# SaigonCTT

## Administering Microsoft SQL Server Databases
### (Course 20462C)

### About this Course

- This course provides students with the knowledge and skills to maintain a Microsoft SQL Server 2014 database. The course focuses on teaching individuals how to use SQL Server 2014 product features and tools related to maintaining a database.
- **Note:** This course is designed for customers who are interested in learning SQL Server 2012 or SQL Server 2014.  It covers the new features in SQL Server 2014, but also the important capabilities across the SQL Server data platform.

### Duration

- 40 h

### At Course Completion

After completing this course, students will be able to:

- Describe core database administration tasks and tools.
- Install and configure SQL Server 2014.
- Configure SQL Server databases and storage.
- Plan and implement a backup strategy.
- Restore databases from backups.
- Import and export data.
- Monitor SQL Server.
- Trace SQL Server activity.
- Manage SQL Server security.
- Audit data access and encrypt data.
- Perform ongoing database maintenance.
- Automate SQL Server maintenance with SQL Server Agent Jobs.
- Configure Database Mail, alerts and notifications.

### Student Prerequisites

This course requires that you meet the following prerequisites:

- 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.

## Course Outline

**Module 1: Introduction to SQL Server 2014 Database Administration**

- Database Administration Overview
- Introduction to the SQL Server Platform
- Database Management Tools and Techniques

**Module 2: Installing and Configuring SQL Server 2014**

- Planning SQL Server Installation
- Installing SQL Server 2014
- Post-Installation Configuration

**Module 3: Working with Databases and Storage**

- Introduction to Data Storage with SQL Server
- Managing Storage for System Databases
- Managing Storage for User Databases
- Moving Database Files
- Configuring the Buffer Pool Extension

**Module 4: Planning and Implementing a Backup Strategy**

- Understanding SQL Server Recovery Models
- Planning a Backup Strategy
- Backing up Databases and Transaction Logs
- Using Backup Options
- Ensuring Backup Reliability

**Module 5: Restoring SQL Server 2014 Databases**

- Understanding the Restore Process
- Restoring Databases
- Advanced Restore Scenarios
- Working with Point-in-Time Recovery

**Module 6: Importing and Exporting Data**

- Introduction to Transferring Data
- Importing and Exporting Table Data
- Copying or Moving a Database

**Module 7: Monitoring SQL Server 2014**

- Introduction to Monitoring SQL Server
- Dynamic Management Views and Functions
- Performance Monitor

**Module 8: Tracing SQL Server Activity**

- Tracing SQL Server Workload Activity
- Using Traces

**Module 9: Managing SQL Server Security**

- Introduction to SQL Server Security

- Managing Server-Level Security
- Managing Database-Level Principals
- Managing Database Permissions

**Module 10: Auditing Data Access and Encrypting Data**

- Auditing Data Access in SQL Server
- Implementing SQL Server Audit
- Encrypting Databases

**Module 11: Performing Ongoing Database Maintenance**

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

**Module 12: Automating SQL Server 2014 Management**

- Automating SQL Server Management
- Implementing SQL Server Agent Jobs
- Managing SQL Server Agent Jobs
- Managing Job Step Security Contexts
- Managing Jobs on Multiple Servers

**Module 13: Monitoring SQL Server 2014 by Using Alerts and Notifications**

- Monitoring SQL Server Errors
- Configuring Database Mail
- Configuring Operators, Alerts, and Notifications

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