

# Azure Syllabus

(This syllabus taken by Azure official Curriculum)

## Configure Subscriptions

- ❖ Introduction of Subscriptions
- ❖ Identify Azure Regions
- ❖ Implement Azure Subscriptions
- ❖ Obtain an Azure Subscriptions
- ❖ Identify Azure Subscription usage
- ❖ Implement Microsoft Cost Management
- ❖ Apply resource tagging
- ❖ Apply cost savings
- ❖ **Labs on Cost Management**

## Configure Virtual Machines

- ❖ Introduction of Azure Virtual Machines
- ❖ Cloud Services responsibilities
- ❖ Plan Virtual Machines
- ❖ Determine Virtual Machine sizing
- ❖ Determine Virtual Machine Storage
- ❖ Create Virtual Machine in the Azure Portal
- ❖ Create a Windows Virtual Machine
- ❖ Connect to Virtual Machines using RDP connections
- ❖ Configure Azure Virtual Machine Network settings
- ❖ **Labs on Creating Virtual Machines**

## Configure Virtual Networks

- ❖ Introduction of Azure Virtual Networks
- ❖ Plan IP Addressing
- ❖ Plan Virtual Networks
- ❖ Create Virtual Network and Subnets
- ❖ Create Public IP Addressing
- ❖ Associate Public IP Addresses
- ❖ Allocate or assign private IP Addresses
- ❖ **Labs on Creating Virtual Network and Subnets**

## Configure Network Security Groups

- ❖ Introduction of Network Security Group
- ❖ Implement Network Security Groups
- ❖ Determine Network Security Group Rules
- ❖ Determine Network Security Group effective rules
- ❖ Create Network Security Group rules
- ❖ Implement Application Security Groups
- ❖ **Labs on Network Security Group**

## Configure Azure Virtual Network Peering

- ❖ Determine Azure Virtual Network peering uses
- ❖ Determine gateway transit and connectivity
- ❖ Create Virtual Network peering
- ❖ Extend peering with user-defined routes and service
- ❖ **Labs on Azure Virtual Network Peering**

## Configure Azure Load Balancer

- ❖ Determine Azure Load Balancer uses
- ❖ Implement a public Load Balancer
- ❖ Implement an Internal Load Balancer
- ❖ Determine Load Balancer SKUs
- ❖ Create back-end pools
- ❖ Create health probes
- ❖ Create Load Balancer rules
- ❖ Azure Load Balancer features and capabilities
- ❖ **Labs on Azure Load Balancer**

## Configure Azure Application Gateway

- ❖ Introduction of Azure Application Gateway
- ❖ Implement Azure Application Gateway
- ❖ Determine Azure Application Gateway routing
- ❖ Configure Azure Application Gateway components
- ❖ **Labs on Azure Application Gateway**

## Host your domain on Azure DNS

- ❖ Introduction of Azure DNS
- ❖ Configure Azure DNS to host your domain
- ❖ Create a DNS Zone and Records manually

- ❖ Dynamically resolve resource name by using alias record
- ❖ **Labs on Azure DNS Zone**

## Configure Virtual Machine Availability

- ❖ Introduction of Virtual Machine Availability
- ❖ Plan for maintenance and downtime
- ❖ Create Availability Sets
- ❖ Review update domains and fault domains
- ❖ Review Availability Zones
- ❖ Compare Vertical and Horizontal Scaling
- ❖ Implement Azure Virtual Machine Scale sets
- ❖ Create Virtual Machine Scale Sets
- ❖ Implement Auto-scale
- ❖ **Labs on Virtual Machine Availability**

## Configure Azure Storage account

- ❖ Introduction of Azure Storage account
- ❖ Implement Azure Storage
- ❖ Explore Azure Storage services
- ❖ Determine storage account types
- ❖ Determine replication strategies
- ❖ Access storage
- ❖ Secure storage endpoints
- ❖ **Labs on Azure Storage account**

## Create an Azure Storage account

- ❖ Introduction of Azure Storage account
- ❖ Decide how many storage accounts you need
- ❖ Choose your storage settings
- ❖ Choose an account creation tool
- ❖ **Labs on Creating Storage account**

## Configure Azure Blob Storage

- ❖ Introduction of Blob Storage
- ❖ Implement Azure Blob Storage
- ❖ Create blob containers
- ❖ Assign blob access tiers
- ❖ Add blob lifecycle management rules

- ❖ Determine blob object replication
- ❖ Upload objects to blobs
- ❖ Determine Blob Storage pricing
- ❖ **Labs on Azure Blob Storage**

