
Developing Microsoft Azure Solutions (70-532) Syllabus

Cloud Computing Introduction

- What is Cloud Computing
- Cloud Characteristics
- Cloud Computing Service Models
- Deployment Models in Cloud Computing
- Advantages and Disadvantages of Cloud Computing
- Cloud Computing Job Roles.
- Cloud Computing Platforms and Certifications.

Getting Starting with Azure

- Introduction to Azure
- Why, What and Benefits of Azure
- Azure Hosting Models
- Azure Services
- Subscribing to Microsoft Azure
- Azure Portals
- Azure Key Concepts
- Azure Resource Group
- Installing Microsoft Azure SDK

Azure Virtual Networks

- Overview of Azure Networking
- Virtual Network Benefits
- Understanding Network Resources
- Create a VNet using Azure Portal
- Create a Subnet
- Setup Network Security Group
- Create a Public IP Address
- Create Network Interface Card with public, and private IP addresses
- Create a Virtual Machine
- Configure external and internal load balancing
- Understanding and Creating Availability Sets
- Azure Application Gateway
- Azure Traffic Manager

-
- User Defined Routes (UDRs),
 - Understanding Azure DNS
 - Design and implement a multi-site or hybrid network
 - Point-to-Site Network
 - Site-to-Site Network
 - ExpressRoute Solution

ARM Virtual Machines

- Introduction
- About Virtual Machine Workloads
- Comparing VM with Web Apps and Cloud Services
- Create a Windows Virtual Machine using Portal / PowerShell / ARM Templates
- Deploy popular application frameworks by using Azure Resource Manager templates
- Understand and Capture VM Images
- Upload an on-premise VHD to Storage Account
- Deploy a New VM from the Captured Image
- Virtual Machine Scale Sets
- Virtual Machine Disk Types and VM Storage
- Virtual Machine Sizes in Azure
- Importing and Exporting Disks
- Configuring VM Security
- Perform configuration management
 - VM Extensions & VM Agents
 - Custom Script Extensions
 - Desired State Configuration (DSC)
 - Puppet or Chef
- Configure VM monitoring, configure alerts, diagnostic and monitoring storage location.
- Azure VM Backup and Restore Services

Azure Storage Service

- Importance of Azure Storage Service
- Creating Storage Account
- Implement Azure storage blobs and Azure files

-
- Read data, change data, set metadata on a container, store data using block and page blobs, stream data using blobs, access blobs securely, implement async blob copy, configure a Content Delivery Network (CDN), design blob hierarchies, configure custom domains, scale blob storage
 - Implement Azure storage tables and queues
 - Implement CRUD with and without transactions; design and manage partitions; query using OData, scale tables and partitions, add and process messages, retrieve a batch of messages, scale queues
 - Implement Azure files
 - Manage Access
 - Create and manage shared access signatures, use stored access policies, regenerate keys. Configure and use Cross-Origin Resource Sharing (CORS)
 - Configure diagnostics, monitoring and analytics
 - Set retention policies and logging levels, analyze logs

Managing Data in Azure SQL Database

- Introduction/Overview of SQL Database.
- Comparing SQL Azure Database to Azure / On-Premise SQL Server.
- Creating and Using SQL Server and SQL Database Services.
- Azure SQL Database Tools.
- Migrating on premise database to SQL Azure.
- Planning the Deployment of an Azure SQL Database
- Elastic Pools.
- Monitoring Azure SQL Database
- Configure SQL Database Auditing
- Manage Business Continuity
- Export and Import of Database
- Backup and Recovery options in SQL Database
- Active GEO-Replication
- Long Term Backup Retention
- Create a backup vault, deploy a backup agent, backup and restore data

Azure CosmosDB Service

- What is CosmosDB
- Understanding DocumentDB database Schema
- Creating and Saving Documents using Portal

-
- Programming Schema
 - Adding / Editing / Deleting and Reading Documents

Redis Caching

- Caching Overview
- What is Redis Cache
- Creating a Redis Cache
- Developing Redis Cache Client
- Controlling Expiration

Azure Search Service

- About Search Service,
- Create Search Service,
- Create Index
- Import Data,
- Handle Search Results
- Programming Search in .NET using Azure Search SDK

Azure Service Bus

- Service Bus Basics
- Hosting WCF Service in Azure
- Relayed Messaging
- Service Bus Queues
- Topics and Subscriptions
- Notification Hubs
- Monitoring Event Hubs
- Handling Sessions
- Handling Transactions

