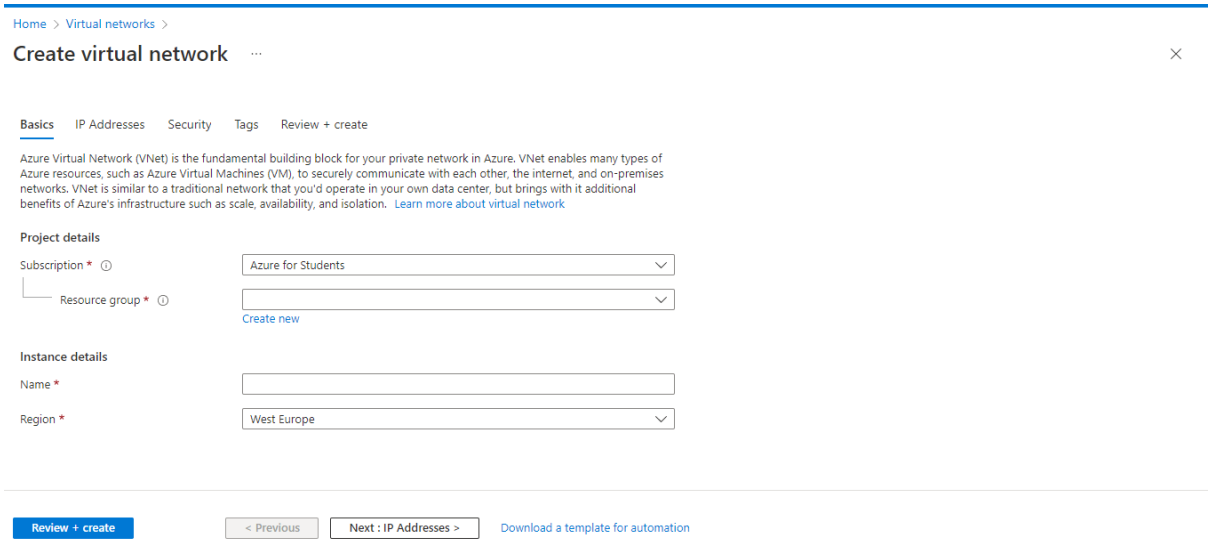
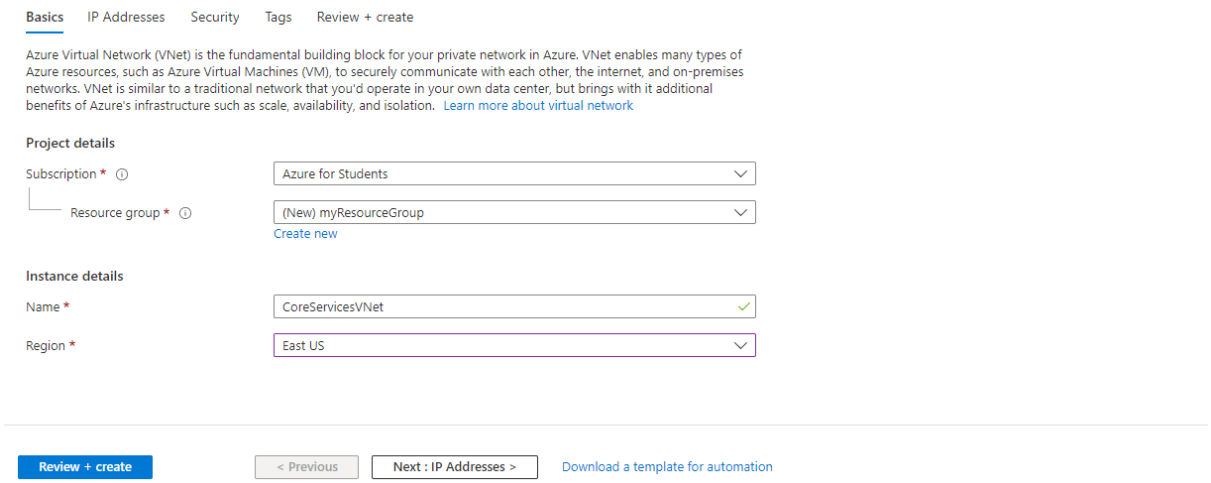
M07-Unit 5 Restrict network access to PaaS resources with virtual network service endpoints

Task 1: Create a virtual network

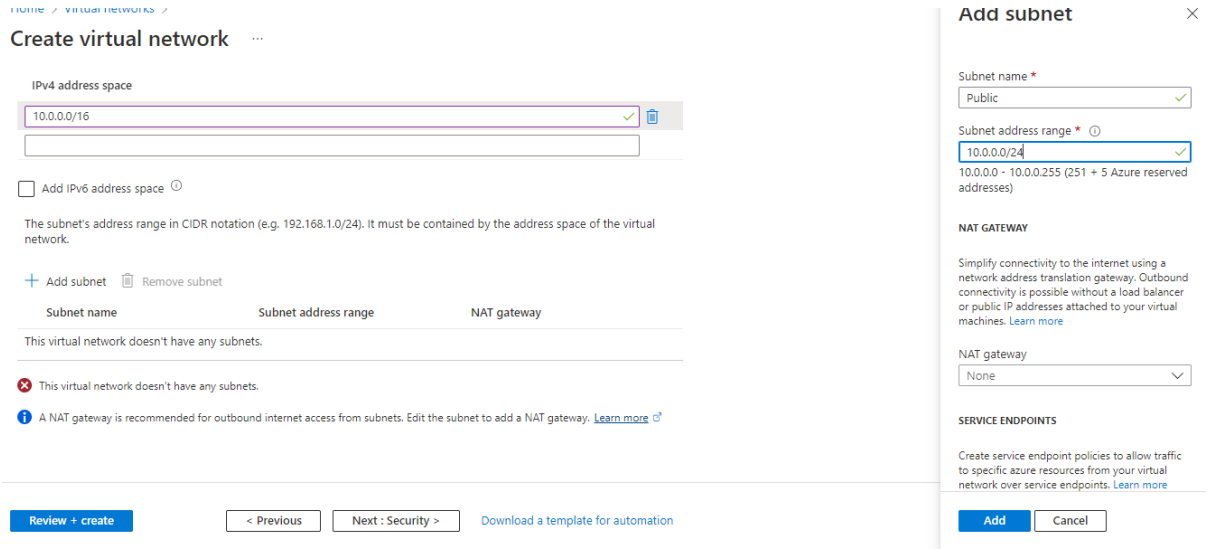
1-3.Select + Create.



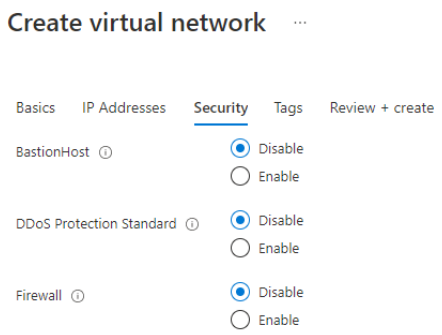
4. Enter, or select, the following information:



