Design and Implement Microsoft Azure Network Solutions (AZ-700) Training

Duration: **3 Day**

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The **Design and Implement Microsoft Azure Network Solutions (AZ-700)** course is designed for networking professionals who need to build secure, scalable, resilient, and high-performance network solutions in Microsoft Azure.

Throughout the programme, participants explore key Azure networking technologies including Virtual Networks, hybrid connectivity, routing, load balancing, private access, ExpressRoute, Azure Firewall, DDoS Protection, and network monitoring.

The course goes beyond individual service features and focuses on choosing appropriate networking architectures for different business and technical requirements. Learners develop the ability to design secure connectivity models, control traffic flow, integrate on-premises environments with Azure, and provide private access to cloud services.

Scenario-based learning and guided exercises help participants apply Azure networking principles to realistic enterprise environments.

Prerequisites

Participants should have experience or knowledge in the following areas:

- Enterprise networking
- Network security
- Network infrastructure
- Virtual machines
- Virtual networks
- TCP/IP
- DNS
- VPN technologies
- Firewalls
- Encryption
- Hybrid connectivity
- Disaster recovery concepts

Learners with limited Azure experience may benefit from foundational knowledge equivalent to **AZ-900 Azure Fundamentals**.

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Who Should Attend

This course is particularly suitable for:

- Network Engineers who want to specialise in Azure networking
- IT professionals responsible for hybrid network environments
- Professionals managing cloud network infrastructure
- Cloud Engineers designing Azure connectivity
- Network Architects
- Technical professionals responsible for resilient and scalable Azure network solutions
- Candidates preparing for the AZ-700 examination

What You Will Learn

By the end of the course, participants will be able to:

- Design Azure Virtual Networks and subnets
- Plan public and private IP addressing
- Design Azure DNS and custom DNS solutions
- Configure Virtual Network Peering and routing
- Design Azure Virtual Network NAT
- Implement Site-to-Site VPN connectivity
- Implement Point-to-Site VPN solutions
- Design Azure Virtual WAN and virtual hubs
- Integrate Network Virtual Appliances
- Design and optimise ExpressRoute connectivity
- Configure load balancing for HTTP(S) and non-HTTP(S) traffic
- Apply network access controls with Network Security Groups
- Design Azure Firewall solutions
- Configure Azure DDoS Protection
- Apply Web Application Firewall policies
- Implement Service Endpoints and Private Endpoints
- Restrict internet access to Azure services
- Monitor network health using Azure Monitor and Network Watcher
- Troubleshoot connectivity and performance issues

Training Outline

Azure Virtual Network Design

This module covers the core components of Azure virtual networking.

Topics include:

- Designing Azure Virtual Networks
- Creating and configuring subnets
- IP address planning
- Public IP addresses

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- Private IP addresses
- Azure DNS
- Custom DNS
- Name resolution
- Virtual Network Peering
- Routing
- Route tables
- Azure Virtual Network NAT

Participants learn how to design address spaces and subnet structures for different workload requirements.

Hybrid Networking

This module focuses on connectivity between Azure and on-premises environments.

Topics include:

- Site-to-Site VPN
- Point-to-Site VPN
- Certificate-based authentication
- RADIUS-based authentication
- Azure Virtual WAN
- Virtual hubs
- Hybrid connectivity architecture
- Network Virtual Appliances
- NVA integration

Learners compare approaches for connecting branch offices, data centres, and remote users to Azure.

ExpressRoute Deployment

This module examines private and dedicated connectivity to Azure.

Topics include:

- ExpressRoute planning
- ExpressRoute circuit deployment
- Private peering
- Microsoft peering
- ExpressRoute Global Reach
- ExpressRoute FastPath
- Performance considerations
- ExpressRoute troubleshooting

Participants evaluate use cases in which ExpressRoute offers advantages over internet-based connectivity.

Load Balancing Non-HTTP(S) Traffic

This section focuses on balancing TCP and UDP traffic.

Topics include:

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- Azure Load Balancer
- Internal Load Balancer
- External Load Balancer
- Backend pools
- Health probes
- Load balancing rules
- Azure Traffic Manager
- DNS-based load balancing

Participants compare regional and global traffic distribution approaches.

Load Balancing HTTP(S) Traffic

This module focuses on application delivery services for web workloads.

Topics include:

- Azure Application Gateway
- Layer 7 load balancing
- Web Application Firewall
- WAF policies
- Azure Front Door
- Global HTTP(S) load balancing
- Failover
- Application acceleration

Learners evaluate which services are appropriate for internal, regional, and global web traffic.

Network Security

This module examines controls used to protect Azure networks.

Topics include:

- Network Security Groups
- NSG rules
- Inbound and outbound security
- Azure Firewall
- Firewall Policies
- Azure Firewall Manager
- Azure DDoS Protection
- Web Application Firewall
- Application protection
- Network segmentation

Participants learn how multiple layers of network security can be combined to protect Azure workloads.

Private Access to Azure Services

This module focuses on providing private connectivity to Azure platform services.

Topics include:

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- Service Endpoints
- Azure Private Link
- Private Endpoints
- Azure DNS integration
- Custom DNS integration
- Private endpoint name resolution
- Restricting public access
- Private connectivity to Azure services

Participants learn how to reduce internet exposure and provide controlled access to cloud services.

Network Monitoring and Diagnostics

This module covers monitoring and troubleshooting Azure networking environments.

Topics include:

- Azure Monitor
- Network Watcher
- Network diagnostics
- NSG Flow Logs
- Traffic Analytics
- Connection Monitor
- Connectivity monitoring
- Network metrics
- Diagnostic logs
- Performance analysis

Learners develop the skills to identify connectivity issues, investigate traffic flows, and monitor overall network health.

Exams and Assessments

This course supports learners preparing for the **Microsoft Certified: Azure Network Engineer Associate** certification.

The associated exam is:

AZ-700: Designing and Implementing Microsoft Azure Networking Solutions

The exam is not included with the course and must be booked separately.

There are no formal examinations or assessments included in the programme.

Learning is reinforced through:

- Scenario-based exercises
- Guided labs
- Architecture design activities
- Network troubleshooting exercises
- Knowledge checks

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