## Configure Azure Files and Azure File Sync

- ❖ Introduction of Azure Files Shares
- ❖ Compare storage for file shares and blob data
- ❖ Manage Azure File Shares
- ❖ Create File share snapshots
- ❖ Implement soft delete for Azure Files
- ❖ Use Azure Storage Explorer
- ❖ Deploy Azure File Sync
- ❖ **Labs on Azure Storage Files**

## Upload, Download and manage data with Azure Storage Explorer

- ❖ Introduction of Azure Storage Explorer
- ❖ Connect Azure Storage Explorer to a storage account
- ❖ Connect Azure Storage Explorer to Azure Data Lake Storage
- ❖ **Labs on Azure Storage Explorer**

## Control access to Azure Storage with shared access signatures

- ❖ Introduction of access to Azure storage with SAS
- ❖ Authorization options for Azure Storage
- ❖ Use shared access signatures to delegate access to Azure Storage
- ❖ Use storage access policies to delegate access to Azure storage
- ❖ **Labs on Azure SAS**

## Configure Azure Storage Security

- ❖ Introduction of Azure Storage Security
- ❖ Review Azure Storage security strategies
- ❖ Create shared access signatures
- ❖ Identify URI and SAS parameters
- ❖ Determine Azure Storage encryption
- ❖ Create customer managed keys
- ❖ Apply Azure Storage security best practices
- ❖ **Labs on Azure Storage Security**

## Configure Network routing and endpoints

- ❖ Introduction of Network routing and endpoints
- ❖ Review system routes
- ❖ Identify user-defined routes
- ❖ Determine service endpoint uses
- ❖ Determine service endpoint services
- ❖ Identify private link uses
- ❖ **Labs on endpoints**

## Manage and control traffic flow in Azure deployment with routes

- ❖ Introduction of Traffic Flow
- ❖ Identify routing capabilities of an Azure Virtual Network
- ❖ What is Network Virtual Appliance
- ❖ Route traffic through the Network Virtual Appliance
- ❖ **Labs on Creating Network Virtual Appliance**

## Configure Azure App Service Plans

- ❖ Introduction of Azure App Service Plans
- ❖ Implement Azure App Service Plans
- ❖ Determine Azure App Service Plan pricing
- ❖ Scale up and scale out Azure App Service
- ❖ Configure Azure App Service auto-scale
- ❖ **Labs on Creating Azure App Service Plan**

## Configure Azure App Service

- ❖ Introduction of Azure App Service
- ❖ Implement Azure App Service
- ❖ Create an app with App Service
- ❖ Explore continuous integration and deployment
- ❖ Create deployment slots
- ❖ Add deployment slots
- ❖ Secure your App Service App
- ❖ Create custom domain names
- ❖ Backup and restore your App Service app
- ❖ Use Azure Application Insights
- ❖ **Labs on Azure App Services**

## Host a web application with Azure App Service

- ❖ Introduction of Web Application
- ❖ Create a web app in the Azure Portal
- ❖ Prepare the web application code
- ❖ **Labs on Web Application in Azure App Service**

## Understand Microsoft Entra ID

- ❖ Introduction of Microsoft Entra ID
- ❖ Examine Microsoft Entra ID
- ❖ Compare Microsoft Entra ID and Active Directory Domain Services
- ❖ Examine Microsoft Entra ID as a Directory Service for cloud apps
- ❖ Compare Microsoft Entra ID P1 and P2 plans
- ❖ Examine Microsoft Entra Domain Services

## Configure user and group accounts

- ❖ Introduction of User and Groups in Entra ID
- ❖ Create user accounts
- ❖ Manage user accounts
- ❖ Create bulk user accounts
- ❖ Create group accounts
- ❖ Create administrative units
- ❖ **Labs on Creating Users and Groups**

## Configure role-based access control

- ❖ Introduction of role-based access control
- ❖ Implement role-based access control
- ❖ Create a role definition
- ❖ Create a role assignment
- ❖ Compare Azure Roles to Microsoft Entra roles
- ❖ Apply role-based access control
- ❖ Review fundamental Azure RBAC roles
- ❖ **Labs on Role Based Access Control**

## Create Azure users and groups in Microsoft Entra ID

- ❖ What are user accounts in Microsoft Entra ID
- ❖ Add and delete users in Microsoft Entra ID
- ❖ Manage app and resource access by using Microsoft Entra groups
- ❖ Assign users to Microsoft Entra groups