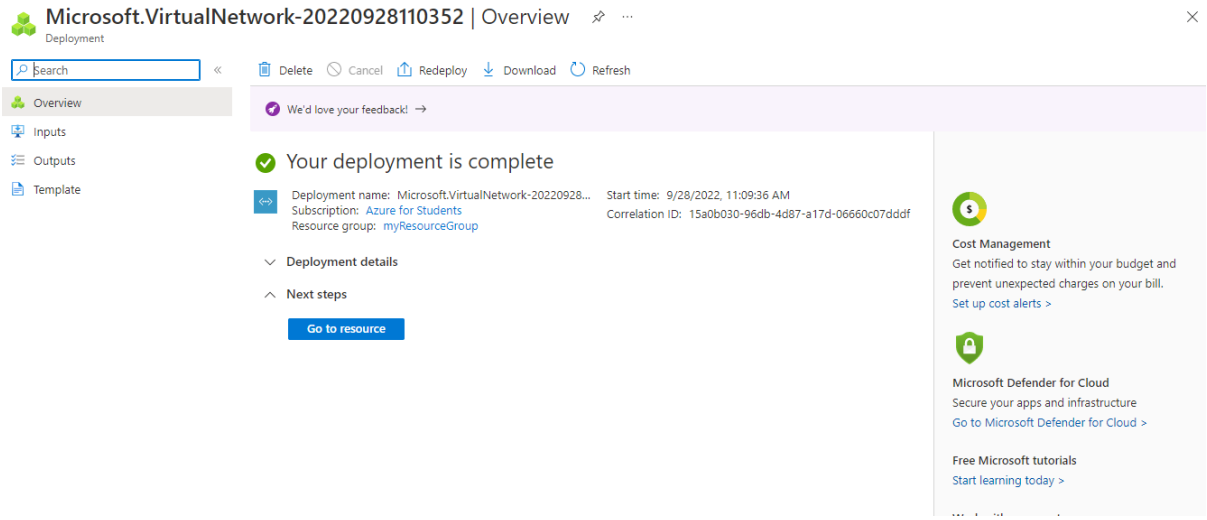
5. Select the IP Addresses tab and enter the following values (select default to change the subnet name):



6. Select the Security tab and enter the following values: ![Graphical user interface, text, application, email Description automatically generated](../media/ create-virtual-network-security.png)

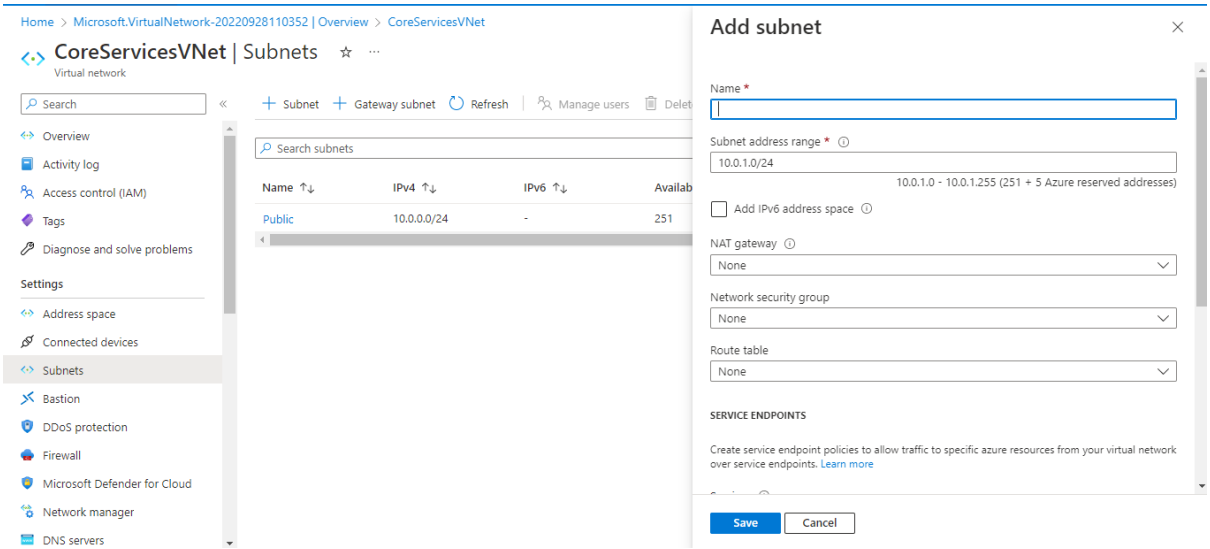


7. Click Review + Create. Once the resource is validated select Create

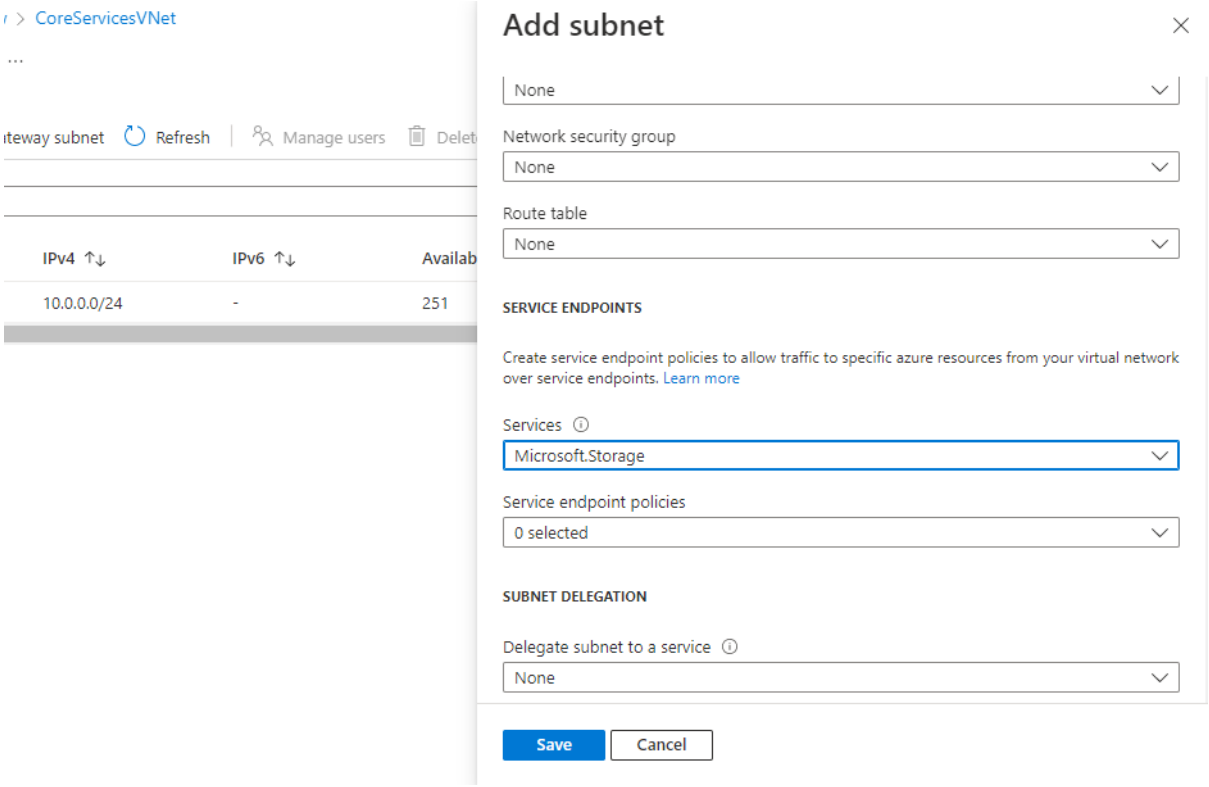


Task 2: Enable a service endpoint

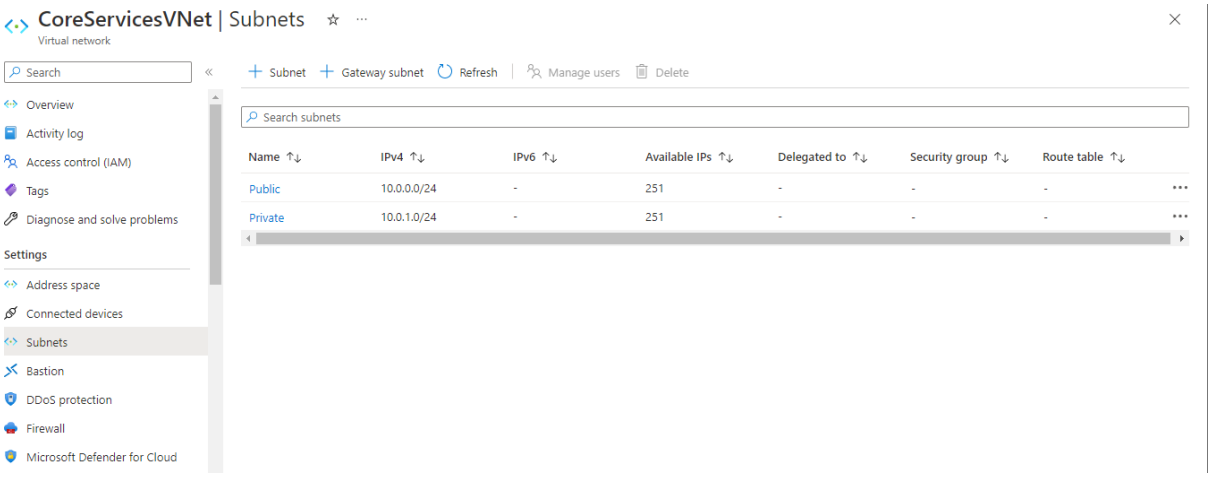
1-2. Add a subnet to the virtual network. Under Settings, select Subnets, and then select + Subnet, as shown in the following picture:



