

Designing Microsoft Azure Infrastructure Solutions

This course teaches Azure Solution Architects how to design infrastructure solutions. Course topics cover governance, compute, application architecture, storage, data integration, authentication, networks, business continuity, and migrations. The course combines lecture with case studies to demonstrate basic architect design principles.

Détails

- Code : AZ-305
- Durée : 4 jours (28 heures)

Public

- Administrateurs
- Administrateurs de bases de données
- Administrateurs de Cloud
- Consultants IT
- Consultants techniques
- IT consultants
- IT management consultants
- Professionnels de l'IT

Pré-requis

Objectifs

- Have experience and knowledge in IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance
- Have experience designing and architecting solutions.

Programme

1- Design governance

- Introduction
- Design for governance
- Design for management groups
- Design for subscriptions
- Design for resource groups
- Design for resource tags
- Design for Azure Policy
- Design for role-based access control (RBAC)
- Design for Azure landing zones
- Knowledge check
- Summary and resources

2- Design an Azure compute solution

- Introduction
- Choose an Azure compute service
- Design for Azure Virtual Machines solutions
- Design for Azure Batch solutions
- Design for Azure App Service solutions
- Design for Azure Container Instances solutions
- Design for Azure Kubernetes Service solutions
- Design for Azure Functions solutions
- Design for Azure Logic Apps solutions
- Knowledge check
- Summary and resources

3- Design a data storage solution for non-relational data

- Introduction
- Design for data storage
- Design for Azure storage accounts

- Design for data redundancy
- Design for Azure Blob Storage
- Design for Azure Files
- Design for Azure managed disks
- Design for storage security
- Knowledge check
- Summary and resources

4- Design a data storage solution for relational data

- Introduction
- Design for Azure SQL Database
- Design for Azure SQL Managed Instance
- Design for SQL Server on Azure Virtual Machines
- Recommend a solution for database scalability
- Recommend a solution for database availability
- Design security for data at rest, data in motion, and data in use
- Design for Azure SQL Edge
- Design for Azure Cosmos DB and Table Storage
- Knowledge check
- Summary and resources

5- Design data integration

- Introduction
- Design a data integration solution with Azure Data Factory
- Design a data integration solution with Azure Data Lake
- Design a data integration and analytic solution with Azure Databricks
- Design a data integration and analytic solution with Azure Synapse Analytics

- Design strategies for hot, warm, and cold data paths
- Design an Azure Stream Analytics solution for data analysis
- Knowledge check
- Summary and resources

6- Design an application architecture

- Introduction
- Describe message and event scenarios
- Design a messaging solution
- Design an Azure Event Hubs messaging solution
- Design an event-driven solution
- Design a caching solution
- Design API integration
- Design an automated app deployment solution
- Design an app configuration management solution
- Knowledge check
- Summary and resources

7- Design authentication and authorization solutions

- Introduction
- Design for identity and access management (IAM)
- Design for Microsoft Entra ID
- Design for Microsoft Entra business-to-business (B2B)
- Design for Azure Active Directory B2C (business-to-customer)
- Design for conditional access
- Design for identity protection
- Design for access reviews
- Design service principals for applications
- Design managed identities
- Design for Azure Key Vault
- Knowledge check
- Summary and resources

8- Design a solution to log and monitor Azure resources

- Introduction
- Design for Azure Monitor data sources
- Design for Azure Monitor Logs (Log Analytics) workspaces
- Design for Azure Workbooks and Azure insights
- Design for Azure Data Explorer
- Knowledge check
- Summary and resources

9- Design network solutions

- Introduction
- Recommend a network architecture solution based on workload requirements
- Design patterns for Azure network connectivity services
- Design outbound connectivity and routing
- Design for on-premises connectivity to Azure Virtual Network
- Choose an application delivery service
- Design for application delivery services
- Design for application protection services
- Knowledge check
- Summary and resources

10- Design a solution for backup and disaster recovery

- Introduction
- Design for backup and recovery
- Design for Azure Backup
- Design for Azure blob backup and recovery
- Design for Azure files backup and recovery
- Design for Azure virtual machine backup and recovery
- Design for Azure SQL backup and recovery
- Design for Azure Site Recovery
- Knowledge check
- Summary and resources

11- Design migrations

- Introduction
- Evaluate migration with the Cloud Adoption Framework
- Describe the Azure migration framework
- Assess your on-premises workloads
- Select a migration tool
- Migrate your structured data in databases
- Select an online storage migration tool for unstructured data
- Migrate offline data
- Knowledge check
- Summary and resources

12- Build great solutions with the Microsoft Azure Well-Architected Framework

- Introduction
- Azure Well-Architected Framework pillars
- Cost optimization
- Operational excellence
- Performance efficiency
- Reliability
- Security
- Summary

13- Accelerate cloud adoption with the Microsoft Cloud Adoption Framework for Azure

- Prepare for successful cloud adoption with a well-defined strategy
- Prepare for cloud adoption with a data-driven plan
- Choose the best Azure landing zone to support your requirements for cloud operations
- Migrate to Azure through repeatable processes and common tools
- Address tangible risks with the Govern methodology of the Cloud Adoption Framework for Azure
- Ensure stable operations and optimization across all supported workloads deployed to the cloud
- Innovate applications by using Azure cloud technologies
- Prepare for cloud security by using the Microsoft Cloud Adoption Framework for Azure

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