<u>Deccansoft Software Services</u>

(A Microsoft Learning Partner)

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

Getting Starting with Azure

- Introduction to Azure
- Azure Hosting Models
- Azure Services
- Subscribing to Microsoft Azure
- Azure Portals
- 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

- Implement Azure Application Gateway
- User Defined Routes (UDRs),
- Understanding and using Azure DNS at the virtual network level
- Design and implement a multi-site or hybrid network
  - o Point-to-Site Network
  - o Site-to-Site Network
  - o ExpressRoute Solution
- Azure VM Backup and Restore Services

Azure Virtual Machine

- 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
  - o VM Extensions & VM Agents
  - o Custom Script Extensions
  - o Desired State Configuration (DSC)
  - o Puppet or Chef
- Configure VM monitoring, configure alerts, diagnostic and monitoring storage location.

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

- Understanding DocumentDB database Schema

- Creating and Saving Documents

- Reading Documents

Redis Caching

- Caching Overview

- What is Redis Cache

- Creating a Redis Cache

- Developing Redis Cache Client

- Controlling Expiration

Implement Azure Search

- Create a service index

- Add data

- Search an index

- Handle search results

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;

Messaging Strategy using 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
- Create Azure Functions Service,
- Implement a Webhook function,
- Create an event processing function,
- Implement an Azure-connected function

Implement API management

- Create managed APIs.
- Configure API management policies.
- Protect APIs with rate limits.
- Add caching to improve performance.
- Monitor APIs.
- Customize the Developer Portal.

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
    - o   Facebook Authentication
    - o   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 a 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

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