



# MS SQL Server DBA 2017 | 19

## Training Curriculum

### STRUCTURE



## MS SQL Server DBA 2017 | 19 Training Curriculum

*“Become an expert database administrator by joining our comprehensive Training Program at Croma Campus under best industry experts”*

### **About Croma Campus:**

Croma Campus Training & Development Private Limited is an education platform since 2010 providing rigorous industry-relevant programs designed and delivered in collaboration with world-class faculty and industry.

- Hands-On Live Projects
- Simulation Test Papers
- Industry Cases Studies
- 61,640+ Satisfied Learners
- 140+ Training Courses
- 100% Certification Passing Rate
- Live Instructor Classroom / Online Training
- 100% Placement Assistance

### **Course Objectives:**

- Create Backups and Restore Databases, understanding the different recovery models
- Manage logins and server roles, and import and export data
- Implement and maintain indexes, and manage and configure databases, including compression and concurrency problems
- Manage SQL Server Agent and audit SQL Server instances
- Collect and analyse troubleshooting data
- Plan and install SQL Server and related services, including implementing a migration strategy.

### **Course Description:**

This SQL Server DBA course content is designed to empower learners with extensive knowledge of all the fundamentals of the SQL Server database. Our syllabus deep dives into the advanced concepts of database administration and keeps you updated with the latest release of SQL Server 2019.

Our SQL Server DBA Training and certification course is designed by industry experts to provide you with an in-depth understanding of database administration concepts. This course allows you to gain proficiency in types of DBA's, SQL Server installation, and configuration. We provide the best training classes to help you master database architecture, SQL server authentication, database backups, backup devices, and performing the restoration.

As a part of this course, you will work on two real-time projects to get practical knowledge of database administration. Enroll in our SQL Server DBA Training, and become a Certified SQL Server database administrator right away.

### **Croma Campus Training Program Deliverables:**

- **Session Recordings** - Original Class Room Voice & Video Recording
- **Training Material** - Soft Copy Handbooks

- **Assignments** | Multiple Hands-on Exercises
- **Test Papers** - We provide **Practice Test** as part of our course to help you prepare for the actual certification exam.
- **Live Case Studies**
- **Live Projects** - Hands-on exercises and Project work. You will work on real time industry-oriented projects and assignments for each module to practice.
- **Key focus on Hands-on exercises and Project work.** You will work on real time industry-oriented projects.
- Faculty with more than **10+ Years of Experience** in the Industry.
- **Technical Resume Designing & Job Assistance:** With more than 100+ Clients across the Globe and we help learners to get a good job in their respective field. We also help learners with resume preparation.
- **Interview Q&A**
- **About Croma Campus Training Certificate:** Croma Campus will provide you with an industry-recognized (Certified by **ISO 9001:2015 & E-Cell IIT Jodhpur**) course completion certificate which has lifelong validity.
- **How I Unlock my Croma Campus Certificate:** Attend Complete Batch & Submit at least One Completed Project.

## Course Content:

### Module 1: SQL Server 2017 Overview

- Overview of SQL Server 2017
- Functionality across versions
- Release of latest SQL version 2019
- SQL Server Performance, Scalability, and Availability in 2017
- SQL Server Data Access and SQL graphs in 2017
- SQL Server Reporting and BI Services in 2017
- New and Enhanced Features in SQL Server Analysis Services

### Module 2: Starting with SQL Server 2019

- Responsibilities of Database Administrator
- Types of DBA's
- History of SQL Server – Versions
- What's new in SQL Server 2019 for Administrators?
- Editions of SQL Server
- Differences between Enterprise and Standard Editions
- Requirements, Hardware, Software
- Instances & its advantages
- Types, Default Instance, Named Instances

### Module 3: Installing and Configuring

- Installing SQL Server 2019
- Pre –Installation Steps
- Installations

- Viewing the Installation process with Log files
- Common issues
- Adding or removing components
- Installing Service Packs
- Configuration
- Configuration of Various Services
- Startup Parameters
- Configuring data files and log file paths
- Memory Configuration
- Remote Connections
- Configuring network protocols, Ports
- Configuring Services
- Configuring default backup folder.

