

Designing and Implementing Cloud Data Platform Solutions with SQL

The focus of this three-day instructor-led Microsoft Training course is on designing and implementing cloud data platform solutions with the Microsoft Data Platform by using SQL Server on-premises, hybrid and cloud data platform solutions. It describes how to design and implement and optimize workloads in hybrid scenarios with both on-premises and Microsoft Azure cloud-based solutions, and how to implement high availability and disaster recovery solutions.

Détails

- **Code** : Cloud-SQL
 - **Durée** : 3 jours (21 heures)
- Public**
- Administrateurs
 - Administrateurs de bases de données
 - Consultants
 - Consultants informatiques
 - Ingénieurs
 - Professionnels de l'IT
- Pré-requis**
- Students must have a good understanding of SQL Server and pre-existing MCSE Data Platform certification or equivalent professional experience.

Objectifs

- Position Microsoft Cloud Data Platform Solutions
- Design and implement solutions on Azure using SQL Server & SQL Database
- Design and implement security, access and auditing for cloud data platform solutions
- Design highly scalable mission critical solutions using the Microsoft Data Platform
- Design and implement cloud data platform solutions.

Programme

Module 1: Microsoft Cloud Data Platform Overview

- Description
 - This module provides an overview of the Microsoft Data Platform Solutions in Hybrid and Cloud based scenarios
 - The module provides an overview of offerings and capabilities
- Lessons
 - Microsoft Cloud Data Platform
 - Microsoft SQL Server
 - Common Tools
 - Cloud Data Offerings
 - Data Visualizations
 - Cortana Analytics Suite

Module 2: Implement SQL Server on Azure VM

- Description
 - This module with a hands-on-lab describes the core capabilities of running SQL Server in a virtual machine environment (IAAS) on Azure
- Lessons
 - Virtual machine components
 - Storage Architecture
 - Azure deployment models
 - Virtual machine tiers
 - Virtual machine deployments
 - Deployment scenarios
 - Move existing workloads
 - Connecting to Azure VMs
 - Domain joining VMs

- VM best practices
- Lab
 - SQL Server in Azure VMs

Module 3: Implement SQL Database

- Description
 - This module with a hands-on-lab describes the core capabilities of implementing data platform solutions using SQL Database on Azure
 - The module provides details in service tiers and offerings
- Lessons
 - What is SQL Database
 - Data tiers/ Elastic data tiers
 - Scalability Options
 - Elastic Databases
 - Elastic Database Tools
 - SQL Database performance
 - Service Tier Advisor
- Lab
 - Implementing SQL Database

Module 4: SQL Database High Availability and disaster recovery

- Description
 - This module with a hands-on lab describes high availability and disaster recovery scenarios with SQL Database
- Lessons
 - Business Continuity with SQL Database

- SQL Database HA/DR
- SQL Database Backup Solutions
- SQL Database Replication Scenarios
- Lab
 - SQL Database HA/DR

Module 5: Hybrid HA/DR scenarios with SQL Server

- Description
 - This module with a hands-on lab exercise describes the design of high available, scalable data platform solutions on-premises, in the cloud and in hybrid cloud scenarios using SQL Server on premises and with Azure VMs
- Lessons
 - HA/DR deployment architectures
 - AlwaysOn availability groups
 - AlwaysOn Failover Clustering
 - Database Mirroring
 - Log Shipping
 - Backup to Azure
 - Managed Backups
 - SQL Server data files on Azure
- Lab
 - Implement HA/DR with SQL Server in Azure VMs

Module 6: Design and Implement Security

- Description
 - This module with a hands-on-lab describes the security features and capabilities in SQL Server in Azure VMs and SQL Database including firewalls and auditing
- Lessons
 - SQL Database Security Approach
 - SQL Database Firewall Security
 - SQL Database Active Directory Integration

- Encryption
- Row Level Security
- Dynamic Data Masking
- Auditing and Threat Detection
- Lab
 - Design and Implement SQL Database Security

Module 7: Monitor and manage implementations on Azure

- Description
 - This module with a hands-on-lab focuses on management and deployment, monitoring for performance of SQL Database and SQL Server in Azure VMs
- Lessons
 - Azure Automation Capabilities
 - SQL Monitoring and Management
 - Operational Insights
- Lab
 - Monitoring and manage implementations

Module 8: Design and implement database solutions for SQL Server and SQL Database

- Description
 - This module covers design and architecture scenarios for implementation of database solutions using the Microsoft Cloud Data Platform
 - This module introduces key scenarios to discuss with classroom attendees in order to build out the right architecture and infrastructure based on architecture and business requirements
- Lessons
 - Case Study – SQL Server Hybrid Scenario
 - Case Study – Lift and Shift

Modalités

- **Type d'action** :Acquisition des connaissances
- **Moyens de la formation** :Formation présentielle – 1 poste par stagiaire – 1 vidéo projecteur – Support de cours fourni à chaque stagiaire
- **Modalités pédagogiques** :Exposés – Cas pratiques – Synthèse
- **Validation** :Exercices de validation – Attestation de stages