

Microsoft Azure Solutions Architect Boot Camp Courses

**Boot camp Title – MCSD: Azure Solutions Architect (1 Cert)**
Number of Days – 10
Number of Exams – 3
Number of Certifications – 1
Cost - $6,795.00

Certifications:

MCSD: Azure Solutions Architect

Exams:

**70-532:** Developing Microsoft Azure Solutions

**70-533:** Implementing Microsoft Azure Infrastructure Solutions

**70-534:** Architecting Microsoft Azure Solutions

Course Description:

The MCSD Azure Solutions Architect certification boot camp is a 9 day comprehensive deep dive into Azure covering topics such as developing, implementing and deploying. This instructor led face to face training camp will teach you the skills needed to support an Azure environment.

Class Objectives (*Following information customized from Microsoft Learning Test Objectives)*

**Module 1: Development using the Microsoft Azure Platform**

In this module, students will review the services available in the Azure platform and the Management Portals used to manage the service instances.

**Lessons**

* Azure Services
* Management Portals

After completing this module, you will be able to:

* Describe some of the common Azure services
* Describe the differences between the current and Ibiza management portals

**Module 2: Establishing a Development Environment using Azure Virtual Machines**

In this module, students will learn about Virtual Machine hosting options available in Azure.  Students will be able to deploy custom workloads to an Azure Virtual Machine, manage the VM and its images and also monitor VMs.

**Lessons**

* Constructing Azure Virtual Machines
* Azure Virtual Machine Workloads
* Migrating Azure Virtual Machine Instances

**Lab : Creating an Azure Virtual Machine for Development & Testing**

After completing this module, you will be able to:

* Describe Virtual Machines service in Azure.
* Deploy a Linux or Microsoft workload to a Virtual Machine
* Ingress VHDs to Azure
* Monitor Virtual Machine endpoints

**Module 3: Managing Infrastructure in Azure**

In this module, students will explore the Infrastructure components in Azure.  Students will be able to describe Virtual Networks and understand the relationship between the VNETs and the different services offered in Azure.  Students will also be able to add Cloud Services and Virtual Machines to VNETs.  Finally students will scale multiple instances of services in a VNET.

**Lessons**

* Azure Virtual Networks
* Highly Available Azure Virtual Machines
* Virtual Machine Configuration Management
* Customizing Azure Virtual Machine Networking

**Lab : Managing Multiple Virtual Machines in a Virtual Network**

After completing this module, students will be able to:

* Create a Virtual Network.
* Describe the options for allowing anonymous and private access to a VM and its port.
* Customize the networking rules for a VM.

**Module 4: Web Infrastructure in the Azure Platform**

In this module, students will learn how to create and host a simple website using Azure Web Sites.  Students will also learn how to monitor and manage the website using the Management Portal.

**Lessons**

* Azure Web Sites
* Hosting Web Applications in Azure
* Configuring an Azure Web Site
* Publishing an Azure Web Site
* Monitoring an Azure Web Site

**Lab : Creating an ASP.NET Web Site Using Azure Web Sites**

After completing this module, you will be able to:

* Create an Azure Web Sites instance
* Publish a simple ASP.NET web application to Azure Web Sites
* Monitor an Azure Web Site

**Module 5: Designing Cloud Applications for Resiliency**

This module covers the common practices and patterns for building resilient and scalable web applications that will be hosted in Azure.

**Lessons**

* Application Design Practices for Highly Available Applications
* Building High Performance Applications using ASP.NET
* Common Cloud Application Patterns
* Caching Application Data

After completing this module, students will be able to:

* Describe the design practices for creating highly available applications.
* Create high performance applications using ASP.NET.
* Describe the common cloud application patterns.
* Describe how to use analytics on cloud applications.

**Module 6: Processing Background Logic using Azure**

In this module, students will learn how to use Cloud Service Worker Roles and Web Sites Web Jobs to process data in the background.  Students will also be able to use Cloud Service Cache Roles to store data in the cache.

