Azure Network Engineer Learning Pathway (1/3)

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Getting started

Azure Skills Navigator

Network Engineer

DOWNLOAD
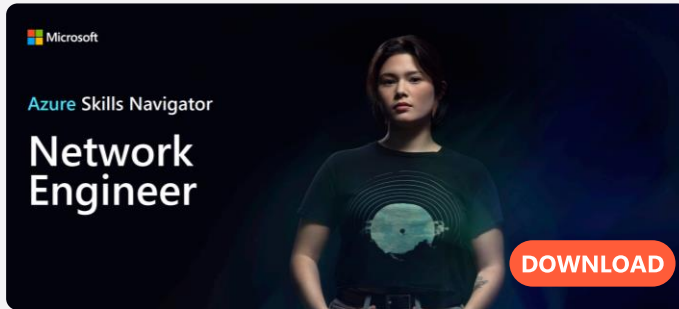
Cloud networking continues to evolve and network engineers face a growing list of tasks, from migrating workloads to the cloud and managing hybrid connectivity to empowering remote workers and supporting strategic scenarios that enable digital transformation.

This Azure learning journey is designed for network engineering professionals needing to recommend, plan, and implement Azure networking solutions, including hybrid networking, connectivity, routing, security, and private access to Azure services

- Azure Fundamentals
- Build your Tech resilience
- Fundamentals of computer networking
- Fundamentals of network security
- Configure the network for your virtual machines
- Monitor and troubleshoot your end-to-end Azure network infrastructure by using network monitoring tool
- Secure network connectivity on Azure

Role based Certification

Azure Administrator is a great complimentary certification for Azure Network Engineer. Whilst the certification is only <u>recommended</u> and not mandatory, the Virtual Networking components of the curriculum are a prerequisite for the study

AZ-104: Microsoft Azure Administrator

Skills Measured
- Manage Azure identities and governance
- Implement and manage storage
- Deploy and manage Azure compute resources
- **Configure and manage virtual networking**
- Monitor and back up Azure resources

Self Study:
- Prerequisites for Azure administrators
- Manage identities and governance in Azure
- Implement and manage storage in Azure
- Deploy and manage Azure compute resources
- **Configure and manage virtual networks for Azure administrators**
- Monitor and back up Azure resources

Exam Study Guide	Course Page
Sample Questions	Exam Page
Video on Demand	Practice Assessment

Role based Certification

AZ-700: Designing and Implementing Microsoft Azure Networking Solutions

Skills Measured
- Design and implement core networking infrastructure
- Design, implement, and manage connectivity services
- Design and implement application delivery services
- Design and implement private access to Azure services
- Secure network connectivity to Azure resources

Microsoft Learn content
- Introduction to Azure virtual networks
- Design and implement hybrid networking
- Design and implement Azure ExpressRoute
- Load balance non-HTTP(S) traffic in Azure
- Load balance HTTP(S) traffic in Azure
- Design and implement network security
- Design and implement private access to Azure services
- Design and implement network monitoring

Exam Study Guide	Exam Page
Azure Network Documentation	Course Page
Practice Assessment	30 Days to Learn it

Microsoft Applied Skills

Targeted validation for real-world scenarios. Demonstrate proficiency in specific, scenario-based skill sets so you can make a bigger impact on every project, at your organization, and in your career.

Configure secure access to your workloads using Azure networking

More Applied Skills

Virtual Training Days
Build the technical skills you need with free Virtual Training Days.
Click Here

Microsoft Azure Connected Learning Experience (CLX) is an experiential training program that sets a trajectory for aspiring learners and working professionals to be Azure experts. The CLX program offers a personalized journey that aims to optimize learning experience while maximizing return on time invested.

Click Here

Azure Network Engineer Learning Pathway (2/3)

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Continue your learning

Design and implement core networking infrastructure

- Quickstart: Create a virtual network
- Azure networking services overview
- Azure Networking architecture docs
- Azure for network engineers
- Choosing between Azure VNet Peering and VNet Gateways
- What is Azure Private Endpoint?
- Add, change, or delete a virtual network subnet
- Add or remove a subnet delegation
- What is Azure DNS?
- Create an Azure DNS zone and record
- Quickstart: Create an Azure private DNS zone
- Name resolution for resources in Azure virtual networks
- What is a virtual network link?
- Configure VPN gateway transit for virtual network peering
- Configure a VNet-to-VNet VPN gateway connection by using the Azure portal
- Virtual network peering
- Create, change, or delete a virtual network peering
- What is Azure Virtual WAN?
- Connect a VPN Gateway (virtual network gateway) to Virtual WAN
- Tutorial: Create a Site-to-Site connection using Azure Virtual WAN
- How to create a Network Virtual Appliance in an Azure Virtual WAN hub
- How to configure virtual hub routing
- Virtual WAN FAQ

