

Data AI: Azure SQL Database Essentials

WorkshopPLUS

Focus Area: Business/IT Alignment

Duration: 3 days

Difficulty: 200 - Intermediate

Overview

Azure SQL Database is a relational database-as-a-service (DBaaS) based on the latest stable version of Microsoft SQL Server. This course will provide you the knowledge and tools necessary to understand the capabilities and usage of cloud databases. It will also help you to get familiar with the Azure SQL Database concepts such as how to migrate, manage, monitor and troubleshoot your Azure SQL Database solution.

This workshop is targeted at SQL Server Architects, Database Administrators, IT professionals, SQL Server support staff, and DevOps Engineers.

Objectives

After completing this training, students will be able to:

- Describe the different purchase models, service tiers compute and hardware generation
- Describe the Azure Elastic Database Pool
- Learn the differences between Azure SQL Server VM and Azure SQL Database with different scenarios
- Describe the vertical and horizontal scaling options
- Understand the maintenance and job scheduling
- Learn how to use read-only replicas to load balance read-only query workloads
- Understand the disaster recovery options
- Learn the various options to manage security such as firewall rules, virtual networks
- Learn how to secure data using Transparent Data Encryption and Always encrypted
- Learn the various options to monitor and troubleshoot the Azure SQL Database
- Learn how to migrate and use Data Sync

Key Takeaways

Course Material

- Learn how to administer Azure SQL Database with business continuity and security options
- Understand how to monitor, troubleshoot and tune the database performance
- Learn Azure SQL Database migration strategies and Sync Data

Hands-on Labs

- Most of the concepts covered above will be supported by hands-on labs and demos
- Access to resources and labs for up to 6 months post class completion.

Agenda

Day 1

- Module 1: Introduction to Azure SQL Database
- Module 2: Azure SQL Database Administration

Day 2

- Module 3: Azure SQL Database Business Continuity
- Module 4: Manage Security for Azure SQL Database

Day 3

- Module 5: Monitoring and Tuning Azure SQL Database
- Module 6: Azure SQL Database Migration & Sync Data

Plan for 3 full days. Early departure on any day is not recommended.

Course Details

Module 1: Introduction to Azure SQL Database

- Basic concepts of Azure SQL Database
- How to create Azure SQL Database
- Introduction to Elastic Database Pools in Azure SQL Database
- The difference between SQL Server IaaS and PaaS Solutions

Module 2: Azure SQL Database Administration

- Various Tools to Manage Azure SQL Database
- Scaling Azure SQL Databases Up and Down
- Maintenance and Scheduling Jobs in Azure SQL Database
- Azure SQL Database Read Scale-Out

Module 3: Azure SQL Database Business Continuity

- Business Continuity Features in Azure SQL Database
- Disaster Recovery Features in Azure SQL Database

Module 4: Manage Security for Azure SQL Database

- Introduction to Azure SQL Database Security
- Implement Azure Active Directory Security
- Manage Logins in Azure SQL Database
- Implement Firewall Rules and Virtual Networks
- Implement Transparent Data Encryption
- Implement Always Encrypted
- Implement Row Level Security
- Implement Dynamic Data Masking
- Implement Auditing for Azure SQL Database
- Implement Advanced Data Security

Recommended Qualifications

- Experience in SQL Server fundamentals like administration, high availability, performance tuning, troubleshooting
- Basic knowledge on Microsoft's Azure platform

Module 5: Monitoring and Tuning Azure SQL Database

- Monitoring and Troubleshooting Azure SQL Database
- Monitoring Query Performance using Query Performance Insight
- Azure SQL Database Tuning using Automatic Tuning
- Monitoring Azure SQL Database Performance using Intelligent Insights
- Monitoring Azure SQL Database Performance using Extended Events
- Configure Alerts through Azure Portal

Module 6: Azure SQL Database Migration & Sync Data

- Steps to migrate your database to Azure SQL Database
- Is your database ready to move to Azure SQL database?
- Fix database migration compatibility issues
- Identify the right Azure SQL Database SKU
- Migrate a compatible SQL Server database to Azure SQL Database
- Sync data across multiple cloud and on-premises databases

Hardware Requirements

- An Intel Core-i5-based PC
- USB port
- Microsoft/Windows Live ID to connect to the virtual environment
- 4 GB RAM
- 128 GB HDD
- Windows 7 SP1 or later
- Office 2013 Professional Plus
- Internet access with at least 1 Mbps bandwidth per student.

For more information

Contact your Microsoft Account Representative for further details.