Microsoft Azure Administrator: Implement and Manage Virtual Networking

IMPLEMENTING AZURE VIRTUAL NETWORKS

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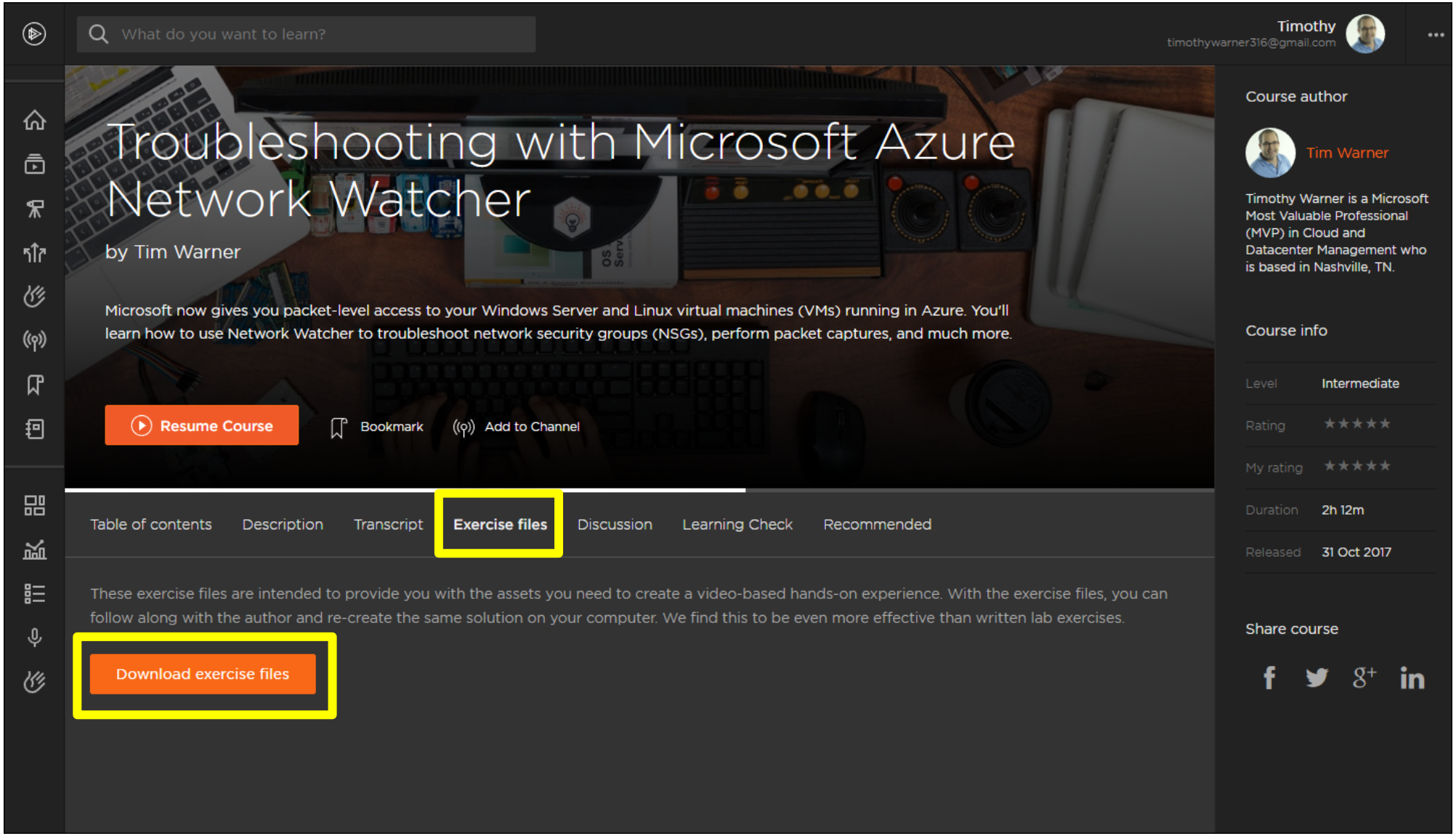
Overview

