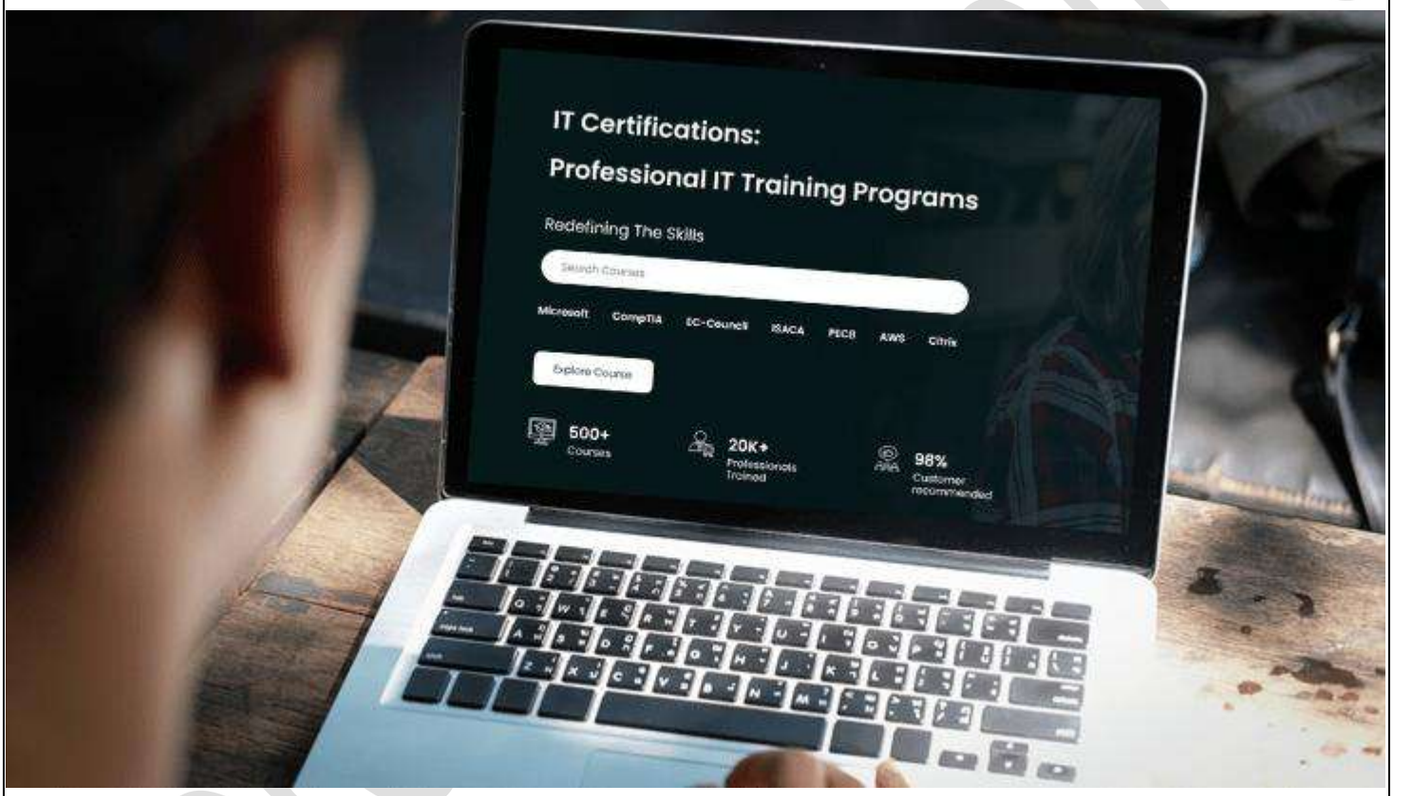
MICROTEK LEARNING | Redefining The Skills



AZ-305T00: DESIGNING MICROSOFT AZURE INFRASTRUCTURE SOLUTIONS TRAINING

Duration: 4 Days

Course Description

AZ-305T00: Designing Microsoft Azure Infrastructure Solutions Training teaches you Microsoft Azure Solutions Architects and how to plan infrastructure. It is an expert-level training program aimed at IT professionals that covers a broad range of topics that include governance, relational and non-relational data storage, application architecture, authentication, authorization, and more.

Through the journey of this course, one will encounter theoretical and practical lab sessions where they will apply everything they have learned in the real world. Toward the end, one will be able to comprehend the core of the course and will be able to design solutions that will meet various business requirements.

Who should attend this course?

