DP 300 Training Curriculum

Administering Relational Databases on Microsoft Azure

STRUCTURE

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"Our DP-300 training makes sure that you are way ahead of your colleagues. So, hurry up and enroll today to work smartly."

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:

- Prepare yourself for the certification exam and clear your certification exam in the first attempt
- Add an attractive credential in your resume that is really appreciated by Companies.
- Improve your overall SQL development skills, and explore more job prospects with better salary packages.
- Boost your social media profiles especially LinkedIn by adding this certification and become one of the top persons to be chosen by industries.

DP 300 Certification Training Description:

Candidates for this exam are database administrators and data management specialists that manage on-premises and cloud relational databases built with Microsoft SQL Server and Microsoft Azure Data Services.

The Azure Database Administrator implements and manages the operational aspects of cloud-native and hybrid data platform solutions built on Azure Data Services and SQL Server. The Azure Database Administrator uses a variety of methods and tools to perform day-to-day operations, including applying knowledge of using T-SQL for administrative management purposes.

This role is responsible for management, availability, security and performance monitoring and optimization of modern relational database solutions. This role works with the Azure Data Engineer role to manage operational aspects of data platform solutions.

Candidates for this role should understand all concepts covered in Exam DP-900: Microsoft Azure Data Fundamentals.

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.

Necessary Details about Certification You Must Know

- Certification Name – DP-300: Administering Relational Databases on Microsoft Azure
- Prerequisites: None
- Recommended: DP-900: Microsoft Azure Data Fundamentals.
- Exam Duration: 150 minutes
- Number of Questions: 40-60
- Passing score: 700 (Out of 1000)
- Exam Cost: USD 165.00
- Validity: 2 years

Certification Exam Structure:

- Plan and implement data platform resources (15-20%)
- Implement a secure environment (15-20%)
- Monitor and optimize operational resources (15-20%)
- Optimize query performance (5-10%)
- Perform automation of tasks (10-15%)
- Plan and implement a High Availability and Disaster Recovery environment (15-20%)
- Perform administration by using T-SQL (10-15%)

Course Content:

Module 1: Plan and Implement Data Platform Resources (15-20%)

Deploy resources by using manual methods

- deploy database offerings on selected platforms
- configure customized deployment templates
- apply patches and updates for hybrid and IaaS deployment

Recommend an appropriate database offering based on specific requirements

- evaluate requirements for the deployment
- evaluate the functional benefits/impact of possible database offerings
- evaluate the scalability of the possible database offering
- evaluate the HA/DR of the possible database offering
- evaluate the security aspects of the possible database offering

Configure resources for scale and performance

- configure Azure SQL database/elastic pools for scale and performance
- configure Azure SQL managed instances for scale and performance
- configure SQL Server in Azure VMs for scale and performance
- calculate resource requirements
- evaluate database partitioning techniques, such as database sharding
- set up SQL Data Sync

Evaluate a strategy for moving to Azure

- evaluate requirements for the migration
- evaluate offline or online migration strategies
- evaluate requirements for the upgrade
- evaluate offline or online upgrade strategies

Implement a migration or upgrade strategy for moving to Azure

- implement an online migration strategy
- implement an offline migration strategy
- implement an online upgrade strategy
- implement an offline upgrade strategy

Module 2: Implement a Secure Environment (15-20%)

Configure database authentication by using platform and database tools

- configure Azure AD authentication
- create users from Azure AD identities
- configure security principals

Configure database authorization by using platform and database tools

- configure database and object-level permissions using graphical tools
- apply principle of least privilege for all securables

Implement security for data at rest

- implement Transparent Data Encryption (TDE)
- implement object-level encryption
- implement Dynamic Data Masking
- implement Azure Key Vault and disk encryption for Azure VMs

Implement security for data in transit

- configure server and database-level firewall rules
- implement Always Encrypted