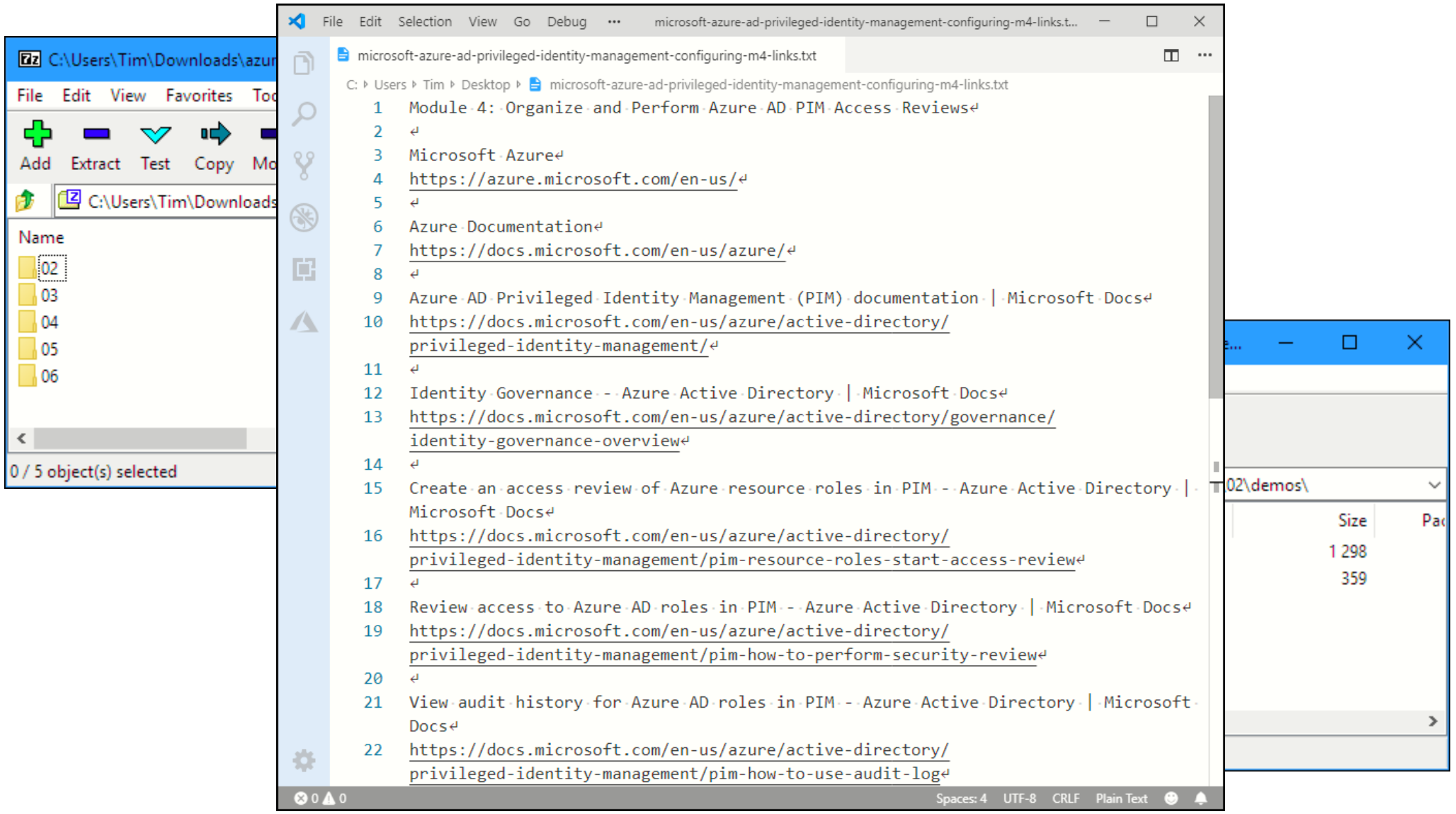
Azure virtual network components

Deploy and configure a VNet

Exercise Files



Exercise Files



Microsoft Azure Administrator

Objective Domain

Exam AZ-104: Microsoft Azure Administrator – Skills Measured

Functional Group

Configure and manage virtual networking (30-35%)

