AZ-700: Design and Implement Microsoft Azure Network Solutions

Microsoft - Azure Apps & Infrastructure

- **Nível:** Intermédio
- **Duração:** 21h

Sobre o curso

This course teaches Network Engineers how to design, implement, and maintain Azure networking solutions.

This course covers the process of designing, implementing, and managing core Azure networking infrastructure, Hybrid Networking connections, load balancing traffic, network routing, private access to Azure services, network security and monitoring.

Learn how to design and implement a secure, reliable, network infrastructure in Azure and how to establish hybrid connectivity, routing, private access to Azure services, and monitoring in Azure.

Destinatários

This course is for Network Engineers looking to specialize in Azure networking solutions. An Azure Network engineer designs and implements core Azure networking infrastructure, hybrid networking connections, load balance traffic, network routing, private access to Azure services, network security and monitoring. The azure network engineer will manage networking solutions for optimal performance, resiliency, scale, and security.

Objetivos

- Prepare for Exam AZ-700: Designing and Implementing Microsoft Azure Networking Solutions
- Design and implement fundamental Azure Networking resources such as virtual networks, public and private IPs, DNS, virtual network peering, routing, and Azure Virtual NAT
- Design and implement hybrid networking solutions such as Site-to-Site VPN connections, Point-to-Site VPN connections, Azure Virtual WAN, and Virtual WAN hubs
- Design and implement Azure ExpressRoute, ExpressRoute Global Reach, ExpressRoute FastPath, and when to use each service according to your environments requirements
- Balance options in Azure and how to choose and implement the right Azure solution for non-HTTP(S) traffic
- Design load balancer solutions for HTTP(S) traffic and how to implement Azure Application Gateway and Azure Front Door
- Design and implement network security solutions such as Azure DDoS, Network Security Groups, Azure Firewall, and Web Application Firewall

- Design and implement private access to Azure Services with Azure Private Link, and virtual network service endpoints
- Design and implement network monitoring solutions such as Azure Monitor and Network watcher

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Pré-requisitos

- Understanding of on-premises virtualization technologies, including: VMs, virtual networking, and virtual hard disks.Understanding of network configurations, including TCP/IP, Domain Name System (DNS), virtual private networks (VPNs), firewalls, and encryption technologies.
- Understanding of software defined networking.
- Understanding hybrid network connectivity methods, such as VPN.
- Understanding resilience and disaster recovery, including high availability and restore operations.

Programa

- Introduction to Azure Virtual Networks
- Design and Implement Hybrid Networking
- Design and implement Azure ExpressRoute
- Load balancing non-HTTP(S) traffic in Azure
- Load balancing HTTP(S) traffic in Azure

- Design and implement network security
- Design and implement private access to Azure Services
- Design and implement network monitoring

Introduction to Azure Virtual Networks

In this module you will learn how to design and implement fundamental Azure Networking resources such as virtual networks, public and private IPs, DNS, virtual network peering, routing, and Azure Virtual NAT.

- Explore Azure Virtual Networks
- Configure public IP services
- Design name resolution for your Virtual Network
- Enable Cross-VNet connectivity with peering
- Implement virtual network traffic routing
- Configure internet access with Azure Virtual NAT
- Lab : Exercise: design and implement a Virtual Network in Azure
- Lab : Exercise: configure DNS settings in Azure
- Lab : Exercise: connect two Azure Virtual Networks using global virtual network peering

Design and Implement Hybrid Networking

In this module you will learn how to design and implement hybrid networking solutions such as Site-to-Site VPN connections, Point-to-Site VPN connections, Azure Virtual WAN and Virtual WAN hubs.

- Design and implement Azure VPN Gateway
- Connect networks with Site-to-site VPN connections
- Connect devices to networks with Point-to-site VPN connections
- Connect remote resources by using Azure Virtual WANs
- Create a network virtual appliance (NVA) in a virtual hub
- Lab : Exercise: create a Virtual WAN by using Azure Portal
- Lab : Exercise: create and configure a virtual network gateway

Design and implement Azure ExpressRoute

In this module you will learn how to design and implement Azure ExpressRoute, ExpressRoute Global Reach, ExpressRoute FastPath and ExpressRoute Peering options.

- Explore Azure ExpressRoute
- Design an ExpressRoute deployment

- Configure peering for an ExpressRoute deployment
- Connect an ExpressRoute circuit to a VNet
- Connect geographically dispersed networks with ExpressRoute global reach
- Improve data path performance between networks with ExpressRoute FastPath
- Troubleshoot ExpressRoute connection issues
- Lab : Exercise: configure an ExpressRoute gateway
- Lab : Exercise: provision an ExpressRoute circuit

Load balancing non-HTTP(S) traffic in Azure

In this module you will learn how to design and implement load balancing solutions for non-HTTP(S) traffic in Azure with Azure Load balancer and Traffic Manager.

- Explore load balancing
- Design and implement Azure load balancer using the Azure portal
- Explore Azure Traffic Manager
- Lab : Exercise: create a Traffic Manager profile using the Azure portal

- Lab : Exercise: create and configure an Azure load balancer

Load balancing HTTP(S) traffic in Azure

In this module you will learn how to design and implement load balancing solutions for HTTP(S) traffic in Azure with Azure Application gateway and Azure Front Door.

- Design Azure application gateway
- Configure Azure application gateway
- Design and configure Azure front door
- Lab : Exercise: deploy Azure application gateway
- Lab : Exercise: create a front door for a highly available web application

Design and implement network security

In this module you will learn to design and imponent network security solutions such as Azure DDoS, Azure Firewalls, Network Security Groups, and Web Application Firewall.

- Secure your virtual networks in the Azure portal
- Deploy Azure DDoS Protection by using the Azure portal
- Deploy Network Security Groups by using the Azure portal

- Design and implement Azure Firewall
- Working with Azure Firewall Manager
- Implement a Web Application Firewall on Azure Front Door
- Lab : Exercise: deploy and configure Azure Firewall using the Azure portal
- Lab : Exercise: secure your virtual hub using Azure Firewall Manager
- Lab : Exercise: configure DDoS Protection on a virtual network using the Azure portal

Design and implement private access to Azure Services

In this module you will learn to design and implement private access to Azure Services with Azure Private Link, and virtual network service endpoints.

- Define Private Link Service and private endpoint
- Explain virtual network service endpoints
- Integrate Private Link with DNS
- Integrate your App Service with Azure virtual networks
- Lab : Exercise: create an Azure private endpoint using Azure PowerShell

- Lab : Exercise: restrict network access to PaaS resources with virtual network service endpoints

Design and implement network monitoring

In this module you will learn to design and implement network monitoring solutions such as Azure Monitor and Network watcher.

- Monitor your networks with Azure Monitor
- Monitor your networks with Azure Network Watcher
- Lab : Exercise: Monitor a load balancer resource by using Azure Monitor