

# EXAM AZ-700: DESIGNING AND IMPLEMENTING MICROSOFT AZURE NETWORKING SOLUTIONS

## Course description

This AZ-700 Azure Network Engineer Certification training course equips the aspirants with required skills and knowledge to be a successful network administrator with all the necessary skills and get a qualifying AZ-700 certificate.

- Course level: Intermediate
- Duration: 3 days

## Activities

This course includes presentations, demonstrations, and hands-on labs.

## Course objectives

In this course, you will learn to:

- Design, implement and manage hybrid network connections
- Design and implement core Azure networking infrastructure
- Design and implement routing and load balancing in Azure
- Secure and monitor networks
- Design and implement private access to Azure Services

## Intended audience

People who are interested about learning azure virtual network infrastructure and want to become a Microsoft Certified Azure Network Engineer, by attending the course will help you be ready for configuring and managing the virtual network. The participants has to be well-versed in one of the Associate course content.

## Prerequisites for the AZ-700 Exam Course

- Be familiar with Azure regions, resource groups, virtual networks (VNETs), virtual machines, storage, and the Azure portal
- You should have experience with networking concepts, such as IP addressing, Domain Name System (DNS), and routing
- You should have experience with network connectivity methods, such as VPN or WAN
- You should have experience with the Azure PowerShell

## Course outline

### Module 01: Introduction to Azure Virtual Networks

#### Design and Implement IP Addressing for Azure Resources

- Review Virtual Network Fundamentals
- Plan for Azure IP Addressing
- Review Examples of Public Ip Addressing
- Demonstration- Create virtual Networks and public IPs
- Exercise: design and implement a Virtual Network in Azure

#### Design and Implement IP Addressing for Azure Resources

- Review Domain Name Service (DNS) Fundamentals
- Understand Azure DNS Capabilities
- Create a Public DNS Zone and a DNS Record Set
- Create a Private DNS Zone
- What is Azure DNS Private Resolver?
- Demonstration – Create DNS Infrastructure
- Exercise: configure DNS settings in Azure

#### Design and Implement VNet connectivity and routing

- What are Systems Route?
- What are User-Defined Routes (UDRs) ?
- What is VNet Peering?
- Demonstration – VNet Peering
- What is Azure Route Server?
- What is Virtual Network Manager?

- What is Azure NAT Gateway?
- Exercise: connect two Azure Virtual Networks using global Vnet peering

#### Labs:

Lab 1: Design and implement a Virtual Network in Azure

Lab 2: Configure DNS settings in Azure

Lab 3: Connect two Azure Virtual Networks using global virtual network peering

## **Module 02: Design and implement Hybrid Networking**

### Design and Implement Azure VPN Gateways

- Review VPN Gateway Topologies
- Choose the Appropriate Gateway SKU and Generation
- Understand Site-to-Site VPN Connections
- Configure Site-to-Site VPN Connections
- Configure Site-to-Site Forced Tunneling
- Configure Point-to-Site VPN Connections
- Review VPN Connections High availability Options
- Demonstration- VPN Gateways
- Exercise: Create and Configure a Virtual Network in Azure

### Design and implement an Azure Virtual WAN Architecture

- What is Azure Virtual WAN?
- Configure the Virtual WAN Hub
- Understand Virtual Hub Routing
- Demonstration- Azure Virtual WAN
- Deploy a NVA in the VWAN
- Troubleshoot Virtual WANs
- Comparing VPN Gateways with Virtual WANs
- Exercise: create a Virtual WAN by using Azure Portal

#### Labs:

Lab 4: Create and configure a virtual network gateway

Lab 5: Create a Virtual WAN by using Azure Portal

## **Module 03: Design and implement Azure ExpressRoute**

- What is Azure ExpressRoute?
- Select a Connectivity Model for ExpressRoute
- Compare Private Peering and Microsoft Peering
- Select an ExpressRoute Resiliency Model
- What is ExpressRoute Global Reach?
- What is ExpressRoute FastPath?
- Troubleshoot ExpressRoute connection issues
- Compare VPN Gateways to ExpressRoute

- Demonstration - ExpressRoute
- Design an ExpressRoute deployment
- Exercise: configure an ExpressRoute gateway
- Exercise: provision an ExpressRoute circuit
- Review the ExpressRoute components

#### Labs:

Lab 6: Configure an ExpressRoute Gateway

Lab 7: Provision an ExpressRoute circuit

### **Module 04: load balance non-HTTP(S) traffic in Azure**

- Non-HTTP/S load balancing options

#### Design and implement Azure Load Balancer

- What is the Azure Load Balancer?
- Determine the Load Balancer Tier
- Create Load Balancer Rules
- Create Health Probes
- What is a Gateway Load Balancer?
- Demonstration- Load Balancer
- Exercise: create and configure an Azure load balancer

#### Design and implement Azure Traffic Manager

- What is Azure Traffic Manager
- Understand Traffic Manager Endpoints
- Configure Traffic Manager Routing Methods
- Set Up Disaster Recovery and Outage Detection
- Compare Azure Load Balancer to Traffic Manager
- Demonstration – Traffic Manager
- Exercise: create a Traffic Manager profile

