

AZ-104 – Microsoft Azure Administrator

Duration: 4 Days

Level: Intermediate

Role: Administrator

Overview

This course teaches IT Professionals how to manage their Azure subscriptions, secure identities, administer the infrastructure, configure virtual networking, connect Azure and on-premises sites, manage network traffic, implement storage solutions, create, and scale virtual machines, implement web apps and containers, back up and share data, and monitor your solution.

Course Topics

Module 1: Configure Microsoft Entra ID

- Define Microsoft Entra concepts, including identities, accounts, and tenants.
- Describe Microsoft Entra features to support different configurations.
- Understand differences between Microsoft Entra ID and Active Directory Domain Services (AD DS).
- Choose between supported editions of Microsoft Entra ID.
- Implement the Microsoft Entra join feature.
- Use the Microsoft Entra self-service password reset feature.

Module 2: Configure user and group accounts

- Configure users accounts and user account properties.
- Create new user accounts.
- Import bulk user accounts with a template.
- Configure group accounts and assignment types.

Module 3: Configure subscriptions

- Determine the correct region to locate Azure services.
- Review features and use cases for Azure subscriptions.
- Obtain an Azure subscription.
- Understand billing and features for different Azure subscriptions.
- Use Microsoft Cost Management for cost analysis.
- Discover when to use Azure resource tagging.
- Identify ways to reduce costs.

Module 4: Configure Azure Policy

- Create management groups to target policies and spending budgets.
- Implement Azure Policy with policy and initiative definitions.
- Scope Azure policies and determine compliance.

Module 5: Configure role-based access control

- Identify features and use cases for role-based access control.
- List and create role definitions.
- Create role assignments.
- Identify differences between Azure RBAC and Microsoft Entra roles.
- Manage access to subscriptions with RBAC.
- Review built-in Azure RBAC roles.

Module 6: Configure Azure resources with tools

- Manage resources with the Azure portal.
- Manage resources with Azure Cloud Shell.
- Manage resources with Azure PowerShell.
- Manage resources with Azure CLI.

Module 7: Use Azure Resource Manager

- Identify the features and usage cases for Azure Resource Manager.
- Describe each Azure Resource Manager component and its usage.
- Organize your Azure resources with resource groups.
- Apply Azure Resource Manager locks.
- Move Azure resources between groups, subscriptions, and regions.
- Remove resources and resource groups.
- Apply and track resource limits.

Module 8: Configure resources with Azure Resource Manager templates

- List the advantages of Azure templates.
- Identify the Azure template schema components.
- Specify Azure template parameters.
- Locate and use Azure Quickstart Templates.

Module 9: Configure virtual networks

- Describe Azure virtual network features and components.
- Identify features and usage cases for subnets and subnetting.
- Identify usage cases for private and public IP addresses.
- Create a virtual network and assign IP address.

Module 10: Configure network security groups

- Determine when to use network security groups.
- Create network security groups.
- Implement and evaluate network security group rules.
- Describe the function of application security groups.

Module 11: Configure Azure DNS

- Identify features and usage cases for domains, custom domains, and private zones.
- Verify custom domain names by using DNS records.
- Implement DNS zones, DNS delegation, and DNS record sets.

Module 12: Configure Azure Virtual Network peering

- Identify usage cases and product features of Azure Virtual Network peering.
- Configure your network to implement Azure VPN Gateway for transit connectivity.
- Extend peering by using a hub and spoke network with user-defined routes and service chaining.

Module 13: Configure network routing and endpoints

- Implement system routes and user-defined routes.
- Configure a custom route.
- Implement service endpoints.
- Identify features and usage cases for Azure Private Link and endpoint services.

Module 14: Configure Azure Load Balancer

- Identify features and usage cases for Azure Load Balancer.
- Implement public and internal Azure load balancers.
- Compare features of load balancer SKUs and configuration differences.
- Configure back-end pools, load-balancing rules, session persistence, and health probes.

Module 15: Configure Azure Application Gateway

- Identify features and usage cases for Azure Application Gateway.
- Implement an Azure application gateway, including selecting a routing method.
- Configure gateway components, such as listeners, health probes, and routing rules.

