

Project 4-4: Configure a VNet and Subnets in Azure

Est. completion time: 45 minutes

Note

Public cloud platforms and related account options change frequently. While the instructions given here were accurate at the time of writing, you might need to adjust the steps or options according to later changes.

Recall that in Project 1-4, you surveyed available Azure subscription options and had the opportunity to create an Azure subscription. In this project, you'll create two VNets and two subnets, and practice managing VM interfaces. Complete the following steps:

1. In your Azure portal, go to the Virtual networks dashboard (see Figure 4-25). Click **Create virtual network**. Give the network a name, such as MyVnet1. Assign an address space, such as 192.168.0.0/24. What address space did you use? How many addresses are



included in the VNet's CIDR block?
address

private -65536

Public -256 address

Basics IP Addresses Security Tags Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

10.0.0.0/16 10.0.0.0 - 10.0.255.255 (65536 addresses)



192.168.0.0/24 192.168.0.0 - 192.168.0.255 (256 addresses)



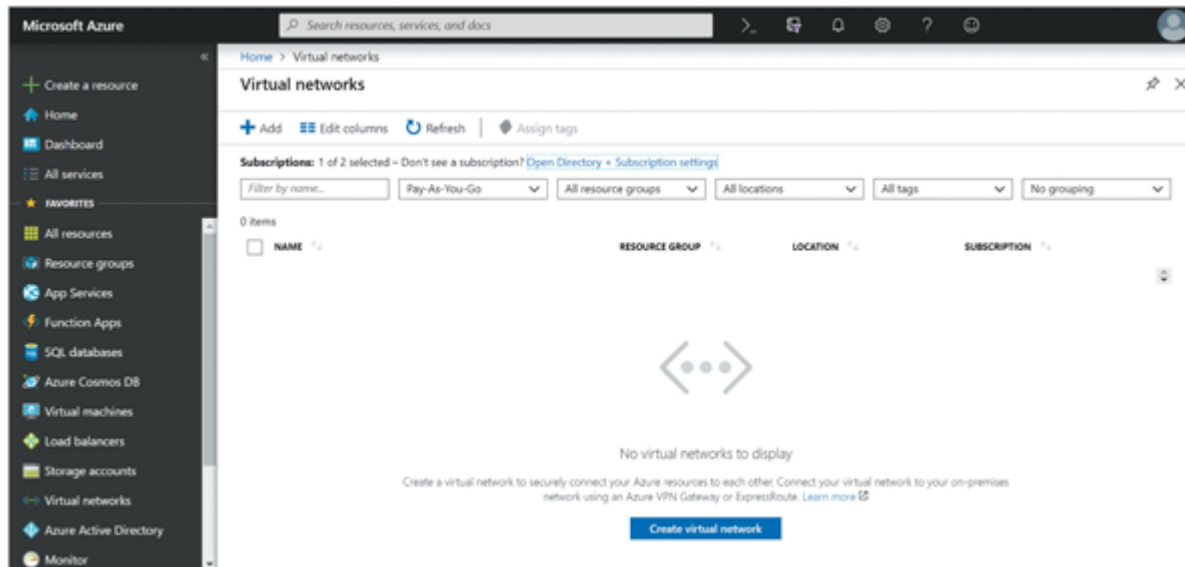


Figure 4-25 The Azure Virtual networks dashboard

Source: Used with permission from Microsoft

2. Create a new resource group and name it something like MyRG1. In Azure, you create a new subnet at the same time you create a new VNet. Give the subnet a name, such as Subnet1, and an address range within the VNet's CIDR range, such as 192.168.0.0/26. How many addresses are included in the subnet's CIDR block? Keep the remaining



default settings, and click **Create**.

59 + 5 Azure reserved addresses

Subnet name *

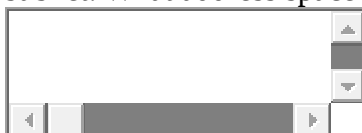
Subnet1

Subnet address range * ⓘ

192.168.0.0/26

192.168.0.0 - 192.168.0.63 (59 + 5 Azure reserved addresses)

3. Create a second VNet with a separate IP address space, a new resource group, and a new subnet. What address space did you assign to the VNet and the subnet?



Vnet-192.168.6.0/24

Subnet-192.168.6.0/28

Virtual network address space

10.1.0.0/16	10.1.0.0 - 10.1.255.255 (65536 addresses)	
192.168.6.0/24	192.168.6.0 - 192.168.6.255 (256 addresses)	
<input type="text"/>		

☐ Add IPv6 address space

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

[+ Add subnet](#) [Remove subnet](#)

<input type="checkbox"/> Subnet name	Subnet address range	NAT gateway
<input type="checkbox"/> default	10.1.0.0/24	-
<input type="checkbox"/> Subnet2	192.168.6.0/28	-

4. Create a new VM in the first VNet using that VNet's resource group. On the Networking page, be sure to select the first VNet you created and its subnet. Then create the VM.

