Azure Solutions Architect | Microsoft Azure Architect Technologies

Course Code: AZ-300

Duration: 5 days

About course;

This exam measures your ability to accomplish the following technical tasks: deploy and configure infrastructure; implement workloads and security; create and deploy apps; implement authentication and secure data; and develop for the cloud and Azure storage.

After completing this course, students will be able to:

- Managing Azure Subscriptions and Resources
- Implementing and Managing Storage
- Deploying and Managing VMs
- Configuring and Managing Virtual Networks
- Managing Identities using Azure Active Directory
- Evaluating and Performing Server Migration to Azure
- Implementing and Managing Application Services
- Implementing Advanced Virtual Networking.
- Securing Identities using Azure AD.
- Design and Connectivity Patterns
- Hybrid Networking
- Address Durability of Data and Caching
- Measure Throughput and Structure of Data Access
- Use shell commands to create an App Service Web App
- Create Background Tasks
- Use Swagger to document an API
- Create a reliable service
- Create a Reliable Actors app
- Hands-on with Reliable collections
- Understand the Azure Container Registry
- Use Azure Container instances
- How to configure a message-based integration architecture
- Understand how to Develop for Asynchronous Processing

- Begin creating apps for Autoscaling
- Understand Azure Cognitive Services Solutions

Course Outline

AZ-300T01-A: Deploying and Configuring Infrastructure

Module 1: Managing Azure Subscriptions and Resources

In this module you will explore Azure monitoring capabilities using Azure alerts, Azure activity logs, and Log Analytics. You will learn to query, analyze, and interpret the data viewed in Log Analytics.

After completing this module, students will be able to:

- Managing Azure Subscriptions and Resources

Module 2: Implementing and Managing Storage

In this module you will learn about Azure storage accounts, data replication, how to use Azure Storage Explorer, and monitor storage.

After completing this module, students will be able to:

- Implementing and Managing Storage

Module 3: Deploying and Managing Virtual Machines (VMs)

In this module you will learn how to do the following:

- Create Virtual Machines (VM)s within the Azure Portal
- Create Virtual Machines (VM)s using Azure PowerShell
- Create Virtual Machines (VM)s using ARM templates
- Deploy Linux Virtual Machines (VM)s
- Monitor Virtual Machines (VM)s

Additionally, you will learn how to protect data using backups at regular intervals, whether by snapshot, Azure Backup, or Azure Site Recovery.

After completing this module, students will be able to:

- Deploying and Managing VMs

Module 4: Configuring and Managing Virtual Networks

In this module you will create and implement virtual networks using the Azure Portal as well as Azure PowerShell and CLI. You will receive and overview on how to assign IP addresses to Azure resources to communicate with other Azure resources, your on-premises network, and the Internet.

Lessons

- Network routing using routing tables and algorithms
- Inter-site connectivity using VNet-to-VNet connections and VPNs
- Virtual network peering for regional and global considerations

AZ-300T02-A: Implementing Workloads and Security

Module 1: Evaluating and Performing Server Migration to Azure

This module covers migrating workloads to a new environment, whether it be another datacenter, or to a public cloud, and setting clear goals for the migration. Goals include both technology-focused and business-focused goals for migrations, and the benefits to an organization's business. Activities include components of the Azure migration process: creating a project, creating a collector, assessing readiness, and estimating costs. Additionally, you will receive and overview of Azure Site Recovery (ASR) that includes and end-to-end scenarios.

After completing this module, students will be able to:

- Evaluating and Performing Server Migration to Azure

Module 2: Implementing and Managing Application Services

This module includes the following topics:

- Deploying Web Apps
- Managing Web Apps
- App Service Security
- Serverless Computing Concepts
- Managing Event Grid
- Managing Service Bus
- Managing Logic App

After completing this module, students will be able to:

- Implementing and Managing Application Services

Module 3: Implementing Advanced Virtual Networking

This module includes the following topics:

- Azure Load Balancer
- Azure Application Gateway
- Site-to-Site VPN Connections

As well as an overview of ExpressRoute which allows companies to extend on-premises networks into the Microsoft cloud over a dedicated private connection facilitated by a connectivity provider.

After completing this module, students will be able to:

- Implementing Advanced Virtual Networking.