3. Under Add subnet, select or enter the following information

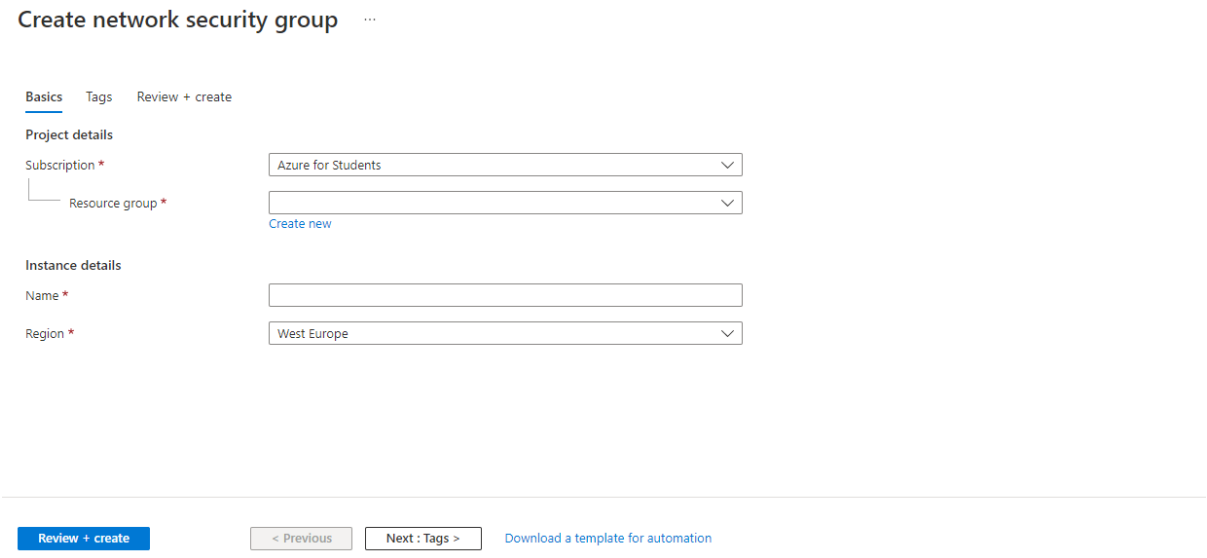


1. 4. Select **Save**.

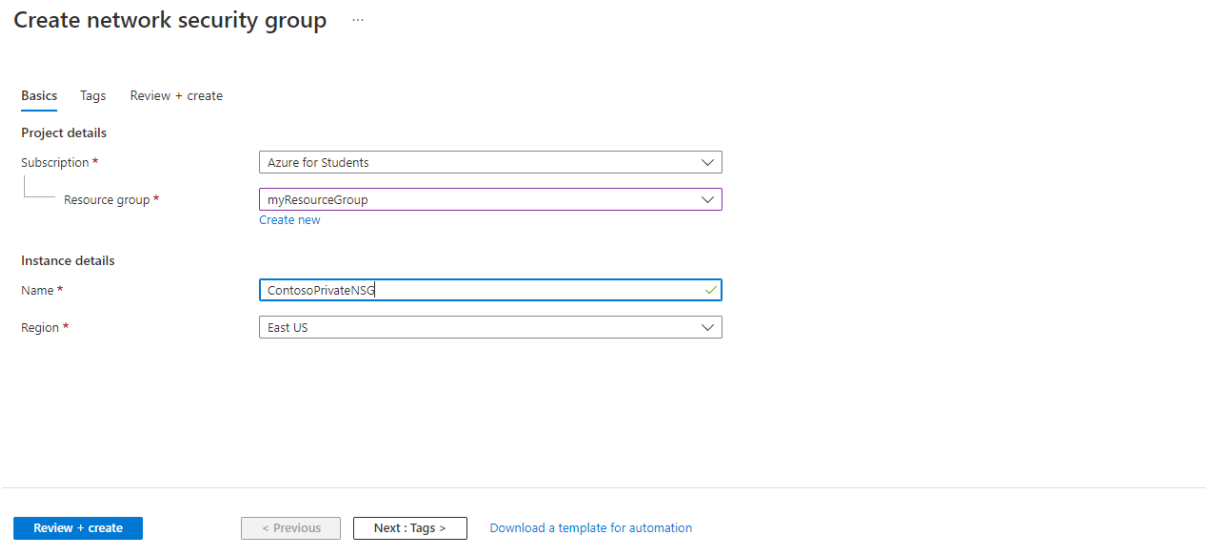


Task 3: Restrict network access for a subnet

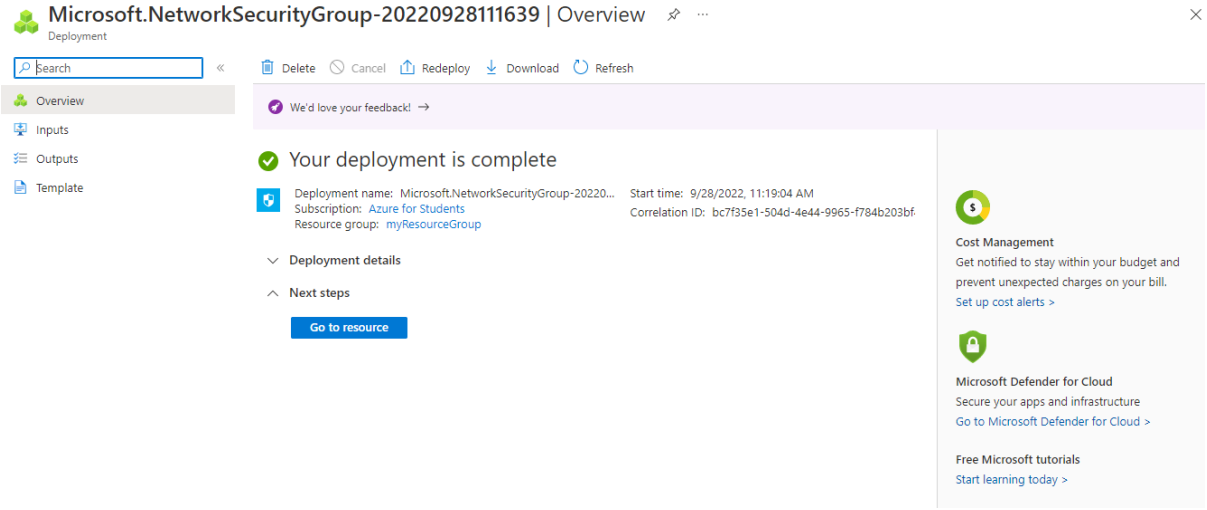
1-2. In Network security groups, select + Create.