Your deployment is complete

Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 10/24/2021, 9:58:37 PM
Subscription: [Azure subscription 1](#) Correlation ID: 9f1c41c1-20e1-422a-a102-5052e2...
Resource group: [MyRG1](#)

▼ Deployment details [\(Download\)](#)

^ Next steps

[Setup auto-shutdown](#) Recommended

[Monitor VM health, performance and network dependencies](#) Recommended

[Run a script inside the virtual machine](#) Recommended

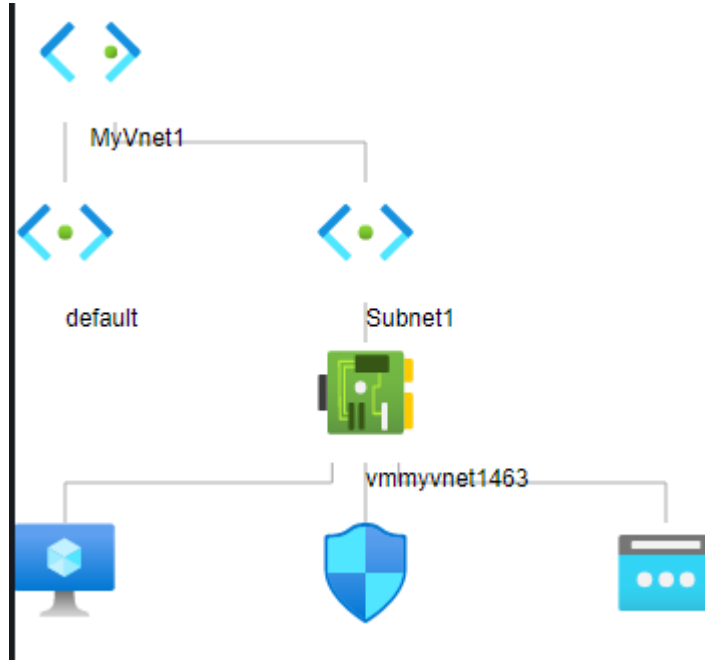
[Go to resource](#) [Create another VM](#)

5. After the VM is deployed, click the VM, and then click **Networking** in the left pane. What is the VM's private IP address? What is the name of this network interface? Click **Topology** and describe the information given in this diagram.

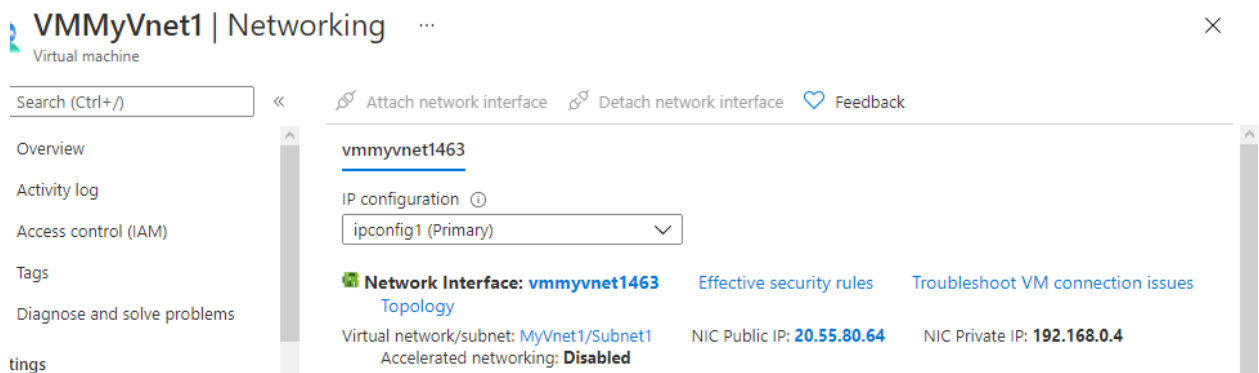


private IP 192.168.0.4

vmmyvnet1463



The topology show the gateway MyVnet1 why two internet are connected, default and Subnet1. The MyVnet1 is connected to Subnet1 which it is connected to vmmyvnet and is connected to other three components.



- Now you're ready to add a second network interface to this VM. First power down the machine (but don't delete it). Make sure the VM is completely deallocated; then return to the VM's Networking page and click **Attach network interface**. Click **Create network interface**. Give the network interface a name, such as MyNewInt. What options do you have for selecting a VNet? Why do you think this is? Leave the default settings in place, and click **Create**. On the Attach network interface pane, click **OK**.



