Microsoft Azure Architect Technologies (AZ-300)

Level: Advanced

Prepare for the official Microsoft Azure Solutions Architect Technologies exam AZ-300 and work toward your Microsoft Azure Solutions Architect Expert certification in this Azure training course. In this six-part training we cover how to manage Azure resources, including deployment and configuration of virtual machines, virtual networks, storage accounts, and Azure AD, how to discover, assess, plan and implement a migration of on-premises resources and infrastructure to Azure, how operations are done in parallel and asynchronously, how to build Logic App solutions that integrate apps, data, systems, and services across enterprises/organizations by automating tasks and business processes as workflows, how to Implement authentication in applications (certificates, Azure AD, Azure AD Connect, token-based), implement secure data (SSL and TLS), and manage cryptographic keys in Azure Key Vault, and how to configure a message-based integration architecture, develop for asynchronous processing, create apps for autoscaling, and better understand Azure Cognitive Services solutions.

Key features of this Azure Solutions Architect Training:

- Prepare for Microsoft AZ-300 certification exam
- Microsoft Official Course content
- After-course instructor coaching benefit
- Eligible to use with your Microsoft Software Assurance Training Vouchers (SATVs)

You Will Learn How 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
- Understand how to Implement authentication using certificates, Azure AD, Azure AD Connect, and tokens.
- Implement Role-aBsed Access Control (RBAC) authorization.
- Implement secure data for end-to-end encryption.
- Implement secure data for implementing SSL and TLS communications.
- Use Azure Key Vault to manage cryptographic keys.
- 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

Choose the Training Solution That Best Fits Your Individual Needs or Organizational Goals

Live, Instructor-Led - In Class & Live, Online Training

PRODUCT #8521 - $3190

- 5-day instructor-led training course
- One-on-one after course instructor coaching
- Pay later by invoice -OR- at the time of checkout by credit card

Training At Your Site - Team Training

PRODUCT #8521 - $3190

- Bring this or any training to your organization
- Full - scale program development
- Delivered when, where, and how you want it
- Blended learning models
- Tailored content
- Expert team coaching

In Class & Live, Online Training

Instructor-Led Course Information

- **Software/Tools**

  - Role-based access control (RBAC)
  - Azure portal, PowerShell, and ARM templates
  - Azure Alerts and Activity Log
  - Cloud Shell and Resource Explorer
  - ASR on a Hyper-V infrastructure to prepare and complete the migration process
  - Azure Multi-Factor Authentication
  - Azure Kubernetes Service (AKS)
  - Azure Container Registry

- **Recommended Experience**

  This course is for an experienced solutions architect.

- **Who Should Attend**

  Successful Cloud Solutions Architects begin this role with practical experience with operating systems, virtualization, cloud infrastructure, storage structures, billing, and networking.

- **Microsoft Exam Information**

  This course can help you prepare for the following Microsoft role-based certification exam — AZ-300: Microsoft Azure Architect Technologies

Instructor-Led Course Outline

- **Part 1: AZ-300T01: 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
- 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

- **Part 2: AZ-300T02: 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 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

- **Part 3: AZ-300T03: 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

  After completing this module, students will be able to:
  - Address Durability of Data and Caching
  - Measure Throughput and Structure of Data Access

- **Part 4 AZ-300T04: 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
- 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

Part 5: AZ-300T05: Implementing Authentication and Secure Data

Module 1: Implementing Authentication Topics for this module include:

Lessons
- Implementing authentication in applications (certificates, Azure AD, Azure AD Connect, token-based)
- Implementing multi-factor authentication
- Claims-based authorization
- Role-based access control (RBAC) authorization

After completing this module, students will be able to:
- Understand how to Implement authentication using certificates, Azure AD, Azure AD Connect, and tokens
- Implement Role-Based Access Control (RBAC) authorization

Module 2: Implementing Secure Data

Lessons
- End-to-end encryption
- Implementing Azure confidential computing
- Implementing SSL and TLS communications
- Managing cryptographic keys in Azure Key Vault

After completing this module, students will be able to:
- Implement secure data for end-to-end encryption
- Implement secure data for implementing SSL and TLS communications.
- Use Azure Key Vault to manage cryptographic keys

Part 6 AZ-300T06: 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

Azure Solutions Architect Training FAQs

- **What is required to achieve the Azure Solutions Architect certification?**

  To achieve the role-based certification, you must pass the following exams:
  - AZ-300: Microsoft Azure Architect Technologies AZ-301: Microsoft Azure Architect Design

  Upon passing both exams, the individual will be Microsoft Certified: Azure Developer Associate.

- **What do I receive if I pass just one of the two exams required for certification?**

  Individuals who pass one of the two required exams for certification will receive an achievement badge.

- **Does this new AZ-300 exam and certification replace any existing Azure exams?**

  Yes. Microsoft will be retiring the following exam on December 31, 2018:
  - Exam 70-535: Architecting Microsoft Azure Solutions

  The replacement for Exam 70-535 is the Azure Solutions Architect Expert certification (consisting of exams AZ-300 and AZ-301).

- **Will this change affect requirements for competencies?**

  Yes. It will affect the Cloud Platform and Cloud Business Applications competencies.
  - Cloud Platform: Exams 70-532, 70-533, and 70-535 are among the requirement options.
  - Cloud Business Applications: Exam 70-535 is among the requirement options.

  Exams 70-535 will retire on December 31, 2018, but will be valid for competencies until December 31, 2019. The new requirements will go into effect on January 1, 2019.

Team Training

Schedule of events

In the Classroom — OR — Live, Online

Tuition — Standard: $3190   Government: $2833

Feb 10 - 14 Online (AnyWare)** (5 Days)

Mar 9 - 13 Ottawa / Online (AnyWare)** (5 Days)

Mar 16 - 20 Herndon, VA / Online (AnyWare) (5 Days)

Mar 30 - Apr 3 Toronto / Online (AnyWare)** (5 Days)

May 11 - 15 Seattle / Online (AnyWare) (5 Days)

Jun 1 - 5 Atlanta / Online (AnyWare) (5 Days)

Jun 1 - 5 Boston / Online (AnyWare) (5 Days)

Jun 1 - 5 Philadelphia / Online (AnyWare) (5 Days)

Jun 1 - 5 Herndon, VA / Online (AnyWare) (5 Days)

Jun 15 - 19 Greenbelt,MD / Online (AnyWare) (5 Days)

Jul 27 - 31 New York / Online (AnyWare) (5 Days)

Aug 10 - 14 San Francisco / Online (AnyWare) (5 Days)

Aug 24 - 28 Greenbelt,MD / Online (AnyWare) (5 Days)

Sep 14 - 18 Ottawa / Online (AnyWare) (5 Days)

Sep 28 - Oct 2 Toronto / Online (AnyWare) (5 Days)

Nov 16 - 20 Atlanta / Online (AnyWare) (5 Days)

Nov 16 - 20 Boston / Online (AnyWare) (5 Days)

Nov 16 - 20 Philadelphia / Online (AnyWare) (5 Days)

Nov 16 - 20 Herndon, VA / Online (AnyWare) (5 Days)

Nov 30 - Dec 4 Seattle / Online (AnyWare) (5 Days)

Dec 14 - 18 Greenbelt,MD / Online (AnyWare) (5 Days)