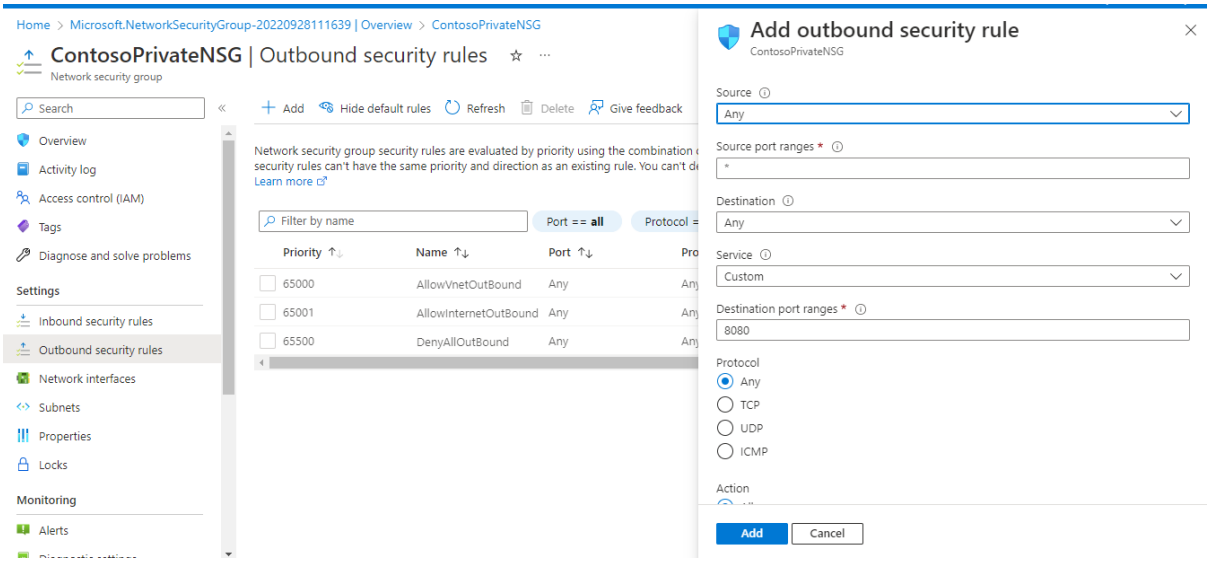
3.Enter or select, the following information:



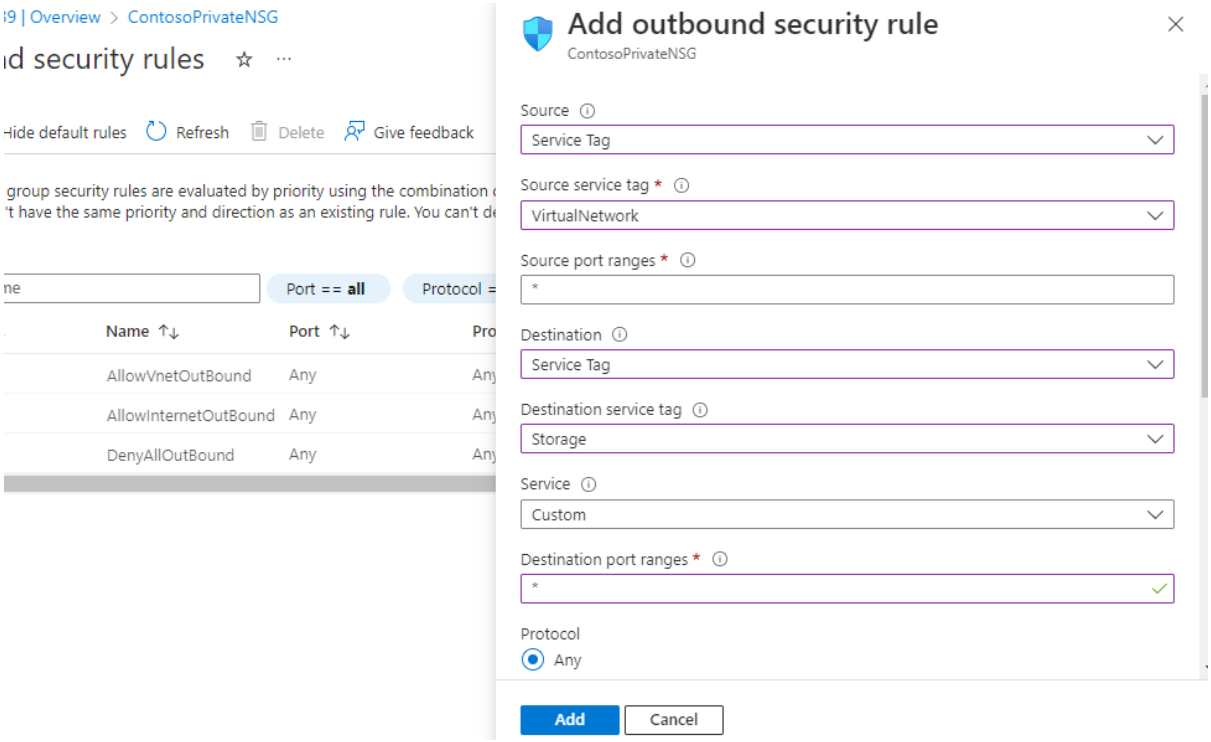
4-5. After the ContosoPrivateNSG network security group is created, select Go to resource.

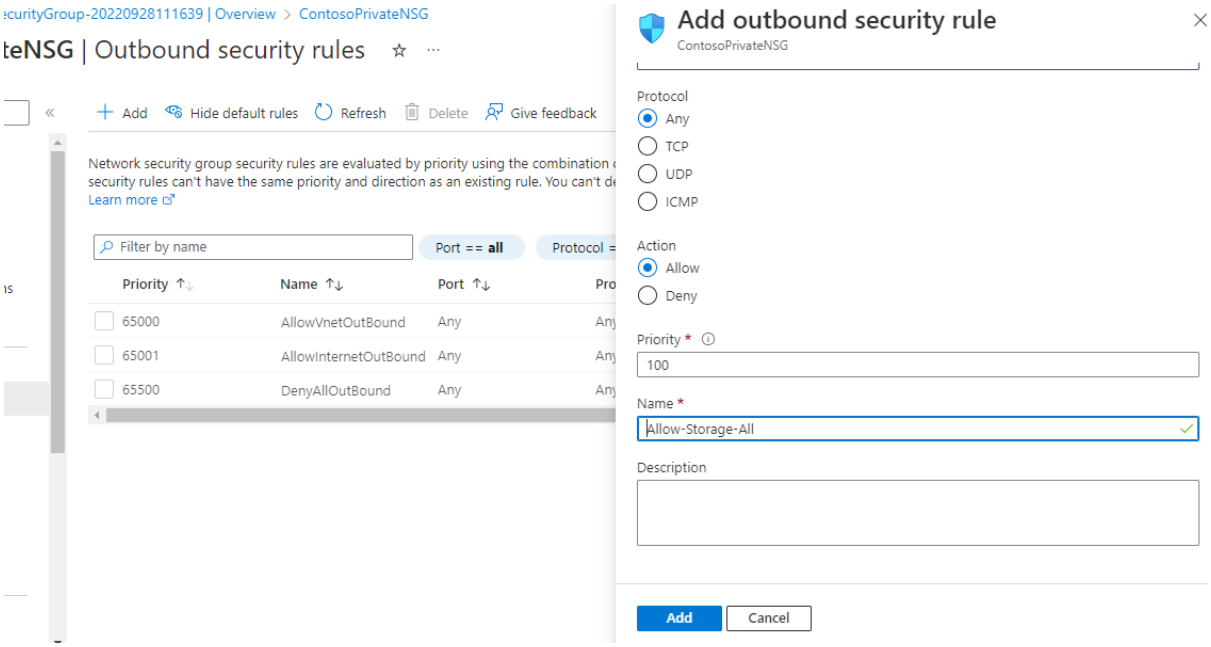


6-7. Select + Add.