Objective

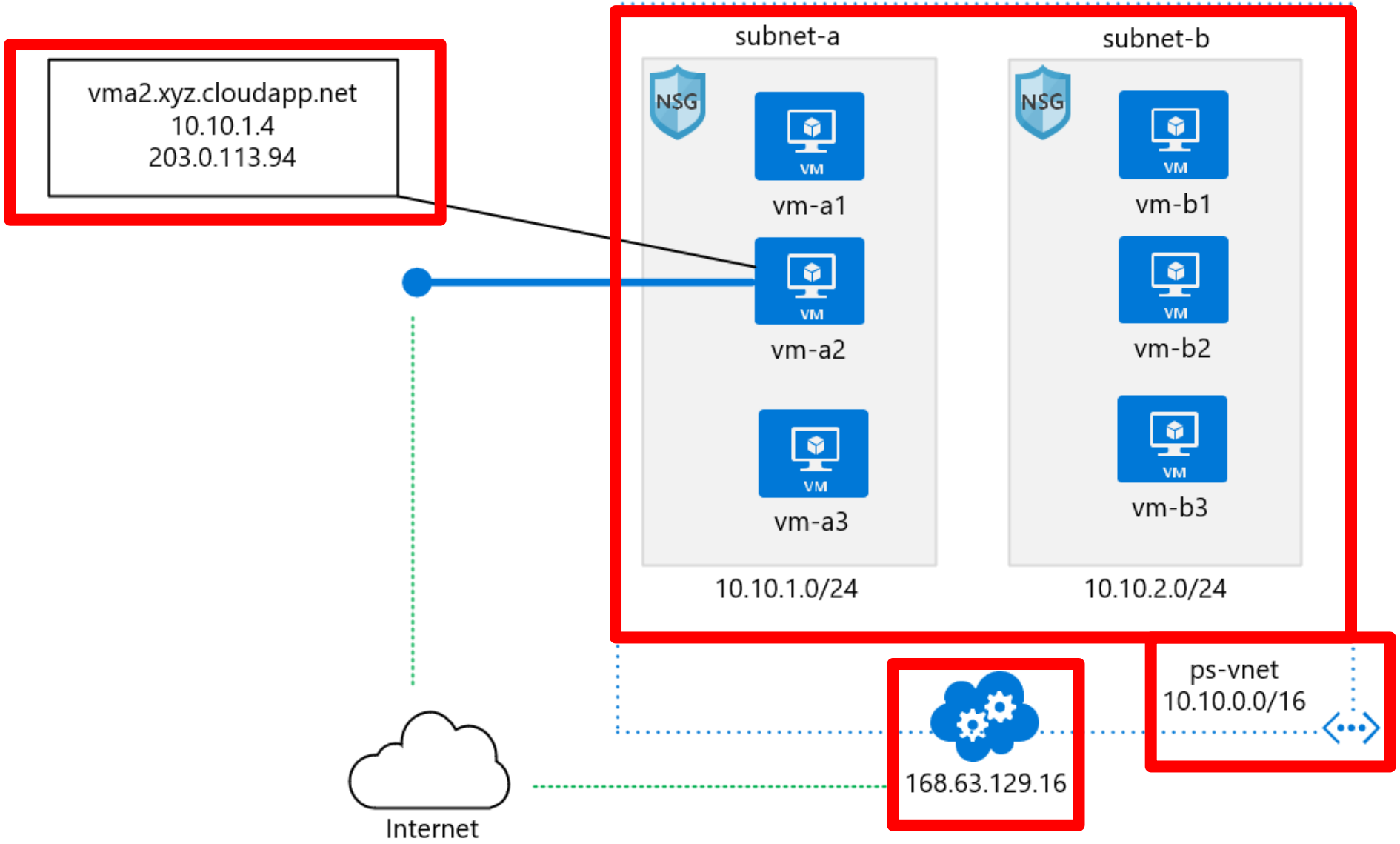
Implement and manage virtual networking

- create and configure VNET peering
- configure private and public IP addresses, network routes, network interface, subnets, and virtual network

