SQL Server Audit
- Managing SQL Server Audit

Automating SQL Server 2012 Management
- Working with SQL Server Agent
- Managing SQL Server Agent Jobs

Configuring Security for SQL Server Agent
- SQL Server Agent Security Basics
- Configuring Credentials
- Configuring Proxy Accounts

Monitoring SQL Server 2012 with Alerts and Notifications
- Configuration of Database Mail
- Monitoring SQL Server Errors
- Configuring Operators, Alerts, and Notifications

Performing Ongoing Database Maintenance
- Ensuring Database Integrity
- Maintaining Indexes
- Automating Routine Database Maintenance

Tracing Access to SQL Server 2012
- Capturing Activity using SQL Server Profiler
- Improving Performance with the Database Engine Tuning Advisor
- Working with Tracing Options

Monitoring SQL Server 2012
- Monitoring Activity
- Capturing and Managing Performance Data
- Analyzing Collected Performance Data

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

Troubleshooting Common SQL Server 2012 Administrative Issues
- SQL Server Troubleshooting Methodology
- Resolving Service-Related Issues
- Resolving Concurrency Issues
- Resolving Login and Connectivity Issues
Exam 70-463: Implementing a Data Warehouse with Microsoft SQL Server 2012

Data Warehousing
- Overview of Data Warehousing
- Considerations for a Data Warehouse Solution

Data Warehouse Hardware
- Considerations for Building a Data Warehouse
- Data Warehouse Reference Architectures and Appliances

Designing and Implementing a Data Warehouse
- Logical Design for a Data Warehouse
- Physical Design for a Data Warehouse

Creating an ETL Solution with SSIS
- ETL with SSIS
- Exploring Source Data
- Implementing Data Flow

Implementing Control Flow in an SSIS Package
- Control Flow
- Creating Dynamic Packages
- Using Containers
- Managing Consistency

Debugging and Troubleshooting SSIS Packages
- Debugging an SSIS Package
- Logging SSIS Package Events
- Handling Errors in an SSIS Package

Implementing an Incremental ETL Process
- Incremental ETL
- Extracting Modified Data
- Loading Modified Data

Incorporating Data from the Cloud into a Data Warehouse
- Overview of Cloud Data Sources
- SQL Server Database
- The Windows Azure Marketplace

Enforcing Data Quality
- Data Quality
- Using Data Quality Services to Cleanse Data
- Using Data Quality Services to Match Data

Using Master Data Services
- Master Data Services
- Implementing a Master Data Services Model
- Using the Master Data Services Add-in for Excel

Extending SQL Server Integration Services
- Using Custom Components in SSIS
- Using Scripts in SSIS
Deploying and Configuring SSIS Packages
- SSIS Deployment
- Deploying SSIS Projects
- Planning SSIS Package Execution

Consuming Data in a Data Warehouse
- Business Intelligence
- Reporting
- Data Analysis

Labs

Exam 70-461: Querying Microsoft SQL Server 2012
- Lab 1: SQL Server 2012 Tools
- Lab 2: Transact-SQL Querying
- Lab 3: Write Basic SELECT statements
- Lab 4: Query Multiple Tables
- Lab 5: Filter and Sort Data
- Lab 6: Work with SQL Server 2012 Data Types
- Lab 7: Use Built-In Functions
- Lab 8: Group and Aggregate Data
- Lab 9: Use Subqueries
- Lab 10: Use Table Expressions
- Lab 11: Use Set Operators
- Lab 12: Use Window Ranking, Offset, and Aggregate Functions
- Lab 13: Pivot and Group Sets
- Lab 14: Query SQL Server Metadata
- Lab 15: Execute Stored Procedures
- Lab 16: Program with T-SQL
- Lab 17: Implement Error Handling
- Lab 18: Implement Transactions
- Lab 19: Improve Query Performance

Exam 70-462: Administering Microsoft SQL Server 2012 Databases
- Lab 1: SQL Server and Toolset
- Lab 2: Prepare Systems for SQL Server
- Lab 3: Install and Configure SQL Server
- Lab 4: Work with Databases
- Lab 5: SQL Server Recovery Models
- Lab 6: Back Up SQL Server Databases
- Lab 7: Restore SQL Server 2012 Databases
- Lab 8: Import and Exporting Data
- Lab 9: Authenticate and Authorizing Users
- Lab 10: Assign Server and Database Roles
- Lab 11: Authorize Users to Access Resources
- Lab 12: Audit SQL Server Environments
- Lab 13: Automate SQL Server Management
- Lab 14: Configure Security for SQL Server Agent
- Lab 15: Monitor SQL Agent Jobs with Alerts and Notifications
- Lab 16: Perform Ongoing Database Maintenance
- Lab 17: Trace Access to SQL Server 2012
- Lab 18: Monitor SQL Server 2012
- Lab 19: Manage Multiple Servers
- Lab 20: Troubleshoot Common Issues

Exam 70-463: Implementing a Data Warehouse with Microsoft SQL Server 2012
- Lab 1: Explore a Data Warehouse Solution
- Lab 2: Implement a Data Warehouse Schema
- Lab 3: Implement Data Flow in an SSIS Package
- Lab 4A: Implement Control Flow in an SSIS Package
- Lab 4B: Use Transactions and Checkpoints
- Lab 5: Debug and Troubleshoot an SSIS Package
- Lab 6A: Extract Modified Data
- Lab 6B: Load Incremental Changes
- Lab 7: Use Cloud Data in a Data Warehouse Solution
- Lab 8A: Cleanse Data
- Lab 8B: De-Duplication Data
- Lab 9: Implement Master Data Services
- Lab 10: Use Scripts and Custom Components
- Lab 11: Deploy and Configure SSIS Packages
- Lab 12: Business Intelligence Tools

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