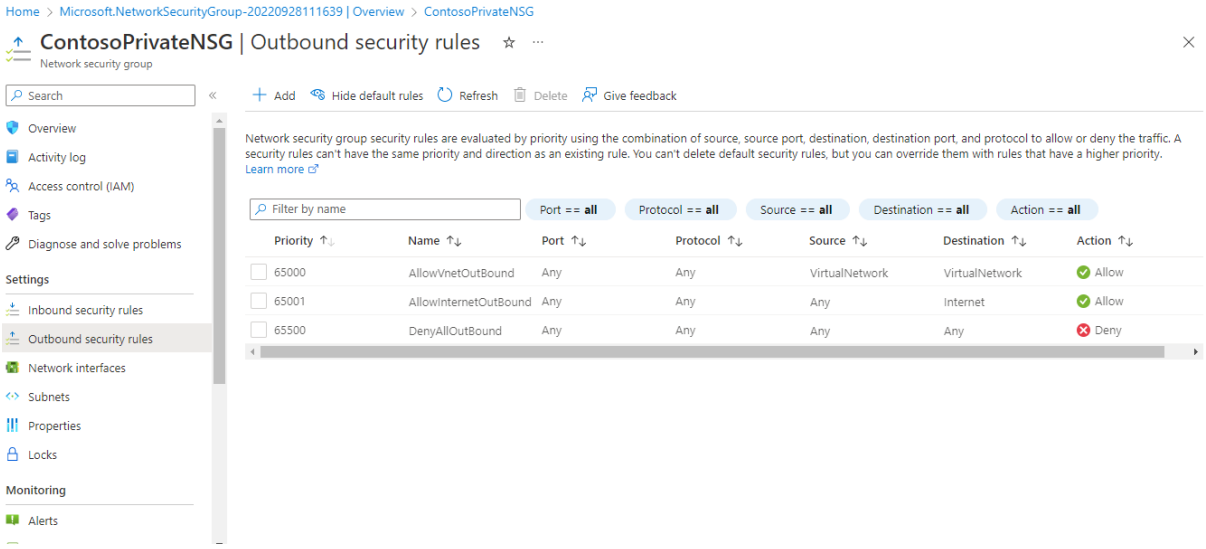


8. Create a rule that allows outbound communication to the Azure Storage service. Enter, or select, the following information:



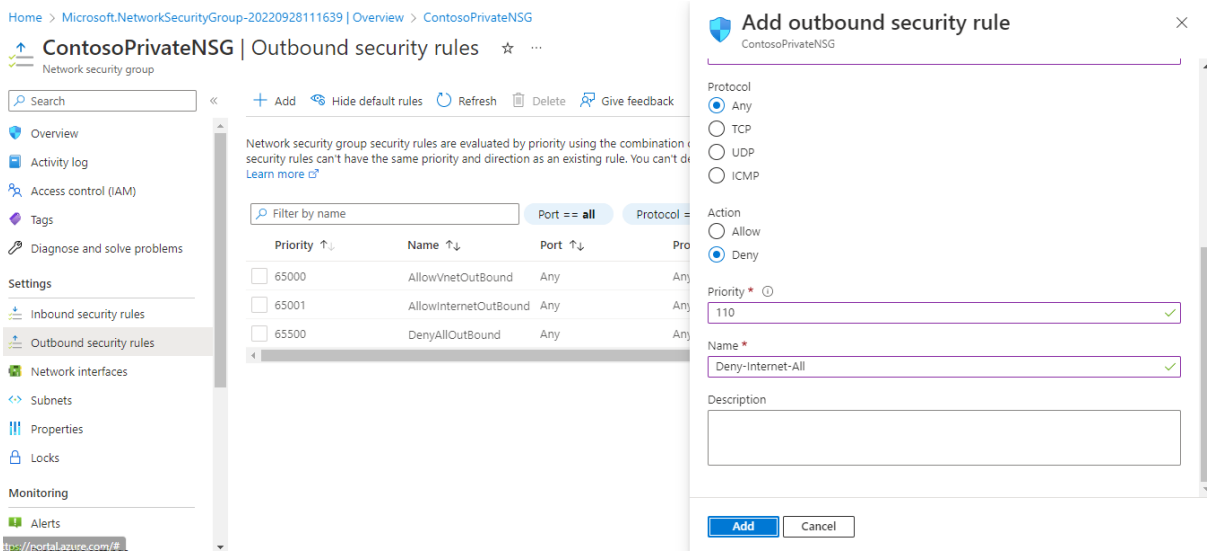


9. Select Add:

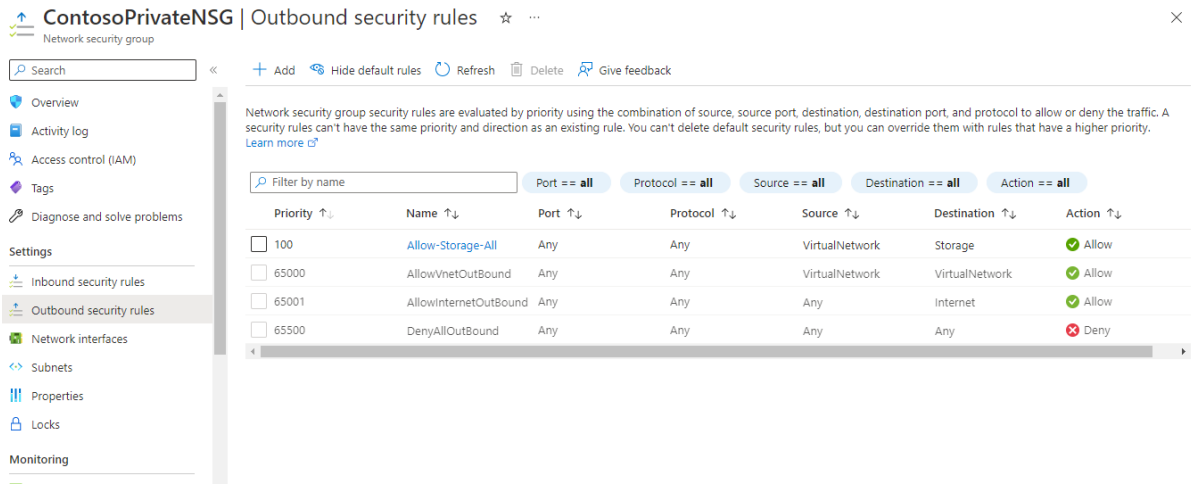


Task 4: Add additional outbound rules

1. Select +Add under Outbound security rules. +2. Enter, or select, the following information:

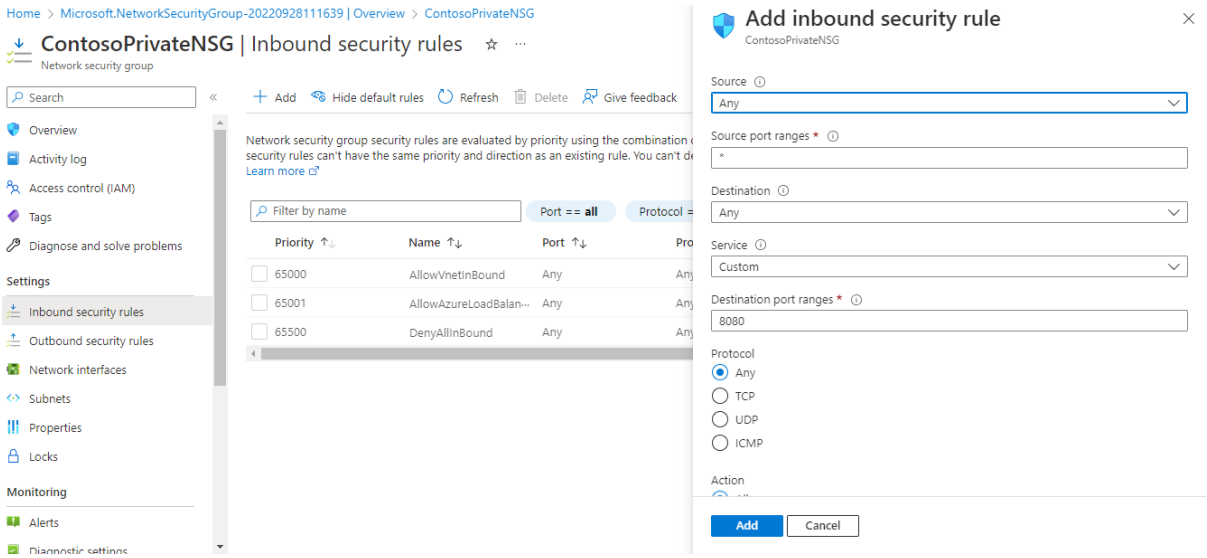


3.Select Add.