Azure App Services - Web Apps

- Introduction
- Design Azure App Service Web Apps
- Deploying Web App directly from Visual Studio.
- Deploying Packages
- App Service plans

-
- Automate deployment from Dropbox
 - Implement pre- and post- deployment actions
 - Application Settings Configuration.
 - Define Handlers and Virtual Directories
 - Understanding Deployment Slots
 - Configure a custom domain and Certificates
 - Enable SSL for your custom domain
 - Scaling a Web Apps using built-in and Custom schedules
 - Traffic Manager
 - Configure and Retrieve Diagnostics Data and Streaming Logs
 - Configure Alerts and Monitoring Web App resources
 - **Manage Web App using API**

Azure Web Jobs

- Introduction
- Developing and Hosting Web Jobs Application
- Azure WebJobs SDK
- Sample Application including WebApps and WebJobs.

Implement Azure Functions

- About Azure Functions.
- Azure Web Jobs vs Azure Functions
- Create an Azure Function
- Create an event processing function
 - Timer Triggered Function,
 - GitHub Webhook Triggered Function.
 - Blog Storage Triggered Function
- Implement an Azure-connected functions
 - Adding message to Storage Queue
 - Connecting to SQL Database

App Service – Mobile Apps

- Mobile Apps Introduction
- Creating Server and Client Projects
- Working with Easy tables using Azure Portal

-
- Developing Windows 8 Client Application
 - Mobile App Authentication
 - Facebook Authentication
 - Azure Active Directory Authentication
 - Enabling Offline Sync
 - Implementing Push Notification

App Service - API Apps

- Introduction
- Creating an API App
- Deploying an API App
- Consuming an API App
- Using API App in Logic App

Azure App Service – Logic Apps

- Introduction
- Creating a Simple Logic App
- Handling array of Items using for-each and condition
- Understanding Triggers and Actions
- create a Logic App with B2B capabilities
- create Logic App with XML capabilities
- Trigger a Logic App from another app
- Create custom and long-running actions
- Using Custom API App in Logic App
- Monitor Logic Apps

API Management Service

- Overview of API Management
- Components of API Management System.
- API Apps vs API Management.
- Create managed APIs.
- Configure API management policies.
- Protect APIs with rate limits.
- Add caching to improve performance.

Azure Cloud Service (Only Video Access)

- What is Cloud Service
- Cloud Service vs App Service
- Understand Cloud Service Roles
- Developing Cloud Service Application with Web Role
- Deploying Cloud Service Application
- Production and Staging Slots
- Using Azure Database in Cloud Service
- Adding Worker Role to the Solution.
- Delete deployments and a cloud service
- Configure application for SSL
- Configure Roles for Remote Desktop Login
- Running Multiple Websites
- Scaling a Cloud Service

Design and implement Azure Service Fabric apps

- What are Microservices
- Overview of Service Fabric
- How Service Fabric Works
- Key capabilities of Service Fabric
- Cloud Services vs Service Fabric
- Service Fabric Application Model
- Service Fabric Programming Model
- Prepare development environment
- Create a .NET Service Fabric Application
- Making the service to listen and connect with other services
- Specifying environment specific parameters
- Deploying Service Fabric application to Azure
- Service Fabric Explorer
- Scale applications and services in a cluster.
- Perform a rolling application upgrade
- Guest Executables programming model

Azure Active Directory Implementation

- Azure AD Introduction

-
- Relationship between AD DS and Azure AD
 - Adding Co-Administrators / Owner for a Subscription
 - Managing Multiple Active Directories
 - Integrate an Azure Active Directory (Azure AD) with existing directories.
 - Adding a custom domain name to Azure AD
 - Managing Users, Groups and Devices
 - Configure single sign-on with SaaS applications using federation and password based.
 - Grant and Revoke access to SaaS applications
 - Configuring Role Based Access Control
 - Integrating On-Premise AD Identities with Azure AD
 - Integrating Gallery Applications with Azure AD

Identity Management using Azure Active Directory

- Develop apps that use WS-federation, OAuth, and SAML-P endpoints
- Query the directory using Graph API
- Design and Implementing Azure AD B2B Collaboration
- Design and Implementing apps with Azure AD B2C Collaboration leveraging Microsoft account, Facebook, Google+, Amazon and LinkedIn;