AZ-700: Microsoft Azure Network Engineer Associate Exam Study Guide

April 23, 2022 by manish

★★★★★ 5/5 - (1 vote)

Are you planning for AZ-700 exam? This article will cover all the important topics about the exam you need to know. To pace up with the evolving world in this transforming world, one needs to upskill themselves.

The topics covered in this blog are:

- AZ-700 Certification Overview
- Who is Azure Network Engineer?
- Who is this Certification for?
- Benefits of AZ-700 Certification
- AZ-700 Exam Details
- AZ-700 Exam Skills Measured

AZ-700 Certification Overview

The Azure Network Engineer (AZ-700) exam is an associate-level exam that verifies the abilities and knowledge of subject matter experts who deal with Azure Cloud networking, security, and infrastructure access controls.

The AZ 700 exam is prepared to verify that you know how to manage and execute hybrid networking, core networking architecture, routing, monitoring, and secure service access in cloud and hybrid environments to safeguard data and applications as part of end-to-end security enablement.

Are you new to Azure Cloud? Do check out our blog post on the Microsoft Azure Certification Path and choose the best certification for you.

Who is Azure Network Engineer?

The Azure Network Engineer's responsibilities include recommending,

planning, and implementing Azure networking solutions. Azure engineer role oversees the solution's performance, resiliency, scale, and security. Network engineers use the Azure Portal and other techniques to deploy networking solutions, such as PowerShell, Azure Command-Line Interface (CLI), and Azure Resource Manager templates (ARM templates).

To provide Azure solutions, the Azure Network Engineer unites with solution architects, cloud administrators, security engineers, application developers, and DevOps engineers.

Who is This Certification For?

This AZ-700 exam course is for who the students who are keen in:

- Understanding more about Azure cloud services' networking, infrastructure, and security.
- Working in administration or software development and wanting to advance to the post of Azure Network Engineer.
- Improve their networking skills and learn how to use numerous cloud networking services properly.

Benefits of AZ-700 Certification

Some of the advantages of the AZ 700 exam are mentioned below:

1. Salary Increase

Microsoft ensures that you gain a set of highly sought-after technical abilities. As a result, employers will be willing to pay more to such technical workers, who can expect a wage increase of more than 20%.

2. Learning Resources for the AZ-700 Exam are Readily Available

Applicants can select a free self-learning option before moving on to paid instructor-led courses to further their education.

3. Badges

Finally, put your skills on display via social media and include your certifications on LinkedIn and other sites. AZ-700 exam will boost your professional network and enhance your chances of getting hired by your desired company.

Check Out: Azure Data Factory Interview Questions

AZ-700 Exam Details

Exam Name **Exam AZ-700: Designing and Implementing Microsoft Azure Networking Solutions**	**Exam Duration** 120 Minutes
Exam Fee $165	**Number of Questions** 50 - 60 Questions
Exam Type Multiple Choice Examination	**Exam Languages** English, Japanese, Korean, Spanish, and Portuguese
Passing Marks 700	**Exam validity** 1 year

AZ-700 Exam Skills Measured

Design, implement, and manage hybrid networking	**10-15%**
Design and implement core networking infrastructure	**20-25%**

Design and implement routing	**25-30%**
Secure and monitor networks	**15-20%**
Design and implement Private access to Azure Services	**10-15%**

How to Register for Azure AZ 700 Exam

You can register for the Azure Network Engineer Associate Exam (AZ-700) by going to the Official Microsoft Page.

Exam AZ-700: Designing and Implementing Microsoft Azure Networking Solutions

United States ▾

$165 USD*

Languages: English, Japanese, Chinese (Simplified), Korean, German, French, Spanish, Portuguese (Brazil), Arabic (Saudi Arabia), Russian, Chinese (Traditional), Italian
Retirement date: none

Price based on the country in which the exam is proctored.

This exam measures your ability to accomplish the following technical tasks: design, implement, and manage hybrid networking; design and implement core networking infrastructure; design and implement routing; secure and monitor networks; and design and implement private access to Azure Services.

Schedule exam >

Prerequisite for AZ-700 Certification

Experience in enterprise networking, on-premises or cloud architecture, and network security are required for success in this role. You should be familiar with the following as a requirement for this exam:

- Understanding virtualization technologies on-premises, such as virtual networking and virtual machines (VMs).
- Becoming familiar with network setups, such as TCP/IP, DNS, firewalls, and encryption technologies.
- Software-defined networking (SDN) is something you should be familiar with.
- Understanding VPN and other hybrid network connectivity technologies.

- Understanding disaster recovery and resilience and high availability and restoration operations in networking.