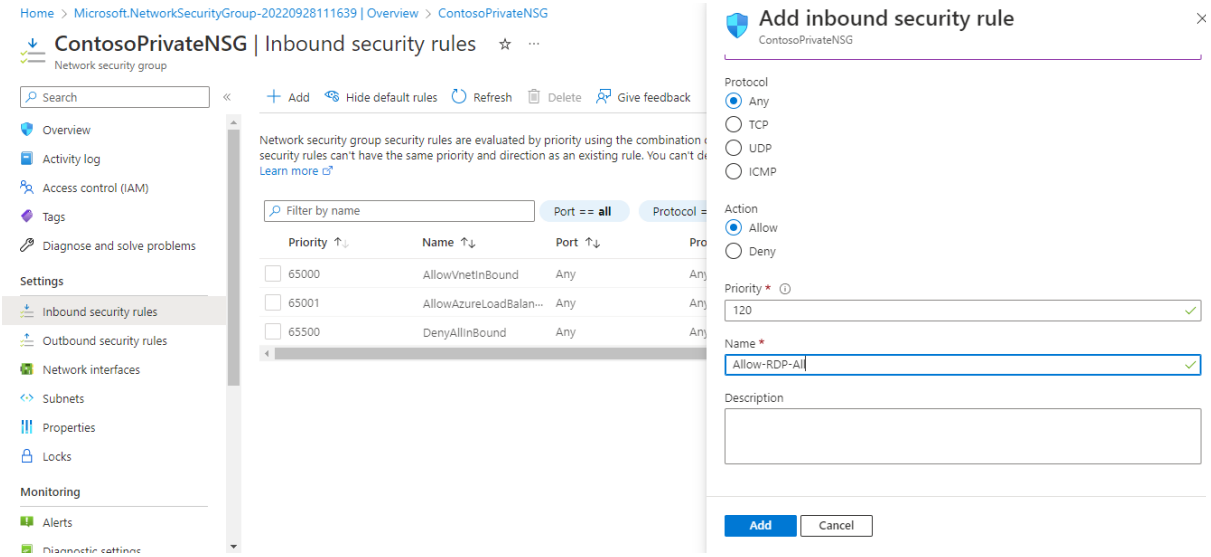


Task 5: Allow access for RDP connections

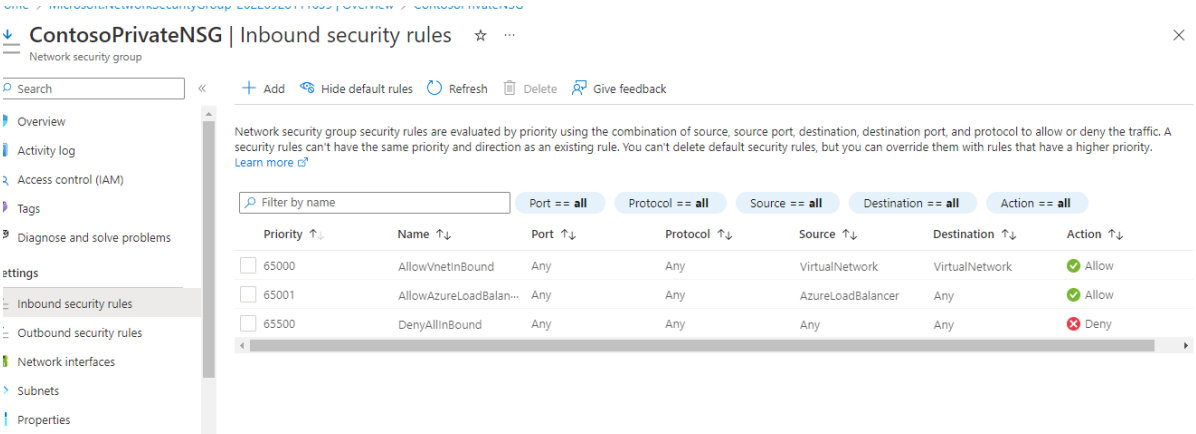
1. On ContosoPrivateNSG | Outbound security rules, under Settings, select Inbound security rules.



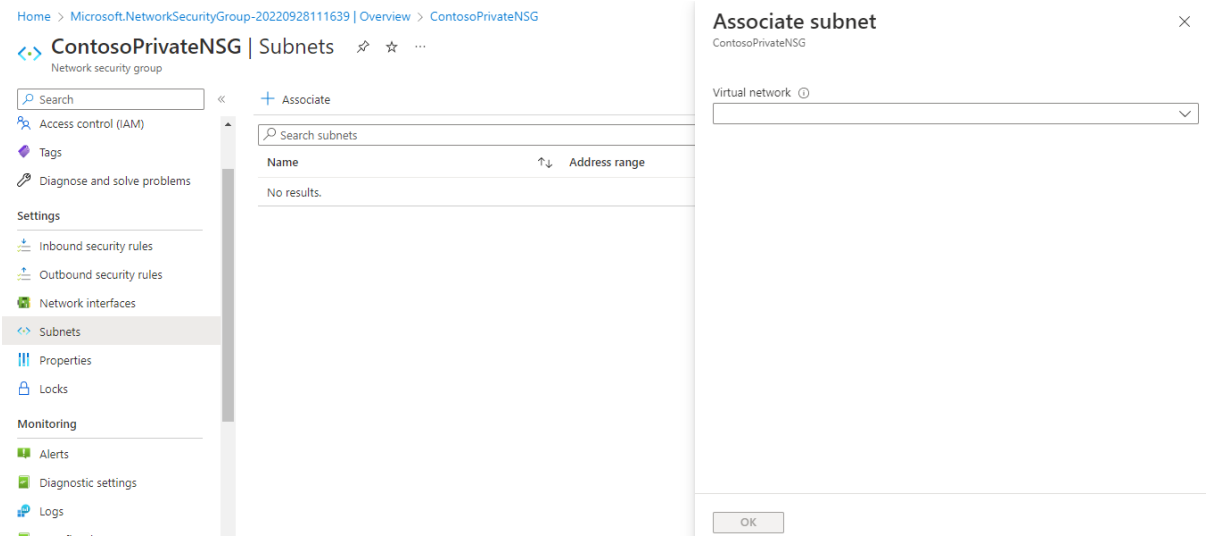
2.-3. In Add inbound security rule, enter the following values::



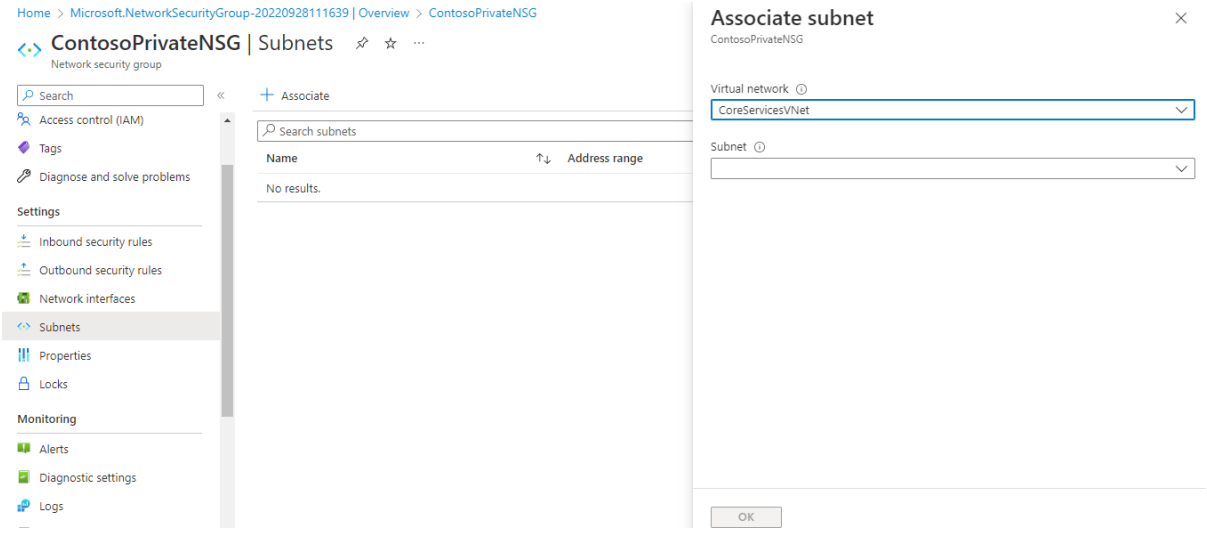
4. And then select Add.