- Any IT professional who has prior experience with IT operations, which includes networking, virtualization, security, governance, identity, and business continuity.
- Professionals who are aware of designing & architecting solutions are a plus.
- Given below are professionals who can use AZ-305T00 Designing Microsoft Azure Infrastructure Solutions Certification to upskill their current positions:
    - IT professionals who have experience in Azure
    - DevOps engineer working with Azure
    - Enterprise Architects
    - Cloud engineers
    - Technology managers
    - Data engineers
    - Technical decision-makers

What you will learn

- Creating governance solutions
- Creating compute solutions
- Creating application architecture
- Creating non-relational & relational storage
- Creating a data integration solution
- Creating authorization, authentication, and identity solutions
- Creating a data integration solution
- Creating a network solution
- Creating backup & disaster recovery solution
- Creating a monitoring solution
- Creating a migration solution
- Learning about implementing management hierarchies
- Learning to optimize compute resources

Prerequisites

- Azure Active Directory
- Azure compute technology such as containers & serverless solutions and VMs.
- Azure virtual networking to load balancers
- Azure Storage technologies (databases & unstructured)
- Basic application design concepts such as high availability and messaging

Curriculum

Module 1: Microsoft Azure Architect Design Prerequisites

- Describe the core architectural components of Azure
  - Describe Azure regions, region pairs, and sovereign regions
  - Describe Availability Zones
  - Describe Azure datacenters
  - Describe Azure resources and Resource Groups
  - Describe subscriptions
  - Describe management groups
  - Describe the hierarchy of resource groups, subscriptions, and management groups
- Describe Azure compute and networking services
  - Compare compute types, including container instances, virtual machines, and functions
  - Describe virtual machine (VM) options, including VMs, Virtual Machine Scale Sets, availability sets, Azure Virtual Desktop
  - Describe resources required for virtual machines
  - Describe application hosting options, including Azure Web Apps, containers, and virtual machines
  - Describe virtual networking, including the purpose of Azure Virtual Networks, Azure virtual subnets, peering, Azure DNS, VPN Gateway, and ExpressRoute
  - Define public and private endpoints
- Describe Azure storage services
  - Compare Azure storage services
  - Describe storage tiers
  - Describe redundancy options
  - Describe storage account options and storage types
  - Identify options for moving files, including AzCopy, Azure Storage Explorer, and Azure File Sync
  - Describe migration options, including Azure Migrate and Azure Data Box
- Describe Azure identity, access, and security
  - Describe directory services in Azure, including Microsoft Entra ID and Microsoft Entra Domain Services
  - Describe authentication methods in Azure, including single sign-on (SSO), multifactor authentication (MFA), and passwordless
  - Describe external identities and guest access in Azure
  - Describe Azure Role Based Access Control (RBAC)
  - Describe the concept of Zero Trust
  - Describe the purpose of the defense in depth model
  - Describe the purpose of Microsoft Defender for Cloud
- Microsoft Cloud Adoption Framework for Azure
  - Learn how to leverage the Cloud Adoption Framework to identify where your organization is in the digital transformation journey.
  - Identify triggers and opportunities for cloud adoption.
  - Recognize the components needed to develop a digital transformation strategy around your business, people, and technology.
- Introduction to the Microsoft Azure Well-Architected Framework
  - Describe the pillars of the Azure Well-Architected Framework
  - Identify key principles for creating a solid architectural foundation

Module 2: Design identity, governance, and monitor solutions

- Design governance
  - Design for governance.
  - Design for management groups.
  - Design for Azure subscriptions.
  - Design for resource groups.
  - Design for resource tagging.
  - Design for Azure Policy.
  - Design for Azure role-based access control.
  - Design for Azure landing zones.
- Design authentication and authorization solutions
  - Design for identity and access management.
  - 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 for managed identities.
  - Design for service principals for applications.
  - Design for Azure Key Vault.
- 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

Module 3: Design business continuity solutions

- Describe high availability and disaster recovery strategies
  - Define recovery time objective and recovery point objective
  - Explore the available high availability and disaster recovery options for both IaaS and PaaS
  - Devise an appropriate high availability and disaster recovery strategy
- 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.

Module 4: Design data storage solutions

- Design a data storage solution for non-relational data
  - Design for data storage.
  - Design for Azure storage accounts.
  - Design for Azure blob storage.
  - Design for data redundancy.
  - Design for Azure files.
  - Design an Azure disk solution.
  - Design for storage security.

- 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 protection for data at rest, data in transmission, and data in use.
    - Design for Azure SQL Edge.
    - Design for Azure Cosmos DB.
    - Design for Azure Table Storage.
- 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 analytics solution with Azure Databricks.
    - Design a data integration and analytics solution with Azure Synapse Analytics.
    - Design strategies for hot, warm, and cold data paths.
    - Design an Azure Stream Analytics solution for data analysis.

Module 5: Design infrastructure solutions

- 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.
- 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 an automated app deployment solution.
    - Design API integration.
    - Design an application configuration management solution.
    - Design a caching solution.
- Design network solutions
    - Recommend a network architecture solution based on workload requirements
    - Design for on-premises connectivity to Azure Virtual Network
    - Design for Azure network connectivity services
    - Design for application delivery services
    - Design for application protection services
- Design migrations
    - Evaluate migration with the Microsoft Cloud Adoption Framework for Azure
    - Describe the Azure Migration and Modernization Program (Azure Migration Framework)
    - Assess your on-premises workloads
    - Select a migration tool
    - Migrate your databases
    - Select an online storage migration tool
    - Migrate offline data