AZ-700 Study Guide

Design, Implement, and Manage Hybrid Networking (10—15%)

Design, implement, and manage a site-to-site VPN connection

- Design a site-to-site VPN connection for high availability
  - highly available cross-premises connections
- Select an appropriate virtual network (VNet) gateway SKU
  - Gateway SKUs
- Identify when to use policy-based VPN versus route-based VPN
  - policy-based and route-based VPN gateways
- Create and configure a local network gateway
  - Create a local network gateway
- Create and configure an IPsec/IKE policy
  - Configure IPsec/IKE policy: Azure portal
  - Configure IPsec/IKE policy: Azure PowerShell
- Create and configure a virtual network gateway
  - Tutorial: Create and manage a VPN gateway using Azure portal
- Diagnose and resolve VPN gateway connectivity issues
  - Troubleshooting: An Azure site-to-site VPN connection
  - Diagnose on-premises connectivity via VPN gateways

Design, implement, and manage a point-to-site VPN connection

- Select an appropriate virtual network gateway SKU
  - Gateway SKUs
- Plan and configure RADIUS authentication
  - Configure a Point-to-Site connection to a VNet using RADIUS
- Plan and configure certificate-based authentication

- Configure a Point-to-Site VPN connection using Azure certificate
- Plan and configure OpenVPN authentication
  - Configure OpenVPN for Point-to-Site VPN gateways
- Plan and configure Azure Active Directory (Azure AD) authentication
  - Create an Azure AD tenant for P2S OpenVPN protocol connections
- Implement a VPN client configuration file
  - install VPN client configuration files for P2S RADIUS authentication
  - VPN client profile configuration files for certificate authentication
- Diagnose and resolve client-side and authentication issues
  - Troubleshooting: Azure point-to-site connection problems
  - Troubleshoot an Azure AD authentication VPN client

Design, implement, and manage Azure ExpressRoute

- Choose between provider and direct model (ExpressRoute Direct)
  - ExpressRoute using a service provider and ExpressRoute Direct
- Design and implement Azure cross-region connectivity between multiple ExpressRoute locations
  - Cross-network connectivity
- Select an appropriate ExpressRoute SKU and tier
  - Gateway SKUs
- Design and implement ExpressRoute Global Reach
  - ExpressRoute Global Reach
  - Configure ExpressRoute Global Reach
- Design and implement ExpressRoute FastPath
  - About ExpressRoute FastPath
  - Configure ExpressRoute FastPath
- Choose between private peering only, Microsoft peering only, or both
  - ExpressRoute peering
  - Peering comparison
- Configure private peering
  - Configure a Site-to-Site VPN connection

- Configure Microsoft peering
  - Configure a site-to-site VPN over ExpressRoute Microsoft peering
- Create and configure an ExpressRoute gateway
  - About ExpressRoute virtual network gateways
  - Tutorial: Configure a virtual network gateway for ExpressRoute
- Connect a virtual network to an ExpressRoute circuit
  - Tutorial: Connect a virtual network to an ExpressRoute circuit
- Recommend a route advertisement configuration
  - Advertising default routes
- Configure encryption over ExpressRoute
  - ExpressRoute encryption: IPsec over ExpressRoute for Virtual WAN
- Implement Bidirectional Forwarding Detection
  - Configure BFD over ExpressRoute
- Diagnose and resolve ExpressRoute connection issues
  - Troubleshooting network performance

Design and Implement Core Networking Infrastructure (20–25%)

Design and implement private IP addressing for VNets

- Create a VNet
  - Create a virtual network using the Azure portal
- Plan and configure subnetting for services, including VNet gateways, private endpoints, firewalls, application gateways, and VNet-integrated platform services
  - Configuring Azure virtual network subnets with CIDR notation
  - Application Gateway infrastructure configuration
- Plan and configure subnet delegation
  - What is subnet delegation?
  - Add or remove a subnet delegation

Design and implement name resolution

- Design public DNS zones
  - Design a hybrid Domain Name System solution with Azure
- Design private DNS zones
  - What is a private Azure DNS zone?
- Design name resolution inside a VNet
  - Name resolution for resources in Azure virtual networks
- Configure a public or private DNS zone
  - Create an Azure DNS zone and record using the Azure portal
  - Create an Azure private DNS zone using the Azure portal
- Link a private DNS zone to a VNet
  - Link the virtual network

Design and implement cross-VNet connectivity

- Design service chaining, including gateway transit
  - Service Chaining and VNET Demo
  - Service chaining
- Design VPN connectivity between VNets
  - Configure a VNet-to-VNet VPN gateway connection
- Implement VNet peering
  - Create, change, or delete a virtual network peering

Design and implement an Azure Virtual WAN architecture

- Design an Azure Virtual WAN architecture, including selecting SKUs and services
  - What is Azure Virtual WAN?
  - Azure Virtual WAN architecture
- Connect a VNet gateway to Azure Virtual WAN
  - Connect a VPN Gateway to Virtual WAN
- Create a hub in Virtual WAN
  - Configure hub settings
- Create a network virtual appliance (NVA) in a virtual hub

- About NVAs in a Virtual WAN hub
- How to create a NVA in an Azure Virtual WAN hub
- Configure virtual hub routing
  - About virtual hub routing
  - How to configure virtual hub routing
- Create a connection unit
  - What is a connection unit?

