Microsoft Partner

FIREFLY

Azure Architect Technologies

Azure Solutions Architect

DURATION: 5 DAYS   COURSE CODE: AZ-300   FORMAT: LECTURE/LAB

WHY FIREFLY

Firefly is trusted by customers, technology vendors and channel partners around the world to deliver highly effective, immersive educational experiences. Our innovative, role-based Microsoft training covers all of the latest certifications, from Azure to Server 2016 to SQL to the modern desktop, and is designed engineers the skills they need to remain relevant in today's multicloud world.

WHO SHOULD ATTEND

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

LEARNING OBJECTIVES

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

Deploying and Configuring Infrastructure	Implementing Workloads and Security	Understanding Cloud Architect Technology Solutions	Creating and Deploying Apps	Developing for the Cloud

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AZ-300T01-A: Deploying and Configuring Infrastructure

DESCRIPTION

Learn how to configure a message-based integration architecture, develop for asynchronous processing, create apps for autoscaling, and better understand Azure Cognitive Services solutions.

COURSE OUTLINE

1. Developing Long-Running Tasks and Distributed Transactions

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.

2. Configuring a Message-Based Integration Architecture

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

3. Developing for Asynchronous Processing

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

4. Developing for Autoscaling

Implementing autoscaling rules and patterns

Implementing code that addresses singleton application instances

Implementing code that addresses a transient state

5. Developing Azure Cognitive Services Solutions

Developing Solutions using Computer Vision

Developing solutions using Bing Web Search

Developing solutions using Custom Speech Service

Developing solutions using QnA Maker

AZ-300T02: Implementing Workloads and Security

DESCRIPTION

This course teaches IT professionals how to discover, assess, plan and implement a migration of on-premises resources and infrastructure to Azure. Students will learn how to use Azure Migrate to perform the discovery and assessment phase that is critical to a successful migration. Students will also learn how to use Azure Site Recovery for performing the actual migration of workloads to Azure. The course focuses primarily on using ASR on a Hyper-V infrastructure to prepare and complete the migration process.

Also, you will learn how to deploy serverless computing features like Azure Functions, Event Grid, and Service Bus. You will learn how Azure Multi-Factor Authentication helps safeguard access to data and applications, helping to meet customer demand for a simple sign-in process. Also, how to use Azure Active Directory Privileged Identity Management to manage, control, and monitor access to Azure resources within your organization.

See how to manage and maintain the infrastructure for the core web apps and services that developers build and deploy. Students will learn how Azure App Service is used as a Platform as a Service (PaaS) offering for deploying cloud apps for web and mobile environments.

Lastly, you will get a glimpse of how to implement advanced networking features like Application Gateway and how to configure load balancing. Learn to integrate on-premises networks with Azure virtual networks and to use Network Watcher to monitor and troubleshoot issues.

COURSE OUTLINE

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.

2. Implementing and Managing Application Services

Deploying Web Apps

Managing Web Apps

App Service Security

Serverless Computing Concepts

Managing Event Grid

Managing Service Bus

Managing Logic App

3. Implementing Advanced Virtual Networking

Azure Load Balancer

Azure Application Gateway

Site-to-Site VPN Connections

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

4. Securing Identities

Azure AD Identity Protection ▪ Azure Domains and Tenants Azure Users and Groups

Azure Roles

An overview of Azure AD integration options that focuses on Azure AD Connect to integrate on-premises directories with Azure Active Directory.

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AZ-300T03:
Understanding Cloud Architect Technology Solutions
DESCRIPTION

This course teaches IT professionals how operations are done in parallel and asynchronously. And, how your whole enterprise system must be resilient when failures occur, and just as importantly, how deployments can be automated and predictable. By using the Azure Application Architecture Guide and Azure reference architectures as a basis, you will understand how monitoring and telemetry are critical for gaining insight into the system.

You will dive into the cloud design patterns that are important, such as partitioning workloads where a modular application is divided into functional units that can be integrated into a larger application. In such cases, each module handles a portion of the application's overall functionality and represents a set of related concerns.

