Create Vnet and Subnet with Peering Labs

Objective

- Practice of creating VNet, Subnet, and Peering

Comments

Today's study was about VNet, Subnet, and Peering, so I put into practice what I learned.

First, I created a Resource Group called LabVnet. Then, I created the VNets and subnets. I didn't face any major difficulties during the practice; it went smoothly.

I created the peering to connect App-VNet and Hub-VNet, and in the end, the peering status showed as connected.

1.Create RG Group

Create a resource group ⋯ ✕

Basics   Tags   Review + create

Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. Learn more

Subscription * ⓘ	Azure subscription 1
Resource group name * ⓘ	RG-LabVnet
Region * ⓘ	(Europe) West Europe

Previous   Next   **Review + create**

Resource groups
Austriaco (dliter.onmicrosoft.com)

✕

+ Create   ⚙ Manage view ⌄   ↻ Refresh   ↓ Export to CSV   ⅋ Open query | ⊘ Assign tags

≡ Group by none ⌄

ⓘ You are viewing a new version of Browse experience. Some features may be missing. Click here to access the old experience.

▽ Filter for any field...   Subscription equals **all**   Location equals **all** ✕   + Add filter

	Name ↑		Subscription	Location
☐	🔷 RG-LabVnet	⋯	Azure subscription 1	East US
☐	🔷 RG-Marketing	⋯	Azure subscription 1	West Europe
☐	🔷 RG-Sales	⋯	Azure subscription 1	West Europe

Showing 1 - 3 of 3. Display count: auto ⌄

🗨 Give feedback

2.Create Vnet App-Vnet

Create virtual network ...

Basics   Security   IP addresses   Tags   Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation.
Learn more. ⧉

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * | Azure subscription 1   ⌄ |

    Resource group * | RG-LabVnet   ⌄ |
                                         Create new

Instance details

Virtual network name * | App-Vnet |

Region * ⓘ | (US) East US   ⌄ |
                                         Deploy to an Azure Extended Zone

Previous   Next   Review + create   ⟲ Give feedback

3.Create Subnet frontend and backend

Home > Network foundation | Virtual networks >

Create virtual network ⋯

Basics   Security   IP addresses   Tags   Review + create

Configure your virtual network address space with the IPv4 and IPv6 addresses and subnets you need. Learn mo

Define the address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets t
virtual network address space into smaller ranges for use by your applications. When you deploy resources into
assigns the resource an IP address from the subnet. Learn more ☐

    ╋ Add a subnet

    ⌃ 10.1.0.0/16   🗑 Delete

    | 10.1.0.0 | /16 ∨ |

    10.1.0.0 - 10.1.255.255   65.536 addresses

Subnets	IP address range	Size	NAT gateway
default	10.1.0.0 - 10.1.0.255	/24 (256 addresses)	-

    | Add IPv4 address space | ∨ |

    Previous   Next   **Review + create**

Edit subnet   ✕

Select an address space and configure your subnet. You can customize a default subnet or
select from subnet templates if you plan to add select services later. Learn more ☐

Subnet purpose ⓘ | Default   ∨ |

Name * ⓘ | frontend |

IPv4

Include an IPv4 address space   ☑

IPv4 address range ⓘ | 10.1.0.0/16   ∨ |
                              10.1.0.0 - 10.1.255.255

Starting address * ⓘ | 10.1.0.0 |

Size ⓘ | /24 (256 addresses)   ∨ |

Subnet address range ⓘ   10.1.0.0 - 10.1.0.255

IPv6

Include an IPv6 address space   ☐ This virtual network has no IPv6 address
                                    ranges.

Private subnet

Private subnets enhance security by not providing default outbound access. To enable
outbound connectivity for virtual machines to access the internet, it is necessary to explicitly
grant outbound access. A NAT gateway is the recommended way to provide outbound
connectivity for virtual machines in the subnet. Learn more ☐

Enable private subnet (no default outbound   ☐
access)

Security

Simplify internet access for virtual machines by using a network address translation gateway.
Filter subnet traffic using a network security group. Learn more ☐

NAT gateway ⓘ | None   ∨ |
                              Create new

    ⓘ A NAT gateway is recommended for outbound internet access from subnets. Edit the
      subnet to add a NAT gateway. Learn more ☐

Network security group ⓘ | None   ∨ |
                              Create new

Save   Cancel   ⧉ Give feedback

Create virtual network   ...