**Lessons**

* Understanding Cloud Services
* Cloud Service Web Roles
* Customizing Cloud Service Configurations
* Updating and Managing Azure Cloud Service Deployments
* Cloud Service Worker Roles
* Cloud Service Worker Role Processing
* Caching Data using Roles
* Analyzing Applications in Cloud Service Role Instances

**Lab : Creating a Background Process Using Azure Worker Roles**

After completing this module, you will be able to:

* Describe the Azure Cloud Service offering.
* Explain the complexity of Cloud Service deployments as compared to Virtual Machines and Web Sites.
* Describe the differences between Web Roles and Worker Roles.
* Describe Cloud Service In-Role Caching.
* Leverage the Azure Compute Emulator.
* Create a Cloud Service Worker Role.
* Implement the methods for the RoleEntryPoint base class.
* Configure a Worker Role.
* Co-locate cache with a Cloud Service role.
* Convert a Worker Role to a dedicated cache role.

**Module 7: Storing Tabular Data in Azure**

In this module, students will be able to use Azure SQL Databases to store and retrieve data. Students will also learn how to store data in Azure Table Storage.

**Lessons**

* Azure SQL Databases Overview
* Managing SQL Databases in Azure
* Using Azure SQL Databases with SQL Server Data Tools
* Migrating Data to Azure SQL Databases
* Replication and Recovery of Azure SQL Database Instances
* Azure Storage Overview
* Azure Storage Tables Overview
* Table Entity Transactions

**Lab : Storing Event Data in Azure SQL DatabasesLab : Storing Event Registration Data in Azure Storage Tables**

After completing this module, students will be able to:

* Describe the difference between Azure SQL Database Editions
* Explain some of the advantages and disadvantages of hosting databases in Azure SQL Databases.
* Explain some of the advantages and disadvantages of hosting databases in a SQL Server installation on an Azure Virtual Machine.
* Describe the tools that can be used to manage Azure SQL Databases.
* Describe the Visual Studio 2013 features that can be used to manage Azure SQL Databases.
* Explain options for migrating data from on premise to the cloud.
* Describe strategies for using Entity Framework with Azure SQL Databases.

**Module 8: Storing Files and Media in Azure**

In this module, students will learn how to store and access multimedia files in Azure using Blob Storage.

**Lessons**

* Azure Storage Blobs
* Controlling Access to Storage Blobs & Containers
* Monitoring Storage Blobs
* Configuring Azure Storage Accounts
* Azure Files
* Uploading and Migrating Storage Data

**Lab : Storing Generated Documents in Azure Storage Blobs**

After completing this module, students will be able to:

* Describe the Blob services in Azure Storage.
* Detail the SDK libraries, namespaces and classes available for blobs.

**Module 9: Storing Data in Queues using Azure**

In this module, students will use Azure Queue Storage to queue data for asynchronous processing. Students will also be able to identify the Service Bus offerings and identify which ones to use in appropriate scenarios. Students will be able to use the Azure Service Bus Relay to connect on-premise services with client applications.

**Lessons**

* Queue Mechanisms in Azure
* Azure Storage Queues Overview
* Handling Storage Queue Messages
* Azure Service Bus
* Azure Service Bus Queues
* Azure Service Bus Relay
* Azure Service Bus Notification Hubs

**Lab : Using Queues and Service Bus to Manage Communication Between Web Applications in Azure**

After completing this module, students will be able to:

* Describe Azure Storage Queues.
* Describe Azure Service Bus.
* Describe Azure Service Bus Queues.

**Module 10: Automating Integration with Azure Resources**

In this module, students will explore the options for Automating their interactions with Azure Resources.

**Lessons**

* Azure SDK Client Libraries
* Scripting Azure Service Management using PowerShell
* Azure REST Interface
* Azure Resource Manager

**Lab : Automating the Creation of a Test Environment using PowerShell**

After completing this module, students will be able to:

* Describe the Azure SDKs and client libraries.
* Use PowerShell to automate Azure service management.
* Describe the Service Management API and how to authenticate to the API.
* Use the Resource Manager to create resource groups and templates.

**Module 11: Implementing Security in Web Applications using Azure**

In this module, students will be able to use Azure Active Directory to implement security in a Cloud web application.

**Lessons**

* Azure Active Directory
* Azure AD Directories
* Azure AD Access Control Service
* Azure AD Multi-Factor Authentication

**Lab : Integrating Azure Active Director with the Events Administration Portal**

After completing this module, students will be able to:

* Describe the Azure Active Directory service offering.
* Detail the features available for directories in Azure AD.
* Describe the Azure AD Access Control Service.
* Describe the Azure AD Multi-Factor Authentication service.