Design and Implement Routing (25–30%)

Design, implement, and manage VNet routing

- Design and implement user-defined routes (UDRs)
  - User-defined
  - Route network traffic with a route table
- Associate a route table with a subnet
  - Associate a route table to a subnet
- Configure forced tunneling
  - Configure forced tunneling
- Diagnose and resolve routing issues
  - Diagnose a virtual machine network routing problem
  - Diagnose a virtual machine routing problem

Design and implement an Azure Load Balancer

- Choose an Azure Load Balancer SKU (Basic versus Standard)
  - Azure Load Balancer SKUs
- Choose between public and internal
  - What is Azure Load Balancer?
- Create and configure an Azure Load Balancer (including cross-region)
  - Create a public load balancer
  - Create a cross-region Azure Load Balancer
- Implement a load balancing rule

- Create a load balancer rule
- Create and configure inbound NAT rules
  - Create a single virtual machine inbound NAT rule
- Create explicit outbound rules for a load balancer
  - Outbound rules Azure Load Balancer
  - Create outbound rule configuration

Design and implement Azure Application Gateway

- Recommend Azure Application Gateway deployment options
  - Azure Application Gateway – Azure portal
  - Azure Application Gateway – Azure PowerShell
  - Azure Application Gateway – Azure CLI
  - Azure Application Gateway – ARM template
- Choose between manual and autoscale
  - Scaling Application Gateway v2 and WAF v2
- Create a back-end pool
  - Backends tab
- Configure health probes
  - Create probe for Application Gateway v2 SKU
- Configure listeners
  - Application Gateway listener configuration
- Configure routing rules
  - Application Gateway request routing rules
- Configure HTTP settings
  - Application Gateway HTTP settings configuration
- Configure Transport Layer Security (TLS)
  - Configure end to end TLS by using Application Gateway
- Configure rewrite policiessets
  - Rewrite URL with Azure Application Gateway

Implement Azure Front Door

- Choose an Azure Front Door SKU
  - Overview of Azure Front Door tier
- Configure health probes, including customization of HTTP response codes
  - Health probes
- Configure SSL termination and end-to-end SSL encryption
  - Configure HTTPS on an Azure Front Door custom domain
- Configure multisite listeners
  - Application Gateway multiple site hosting
- Configure back-end targets
  - Origins and origin groups in Azure Front Door
- Configure routing rules, including redirection rules
  - How requests are matched to a routing rule
  - Create a Front Door with HTTP to HTTPS redirection

Implement an Azure Traffic Manager profile

- Configure a routing method (mode)
  - Traffic Manager routing methods
  - Tutorial: Configure priority traffic routing method
- Configure endpoints
  - Add Traffic Manager endpoints
- Create HTTP settings
  - Configure endpoint monitoring

Design and implement an Azure Virtual Network NAT

- Choose when to use a Virtual Network NAT
  - What is Virtual Network NAT?
- Allocate public IP or public IP prefixes for a NAT gateway
  - Design virtual networks with NAT gateway
- Associate a Virtual Network NAT with a subnet
  - What is Virtual Network NAT?

Secure and Monitor Networks (15–20%)

Design, implement, and manage an Azure Firewall deployment

- Design an Azure Firewall deployment
  - Deploy and configure Azure Firewall using the Azure portal
- Create and implement an Azure Firewall deployment
  - Deploy and configure Azure Firewall and policy
- Configure Azure Firewall rules
  - Configure Azure Firewall rules
- Create and implement Azure Firewall Manager policies
  - Azure Firewall Manager policy overview
- Create a secure hub by deploying Azure Firewall inside an Azure Virtual WAN hub
  - Configure Azure Firewall in a Virtual WAN hub
  - Secure your virtual hub using Azure Firewall Manager
- Integrate an Azure Virtual WAN hub with a third-party NVA
  - About NVAs in a Virtual WAN hub
  - Scenario: Route traffic through an NVA

Implement and manage network security groups (NSGs)

- Create an NSG
  - Create a network security group
- Associate an NSG to a resource
  - Associate or dissociate a network security group
  - Associate network security group to subnet
- Create an application security group (ASG)
  - Create application security groups
- Associate an ASG to a NIC
  - Associate a Network Security Group to a NIC
- Create and configure NSG rules
  - Create a security rule

