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## Designing and Implementing Microsoft Azure Networking Solutions

Varighed: 3 Days    Kursus Kode: M-AZ700    Leveringsmetode: Virtuel deltagelse

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### Beskrivelse:

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.

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### Målgruppe:

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.

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### Forudsætninger:

Successful Azure Network Engineers start this role with experience in enterprise networking, on-premises or cloud infrastructure and network security.

- 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.
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## Indhold:

### Module 1: 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.

#### Lessons M1

- Azure Virtual Networks
- Public IP services
- public and private DNS
- cross-VNet connectivity
- Virtual Network Routing
- Azure virtual Network NAT

Lab : Design and implement a Virtual Network in Azure

Lab : Configure DNS settings in Azure

Lab : Connect Virtual Networks with Peering

After completing module 1, students will be able to:

- Implement virtual networks
  - Configure public IP services
  - Configure private and public DNS zones
  - Design and implement cross-VNET connectivity
  - Implement virtual network routing
  - Design and implement an Azure Virtual Network NAT
- Module 2: 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.

#### Lessons M2

- Site-to-site VPN connection
- Point-to-Site VP connections
- Azure Virtual WAN

Lab : Create and configure a local gateway

- Create and configure a virtual network gateway
- Create a Virtual WAN by using Azure Portal

Design and implement a site-to-site VPN connection

Lab : Create and configure ExpressRoute

Design and implement Expressroute

- Design and implement Expressroute Direct
  - Design and implement Expressroute FastPath
- Module 4: 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.

#### Lessons M4

- Content Delivery and Load Blancing
- Azure Load balancer
- Azure Traffic Manager
- Azure Monitor
- Network Watcher

Lab : Create and configure a public load balancer to load balance VMs using the Azure portal

Lab : Create a Traffic Manager Profile using the Azure portal

Lab : Create, view, and manage metric alerts in Azure Monitor

Design and implement Azure Laod Balancers

- Design and implement Azure Traffic Manager
  - Monitor Networks with Azure Monitor
  - Use Network Watcher
- Module 5: 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.

#### Lessons M5

- Azure Application Gateway
- Azure Front Door

Lab : Create a Front Door for a highly available web application using the Azure portal

Lab : Create and Configure an Application

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.

#### Lessons M6

- Azure DDoS Protection
- Azure Firewall
- Network Security Groups
- Web Application Firewall on Azure Front Door

Lab : Create a Virtual Network with DDoS protection plan

Lab : Deploy and Configure Azure Firewall

Lab : Create a Web Application Firewall policy on Azure Front Door

Configure and monitor an Azure DDoS protection plan

- implement and manage Azure Firewall
  - Implement network security groups
  - Implement a web application firewall (WAF) on Azure Front Door
- Module 7: 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.

#### Lessons M7

- Define Azure Private Link and private endpoints
- Design and Configure Private Endpoints
- Integrate a Private Link with DNS and on-premises clients
- Create, configure, and provide access to Service Endpoints
- Configure VNET integration for App Service

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

Lab : create an Azure private endpoint

Define the difference between Private Link

- Design and implement a point-to-site VPN connection
- Design and implement authentication
- Design and implement Azure Virtual WAN ResourcesModule 3: 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.

#### Lessons M3

- ExpressRoute
- ExpressRoute Direct
- ExpressRoute FastPath
- ExpressRoute Peering

#### Gateway

Design and implement Azure Application Gateway

- Implement Azure Front DoorModule 6: Design and implement network security

#### Service and private endpoints

- Design and configure private endpoints
- Explain virtual network service endpoints
- Design and configure access to service endpoints
- Integrate Private Link with DNS
- Integrate your App Service with Azure virtual networks

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### Flere Informationer:

For yderligere informationer eller booking af kursus, kontakt os på tlf.nr.: 44 88 18 00

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