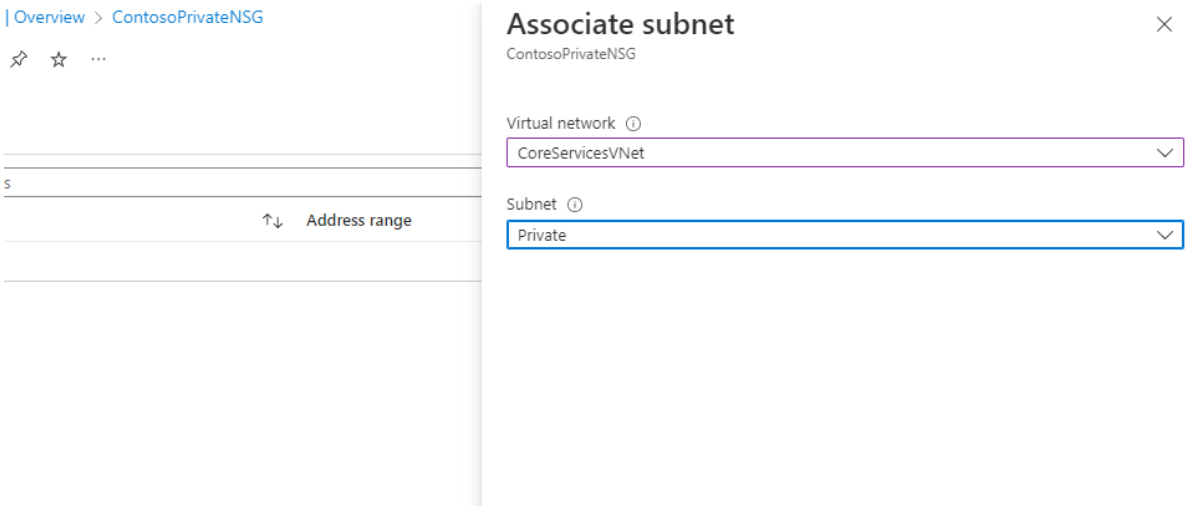
5. -6. Select + Associate.



7. Under Associate subnet, select Virtual network and then select CoreServicesVNet under Choose a virtual network.

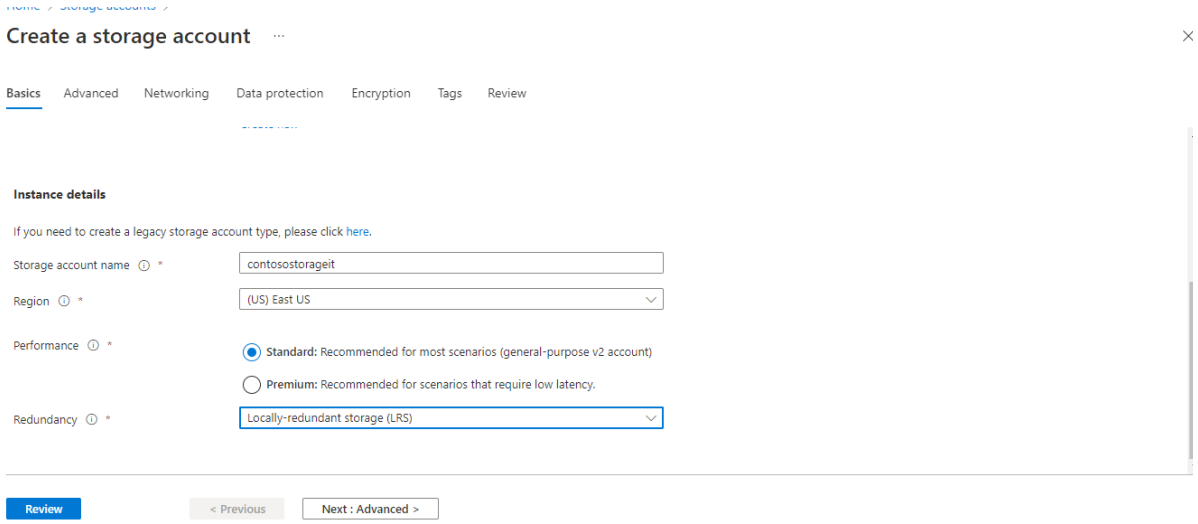


8. Under Choose subnet, select Private, and then select OK.

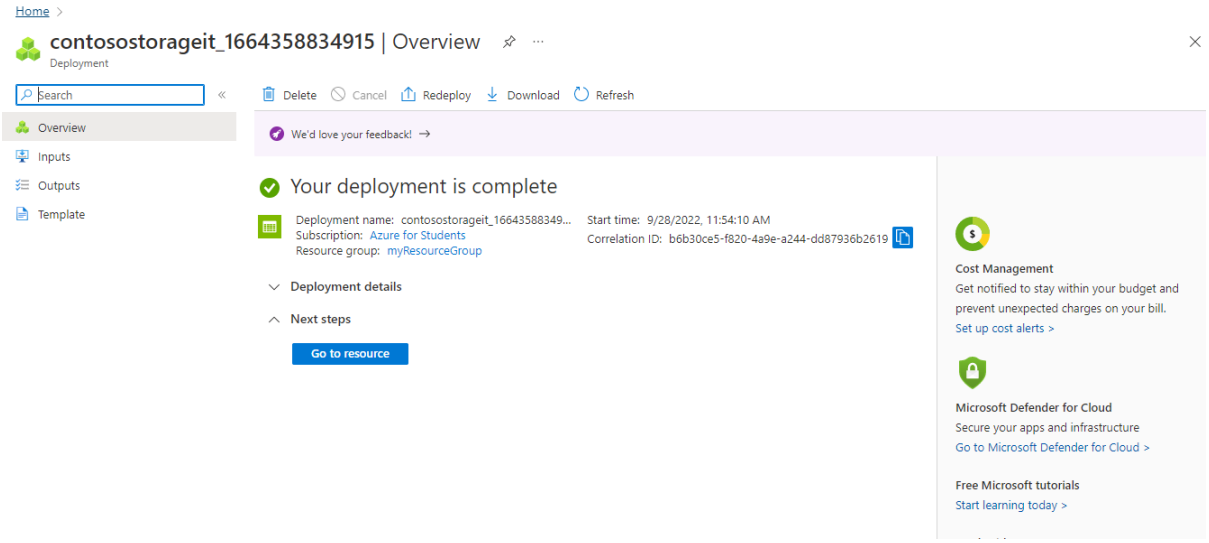


Task 6: Restrict network access to a resource

1-2. Select +Create.