Skills

Azure Virtual Network Components

The ~~Social~~ Virtual Network



Azure Wire Server

VIP 168.63.129.16

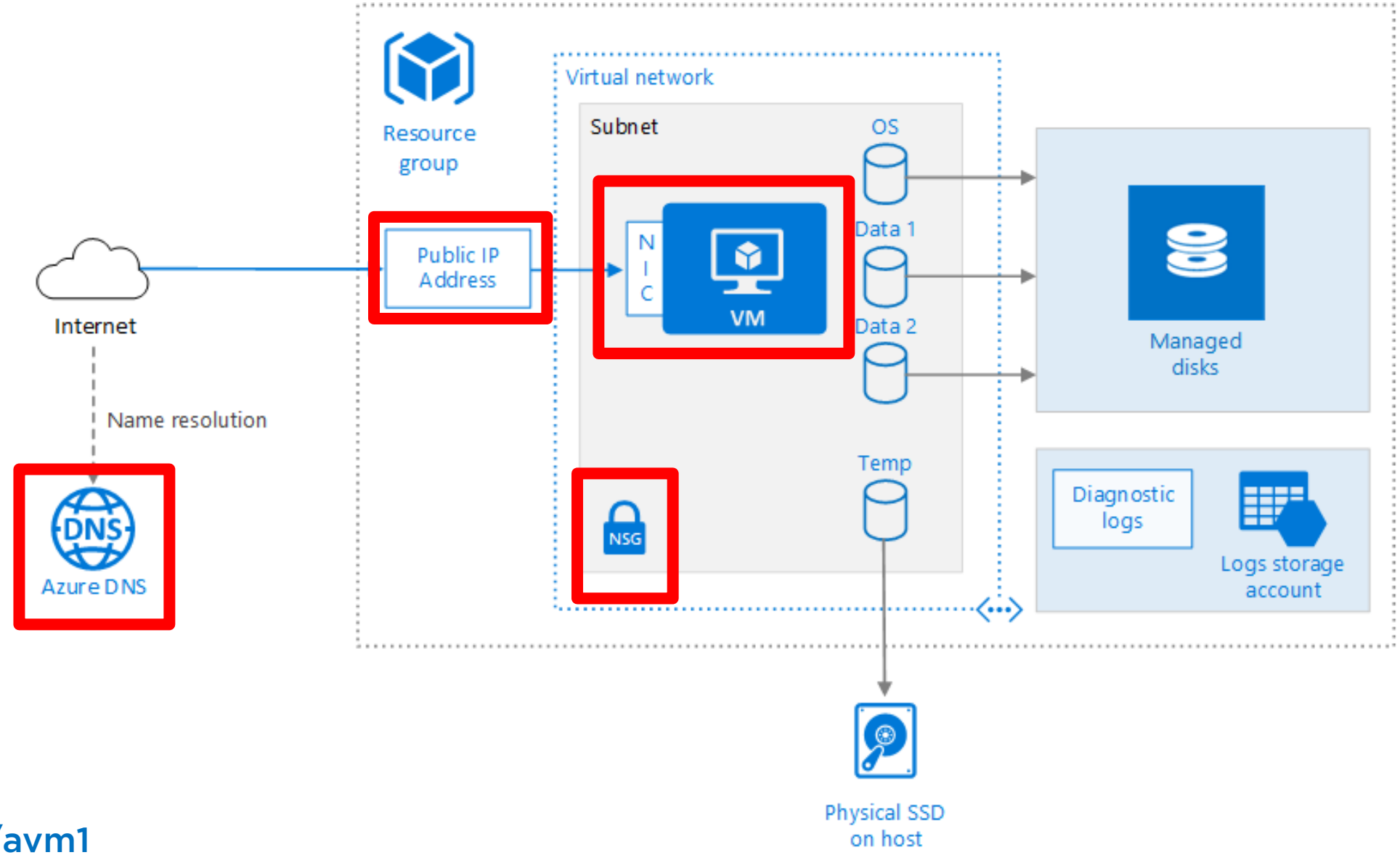
DHCP

Default gateway

DNS

VM Agent communication

The Virtual Machine and the VNet



Public and Private IP Addresses

All Azure services are available on public IP addresses

- Service tags

Consider public IP addresses for ingress traffic only

Public and Private IP Addresses

VM management

- Azure Bastion
- Azure load balancer
- Application Gateway
- Azure Firewall
- JIT VM Access

Name Resolution Options

Azure-provided name resolution

- Single name resolution
- Within single VNet only
- No custom DNS names

Use your own DNS server(s)

- Full control over resolution and forwarding
- More expensive to deploy and manage