Have two 10.0.0.0/24 and 192.168.0.0/26 this are subnets

MyVnet1

Subnet * ⓘ

default (10.0.0.0/24)

default (10.0.0.0/24)

Subnet1 (192.168.0.0/26)

Basic

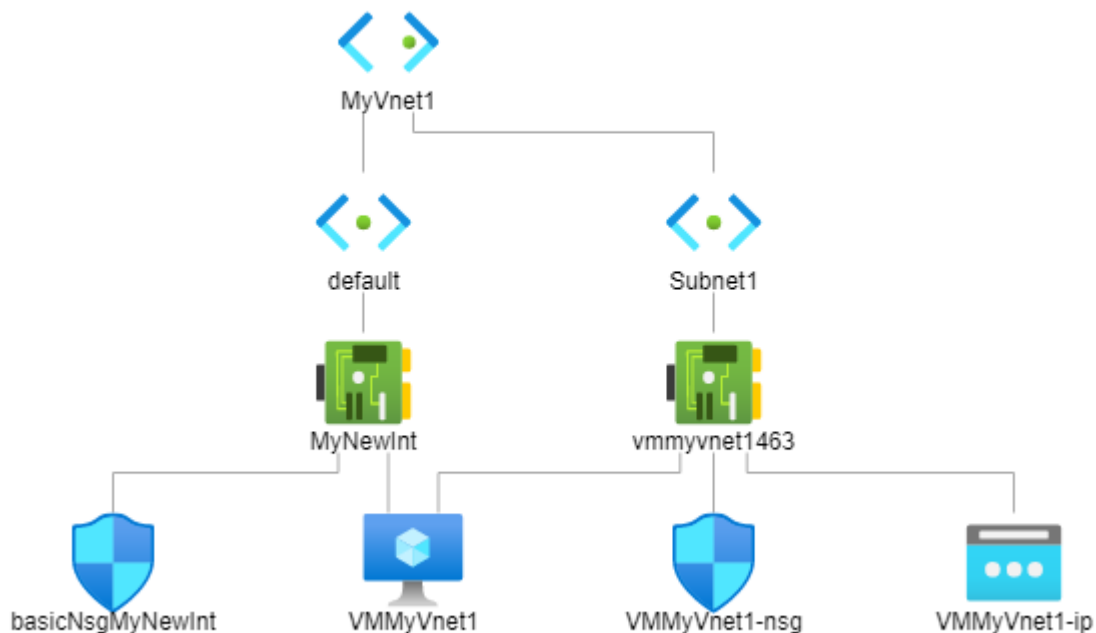
7. The VM's Networking page should now show two interfaces, as in Figure 4-26. Click the second interface's tab. What IP address is assigned to this interface? Click **Topology** and



describe the information given in this diagram.

private ip

10.0.0.4



The topology show the gateway MyVnet1 why two internet are connected, default and Subnet1. The MyVnet1 is connected to Subnet1 which it is connected to vmmyvnet and is connected to other three components. The default interface connected to the

MyNewInt NIC two nodes. One of the node is shared between default and subnet1 which is VMMMyVnet1.