Implement compliance controls for sensitive data

- apply a data classification strategy
- configure server and database audits
- implement data change tracking
- perform a vulnerability assessment

Module 3: Monitor and Optimize Operational Resources (15-20%)

Monitor activity and performance

- prepare an operational performance baseline
- determine sources for performance metrics
- interpret performance metrics
- configure and monitor activity and performance at the infrastructure, server, service, and database levels

Implement performance-related maintenance tasks

- implement index maintenance tasks
- implement statistics maintenance tasks
- configure database auto-tuning
- automate database maintenance tasks
- manage storage capacity

Identify performance-related issues

- configure Query Store to collect performance data
- identify sessions that cause blocking
- assess growth/fragmentation of databases and logs
- assess performance-related database configuration parameters

Configure resources for optimal performance

- configure storage and infrastructure resources
- configure server and service account settings for performance
- configure Resource Governor for performance

Configure a user database for optimal performance

- implement database-scoped configuration
- configure compute resources for scaling
- configure Intelligent Query Processing (IQP)

Module 4: Optimize Query Performance (5-10%)

Review query plans

- determine the appropriate type of execution plan
- identify problem areas in execution plans
- extract query plans from the Query Store

Evaluate performance improvements

- determine the appropriate Dynamic Management Views (DMVs) to gather query performance information
- identify performance issues using DMVs
- identify and implement index changes for queries
- recommend query construct modifications based on resource usage
- assess the use of hints for query performance

Review database table and index design

- identify data quality issues with duplication of data
- identify normal form of database tables
- assess index design for performance
- validate data types defined for columns
- recommend table and index storage including file groups
- evaluate table partitioning strategy
- evaluate the use of compression for tables and indexes

Module 5: Perform Automation of Tasks (10-15%)

Create scheduled tasks

- manage schedules for regular maintenance jobs
- configure multi-server automation
- configure notifications for task success/failure/non-completion

Evaluate and implement an alert and notification strategy

- create event notifications based on metrics
- create event notifications for Azure resources
- create alerts for server configuration changes
- create tasks that respond to event notifications

Manage and automate tasks in Azure

- perform automated deployment methods for resources
- automate backups
- automate performance tuning and patching
- implement policies by using automated evaluation modes

Module 6: Plan and Implement a High Availability and Disaster Recovery (HADR) Environment (15-20%)

Recommend an HADR strategy for a data platform solution

- recommend HADR strategy based on RPO/RTO requirements
- evaluate HADR for hybrid deployments
- evaluate Azure-specific HADR solutions
- identify resources for HADR solutions

Test an HADR strategy by using platform, OS, and database tools

- test HA by using failover
- test DR by using failover or restore

Perform backup and restore a database by using database tools

- perform a database backup with options
- perform a database restore with options
- perform a database restore to a point in time
- configure long-term backup retention

Configure HA/DR by using OS, platform, and database tools

- configure replication
- create an Availability Group
- configure auto-failover groups
- integrate a database into an Availability Group
- configure quorum options for a Windows Server Failover Cluster
- configure an Availability Group listener

Module 7: Perform Administration by Using T-SQL (10-15%)

Examine System Health

- evaluate database health using DMVs
- evaluate server health using DMVs
- perform database consistency checks by using DBCC

Monitor database configuration by using T-SQL

- assess proper database auto-growth configuration
- report on database free space
- review database configuration options

Perform backup and restore a database by using T-SQL

- prepare databases for Always On Availability Groups
- perform transaction log backup
- perform restore of user databases
- perform database backups with options

Manage authentication by using T-SQL

- manage certificates

- manage security principals

Manage authorization by using T-SQL

- configure permissions for users to access database objects
- configure permissions by using custom roles

Module 9: Placement Guide

- What is an Interview?
- Tips to clear an Interview
- Common Interview questions and answers
- DP-300 Interview Questions and Answers
- Resume Building Guide
- Career roadmap and certifications
- Attempt for the Global Certification Exam
- Start applying for Jobs