Basics   Security   **IP addresses**   Tags   Review + create

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10.1.0.0/16		🗑 Delete
10.1.0.0	/16 ▾	
10.1.0.0 - 10.1.255.255	65.536 addresses	

Subnets	IP address range	Size	NAT gateway
frontend	10.1.0.0 - 10.1.0.255	/24 (256 addresses)	-

Add IPv4 address space | ▾

Previous   Next   **Review + create**

Add a subnet   ✕

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select services later. Learn more ⤢

Subnet purpose ⓘ | Default ▾ |

Name * ⓘ | backend |

IPv4

Include an IPv4 address space   ☑

IPv4 address range ⓘ | 10.1.0.0/16 ▾ |
                                     10.1.0.0 - 10.1.255.255

Starting address * ⓘ | 10.1.1.0 |

Size ⓘ | /24 (256 addresses) ▾ |

Subnet address range ⓘ   10.1.1.0 - 10.1.1.255

IPv6

Include an IPv6 address space   ☐ This virtual network has no IPv6 address
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Private subnets enhance security by not providing default outbound access. To enable outbound connectivity for virtual machines to access the internet, it is necessary to explicitly grant outbound access. A NAT gateway is the recommended way to provide outbound connectivity for virtual machines in the subnet. Learn more ⤢

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                                     Create new

ⓘ A NAT gateway is recommended for outbound internet access from subnets. Edit the subnet to add a NAT gateway. Learn more ⤢

Network security group ⓘ | None ▾ |
                                     Create new

Add   Cancel   🗨 Give feedback

Create virtual network

Basics   Security   **IP addresses**   Tags   Review + create

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╋ Add a subnet

∧   10.1.0.0/16   🗑 Delete

| 10.1.0.0 | | /16 | ⌄ |

10.1.0.0 - 10.1.255.255   65.536 addresses

Subnets	IP address range	Size	NAT gateway
frontend	10.1.0.0 - 10.1.0.255	/24 (256 addresses)	-

| Add IPv4 address space | ⌄ |

Previous   Next   **Review + create**

Add a subnet   ✕

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select services later.   Learn more ⬈

Subnet purpose ⓘ | Default   ⌄ |

Name * ⓘ | backend |

IPv4

Include an IPv4 address space   ☑

IPv4 address range ⓘ | 10.1.0.0/16   ⌄ |

                        10.1.0.0 - 10.1.255.255

Starting address * ⓘ | 10.1.1.0 |

Size ⓘ | /24 (256 addresses)   ⌄ |

Subnet address range ⓘ   10.1.1.0 - 10.1.1.255

IPv6

Include an IPv6 address space   ☐   This virtual network has no IPv6 address ranges.

Private subnet

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Enable private subnet (no default outbound access)   ☐

Security

Simplify internet access for virtual machines by using a network address translation gateway. Filter subnet traffic using a network security group.   Learn more ⬈

NAT gateway ⓘ | None   ⌄ |
                        Create new

ⓘ A NAT gateway is recommended for outbound internet access from subnets. Edit the subnet to add a NAT gateway.   Learn more ⬈

Network security group ⓘ | None   ⌄ |
                        Create new

Add   Cancel   ⬈ Give feedback

App-Vnet
Virtual network

Search

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Resource visualizer
- > Settings
- > Monitoring
- > Automation
- > Help

→ Move ∨   🗑 Delete   ↻ Refresh   ⟲ Give feedback

East US

Subscription (move)

Azure subscription 1

Subscription ID
244b05e9-ea65-4ac7-bd12-d350c3cb265b

Tags (edit)
Add tags

Azure provided DNS service

BGP community string

Configure

Virtual network ID
cf445935-80e4-4779-a92f-42db4d963be3

Topology   Properties   Capabilities (5)   Recommendations   Tutorials

Virtual network
App-Vnet

View detailed topology

App-Vnet
VIRTUAL NETWORK

backend   frontend

App-Vnet
Virtual network

Search

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App-Vnet

View detailed topology

App-Vnet
VIRTUAL NETWORK

backend   frontend

App-Vnet | Subnets
Virtual network

Search

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  - Bastion
  - DDoS protection
  - Firewall
  - Microsoft Defender for Cloud
  - Network manager
  - DNS servers
  - Peerings
  - Service endpoints
  - Private endpoints
  - Properties
  - Locks
- Monitoring
- Automation
- Help

+ Subnet   ↻ Refresh | ஃ Manage users   🗑 Delete

Create subnets to segment the virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subnet, Azure assigns the resource an IP address from the subnet.