Also, load balancing where the application traffic, or load, is distributed among various endpoints by using algorithms. Load balancers allow multiple instances of your website to be created so they can behave in a predictable manner. In Azure, it is possible to use virtual load balancers, which are hosted in virtual machines, if a company requires a very specific load balancer configuration.

Also, transient fault handling which helps define the primary differences between developing applications on-premises and in the to handle transient errors. Transient errors are errors that occur due to temporary interruptions in the service or to excess latency.

Lastly, a discussion of hybrid networking that provides an overview of site-to-site connectivity, point-to-site connectivity, and the combination of the two.

COURSE OUTLINE

1. Selecting Compute and Storage Solutions
Azure Architecture Center

Cloud design patterns

Competing consumers pattern

Cache-aside pattern

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.

2. Hybrid Networking
Site-to-site connectivity

Point-to-site connectivity

Combining site-to-site and point-to-site connectivity

Virtual network–to–virtual network connectivity

Connecting across cloud providers for failover, backup, or even migration between providers such as AWS

3. Measuring Throughput and Structure of Data Access
DTUs – Azure SQL Database

RUs – Azure Cosmos DB

Structured and unstructured data

Using structured data stores

AZ-300T04: Creating and Deploying Apps

DESCRIPTION

This course teaches IT Professionals how to build Logic App solutions that integrate apps, data, systems, and services across enterprises or organizations by automating tasks and business processes as workflows. Logic Apps is cloud service in Azure that simplifies how you design and create scalable solutions for app integration, data integration, system integration, enterprise application integration (EAI), and business-to-business (B2B) communication, whether in the cloud, on premises, or both.

You will also see how Azure Service Fabric is a distributed systems platform that makes it easy to package, deploy, and manage scalable and reliable microservices and containers. Service Fabric also addresses the significant challenges in developing and managing cloud native applications. Developers and administrators can avoid complex infrastructure problems and focus on implementing mission-critical, demanding workloads that are scalable, reliable, and manageable. Service Fabric represents the next-generation platform for building and managing these enterprise-class, tier-1, cloud-scale applications running in containers.

Lastly, you'll see how Azure Kubernetes Service (AKS) makes it simple to deploy a managed Kubernetes cluster in Azure. AKS reduces the complexity and operational overhead of managing Kubernetes by offloading much of that responsibility to Azure. As a hosted Kubernetes service, Azure handles critical tasks like health monitoring and maintenance for you.

COURSE OUTLINE

1. Creating Web Applications using PaaS

Overview of Azure App Service Web Apps for hosting web applications, REST APIs, and a mobile back end

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

2. Creating Apps and Services Running on Service Fabric

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.

Creating a reliable service

Creating a Reliable Actors app

Working with Reliable collections

3. Using Azure Kubernetes Service This module focuses on the Azure

Kubernetes Service (AKS) for deploying and managing a Kubernetes cluster in Azure.

How to reduce operational overhead of managing Kubernetes by offloading much of that responsibility to Azure, such as health monitoring and maintenance.

Azure Container Registry

Azure Container Instances

AZ-300T06: Developing for the Cloud

DESCRIPTION

Learn how to configure a message-based integration architecture, develop for asynchronous processing, create apps for autoscaling, and better understand Azure Cognitive Services solutions.

COURSE OUTLINE

1. Developing Long-Running Tasks and Distributed Transactions

Implementing large-scale, parallel, and high-performance apps using batches

HPC using Microsoft Azure Virtual Machines

Implementing resilient apps by using queues

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.

2. Configuring a Message-Based Integration Architecture

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

3. Developing for Asynchronous Processing

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

4. Developing for Autoscaling

Implementing autoscaling rules and patterns

Implementing code that addresses singleton application instances

Implementing code that addresses a transient state

5. Developing Azure Cognitive Services Solutions

Developing Solutions using Computer Vision

Developing solutions using Bing Web Search

Developing solutions using Custom Speech Service

Developing solutions using QnA Maker