**Module 12: Deploying Web Applications to Azure**

In this module, students will be able to deploy web applications to Azure by using WebDeploy and Service Packages.

**Lessons**

* Deployment Strategies for Web Applications
* Deploying Azure Web Sites
* Deploying Azure Cloud Services
* Continuous Integration
* Monitoring Cloud Applications

**Lab : Deploying the Events Web Application to Azure**

After completing this module, students will be able to:

* List the deployment strategies for web applications.
* Describe Cloud Service package deployment for Azure Cloud Services.
* Describe WebDeploy deployment for Azure Web Sites.
* Describe the options for monitoring a web application in Azure.

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| **Module 1: Introduction to Azure**This module explains cloud computing, and compares cloud computing and on-premises. It also lists the advantages of cloud computing including, scalability, availability, and elasticity. Finally, this module compares public, private, and hybrid clouds.**Lessons*** Overview of cloud technology
* Overview of Azure
* Managing Azure with Azure portals
* Managing Azure with Windows PowerShell
* Overview of Azure Resource Manager
* Azure management services

**Lab : Using Azure Resource Manager to manage Azure*** Using Azure portals
* Using Azure Resource Manager features via Azure portal
* Using Azure PowerShell

After completing this module, students will be able to:* Describe cloud technology.
* Describe Azure.
* Manage Azure with Azure portals.
* Manage Azure with Windows PowerShell.
* Describe Azure Resource Manager.
* Describe Azure management services..

**Module 2: Implementing and managing Azure networking**This module explains how to implement and manage Azure networking.**Lessons*** Overview of Azure networking
* Implementing and managing Azure virtual networks
* Configuring Azure virtual networks
* Configuring Azure virtual network connectivity
* Overview of Azure networking in an infrastructure as a service (IaaS) version 1 (v1)

**Lab : Using a deployment template to implement Azure virtual networks*** Using GitHub to deploy the Azure Resource Manager template from the Azure portal
* Deploying the Azure Resource Manager template from Microsoft Visual Studio

**Lab : Configuring connectivity between the IaaS v1 and IaaS version 2 (v2) virtual networks*** Using a PowerShell script to Connect IaaS v1 and IaaS v2 virtual networks
* Validating virtual network connectivity

After completing this module, students will be able to:* Describe Azure networking.
* Implement and manage Azure virtual networks.
* Configure Azure virtual networks.
* Configure Azure virtual network connectivity.
* Understand Azure networking in IaaS v1..

**Module 3: Implementing virtual machines**This module explains how to implement virtual machines.**Lessons*** Overview of IaaS v2 virtual machines
* Planning for Azure virtual machines
* Deploying Azure IaaS v2 virtual machines
* Authoring Azure Resource Manager virtual machine templates
* Overview of IaaS v1 virtual machines

**Lab : Deploying Azure IaaS v2 virtual machines via Windows PowerShell and Azure portal*** Using Azure portal and a Windows PowerShell script to deploy an IaaS v2 virtual machine
* Validating the outcome of the deployment

After completing this module, students will be able to:* Describe IaaS v2 virtual machines.
* Plan for Azure virtual machines.
* Deploy Azure IaaS v2 virtual machines.
* Author Azure Resource Manager virtual machine templates.
* Describe IaaS v1 virtual machines.

**Module 4: Managing virtual machines**This module explains how to manage virtual machines.**Lessons*** Configuring virtual machines
* Configuring virtual machine disks
* Managing and monitoring Azure virtual machines
* Managing IaaS v1 virtual machines

**Lab : Managing virtual machines*** Configuring availability
* Implementing desired state configuration
* Implementing storage space–based volumes

After completing this module, students will be able to:* Configure virtual machines.
* Configure virtual machine disks.
* Manage and monitor Azure virtual machines
* Manage IaaS v1 virtual machines.

