



Kursus	DKK 17.999
4 dage	ekskl. moms
Nr. 90772 A	
Dato	Sted
13-05-2024	Taastrup
24-06-2024	Aarhus
26-08-2024	Taastrup
01-10-2024	Aarhus
04-11-2024	Taastrup



Administering Microsoft Azure SQL Solutions [DP-300T00]

Få de nødvendige færdigheder til at administrerer infrastrukturen i en SQL Server relationsdatabase med Microsoft PaaS såvel i skyen, som on-premise eller i en hybrid løsning. På kurset gennemgås, hvordan du planlægger, implementere, udroller, konfigurere ved hjælpe af mulighederne i Azure SQL.

Deltagerprofil

Dette kursus er for dig, der administrerer data og databaser, og som ønsker at lære om administration af data-platformsteknologier, der er tilgængelige på Microsoft Azure. Kurset er også værdifuldt for dataarkitekter og applikationsudviklere, der har behov for at forstå, hvilke teknologier der er tilgængelige på data-platformen på Azure, og hvordan man arbejder med disse teknologier gennem applikationer.

Forudsætninger

Du forventes at have praktisk erfaring med databaseadministration, SQL Server samt [Queries i T-SQL](#). Derudover skal du have en grundlæggende viden om Azure, svarende til kurset [Azure Data Fundamentals](#).

Udbytte



- Lær at planlægge, udruller og konfigurere i Azure SQL
- Lær at monitorere database performance og tilpasse en database for bedre performance
- Lær at planlægge og konfigurere en High Availability Solution
- Lær hvordan du migrerer SQL workloads til Azure SQL databaser
- Lær om back-up og restore dine data

Det får du på arrangementet

- Certificering/eksamen
- Øvelser og inddragelse
- Kursusbevis
- Erfaren underviser
- Fuld forplejning
- Gratis parkering
- Materiale på engelsk
- Undervisning på dansk
- Certificeret underviser

Indhold

Module 1: Introduction to Azure Database Administration

- This module explores the role of a database administrator in the world of Azure SQL. It also provides some foundational information relevant to the overall content. This includes a review of the various SQL Server-based options (SQL Server in a VM, SQL Managed Instance, and Azure SQL Database).
 - Prepare to maintain SQL databases on Azure

Module 2: Plan and Implement Data Platform Resources

- This module introduces methods for deploying data platform resources in Azure SQL. You will learn about options for both upgrading and migrating existing SQL databases to Azure. You will learn how to set up a SQL Managed Instance, and SQL Database. You will learn how to determine which options are best based on specific requirements including the High Availability and Disaster Recovery (HADR) needs. They will learn to calculate resource requirements and understand hybrid approaches.
 - Deploy IaaS solutions with Azure SQL
 - Deploy PaaS solutions with Azure SQL
 - Evaluate strategies for migrating to Azure SQL
 - Migrate SQL workloads to Azure SQL Databases
 - Migrate SQL workloads to Azure Managed Instances

Module 3: Implement a Secure Environment for a Database Service

- This module explores the practices of securing your SQL Server Database as well as an Azure SQL database. This includes a review of the various SQL Server-based options as well as the various Azure options for securing Azure SQL Database. Students will lean why security is crucial when working with databases, and explain authentication options for Azure SQL Database.
 - Configure database authentication and authorization
 - Protect data in-transit and at rest
 - Implement compliance controls for sensitive data

Module 4: Monitor and Optimize Operational Resources in Azure SQL

- This module will teach you about resource optimization for your databases created using either IaaS or PaaS services. The module also covers monitoring server and hardware resources. It will familiarize you with the various tools available for monitoring performance and establishing a baseline. You will learn how to interpret performance



metrics for the most critical resources. You will also learn how to troubleshoot database performance using Azure SQL Insights.

- Describe performance monitoring
- Configure SQL Server resources for optimal performance
- Configure databases for optimal performance

Module 5: Optimize Query Performance

- Query execution plans are potentially the most important aspect of database performance. Improving bad plans is certainly an area where a small amount of effort can bring huge improvements. While hardware issues can limit query performance, improving hardware usually yields performance improvements in the 10-20% range, at most. More commonly database administrators encounter queries that are not optimized, have stale or missing statistics, have missing indexes, or poor database design choices that lead to the database engine doing more work than is necessary to return results for a given query. Improving the plans can sometimes yield performance improvements in the 100-200% range or even more, meaning that after improving a plan with better indexes or statistics, a query could run twice or three times as fast! This module provides details on how to analyze individual query performance and determine where improvements can be made.

- Explore query performance optimization
- Explore performance-based design
- Evaluate performance improvements

Module 6: Automate database tasks for Azure SQL

- A common goal for database administrators in many environments is to automate as many of their repetitive tasks. This can be as simple as using scripting to automate a backup process, and as complex as building a fully automated alerting system. This module provides details of automating tasks to simplify the DBA's job. Methods include scheduling tasks for regular maintenance jobs, as well as how to use elastic jobs and Azure Automation runbooks.
- Automate deployment of database resources
- Create and manage SQL Agent jobs
- Manage Azure PaaS tasks using automation

Module 7: Plan and Implement a High Availability and Disaster Recovery Solution

- Data must be available when the business needs it. That means the solutions hosting the data must be designed with availability and recoverability in mind. Suppose you work for a company that sells widgets both in stores and online. Your main application uses a highly transactional database for orders. What would happen if the server or platform hosting the transactional database had a problem that made it unavailable or inaccessible for some reason? What impact would it have on the business? If the right solution is put in place, the database would come online in a reasonable timeframe with minimal effort, thus allowing business to continue with little-to-no impact. This module and its associated lab cover configuring, testing, and managing a solution for high availability and disaster recovery (HADR) in Azure, for both Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS) deployments. This module will not only cover basic requirements, but also the various options available to achieve HADR.
- Describe High Availability and Disaster Recovery Strategies
- Explore IaaS and PaaS solutions for High availability and disaster recovery
- Backup and restore databases

Certificering

Dette kursus er rettet mod eksamen [DP-300 Administering Microsoft Azure SQL Solutions](#). Ved beståelse opnår du certificeringen **Microsoft Certified Azure Database Administrator, Associated**. Eksamen bestilles og betales særskilt.

Microsoft skriver om denne eksamen:



- This exam measures your ability to accomplish the following technical tasks: plan and implement data platform resources; implement a secure environment; monitor, configure, and optimize database resources; configure and manage automation of tasks; and plan and configure a high availability and disaster recovery (HA/DR) environment.
- Candidates for this exam should have subject matter expertise in building database solutions that are designed to support multiple workloads built with SQL Server on-premises and Azure SQL database services.
- Candidates for this exam are database administrators who manage on-premises and cloud databases built with SQL Server and SQL database services.
- Candidates for this exam should have knowledge of and experience with Azure SQL Edge, Azure SQL Database, Azure SQL Managed Instance, and SQL Server on Azure Virtual Machines (Windows and Linux).

[Læs mere om IT-certificering her.](#)



UNDERVISER

Undervisningen varetages af en erfaren underviser fra Teknologisk Instituts netværk bestående af branchens dygtigste undervisere.

Har du faglige spørgsmål så kontakt



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