



CERTIFICATIONS

Microsoft Certified: Azure Administrator Associate



Course AZ-104T00--A: Microsoft Azure Administrator

32hours + 8 extra exam prep

Instructor-led training / live-online training

Level: Intermediate

Preparation for exam: AZ-104

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.

Audience Profile

This course is for Azure Administrators. The Azure Administrator implements, manages, and monitors identity, governance, storage, compute, and virtual networks in a cloud environment. The Azure Administrator will provision, size, monitor, and adjust resources as appropriate.

Prerequisites

Successful Azure Administrators start this role with experience on operating systems, virtualization, cloud infrastructure, storage structures, and networking.

- Understanding of on-premises virtualization technologies, including: VMs, virtual networking, and virtual hard disks.
- Understanding of network configuration, including TCP/IP, Domain Name System (DNS), virtual private networks (VPNs), firewalls, and encryption technologies.
- Understanding of Active Directory concepts, including domains, forests, domain controllers, replication, Kerberos protocol, and Lightweight Directory Access Protocol (LDAP).
- Understanding of resilience and disaster recovery, including backup and restore operations.

Course Outline

Modules and Objectives

1. Configure Microsoft Entra ID
 - In this module, you learn how to:
 - 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.
 - Use the Microsoft Entra self-service password reset feature.
2. Configure user and group accounts
 - In this module, you learn how to:
 - Configure users accounts and user account properties.
 - Create new user accounts.
 - Import bulk user accounts with a template.
 - Configure group accounts and assignment types.
3. Configure subscriptions
 - In this module, you learn how to:
 - 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.
4. Configure Azure Policy
 - In this module, you learn how to:
 - Create management groups to target policies and spending budgets.
 - Implement Azure Policy with policy and initiative definitions.
 - Scope Azure policies and determine compliance.
5. Configure role-based access control
 - In this module, you learn how to:
 - 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.

6. Configure Azure resources with tools

After completing this module, you will be able to:

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

7. Use Azure Resource Manager

After completing this module, you'll be able to:

- 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.

8. Configure resources with Azure Resource Manager templates

Learning objectives

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

9. Configure virtual networks

In this module, you learn how to:

- 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.

10. Configure network security groups

In this module, you learn how to:

- 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.

11. Configure Azure DNS

In this module, you learn how to:

- 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.

12. Configure Azure Virtual Network peering

In this module, you learn how to:

- 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.

13. Configure network routing and endpoints

In this module, you learn how to:

- 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.

14. Configure Azure Load Balancer

In this module, you learn how to:

- 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.

15. Configure Azure Application Gateway

In this module, you learn how to:

- 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.

16. Configure storage accounts

In this module, you learn how to:

- 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.

17. Configure Azure Blob Storage

In this module, you learn how to:

- 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.

18. Configure Azure Storage security

In this module, you learn how to:

- 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.

19. Configure Azure Files and Azure File Sync

In this module, you learn how to:

- 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.

20. Configure Azure Storage with tools

In this module, you learn how to:

- 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.

21. Configure virtual machines

In this module, you learn how to:

- Determine the responsibilities of cloud service providers and customers in a cloud computing environment.
- Identify the key considerations and factors involved in planning for 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.

22. Configure virtual machine availability

In this module, you learn how to:

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

23. Configure Azure App Service plans

In this module, you learn how to:

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

24. Configure Azure App Service

In this module, you learn how to:

- 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.
- Back up and restore your Azure App Service app.
- Configure Azure Application Insights.

25. Configure Azure Container Instances

In this module, you learn how to:

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

26. Configure file and folder backups

In this module, you learn how to:

- 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.

27. Configure virtual machine backups

In this module, you learn how to:

- 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.

28. Configure Azure Monitor

In this module, you learn how to:

- 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.

29. Configure Azure alerts

In this module, you learn how to:

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

30. Configure Log Analytics

After completing this module, you will be able to:

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

31. Configure Network Watcher

After completing this module, you'll be able to:

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