#### **Module 4: Working with Databases**

- Working with Databases
- System Defined databases
- Moving System Databases
- Handling Temp DB database
- Database Architecture
- Data Files
- Log Files
- File groups
- Extents
- Pages –Types
- Page Architecture
- Tracking Free Space
- Log file full – How to troubleshoot.
- Creating Databases
- Adding files, File groups
- SQL Server Architecture

#### **Module 5: Security in SQL Server**

- Security Enhancements
- Types of Authentications.
- Windows Authentication
- Creating logins from windows users and groups
- Orphan logins
- SQL Server Authentication
- Creating SQL logins and testing logins
- Setting Authentication Mode
- Security Auditing
- Understanding Server roles

- Working with users
- Resolving Orphan users
- Understanding database roles
- Understanding permissions
- Major Issues

## **Module 6: Data Backups and Restoration**

- Recovery Models Setting
- Full, Bulk Logged, Simple
- Database Backups
- Why we need backups?
- Backup Types Copy-Only, Mirrored and Tail log backups
- Full and Differential
- Transaction Log
- File or File group
- Backup Devices
- Performing Restoration
- Backup System Databases
- Point-in-time Recovery
- Viewing complete details of the backup process
- Issues related to backups

## **Module 7: High Availability and Log Shipping**

- Introduction to High Availability
- Working with Log Shipping
- Features, Jobs
- Requirements to implement Log Shipping
- Configuring Log Shipping
- Monitoring Log Shipping
- Manually performing Fail Over
- Transferring Logins
- Log Shipping tables and stored procedures
- Handling Issues

## **Module 8: Introduction to Always-On and Replication**

- **Always-ON**
  - HADR Internals & advantages
  - Setting up HADR
  - Adding a DB to the AG
  - Patching in Always on
  - Adding a Replica in AG
  - Setting up Listener & read-only Replicas in AG
  - Troubleshooting & maintenance

- **Replication**
  - Replication and Advantages
  - Replication Entities
  - Replication Architecture
  - Replication Agents
  - Types of Replications
  - Configuring Replication
  - Snapshot Replication
  - Transactional Replication
  - Merge Replication
  - Peer to Peer replication
  - Managing Replication
  - Monitoring and Tuning Replication

## **Module 9: Clustering SQL Server**

- Overview of Windows Clustering
- Requirements
- Installation and configuration of SQL Server Clustering
- Applying Service packs and fixes
- Moving groups
- Adding node on a SQL Server Failover Cluster
- Troubleshooting Cluster issues.

## **Module 10: Automate Administrative Tasks**

- Maintenance Plans
- Working with Database Mail Configuring
- Mail Architecture
- Configuring Profiles and Accounts
- Sending Mails
- Implementing Automation
- Configuring SQL Server Agent
- Creating Operators, Alerts, Jobs
- Managing jobs and resolving errors
- Monitoring Jobs
- Auto alert when jobs are enabled, disabled, or failed

## **Module 11: Advanced Administration Concepts**

- Database indexes understanding
- Checking index defragmentation & Maintenance
- Database Health Check
- Understanding SQL Server Profiler
- Creating & Running Traces
- Understanding Extended Events
- Creating & configuring Extended Events

- Monitoring Tools
- System Monitor
- SQL Server Profiler
- Database Engine Tuning Advisor
- Dynamic Management Views
- SQL Server and Windows Error Logs
- Troubleshooting Locks
- Physical Server Performance
- Connectivity to SQL Server
- Database Performance
- Dead Locks
- Transaction Isolation Levels
- Understanding Blocking
- Terminating Processes
- Using the DAC
- Managing Databases

## **Module 12: Placement Guide**

- Tips to clear an Interview
- Common Interview questions and answers
- MS SQL Server DBA Interview Questions and Answers
- Resume Building Guide
- Attempt for the related Global Certification Exam
- Earn Credentials and Start applying for Jobs