Microsoft Azure AZ-104 Curriculum

Managing Azure Subscriptions and Resource Groups

Learning Objective: In this module, you will learn about Azure Cloud Computing and Azure Subscription and Management Groups. You will also learn about the Resource Groups and Various services Azure provides.

Topics:

Introduction to Cloud Computing

Overview of Microsoft Azure

Azure Subscriptions, billing

Azure Portal &Tags, Locks, Check Resource providers

Hands-On:

1. Create an Azure account
2. Manage subscriptions, Azure Portal
3. Configure Management Groups & Apply Policies
4. Create Resource Groups &Tags
5. Check Resource providers
6. Create Azure Resource Manager locks
7. Remove resources and resource groups

Introduction to Azure Cloud Shell

Describe Azure Cloud Shell and the functionality it provides.

What is Azure Cloud Shell?

How does Azure Cloud Shell work?

When should you use Azure Cloud Shell?

Azure Virtual Networks and Network Security

Learning Objective: In this module, you will be introduced to Azure virtual networking concepts and how you create and configure them. You will also learn the basics of Network Security Groups (NSGs). You will also learn how to implement NSGs.

Topics:

Introduction to Azure Virtual Networks

IP Addresses – Public and Private

Subnets, Network Interface Cards (NICs)

Network Security Groups (NSGs)

Create and configure network security groups (NSGs)

Implement Azure Bastion

Virtual Network Peering

Configure user-defined network routes

Hands-On:

Create and Configure Virtual Networks

Configuring Subnet, Creating Public IP address

Setup Network Security Groups (NSGs)

Connect vent to Vnet

Configure Virtual Network Peering (Different Vnets)

Overview of Azure Virtual Machines

Learning Objective: In this module, you will be introduced to Azure VMs, their supporting OS, sizing, and pricing. You will also learn how to create and configure Windows and Linux VMs in Azure.

Topics:

Azure Virtual Machines

What do I need to think about before creating a virtual machine?

Introduction to ARM Templates

Creating a Linux Virtual Machine

Configure Azure Disk Encryption

Azure Virtual Machine Storage

Hands-On:

Create Windows VMs in the Azure Portal

Create Linux VMs in the Azure Portal

Create and connect to a VM

Linux with Password

Linux with key generator

Create VMs using ARM Templates

Attach a Managed Data Disk to a Windows VM

Azure Virtual Machine Storage

Select and use VM images

View and use specific VM sizes

Resize a VM

Overview of Azure Storage Services

Learning Objective: In this module, you will learn about storage accounts – Standard and Premium –and work with Azure Storage Explorer to manage storage data. You will discover how a shared access signature (SAS) is used to provide delegated access to resources. You will also learn about data replication - Azure Blob Storage, Azure Files

Topics:

Azure Storage

Azure Blob Storage

Disk Snapshot

Azure File Storage

Azure Storage Explorer

Attach or Detach an External Storage

Configure snapshots and soft delete for Azure Files

Access Keys

Account Shared Access Signatures (SAS)

Attach a Storage Account in Explorer

Azure Storage Replication

LRS

GRS

Hands-On:

Create Azure Storage accounts

Create Containers and upload Blobs

Woking Public Level Access

working Acces Tiers and Blob Types

and Files storages

create a Disk Snap Vm1 and Restore to VM 2

Manage storage using Azure Storage Explorer

Access key

SAS Service Level

SAS Account Level

Configure blob lifecycle management

Configure blob versioning

Provision and manage containers

Create and manage an Azure container registry

Provision a container by using Azure Container Instances

Provision a container by using Azure Container Apps

Manage sizing and scaling for containers, including Azure Container Instances and Azure Container Apps

web Apps

Learning Objective: In this module, you will learn how to Create web Apps and App Service Plan

App Service Plans

App Service

Configure deployment slots for an App Service

Describe Azure DNS

Hands-On:

Create an App Service Plan

Create a Web App Service

Implement Azure DNS

Azure Back up

Learning Objective: In this module, you will learn how to use Azure backup as a data protection solution and how to transfer data to and from the cloud using the Import/Export service and Data Box.

Topics:

Azure Backup

Why Use Azure Backup?

Files and Folder Backup

on-premises / Azure (File Storage)

mars agent download

Azure Virtual Machine Backup

Azure Import/Export Service

Azure Data Box

Hands-On:

Implement Azure Backup service

Files and Folder Backup (Recover)

Azure Virtual Machine Backup

Configure Virtual Machines for High Availability

Learning Objective: In this module, you will learn about the two main configuration areas for VMs: Networking and Storage. You will learn how to keep your VMs highly available sets and how to use scale sets to increase/decrease the number of VMs. Azure Load Balancer

Topics:

Azure Virtual Machine Availability

Azure Load Balancer

Automatic Scaling of Azure VMs

VM Scale Sets

Hands-On:

Configure Azure Load Balancer

Create AVailability Set

Create AVailability Zone

Create a VM Scale Set

Monitoring and Access Management for Cloud Resource

Learning Objective: In this module, you will learn about Azure Monitor and its many capabilities to ensure your Azure architecture is working correctly. You will also learn about the Log Analytics tool that provides a way for you to analyze and query all types of connected data.

Topics

Log Analytics

Azure Monitor

Azure Activity Log

Alerts in Azure Monitor

Hands-On:

Configure Activity Log Alerts

Create Log Analytics

Manage Azure Active Directory (AD)

Learning Objective: In this module, you will be introduced to the Azure Active Directory and the basics of implementing Azure AD objects. These objects include domains and tenants, users and groups, roles, and devices.

Topics:

Describe Microsoft Entra ID benefits and features

Compare Active Directory Domain Services to Microsoft Entra ID

Select Microsoft Entra editions

Overview of Role-Based Access Control

Multi-Factor Authentication

Self-Service Password Reset

Azure AD Domains and Tenants /Sys on-premises ADDS to Azure AD

Custom Domains

Hands-On:

Configure Domains and Tenants, Users and Groups

Provide access to Azure resources by assigning roles

Manage Access using RBAC

Grant Access for a Group using RBAC

Configure Self-Service Password Reset

Microsoft Azure AZ-104 Project

What are the system requirements for this Microsoft Azure AZ-104 course?

Hardware Requirements:

Memory – Minimum 8 GB RAM

Processor – Intel Core i3 CPU @2.00 GHz or later

Storage – 250 GB HDD/SDD or later

2. Software Requirements:

Operating System – Windows 7 or above, Ubuntu 14 or later

Windows PowerShell 4.0 or later (Install Azure Module)

Microsoft Azure SDK for .NET v2.9 (prefer latest)

How will I execute the practicals?

You will be executing all the practicals on a free tier Azure account, which we will be creating during our class.

Teaching Contact Hours

Total duration- 30 days, 6 days/week and 1 hours/day. Theory and Particles

Entry Requirements

This course can be taken only by Technical and NON-Technical Graduates.

How will this course enhance my career Growth?

This course will help you become either one of the following,

- Azure Fundamentals
- Azure Administrator Associate
- Azure Developer Associate
- Azure Solutions Architect Expert
- Azure DevOps Engineer Expert