Search subnets

	Name ↑	IPv4	IPv6	Available IPs	Delegated to	Security group	Route table	
☐	frontend	10.1.0.0/24	-	251	-	-	-	🗑
☐	backend	10.1.1.0/24	-	251	-	-	-	🗑

Showing 2 subnets

Give feedback

Add or remove favorites by pressing Cmd+Shift+F

4.Create Vnet Hub-Vnet

Create virtual network   ···

Basics   Security   IP addresses   Tags   Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation.
Learn more. ⬈

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * | Azure subscription 1   ∨ |

    Resource group * | RG-LabVnet   ∨ |
                      Create new

Instance details

Virtual network name * | Hub-Vnet |

Region * ⓘ | (US) East US   ∨ |
                      Deploy to an Azure Extended Zone

Previous   Next   Review + create   ⮁ Give feedback

5.Create Subnet AzureFirewall

Create virtual network

Basics   Security   **IP addresses**   Tags   Review + create

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virtual network address space into smaller ranges for use by your applications. When you deploy resources into
assigns the resource an IP address from the subnet. Learn more 🗗

╋ Add a subnet

∧ 10.0.0.0/16			🗑 Delete
10.0.0.0	/16		
10.0.0.0 - 10.0.255.255	65.536 addresses		

Subnets	IP address range	Size	NAT gateway
default	10.0.0.0 - 10.0.0.255	/24 (256 addresses)	-

Add IPv4 address space | ∨

Edit subnet   ✕

Select an address space and configure your subnet. You can customize a default subnet or
select from subnet templates if you plan to add select services later. Learn more 🗗

Subnet purpose ⓘ	Default ∨
Name * ⓘ	azurefirewall

IPv4

Include an IPv4 address space	☑
IPv4 address range ⓘ	10.0.0.0/16 ∨
	10.0.0.0 - 10.0.255.255
Starting address * ⓘ	10.0.0.0
Size ⓘ	/26 (64 addresses) ∨
Subnet address range ⓘ	10.0.0.0 - 10.0.0.63

IPv6

Include an IPv6 address space	☐ This virtual network has no IPv6 address ranges.

Private subnet

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outbound connectivity for virtual machines to access the internet, it is necessary to explicitly
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connectivity for virtual machines in the subnet. Learn more 🗗

Enable private subnet (no default outbound
access)   ☐

Security

Simplify internet access for virtual machines by using a network address translation gateway.
Filter subnet traffic using a network security group. Learn more 🗗

NAT gateway ⓘ	None ∨
	Create new

ⓘ A NAT gateway is recommended for outbound internet access from subnets. Edit the
subnet to add a NAT gateway. Learn more 🗗

Network security group ⓘ	None ∨
	Create new

Previous   Next   Review + create

Save   Cancel   ⧉ Give feedback

Hub-Vnet-1752088552854 | Overview

Deployment

×

Search

⌫ «

Delete Cancel Redeploy Download Refresh

- Overview
- Inputs
- Outputs
- Template

✓ Your deployment is complete

Deployment name : Hub-Vnet-1752088552854   Start time   : 7/9/2025, 8:15:58 PM
Subscription   : Azure subscription 1   Correlation ID : b9b197fe-2cb4-4eb5-92de-c...
Resource group   : RG-LabVnet

∨ Deployment details

	Resource	Type	Status	Oper
✓	Hub-Vnet	Virtual network	OK	Oper

∨ Next steps

Go to resource

Give feedback

Tell us about your experience with deployment

Cost management

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Azure experts are service provider partners
who can help manage your assets on Azure
and be your first line of support.

