Architecting Microsoft Azure Solutions

20535AA - Version: 1

5 days Course

Description:

This course is intended for architects who have experience building infrastructure and applications on the Microsoft Azure platform. Students should have a thorough understanding of most services offered on the Azure platform. The students typically work for organizations that have an active solution on Azure and are planning to enhance existing solutions or deploy more solutions to the Azure platform. This course also is intended for architects who want to take the Microsoft Certification exam, 70-535, Architecting Microsoft Azure Solutions.

Intended audience:

Developers - This course is intended for students who have experience building infrastructure and applications on the Microsoft Azure platform. Students should have a thorough understanding of most services offered on the Azure platform. For the interactive component, this course offers students the opportunity to deploy Azure solutions using built-in DevOps tools such as Azure Resource Manager templates, deployments, resource groups, tags and Role-Based Access Control. This course does not require any direct experience writing application code or configuring server machines. This course focuses on the architectural comparisons between services and technical decision making needed to deploy well-designed solutions on the Azure platform. This course also prepares the students for the 70-535: Architecting Microsoft Azure Solutions certification exam. The candidates targeted by this training have intermediate experience in designing, implementing and monitoring Azure solutions. Candidates are also proficient with the tools, techniques, and approaches used to build solutions on the Azure platform.

Prerequisites:

Before attending this course, students must have the following technical knowledge:

Create resources and resource group in Azure.
Manage users, groups, and subscriptions in an Azure Active Directory instance.
Build an Azure Virtual Machine with related resources.
Manage containers and blobs stored in an Azure Storage account.
Create App Service Plans and manage apps related to the plan.
Configure an Azure Virtual Network and enable S2S and P2S connec tivity.
Protect networked application components using Network Security Groups.
Automate everyday Azure resource tasks using Azure CLI or Azure PowerShell.
Deploy an Azure SQL, MySQL, Postgres or Cosmos database instance.
Monitor existing Azure solutions using built-in metrics, Application Insights, or Operational Insights.

Objectives:

After completing this course, students will be able to:
Describe Azure architecture components, including infrastructure, tools, and portals.
Create and deploy Azure Resource Manager (ARM) templates for various all-up solutions.
Compare and contrast various infrastructure, serverless, database and communication services; such as App Services, Virtual Machine Scale Sets, Azure Cosmos DB, SQL Database, and Container Service in Azure.
Incorporate various Azure platform services, such as Cognitive Services and Media Servicers into an overall Azure solution.
Secure, monitor and backup solutions deployed to Azure.
Create automated DevOps solutions using a combination of ARM templates, configuration management utilities, Azure CLI, and the Cloud Shell.

Topics:

Module 1: Application Architecture Patterns in Azure

- Pattern Resources
- Performance Patterns
- Resiliency Patterns
- Scalability Patterns
- Data Patterns

Module 2: Deploying Resources with Azure Resource Manager

- Lab : Getting Started with Azure Resource Manager
  - Create Resource Groups
  - Deploy an Empty Template
  - Deploy a Simple Template
  - Cleanup Subscription

Module 3: Building Azure IaaS-Based Server Applications

- Lab : Deploying Infrastructure Workloads to Azure
  - Deploy a Virtual Machine using PowerShell DSC
  - Deploy a Virtual Machine Scale Set using PowerShell DSC
  - Cleanup Subscription

Module 4: Creating Managed Server Applications in Azure

- Lab : Deploying Managed Server Workloads to Azure
  - Create Azure Container Service Cluster
  - Deploy Docker Image
  - Cleanup Subscription

Module 5: Authoring Serverless Applications in Azure

- Lab : Deploying Serverless Workloads to Azure
  - Create Web App
  - Deploy Web App Code
  - Deploy Function App and Code
  - Cleanup Subscription

Module 6: Backing Azure Solutions with Azure Storage

- Lab : Deploying Azure Storage to Support Other Workloads in Azure
  - Create Required Resources for a Virtual Machine
  - Create a VM With a Storage Account
  - Create a VM With a Managed Disk
  - Cleanup Subscription

Module 7: Comparing Database Options in Azure

- Lab : Deploying Database Instances in Azure
  - Deploy a CosmosDB Database Instance
  - Validate the REST API
  - Cleanup Subscription

Module 8: Networking Azure Application Components

- Lab : Deploying Network Components for Use in Azure Solutions
  - Create an ARM Template for a Linux VM
  - Duplicate the VM Resources
  - Create a Load Balancer Resource
  - Cleanup Subscription

Module 9: Managing Security and Identity for Azure Solutions

- Lab : Deploying Services to Secure Secrets in Azure
  - Deploy Key Vault using ARM Template
  - Deploy Virtual Machine using Key Vault Secret
  - Cleanup Subscription

Module 10: Integrating SaaS Services Available on the Azure Platform

- Lab : Deploying Service Instances as Components of Overall Azure Solutions

- Deploy Function App and Cognitive Service using ARM Template
- Cleanup Subscription

Module 11: Integrating Azure Solution Components using Messaging Services

• Lab : Deploying Messaging Components to Facilitate Communication Between Azure Resources
- Deploy Service Bus Namespace
- Deploy Logic App
- Cleanup Subscription

Module 12: Monitoring and Automating Azure Solutions

• Lab : Deploying Configuration Management Solutions to Azure
- Deploy a Chef Management Server using ARM
- Configure Management Server
- Deploy a VM Scale Set using Chef-Configured VMs
- Cleanup Subscription