Azure DNS

- Public zone
- Private zone

Demo

1

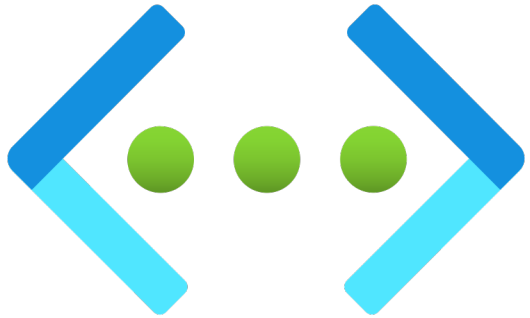
Review VM network settings

VM creation and importance of placing it on the correct VNet

Deploy and Configure a VNet

VNet Deployment Methods

- Portal
- PowerShell
- Command-Line Interface (CLI)
- Template
- ARM REST API



Simple VNet Deployment - PowerShell

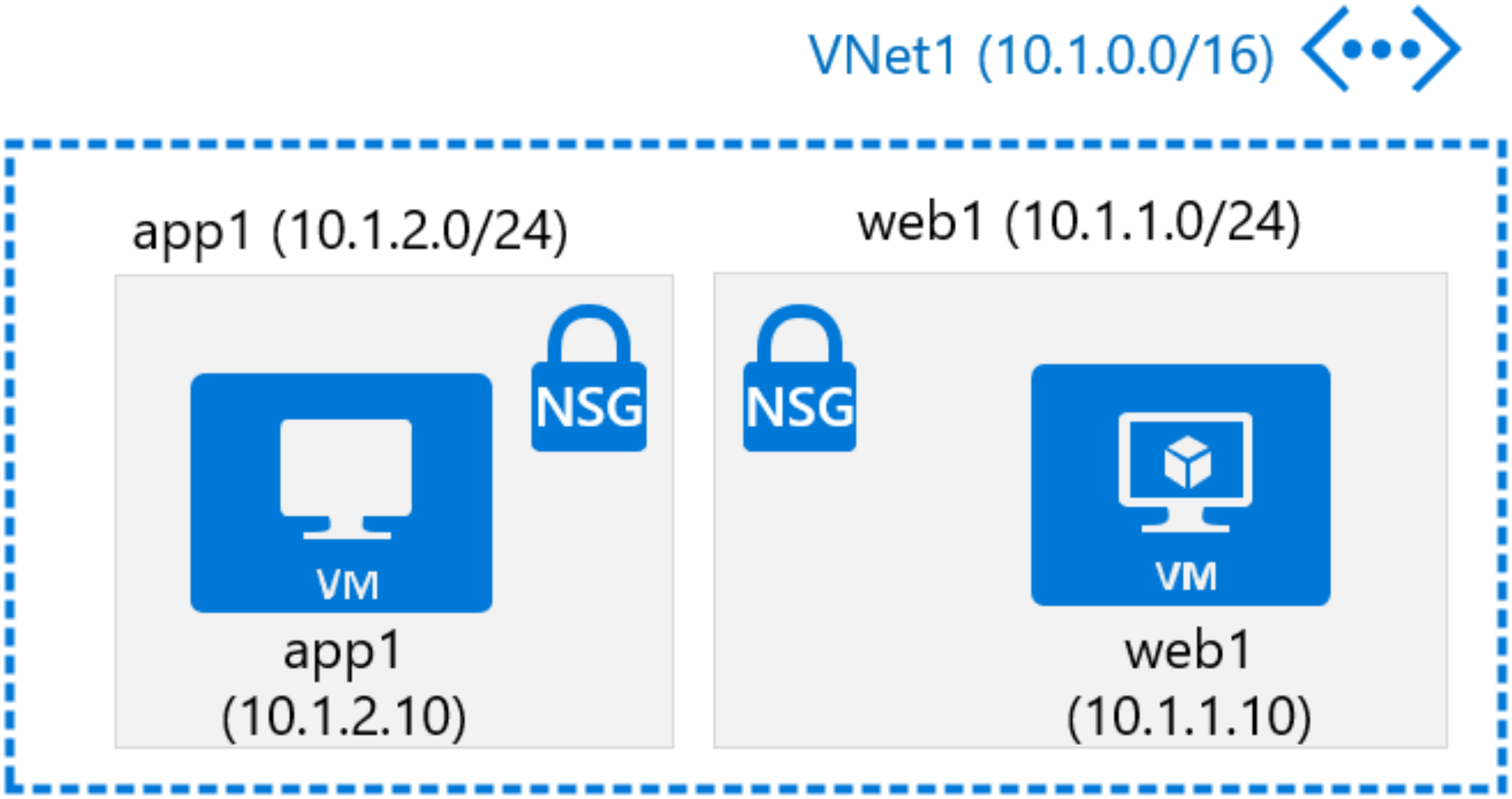
```
$virtualNetwork = New-AzVirtualNetwork `
  -ResourceGroupName myResourceGroup `
  -Location EastUS `
  -Name myVirtualNetwork `
  -AddressPrefix 10.0.0.0/16
$subnetConfig = Add-AzVirtualNetworkSubnetConfig `
  -Name default `
  -AddressPrefix 10.0.0.0/24 `
  -VirtualNetwork $virtualNetwork
$virtualNetwork | Set-AzVirtualNetwork
```

Simple VNet Deployment - Azure CLI

```
az network vnet create \
  --name MyVnet \
  --resource-group $RgName \
  --location $Location \
  --address-prefix 10.0.0.0/16 \
  --subnet-name MySubnet-FrontEnd \
  --subnet-prefix 10.0.1.0/24
```

```
az network vnet subnet create \
  --address-prefix 10.0.2.0/24 \
  --name MySubnet-BackEnd \
  --resource-group $RgName \
  --vnet-name MyVnet
```

Lab Topology



Demo

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Create VNet

Populate with VMs

Test connectivity with Network Watcher

Summary

Virtual network planning is crucial

- Avoid IP address overlap
- VM placement

Think about governance

- Azure Blueprints

Next module: Managing Azure Virtual Networks