Find an Azure expert >

Hub-Vnet
Virtual network

→ Move ∨   🗑 Delete   ⟳ Refresh   Give feedback

East US
Subscription (move)
Azure subscription 1
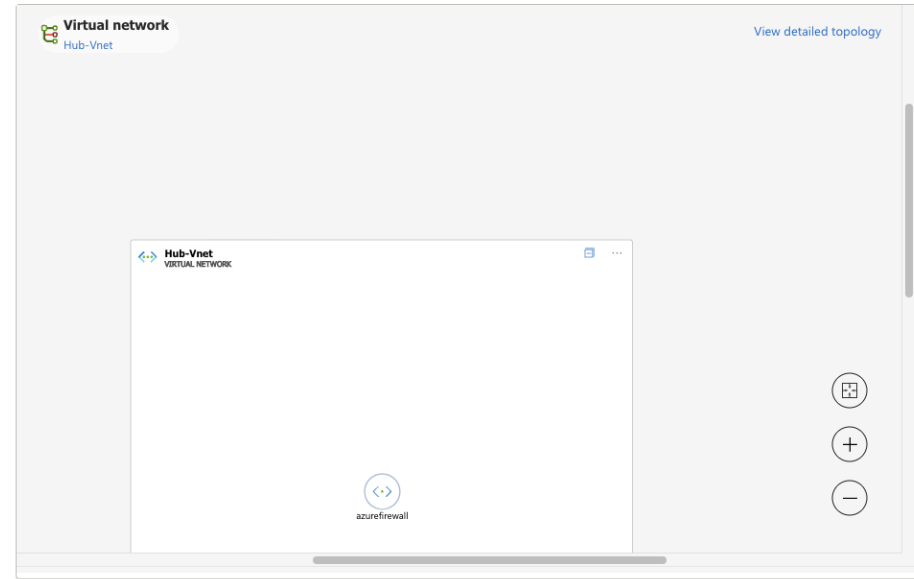Subscription ID
244b05e9-ea65-4ac7-bd12-d350c3cb265b

Tags (edit)
Add tags

Azure provided DNS service
BGP community string
Configure
Virtual network ID
7be90cf1-b2ac-4223-85f2-f135f52737b9

Topology   Properties   Capabilities (5)   Recommendations   Tutorials

⊞ **Virtual network**
   Hub-Vnet

View detailed topology

‹··› **Hub-Vnet**
     VIRTUAL NETWORK

azurefirewall

6.Connect Peering virtual network app-vnet to hub-vnet

App-Vnet | Peerings ☆ ⋯
Virtual network

✕

+ Add   ⟳ Refresh   ⤓ Export to CSV   🗑 Delete   ⟳ Sync

Virtual network peering enables you to seamlessly connect two or more virtual networks in Azure. The virtual networks appear as one for connectivity purposes.
Learn more ⤢

🔍 Filter by name...

Showing all 0 items

☐	Name ↕	Peering sync status ↕	Peeri... ↕	Remo... ↕	Virtu... ↕	Cross-tenant ↕

    Add a peering to get started

Sidebar navigation:

- 🔍 Search
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- Tags
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- Resource visualizer
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  - Connected devices
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  - Microsoft Defender for Cloud
  - Network manager
  - DNS servers
  - Peerings
  - Service endpoints
  - Private endpoints
  - Properties
  - Locks
- › Monitoring
- › Automation
- › Help

⟲ Give feedback

app-vnet-to-hub ...
App-Vnet

✕

Virtual network peering enables you to seamlessly connect two or more virtual networks in Azure. This will allow resources in either virtual network to directly connect and communicate with resources in the peered virtual network.

Remote virtual network summary

Remote Vnet Id | /subscriptions/244b05e9-ea65-4ac7-bd12-d350c3cb265b/resourceGroups/... 📋 |

IP address space   10.0.0.0/16

Local virtual network summary

Peering link name *   app-vnet-to-hub

Peering state   ✅ Connected

Local virtual network peering settings

Allow 'App-Vnet' to access 'Hub-Vnet' ⓘ   ☑

Allow 'App-Vnet' to receive forwarded
traffic from 'Hub-Vnet' ⓘ   ☐

Allow gateway or route server in 'App-Vnet'
to forward traffic to 'Hub-Vnet' ⓘ   ☐

Enable 'App-Vnet' to use 'Hub-Vnet's'
remote gateway or route server ⓘ   ☐

Save   Cancel

⅋ Give feedback

7.Status Peering

8.Create VM in Vnet-app, Subnet Backend

And that's it!!! Thank you for reading this far, little by little I'm improving, learning more about Azure, hugs.