- Interpret NSG flow logs
  - Read NSG flow logs
- Validate NSG flow rules
  - Introduction to flow logging for network security groups
- Verify IP flow
  - Introduction to IP flow verify in Azure Network Watcher

Implement a Web Application Firewall (WAF) deployment

- Configure detection or prevention mode
  - WAF modes
  - Change mode
- Configure rule sets for Azure Front Door, including Microsoft managed and user defined
  - Default Rule Set (DRS)
  - Web Application Firewall DRS rule groups and rules
  - Custom rules for Web Application Firewall with Azure Front Door
- Configure rule sets for Application Gateway, including Microsoft managed and user defined
  - Web Application Firewall CRS rule groups and rules
  - Custom rules for WAF on Azure Application Gateway
  - Create WAF custom rules on Application Gateway
- Implement a WAF policy
  - Create Web Application Firewall policies for Application Gateway
- Associate a WAF policy
  - Associate a WAF policy with an existing Application Gateway

Monitor networks

- Configure network health alerts and logging by using Azure Monitor
  - Network health and metrics
- Create and configure a Connection Monitor instance
  - Create a monitor in Connection Monitor

- Configure and use Traffic Analytics
  - Traffic Analytics
- Configure NSG flow logs
  - Configure NSG Flow Logs
- Enable and configure diagnostic logging
  - Create diagnostic settings
- Configure Azure Network Watcher
  - Create an Azure Network Watcher instance

Design and Implement Private Access to Azure Services (10–15%)

Design and implement Azure Private Link service and Azure Private Endpoint

- Create a Private Link service
  - Create a Private Link service by using the Azure portal
- Plan private endpoints
  - What is a private endpoint?
- Create private endpoints
  - Create a private endpoint by using the Azure portal
- Configure access to private endpoints
  - Use private endpoints for Azure Storage
- Integrate Private Link with DNS
  - Private Link and DNS integration at scale
- Integrate a Private Link service with on-premises clients
  - Connect to Azure SQL server using an Azure Private Endpoint

Design and implement service endpoints

- Create service endpoints
  - Restrict access to PaaS resources with service endpoints
- Configure service endpoint policies

- Create service endpoint policy
- Configure service tags
  - Virtual network service tags
- Configure access to service endpoints
  - Allow access to services from specific networks

Configure VNet integration for dedicated platform as a service (PaaS) service

- Configure App Service for regional VNet integration
  - Integrate your app with an Azure virtual network
- Configure Azure Kubernetes Service (AKS) for regional VNet integration
  - Create a private Azure Kubernetes Service cluster
- Configure clients to access App Service Environment
  - App access

AZ-700 Exam Day Tips

Below are some of the exam recommendations:

- You can also take the AZ-104 and AZ-900 exams to better understand the exam.
- Make sure to schedule the AZ 700 exam at least 60-90 days in advance. Use vouchers from a learning partner, or keep a watch out for open Cloud Skill Challenges, which Microsoft frequently offers.
- If you are giving the exam for the first time or you have given the exam previously a Virtual Exam, read the exam information provided by PearsonVUE to verify that your desk and workspace are clean before beginning the exam.
- It is up to your preference to choose the ideal time to schedule the AZ-700 exam. If you're a morning person, you can take the exam in the morning while your mind is free of the day's stresses. On the other

hand, on the night or afternoon side, people faced issues with wait time and their ongoing schedule.

- People have access to a whiteboard where they can jot down exam-related ideas. That section of the exam people used the least.
- Fix a deadline and calculate how much time you spend on each module and part backward. This will aid you in keeping track of time.

Conclusion

We hope this article clarifies all your doubts regarding the AZ-700 exam and covers all relevant topics before entering the exam room. An azure network engineer is indeed a dream role for many and is a pretty popular certification these days.

Related/References

- AZ-600: Microsoft Azure Stack Hub Operator Associate Exam Study Guide
- AZ-104: Microsoft Azure Administrator Associate Exam Study Guide
- DP-203: Microsoft Azure Data Engineer Associate Exam Study Guide
- DP-100: Microsoft Azure Data Scientist Associate Exam Study Guide
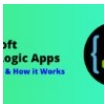- PL-300: Microsoft Power BI Data Analyst Associate Exam Study Guide
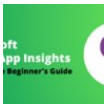
Leave a Comment

Post Comment

Recent Posts

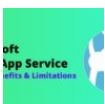Azure Storage Explorer: Download, Install, and Setup Overview

What are Azure Logic Apps: Components, Advantages and How it Works

Microsoft Azure Application Insights: A Complete Beginners Guide

Microsoft Azure Service Bus: A Complete Beginners Guide

Azure App Service: Types, Benefits and Limitations