



- CYU – Check Your Understanding
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# MS SQL SERVER 2014 ADMINISTRATION

Duration: 5 Days

## INTRODUCTION

- ❖ Overview of Microsoft SQL Server 2014
- ❖ Business Intelligence Overview
- ❖ Database Engine
- ❖ T-SQL Programming Interface
- ❖ Security subsystem
- ❖ Replication

## SQL SERVER 2014 ARCHITECTURE

- ❖ New Important Features
- ❖ SQL Server Architecture
- ❖ Editions of SQL Server

## INSTALLING, CONFIGURING, AND UPGRADING MICROSOFT SQL SERVER 2014

- ❖ Before Installation
- ❖ Installing SQL Server
- ❖ After Installation
- ❖ Best Practices

## USING SQL SERVER 2014 ADMINISTRATION AND DEVELOPMENT TOOLS

- ❖ Using SQL Server Books Online
- ❖ Using SQL Server Management Studio
- ❖ Using SQL Server Data Tools (SSDT and SSDT-BI)
- ❖ Using SQL Server Configuration Manager

## DESIGNING SQL SERVER DATABASES

- ❖ Understanding SQL Server System Databases
- ❖ Understanding the SQL Server Database Structure
- ❖ Creating Databases
- ❖ Adding Files and Filegroups
- ❖ Detaching and Attaching Databases

## CREATING YOUR FIRST TABLE

- ❖ Understanding Schemas
- ❖ Understanding SQL Server Data Types
- ❖ Creating and Altering Tables
- ❖ Adding Constraints
- ❖ Partitioning of Table



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- ❖ Partition Function
- ❖ Partition Scheme

#### **BUILDING AND MAINTAINING INDEXES**

- ❖ Index Structure Overview
- ❖ Creating Indexes
- ❖ Adding Index Options
- ❖ Disabling and Dropping Indexes
- ❖ Columnstore Indexes

#### **MANAGING AND MAINTAINING INDEXES AND STATISTICS**

- ❖ Checking Index Fragmentation
- ❖ Defragmenting Indexes
- ❖ Rebuilding Indexes
- ❖ Reorganizing Indexes
- ❖ Impact of Fill Factor
- ❖ Creating and Updating Database Statistics

#### **TABLE COMPRESSION**

- ❖ Understanding Row Compression
- ❖ Understanding Page Compression
- ❖ Estimating Effects of Compressions
- ❖ Compression Considerations

#### **SQL SERVER SECURITY**

- ❖ Understanding Principals
- ❖ Creating Server Logins
- ❖ Creating User-defined Server Roles
- ❖ Creating Database Users
- ❖ Creating Database Roles
- ❖ Assigning Permissions
- ❖ Configuring Contained Databases

#### **DATABASE SNAPSHOTS**

- ❖ Understanding Database Snapshots
- ❖ Creating and Viewing Database Snapshots
- ❖ Dropping Database Snapshots
- ❖ Reverting to a Database Snapshot



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#### BACKUPS

- ❖ Understanding Database Recovery Models
- ❖ Understanding Backup Devices
- ❖ Full Database Backups
- ❖ Differential Database Backups
- ❖ Transaction Log Database Backups
- ❖ Restoring Databases
- ❖ Working with Backup Options
- ❖ Tail log backup
- ❖ Backup to the Cloud overview

#### SQL SERVER AGENT

- ❖ SQL Server Agent Components
- ❖ Creating Operators
- ❖ Configuring Alerts
- ❖ Creating Jobs
- ❖ Working with Proxies

#### DYNAMIC MANAGEMENT OBJECTS

- ❖ Retrieving SQL Server Metadata from DMOs
- ❖ Querying SQL Server Performance Statistics
- ❖ Querying Server Information
- ❖ Querying Indexing Statistics

#### MONITORING YOUR SQL SERVER

- ❖ Choosing the Appropriate Tools
- ❖ Performance Monitor
- ❖ Monitoring Events
- ❖ Monitor Locking and Blocking
- ❖ Monitoring Logs
- ❖ SQL Server Profiler
- ❖ Standard Templates
- ❖ User Defined Template
- ❖ Traces using different Template
- ❖ Database Engine Tuning Advisor

#### SQL SERVER AUDIT

- ❖ Audit Components
- ❖ Auditing Considerations
- ❖ Configuring Auditing



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#### MAINTENANCE PLANS

- ❖ Performing Database Consistency Checks
- ❖ Creating Maintenance Plans

#### POLICY BASED MANAGEMENT

- ❖ Components of Policy-Based Management
- ❖ Policy-Based Management Terms
- ❖ Configuring Policies
- ❖ Viewing policies and history

#### REPLICATION

- ❖ Types of Replication
- ❖ Replication Agents
- ❖ Configuring Replication
- ❖ Snapshot Replication
- ❖ Transactional Replication
- ❖ Merge Replication
- ❖ Monitoring Replication