Module 16: Configure storage accounts

- Identify features and usage cases for Azure storage accounts.
- Select between different types of Azure Storage and create storage accounts.
- Select a storage replication strategy.
- Configure secure network access to storage endpoints.

Module 17: Configure Azure Blob Storage

- Understand the purpose and benefits of Azure Blob Storage.
- Create and configure Azure Blob Storage accounts.
- Manage containers and blobs within Azure Blob Storage.
- Optimize blob storage performance and scalability.
- Implement lifecycle management policies to automate data movement and deletion.
- Determine the best pricing plans for your Azure Blob Storage.

Module 18: Configure Azure Storage security

- Configure a shared access signature (SAS), including the uniform resource identifier (URI) and SAS parameters.
- Configure Azure Storage encryption.
- Implement customer-managed keys.
- Recommend opportunities to improve Azure Storage security.

Module 19: Configure Azure Files and Azure File Sync

- Identify storage for file shares and blob data.
- Configure Azure file shares and file share snapshots.
- Identify features and use cases of Azure File Sync.
- Identify Azure File Sync components and configuration steps.

Module 20: Configure Azure Storage with tools

- Configure and use Azure Storage Explorer.
- Configure the Azure Import/Export service.
- Use the WAImportExport tool with the Azure Import/Export service.
- Configure and use AZCopy.

Module 21: Configure virtual machines

- Determine the responsibilities of cloud service providers and customers in a cloud computing environment.
- Identify the key considerations and factors involved in planning virtual machines. Considerations include workload requirements, resource allocation, and secure access.
- Configure virtual machine storage and virtual machine sizing.
- Create a virtual machine in the Azure portal.
- Practice deploying an Azure virtual machine and verify the configuration.

Module 22: Configure virtual machine availability

- Implement availability sets and availability zones.
- Implement update and fault domains.
- Implement Azure Virtual Machine Scale Sets.
- Autoscale virtual machines.

Module 23: Configure Azure App Service plans

- Identify features and usage cases for Azure App Service.
- Select an appropriate Azure App Service plan pricing tier.
- Scale an Azure App Service plan.

Module 24: Configure Azure App Service

- Identify features and usage cases for Azure App Service.
- Create an app with Azure App Service.
- Configure deployment settings, specifically deployment slots.

- Secure your Azure App Service app.
- Configure custom domain names.
- Backup and restore your Azure App Service app.
- Configure Azure Application Insights.

Module 25: Configure Azure Container Instances

- Identify when to use containers versus virtual machines.
- Identify the features and usage cases of Azure Container Instances.
- Implement Azure container groups.

Module 26: Configure file and folder backups

- Identify features and usage cases for Azure Backup.
- Configure Azure Recovery Services vault backup options.
- Configure the Microsoft Azure Recovery Services (MARS) agent for Azure Backup.
- Implement on-premises file and folder backups.

Module 27: Configure virtual machine backups

- Identify features and usage cases for different Azure backup methods.
- Configure virtual machine snapshots and backup options.
- Implement virtual machine backup and restore, including soft delete.
- Perform site-to-site recovery by using Azure Site Recovery.
- Compare the Azure Backup agent to the Microsoft Azure Backup Server.

Module 28: Configure Azure Monitor

- Identify the features and usage cases for Azure Monitor.
- Configure and interpret metrics and logs.
- Identify the Azure Monitor components and data types.
- Configure the Azure Monitor activity log.

Module 29: Configure Azure alerts

- Identify Azure Monitor alerts, including alert types and alert states.
- Configure Azure Monitor alerts.
- Create alert rules and action groups.

Module 30: Configure Log Analytics

- Identify the features and usage cases for Log Analytics.
- Create a Log Analytics workspace.
- Structure a Log Analytics query and review results.

Module 31: Configure Network Watcher

- Identify the features and usage cases for Azure Network Watcher.
- Configure diagnostic capabilities like IP Flow Verify, Next Hop, and Network Topology.