- ❖ Collaborate by using guest accounts and Microsoft Entra B2B
- ❖ Give guest users access in Microsoft Entra B2B

## Secure your Azure resources with Azure role-based access control (RBAC)

- ❖ What is Azure RBAC
- ❖ List access using Azure RBAC and the Azure Portal
- ❖ Grant access using Azure RBAC and the Azure Portal
- ❖ View activity logs for Azure RBAC changes

## Allow users to reset their password with Microsoft Entra self-service password reset

- ❖ Introduction to self-service password reset
- ❖ What is SSPR in Microsoft Entra ID
- ❖ Implement Microsoft Entra self-service password reset
- ❖ Customize directory branding

## Configure Azure Policy

- ❖ Introduction of Azure Policy
- ❖ Create management groups
- ❖ Implement Azure Policies
- ❖ Create Azure Policies
- ❖ Create Policy definitions
- ❖ Create an initiative definition
- ❖ Scope the initiative definition
- ❖ Determine compliance
- ❖ **Labs on Azure Policy**

## Configure Azure Container Instances

- ❖ Introduction of Azure Container Instances
- ❖ Compare containers to Virtual Machines
- ❖ Review Azure Container Instances
- ❖ Implement container groups
- ❖ Review Azure container groups
- ❖ Review Azure container Apps
- ❖ **Labs on Azure Container Instances**

## Understand Azure Backup

- ❖ Introduction of Azure Backup
- ❖ What is Azure Backup
- ❖ How Azure Backup works
- ❖ When to use Azure Backup

## Configure Azure Virtual Machine Backups

- ❖ Introduction of Virtual Machine Backups
- ❖ Explore options to protect Virtual Machine data
- ❖ Create Virtual Machine snapshots in Azure Backup
- ❖ Set up Azure Recovery Services vaults backup options
- ❖ Backup your Virtual Machines
- ❖ Restore your Virtual Machines
- ❖ Implement soft delete for your Virtual Machines
- ❖ Implement Azure Site Recovery
- ❖ **Labs on Azure Virtual Machine Backups**

## Configure Azure Monitor

- ❖ Introduction of Azure Monitor
- ❖ Describe Azure Monitor key capabilities
- ❖ Describe Azure Monitor components
- ❖ Define metrics and logs
- ❖ Identify monitoring data and tiers
- ❖ Describe activity log events
- ❖ Query the activity log
- ❖ **Labs on Azure Monitor**

## Configure Log Analytics

- ❖ Introduction of Log Analytics



- ❖ Determine Log Analytics uses
- ❖ Create a Log Analytics workspace
- ❖ Create Kusto (KQL) queries
- ❖ Structure Log Analytics queries
- ❖ **Labs on Log Analytics**

## Configure Network Watcher

- ❖ Introduction of Network Watcher
- ❖ Describe Azure Network Watcher features
- ❖ Review IP flow verify diagnostics
- ❖ Review next hop diagnostics
- ❖ Visualize the network topology

## Improve incident response with Azure Monitor alerts

- ❖ Introduction of Azure Monitor alerts
- ❖ Explore the different alert types that Azure Monitor supports
- ❖ Use metric alerts for alerts about performance issues in your Azure environment
- ❖ Use log alerts to alert on events in your application
- ❖ Use active log alerts to alert on events within your Azure infrastructure
- ❖ Use action groups and alert processing rules to send notifications when an alert is fired
- ❖ **Labs on Azure Monitor alerts**

## Analyze your Azure infrastructure by using Azure Monitor logs

- ❖ Introduction of Azure Monitor Logs
- ❖ Features of Azure Monitor logs
- ❖ Create basic Azure Monitor log queries to extract information from log data
- ❖ **Labs on Azure Monitor Logs**

## Monitor your Azure Virtual Machines with Azure Monitor

- ❖ Introduction of Azure Virtual Machines Monitor
- ❖ Monitoring for Azure VMs
- ❖ Monitor VM host data
- ❖ Use Metrics Explorer to view detailed host metrics
- ❖ Collect client performance counters by using VM insights
- ❖ Collect VM client event logs

## Manage Virtual Machines with the Azure CLI

- ❖ What is Azure CLI
- ❖ Understand Azure Cloud shell
- ❖ Create a Virtual Machine
- ❖ Test your New Virtual Machine
- ❖ Explore other VM images
- ❖ Sizing VMs properly
- ❖ Query system and runtime information about the VM
- ❖ Start and Stop your VM with the Azure CLI
- ❖ Install software on your VM
- ❖ **Labs on Azure CLI**