**Module 5: Implementing Azure Web App services**This module explains how to implement Azure Web App services.**Lessons*** Introduction to the Azure App Service
* Planning for Azure Web App deployment
* Implementing and maintaining web apps
* Configuring web apps
* Monitoring web apps and WebJobs
* Implementing mobile apps
* Overview of Azure Traffic Manager

**Lab : Implementing websites*** Creating web apps
* Deploying a web app
* Managing web apps
* Implementing Azure Traffic Manager

After completing this module, students will be able to:* Describe Azure App Service.
* Plan for Azure Web App deployment.
* Implement and maintain web apps.
* Configure web apps.
* Monitor web apps and WebJobs.
* Implement mobile apps.
* Describe Azure Traffic Manager.

**Module 6: Planning and implementing storage, backup, and recovery services**This module explains how to plan and implement storage, backup, and recovery services.**Lessons*** Planning storage
* Implementing and managing storage
* Implementing Azure Content Delivery Networks
* Implementing Azure Backup
* Planning for and implementing Azure Site Recovery

**Lab : Planning and implementing storage*** Creating and configuring storage
* Using Azure file storage
* Protecting data with Microsoft Azure Backup
* Protecting infrastructure as a service (IaaS) virtual machines with Azure Backup

After completing this module, students will be able to:* Plan for storage.
* Implement and manage storage.
* Implement Azure Content Delivery Networks.
* Implement Azure Backup.
* Plan for and implement Azure Site Recovery.

**Module 7: Planning and implementing Azure SQL Database**This module explains how to plan and implement Azure SQL Database.**Lessons*** Planning for storing relational data in Azure
* Implementing Azure SQL Database
* Managing Azure SQL Database security
* Monitoring Azure SQL Database
* Managing Azure SQL Database business continuity

**Lab : Planning and implementing data services*** Creating, securing, and monitoring a Microsoft Azure SQL Database
* Migrating a Microsoft SQL Server database to the Azure SQL Database

After completing this module, students will be able to:* Plan for storing relational data in Azure.
* Implement Azure SQL Database.
* Manage Azure SQL Database security.
* Monitor Azure SQL Database.
* Manage Azure SQL Database business continuity.

**Module 8: Implementing PaaS cloud services**This module explains how to implement platform as a service (PaaS) cloud services.**Lessons*** Planning, creating, and deploying PaaS cloud services
* Managing cloud services

**Lab : Implementing PaaS cloud services*** ♣ Deploying a platform as a service (PaaS) cloud service
* ♣ Configuring deployment slots and Remote Desktop Protocol (RDP)
* ♣ Monitoring cloud services

After completing this module, students will be able to:* Plan, create, and deploy PaaS cloud services.
* Manage cloud services.

**Module 9: Implementing Azure Active Directory**This module explains how to implement Azure AD.**Lessons*** Creating and managing Azure AD tenants
* Configuring application and resource access with Azure AD
* Overview of Azure AD Premium Storage

**Lab : Implementing Azure AD*** Administering Active Directory AD DS
* Configuring single sign-on (SSO)
* Configuring multifactor authentication
* Configuring SSO from a Windows 10 computer

After completing this module, students will be able to:* Create and manage Azure AD tenants.
* Configure application and resource access with Azure AD.
* Describe Azure AD Premium Storage.

**Module 10: Managing Active Directory in a hybrid environment**This module explains how to manage Active Directory in a hybrid environment.**Lessons*** Extending on-premises Active Directory into Azure
* Implementing directory synchronization (Azure AD Connect)
* Implementing federation with Active Directory Federation Services (AD FS) and Web Application Proxy

**Lab : Implementing and managing Microsoft Azure Active Directory synchronization*** Configuring directory synchronization
* Synchronizing directories

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|  After completing this module, students will be able to:  Extend on-premises Active Directory into Azure.  Implement Azure AD Connect.  Implement federation with AD FS and Web Application Proxy. |

**Module 11: Implementing Azure-based management and Automation**This module explains how to implement Azure-based management and Automation.**Lessons*** Implementing Microsoft Operations Management Suite
* Implementing Azure Automation
* Implementing Automation Runbooks
* Managing Automation

**Lab : Implementing Automation*** Configuring Automation accounts
* Creating runbooks

After completing this module, students will be able to:* Implement Operations Management Suite.
* Implement Automation.
* Implement Automation Runbooks.

Manage Automation. |