Module 4: Securing Identities

This module includes the following topics with an emphasis on identity and roles: • Azure AD Identity Protection • Azure Domains and Tenants • Azure Users

• Gateway transit After completing this module, students will be able to: • Configuring and Managing Virtual Networks **Module 5: Managing Identities** This module covers Azure Active Directory (Azure AD) for IT Admins and Developers with a focus on the Azure AD multi-tenant cloud-based directory and identity management service. **Lessons** • Role-Based Access Control (RBAC) • built-in roles • Self-Service Password Reset (SSPR) • authentication methods for password reset After completing this module, students will be able to: • Managing Identities using Azure Active Directory	and Groups • Azure Roles As well as an overview of Azure AD integration options that focuses on Azure AD Connect to integrate on-premises directories with Azure Active Directory. After completing this module, students will be able to: • Securing Identities using Azure AD.
AZ-300T03-A: Understanding Cloud Architect Technology Solutions **Module 1: Selecting Compute and Storage Solutions** This module includes the following topics: • Azure Architecture Center • Cloud design patterns • Competing consumers pattern • Cache-aside pattern As well as sharding patterns to divide a data store into horizontal partitions, or shards. Each shard has the same schema but holds its own distinct subset of the data. After completing this module, students will be able to: • Design and Connectivity Patterns **Module 2: Hybrid Networking** This module includes the following topics: • Site-to-site connectivity • Point-to-site connectivity • Combining site-to-site and point-to-site connectivity • Virtual network–to–virtual network connectivity As well as connecting across cloud providers for failover, backup, or even migration between providers such as AWS. After completing this module, students will be able to: • Hybrid Networking **Module 3: Measuring Throughput and Structure of Data Access** This module includes the following topics: • DTUs – Azure SQL Database • RUs – Azure Cosmos DB • Structured and unstructured data • Using structured data stores	**AZ-300T04-A: Creating and Deploying Apps** **Module 1: Creating Web Applications using PaaS**This module provides and overview of Azure App Service Web Apps for hosting web applications, REST APIs, and a mobile back end. Topics include the following: • Using shell commands to create an App Service Web App • Creating Background Tasks • Using Swagger to document an API As well as an explanation of how Logic Apps help to build solutions that integrate apps, data, systems, and services across enterprises or organizations by automating tasks and business processes as workflows. After completing this module, students will be able to: • Use shell commands to create an App Service Web App • Create Background Tasks • Use Swagger to document an API **Module 2: Creating Apps and Services Running on Service Fabric** This module provides an overview of Azure Service Fabric as a distributed systems platform that makes it easy to package, deploy, and manage scalable and reliable microservices and containers. This module also addresses the challenges in developing and managing cloud native applications. Additional topics include: • Creating a reliable service • Creating a Reliable Actors app • Working with Reliable collections After completing this module, students will be able to: • Create a reliable service • Create a Reliable Actors app

After completing this module, students will be able to: • Address Durability of Data and Caching • Measure Throughput and Structure of Data Access	• Hands-on with Reliable collections **Module 3: Using Azure Kubernetes Service This module focuses on the Azure** Kubernetes Service (AKS) for deploying and managing a Kubernetes cluster in Azure. Topics include how to reduce operational overhead of managing Kubernetes by offloading much of that responsibility to Azure, such as health monitoring and maintenance. Additional topics include: • Azure Container Registry • Azure Container Instances After completing this module, students will be able to: • Understand the Azure Container Registry • Use Azure Container instances
AZ-300T06-A: Developing for the Cloud **Module 1: Developing Long-Running Tasks and Distributed Transactions** Topics for this module include: • Implementing large-scale, parallel, and high-performance apps using batches • HPC using Microsoft Azure Virtual Machines • Implementing resilient apps by using queues As well as, implementing code to address application events by using webhooks. Implementing a webhook gives an external resource a URL for an application. The external resource then issues an HTTP request to that URL whenever a change is made that requires the application to take an action. **Module 2: Configuring a Message-Based Integration Architecture** **Lessons** • Configure an app or service to send emails • Configure an event publish and subscribe model • Configure the Azure Relay service • Configure apps and services with Microsoft Graph After completing this module, students will be able to: • How to configure a message-based integration architecture **Module 3: Developing for Asynchronous Processing** **Lessons** • Implement parallelism, multithreading, and processing • Implement Azure Functions and Azure Logic Apps • Implement interfaces for storage or data access • Implement appropriate asynchronous computing models • Implement autoscaling rules and patterns After completing this module, students will be able to: • Understand how to Develop for Asynchronous Processing **Module 4: Developing for Autoscaling** **Lessons**	

• Implementing autoscaling rules and patterns • Implementing code that addresses singleton application instances • Implementing code that addresses a transient state After completing this module, students will be able to: • Begin creating apps for Autoscaling **Module 5: Developing Azure Cognitive Services Solutions** **Lessons** • Developing Solutions using Computer Vision • Developing solutions using Bing Web Search • Developing solutions using Custom Speech Service • Developing solutions using QnA Maker After completing this module, students will be able to: • Understand Azure Cognitive Services Solutions **Module 6: Develop for Azure Storage** **Lessons** • Develop Solutions that use Azure Cosmos DB Storage • Develop Solutions that use a Relational Database • Modeling a Database by using Entity Framework Core • Develop Solutions that use Microsoft Azure Blob Storage • Manipulating Blob Container Properties in .NET After completing this module, students will be able to: • Understand Azure Storage services such as blobs and Cosmos DB	

Contacts us:

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