#### Labs:

Lab 8: Create and configure an Azure load balancer

Lab 9: Create a Traffic Manager profile using the Azure portal

### **Module 05: Load balance HTTP(S) traffic in Azure**

#### Design Azure Application Gateway

- Application Gateway Features
- Determine Application Gateway Routing
- Choose an Application Gateway SKU
- Configure Health Probes
- Configure Listeners and Certificates
- Redirection Overview
- Configure Rewrite Sets

- Demonstration – Application Gateway
- Exercise : Deploy Azure Application Gateway

#### Design and Implement Azure Front Door

- What is Azure Front Door?
- Azure Front Door Standard and Premium
- Configure an Origin
- Configure Routing and Redirection Rules
- Configure Health Probes
- Demonstration – Azure Front Door
- Compare Azure Application Gateway and Azure Front Door
- Exercise: Create a Front Door for a web application

#### Labs :

Lab 10: Deploy Azure application gateway

Lab 11: Create a front door for a highly available web application using the Azure portal

### **Module 06: Design and implement Network security**

- Comparising NSG, Firewalls and WAF

#### Implement Azure Network Security

- What is the Microsoft Cloud Security Benchmark (MCSB)?
- Use the Regulatory Compliance Dashboard
- Review Microsoft Defender for Cloud
- Review DDoS Attack Strategies
- Choose a DDoS Protection Tier
- Demonstration – DDoS Network Protection
- Exercise: configure DDoS Protection on a virtual network using the Azure portal

#### Implement and Manage Network Security Groups

- Review Network Security Groups
- Review Default NSG Rules
- Create NSG rules
- Use Service Tags in NSGs
- Monitor and Troubleshoot NSGs
- Implement Application Security Groups (ASG)
- Demonstration -Network Security Groups
- Connect to Virtual Machines

#### Design and implement Azure Firewall and Azure Firewall Manager

- What is Azure Firewall?

- Deploy Azure Firewall in a Hub- Spoke network topology
- Rule Processing in Azure Firewall
- What is Azure Firewall Manager?
- Configure Azure Firewall Manager Policies
- Demonstration - Azure Firewall and Azure Firewall Manager
- Exercise: deploy and configure Azure Firewall
- Exercise: secure your virtual hub using Azure Firewall Manager

#### Design and Implement a Web Application Firewall Deployment

- What is the Web Application Firewall?
- Web Application Firewall with Azure Application Gateway
- Web Application Firewall with Azure Front Door
- Web Application Firewall Default Rule Set
- Web Application Firewall Custom Rules

#### Labs:

Lab 12: Configure DDoS Protection on a virtual network using the Azure portal

Lab 13: Deploy and configure Azure Firewall using the Azure portal

Lab 14: Secure your virtual hub using Azure Firewall Manager

### **Module 07: Design and implement private access to Azure Services**

#### Design and implement Service Endpoints

- What is a Service Endpoints
- Add Service Endpoint Policies
- Demonstration – Service Endpoints

#### Design and implement Azure Private Link Service and Azure Private Endpoints

- What is Azure Private Link?
- What is an Azure Private Endpoint?
- Demonstration – Private Endpoints
- Compare Service Endpoints and Private Endpoints
- What is Azure Private Link Service?
- Demonstration – Private Link Service
- Exercise: Restrict network access to PaaS resources

#### Labs:

Lab 15: Restrict network access to PaaS resources with virtual network service endpoints

Lab 16: Create an Azure private endpoint using Azure PowerShell

### **Module 08: Design and implement network monitoring**

#### Monitor Networks

- What is Azure Monitor?

- Implement Metrics Explorer
- Use Azure Monitor Network Insights
- Demonstration – Azure Monitor
- Exercise: Monitor a load balancer resource (Azure Monitor)

Monitor your Networks using Azure Network Watcher

- Network Watcher
- Demonstration – Azure Network Watcher
- Review Monitoring Tools
- Review Traffic Tools
- Review Network Diagnostics Tools

Labs:

Lab 17: Monitor a load balancer resource using Azure Monitor

Your course overview ends here.  
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## About CloudThat

Established in 2012, CloudThat is an award-winning company and the first in India to offer cloud training and consulting services for individuals and enterprises worldwide. Recently, it won Google Cloud's New Training Partner of the Year Award for 2025, becoming the first company in the world in 2025 to hold awards from all three major cloud giants: AWS, Microsoft, and Google. CloudThat notably won consecutive AWS Training Partner of the Year (APJ) awards in 2023 and 2024 and the Microsoft Training Services Partner of the Year Award in 2024, bringing its total award count to an impressive 12 awards in the last 8 years.

CloudThat specializes in Cloud Migration, Data Platforms, DevOps, IoT, and cutting-edge technologies like Gen AI & AI/ML. As a Microsoft Solutions Partner, AWS Premier Tier Training Partner, Google Cloud Platform Partner, and collaborator with leading organizations like HPE, Oracle, Nvidia and Databricks, CloudThat has trained over 850,000 professionals across 600+ cloud certifications, empowering students and professionals worldwide to advance their skills and careers.

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