Design and implement routing

- Virtual network traffic routing
- Route network traffic with a route table
- Create, change, or delete a route table
- Configure forced tunnelling
- Diagnose a virtual machine routing problem
- Troubleshoot VPN Gateway
- Azure Load Balancer SKUs
- What is Azure Load Balancer?
- Create a public load balancer to load balance VMs
- Create a cross-region Azure Load Balancer
- Outbound rules Azure Load Balancer
- Configure port forwarding in Azure Load Balancer
- Outbound-only load balancer configuration
- Application Gateway configuration overview
- Azure Application Gateway features
- Autoscaling and Zone-redundant Application Gateway v2
- Application gateway components
- Application Gateway listener configuration
- Monitoring Azure Application Gateway
- Application Gateway request routing rules
- Application Gateway HTTP settings configuration
- Overview of TLS termination and end to end TLS with Application Gateway
- Rewrite HTTP headers and URL with Application Gateway
- Overview of Azure Front Door Standard/Premium SKU
- Frequently asked questions for Azure Front Door
- Application Gateway listener configuration

- Backends and backend pools in Azure Front Door
- Traffic Manager routing methods
- Add, disable, enable, or delete endpoints
- Verify Traffic Manager settings
- What is Virtual Network NAT?
- Designing virtual networks with NAT gateway resources
- Tutorial: Create a NAT gateway using the Azure portal

Design, Implement, and Manage Hybrid Networking

- Highly Available cross-premises and VNet-to-VNet connectivity
- What is VPN Gateway?
- VPN Gateway design
- About zone-redundant virtual network gateways in Azure Availability Zones
- What is VPN Gateway?
- VPN Gateway FAQ
- Tutorial: Create a Site-to-Site connection
- Configure IPsec/IKE policy for site-to-site VPN
- Tutorial: Create and manage a VPN gateway
- Troubleshoot VPN Gateway
- Troubleshoot Azure VPN Gateway using diagnostic logs
- Configure a Point-to-Site connection to a VNet using RADIUS authentication: PowerShell
- Configure a Point-to-Site VPN connection using Azure certificate authentication
- Configure OpenVPN for Point-to-Site VPN gateways

Azure Network Engineer Learning Pathway (3/3)

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Continue your learning

Design, Implement, and Manage Hybrid Networking

- Create a Microsoft Entra tenant for P2S OpenVPN protocol connections
- Configure a Point-to-Site VPN connection to a VNet using multiple authentication types
- Create and install VPN client configuration files for P2S RADIUS authentication
- Troubleshoot a Microsoft Entra authentication VPN client
- What is Azure ExpressRoute?
- About ExpressRoute Direct
- Cross-network connectivity
- Designing for disaster recovery with ExpressRoute private peering
- About ExpressRoute virtual network gateways
- Configure ExpressRoute Global Reach
- About ExpressRoute FastPath
- ExpressRoute circuits and peering
- Tutorial: Create and modify peering for an ExpressRoute circuit using the Azure portal

Secure and Monitor Networks

- What is Azure Firewall?
- Azure Firewall features
- Azure Firewall Premium features
- Deploy and configure Azure Firewall using Azure PowerShell
- Tutorial: Deploy and configure Azure Firewall and policy using the Azure portal
- Use FQDN filtering in network rules

Secure and Monitor Networks

- Configure Azure Firewall application rules with SQL FQDNs
- Azure Firewall Manager policy overview
- Tutorial: Secure your virtual hub using Azure Firewall Manager
- About Network Virtual Appliance in an Azure Virtual WAN hub
- Create, change, or delete a network security group
- Application security groups
- Network security groups
- Tutorial: Log network traffic to and from a virtual machine using the Azure portal
- Introduction to flow logging for network security groups
- Create Web Application Firewall policies for Application Gateway
- Azure Web Application Firewall on Azure Front Door
- Create Web Application Firewall policies for Application Gateway
- Configure a Web Application Firewall policy using Azure PowerShell
- Custom rules for Web Application Firewall v2 on Azure Application Gateway
- Create Web Application Firewall policies for Application Gateway

- Azure Monitor Network Insights
- Create a monitor in Connection Monitor by using the Azure portal
- Traffic Analytics
- Introduction to flow logging for network security groups
- Resource logging for a network security group
- What is Azure Network Watcher?
- Create an Azure Network Watcher instance

Design and implement Private access to Azure Services

- What is Azure Private Link service?
- What is Azure Private Endpoint?
- Virtual network service tags
- Virtual Network service endpoints
- Integrate your app with an Azure virtual network
- Create a private Azure Kubernetes Service cluster
- Configuring an App Service Environment v1
- Network Architecture Overview of App Service Environments