AZ-305T00 Designing Microsoft Azure Infrastructure Solutions

Price	Duration	Delivery Methods
$2,380.00	4 Days	VILT, Private Group

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.

Who Should Attend

Successful students have experience and knowledge in IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance. Students also have experience designing and architecting solutions.

Before attending this course, students must have previous experience deploying or administering Azure resources and strong conceptual knowledge of:

- Azure compute technologies such as VMs, containers and serverless solutions
- Azure virtual networking to include load balancers
- Azure Storage technologies (unstructured and databases)
- General application design concepts such as messaging and high availability

Agenda

1 - DESIGN GOVERNANCE

- 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

2 - DESIGN AN AZURE COMPUTE SOLUTION

- 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

3 - DESIGN A DATA STORAGE SOLUTION FOR NON-RELATIONAL DATA

- 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

4 - DESIGN A DATA STORAGE SOLUTION FOR RELATIONAL DATA

- 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

5 - DESIGN DATA INTEGRATION

- 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

6 - DESIGN AN APPLICATION ARCHITECTURE

- 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

7 - DESIGN AUTHENTICATION AND AUTHORIZATION SOLUTIONS

- 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

8 - DESIGN A SOLUTION TO LOG AND MONITOR AZURE RESOURCES

- 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

9 - DESIGN NETWORK SOLUTIONS

- 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

10 - DESIGN A SOLUTION FOR BACKUP AND DISASTER RECOVERY

- 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

11 - DESIGN MIGRATIONS

- 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

12 - INTRODUCTION TO THE MICROSOFT AZURE WELL-ARCHITECTED FRAMEWORK

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

13 - MICROSOFT AZURE WELL-ARCHITECTED FRAMEWORK - COST OPTIMIZATION

- Develop cost-management discipline
- Design with a cost-efficiency mindset
- Design for usage optimization
- Design for rate optimization
- Monitor and optimize over time

14 - MICROSOFT AZURE WELL-ARCHITECTED FRAMEWORK - OPERATIONAL EXCELLENCE

- Embrace DevOps culture
- Establish development standards
- Evolve operations with observability
- Deploy with confidence
- Automate for efficiency
- Adopt safe deployment practices

15 - MICROSOFT AZURE WELL-ARCHITECTED FRAMEWORK - PERFORMANCE EFFICIENCY

- Negotiate realistic performance targets
- Design to meet capacity requirements
- Achieve and sustain performance
- Improve efficiency through optimization

16 - MICROSOFT AZURE WELL-ARCHITECTED FRAMEWORK - RELIABILITY

- Design for business requirements
- Design for resilience
- Design for recovery
- Design for operations
- Keep it simple

17 - MICROSOFT AZURE WELL-ARCHITECTED FRAMEWORK - SECURITY

- Plan your security readiness
- Design to protect confidentiality
- Design to protect integrity
- Design to protect availability
- Sustain and evolve your security posture

18 - GETTING STARTED WITH THE MICROSOFT CLOUD ADOPTION FRAMEWORK FOR AZURE

- Customer narrative
- Common blockers

19 - PREPARE FOR SUCCESSFUL CLOUD ADOPTION WITH A WELL-DEFINED STRATEGY

- Customer narrative
- Capture strategic motivation
- Define objectives and key results
- Evaluate financial considerations
- Understand technical considerations
- Create a business case

20 - PREPARE FOR CLOUD ADOPTION WITH A DATA-DRIVEN PLAN

- Customer narrative

21 - CHOOSE THE BEST AZURE LANDING ZONE TO SUPPORT YOUR REQUIREMENTS FOR CLOUD OPERATIONS

- Customer narrative
- Common operating models
- Design areas for Azure landing zones
- Design principles for Azure landing zones
- Journey to the target architecture
- Choose an Azure landing zone option
- Deploy the Azure landing zone accelerator
- Enhance your landing zone

22 - MIGRATE TO AZURE THROUGH REPEATABLE PROCESSES AND COMMON TOOLS

- Customer narrative
- Migration process

- Migration tools
- Common tech platforms

23 - ADDRESS TANGIBLE RISKS WITH THE GOVERN METHODOLOGY OF THE CLOUD ADOPTION FRAMEWORK FOR AZURE

- Customer narrative
- Govern methodology
- Corporate policies
- Governance disciplines
- Deploy a cloud governance foundation
- The Cost Management discipline

24 - ENSURE STABLE OPERATIONS AND OPTIMIZATION ACROSS ALL SUPPORTED WORKLOADS DEPLOYED TO THE CLOUD

- Establish business commitments
- Deploy an operations baseline
- Protect and recover
- Enhance an operations baseline
- Manage platform and workload specialization

25 - INNOVATE APPLICATIONS BY USING AZURE CLOUD TECHNOLOGIES

- Follow the innovation lifecycle
- Azure technologies for the build process
- Infuse your applications with AI
- Azure technologies for measuring business impact
- Azure technologies for the learn process

26 - PREPARE FOR CLOUD SECURITY BY USING THE MICROSOFT CLOUD ADOPTION FRAMEWORK FOR AZURE

- Customer narrative
- Methodology
- Security roles and responsibilities
- Simplify compliance and security
- Simplify security implementation
- Security tools and policies