DP-300: Azure Database Administrator Associate

Course details

Module 1: Prepare to maintain SQL databases on Azure

- Understand the role of Azure Database Administrator within the data platform.
- Describe key differences between SQL Server-based options in Azure.
- Explore other Azure SQL platform features.

Module 2: Deploy IaaS solutions with Azure SQL

- Learn SQL Server basics in IaaS offerings.
- Explore provisioning and deployment options.
- Deploy SQL Server into an Azure Virtual Machine.

Module 3: Deploy PaaS solutions with Azure SQL

- Configure database authentication and authorization.
- Implement security for data at rest and in transit.
- Apply compliance controls for sensitive data.

Module 4: Evaluate strategies for migrating to Azure SQL

- Monitor baselines and performance.
- Identify causes of performance issues and optimize resources.
- Perform performance-related maintenance tasks.

Module 5: Migrate SQL Server workloads to Azure SQL Database

- Explore migration capabilities of Azure SQL Database.
- Use Azure Data Studio, Data Migration Assistant, and transactional replication for migrations.

Module 6: Migrate SQL workloads to Azure Managed Instances

- Evaluate and perform migrations to Azure SQL Database Managed Instance.
- Load and move data to Managed Instances.

Module 7: Configure database authentication and authorization

- Learn authentication options and create security principals.
- Configure permissions and identify authentication failures.

Module 8: Protect data in-transit and at rest

- Understand encryption options and firewall rules for Azure SQL.

- Explore Always Encrypted with secure enclaves.

Module 9: Implement compliance controls for sensitive data

- Plan data classification and implement row-level security.
- Explore Microsoft Defender for SQL and Azure SQL Database Ledger.

Module 10: Describe performance monitoring

- Identify potential performance issues and collect metrics.
- Use Azure SQL Database Intelligent Insights and extended events.

Module 11: Configure SQL Server resources for optimal performance

- Learn storage and TempDB data file configurations.
- Choose appropriate VM types and configure Resource Governor.

Module 12: Configure databases for optimal performance

- Understand database maintenance tasks and Intelligent Query Processing.
- Explore Azure's automatic tuning features.

Module 13: Explore query performance optimization

- Generate execution plans and analyze Query Store reports.
- Understand query plan generation and optimization.

Module 14: Evaluate performance improvements

- Optimize indexes and use wait statistics for performance enhancement.
- Understand the use of query hints.

Module 15: Explore performance-based design

- Learn normal forms and evaluate appropriate datatypes and index types.

Module 16: Automate deployment of database resources

- Explore deployment models using PowerShell, Azure CLI, ARM templates, and Bicep.

Module 17: Create and manage SQL Agent jobs

- Schedule maintenance tasks and configure SQL Server Agent job alerts.

Module 18: Manage Azure PaaS tasks using automation

- Explore Azure Policy, Automation, Logic Apps, and elastic jobs for task automation.

Module 19: Describe high availability and disaster recovery strategies

- Define recovery objectives and explore HA/DR strategies for IaaS and PaaS.

Module 20: Explore IaaS and PaaS solutions for high availability and disaster recovery

- Deploy WSFC, AG in Azure, Temporal Tables, and active geo-replication.

Module 21: Back up and restore databases

- Implement backup and restore options for IaaS and PaaS.