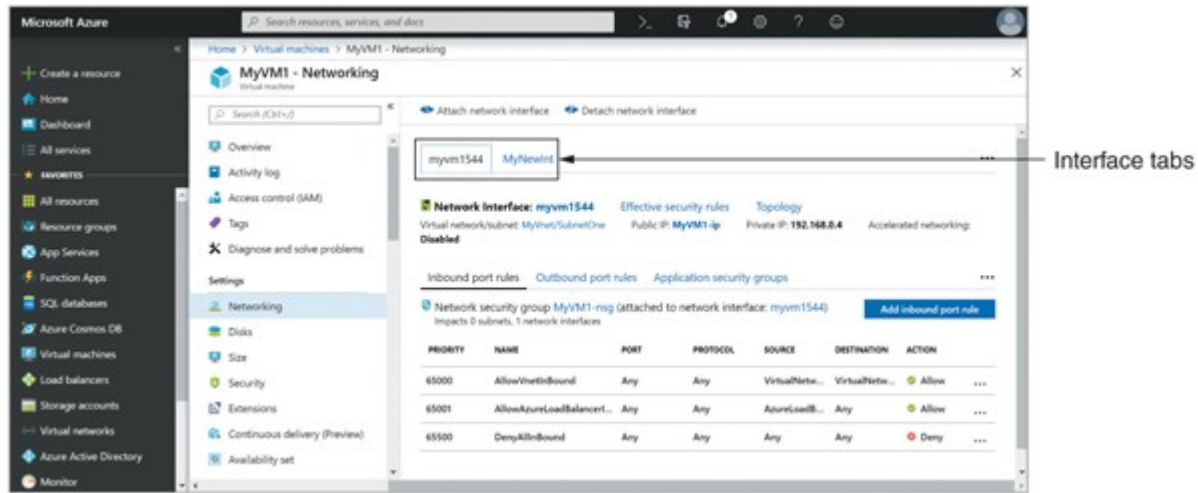


Figure 4-26 The VM has two network interfaces

Source: Used with permission from Microsoft

- Both interfaces are included in the same subnet, and you were not able to add the new interface to a different VNet than the first interface was already attached to. Can you place the second interface in a different subnet from the first interface? To determine the answer to this question, first create a second subnet in the first VNet. Go to the VNet's page and click **Subnets**; then click **+Subnet**. Give the subnet a name and an address space within the first VNet's CIDR block. What address space did you use? Click **OK**.

Name ↑↓	IPv4 ↑↓	IPv6 ↑↓	Available IPs ↑↓	Delegated to ↑↓
default	10.0.0.0/24	-	250	-
Subnet1	192.168.0.0/26	-	58	-
Subnet2	10.0.1.0/24	-	251	-

- After the subnet is created, return to the VM's Networking page. Create a third network interface. Can you assign it to the subnet you just created? Try to attach the interface to



the VM. What happens? How can you solve this problem?

There is a problem and cannot attach additional network interface because VM size 'Standard_B1s' supports just two network interface.

To add a virtual NIC to an existing VM, you deallocate the VM, add the virtual NIC, then start the VM. Different VM sizes support a varying number of NICs, so size your VM accordingly. If needed, you can resize a VM.

By select Size. Pick a new size from the list of available sizes and then select Resize.

Attach network interface

Attach existing network interface

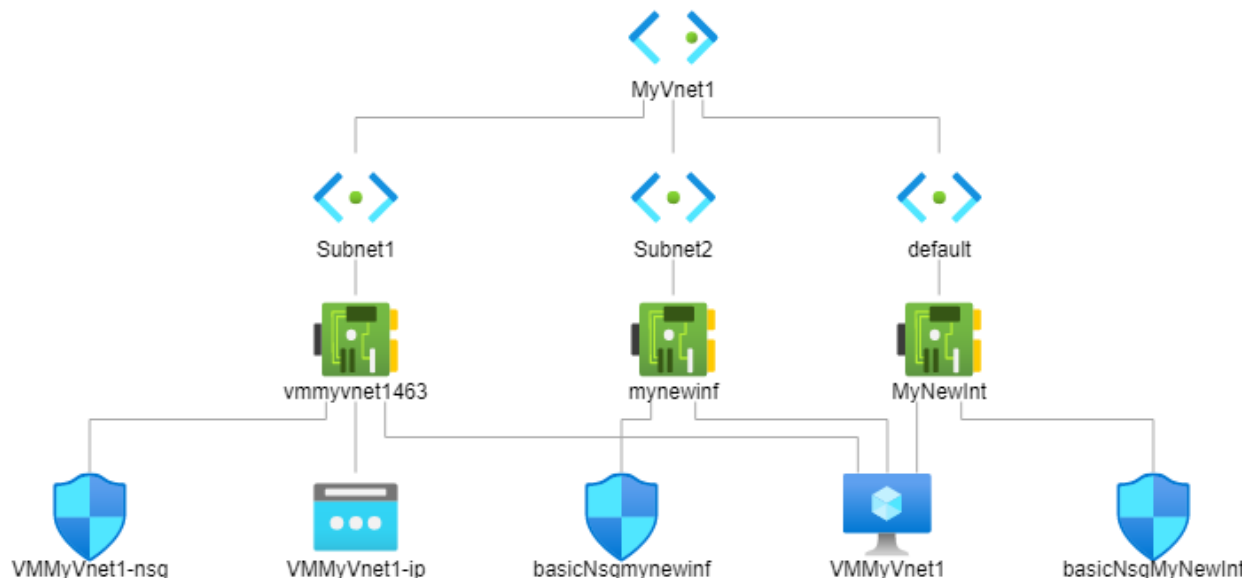
Cannot attach additional network interfaces because VM size 'Standard_B1s' supports only 2 network interfaces. [Learn more](#)

10. Solve the problem and attach the newest network interface. What is the IP address of this



interface? What does the topology diagram look like?

10.0.1.4



11. Delete all the resources you created in this project, including the VM instance, both VPCs, both subnets, all new interfaces, and both resource groups. In what order did you delete these resources? What error messages did you encounter? How did you handle

these problems? Check through your account to confirm that all related resources have



been deleted.

The VM instance, VPCs, subnets, all new interfaces, and resource groups.

No issue encountered