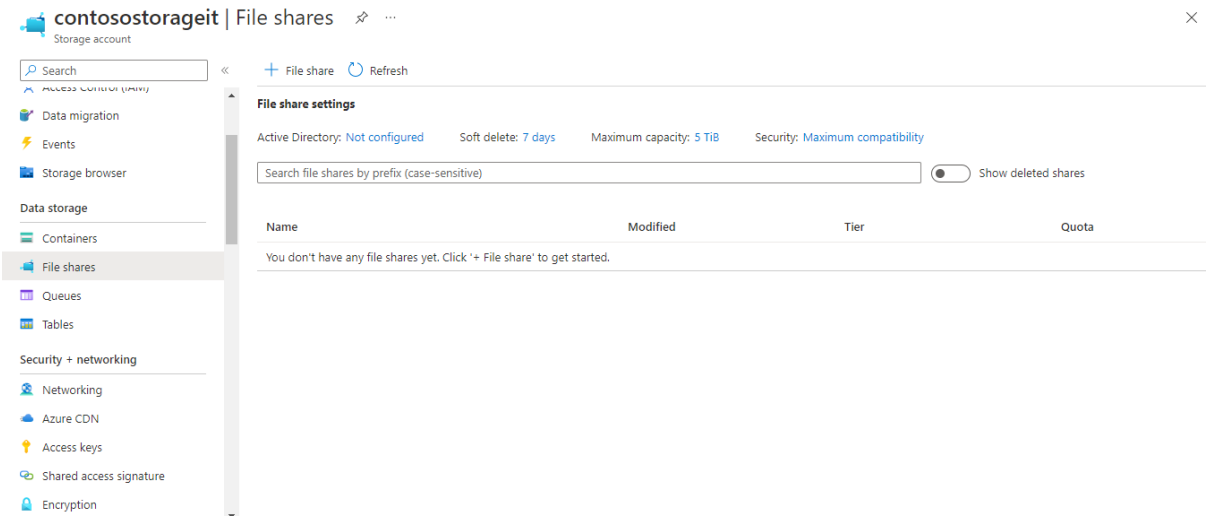


7. select Review + create, then click Create.

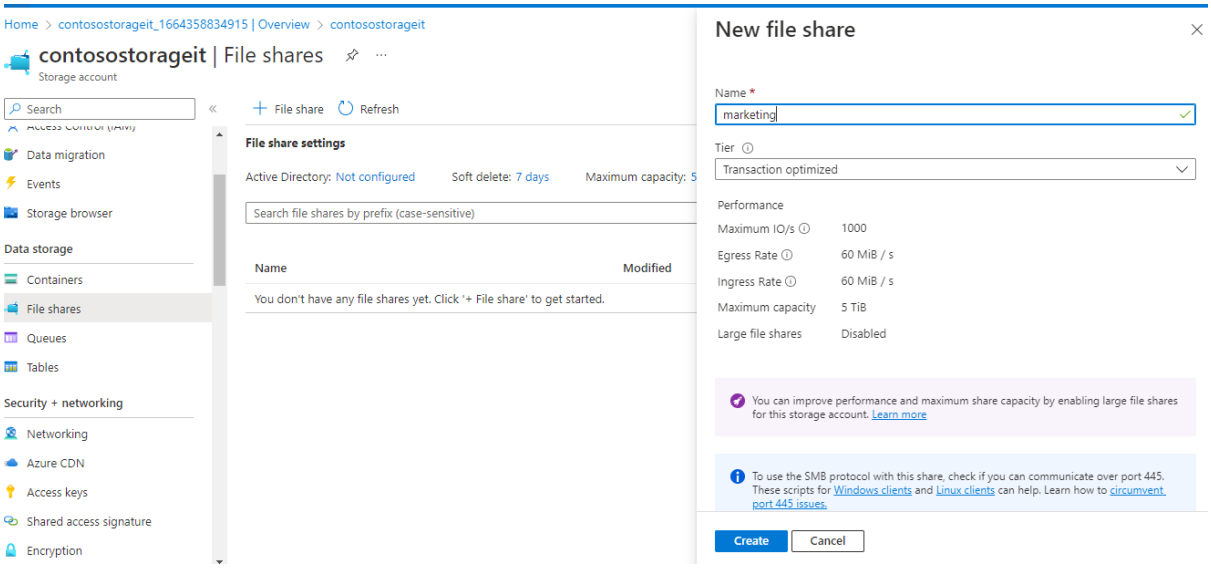


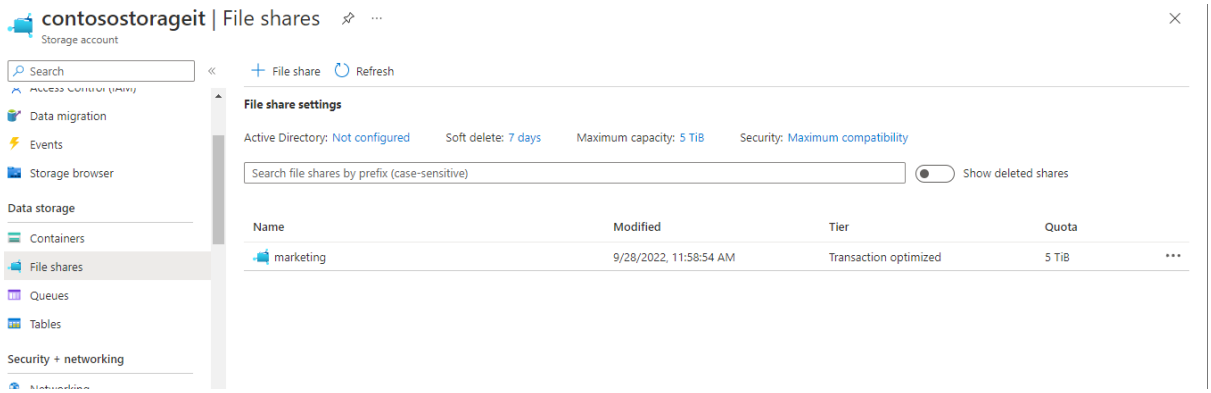
Task 7: Create a file share in the storage account

1-2. Select File shares, as shown in the following picture:



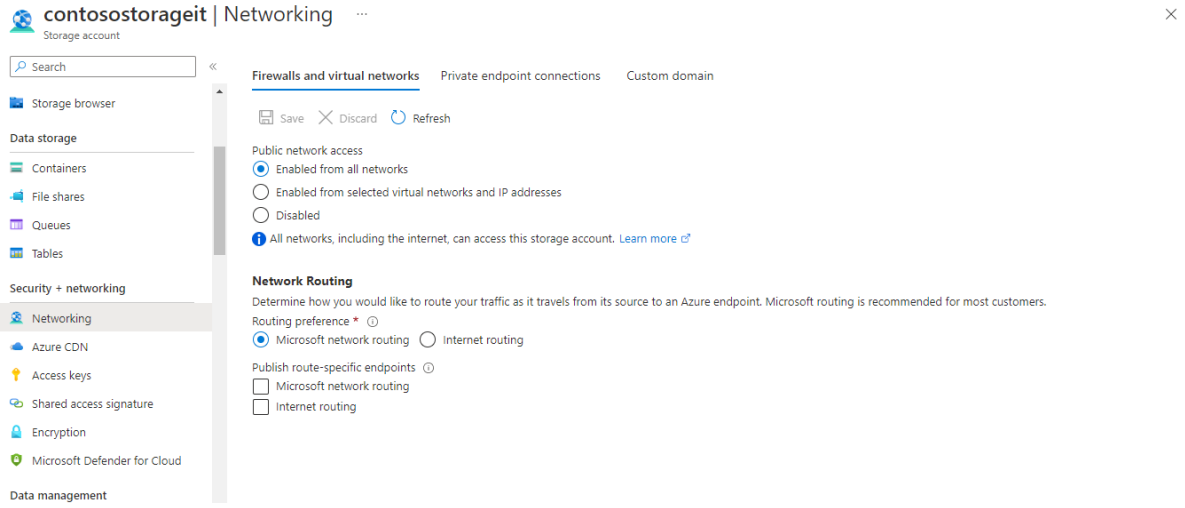
3.-4. Enter marketing under Name, and then select Create.



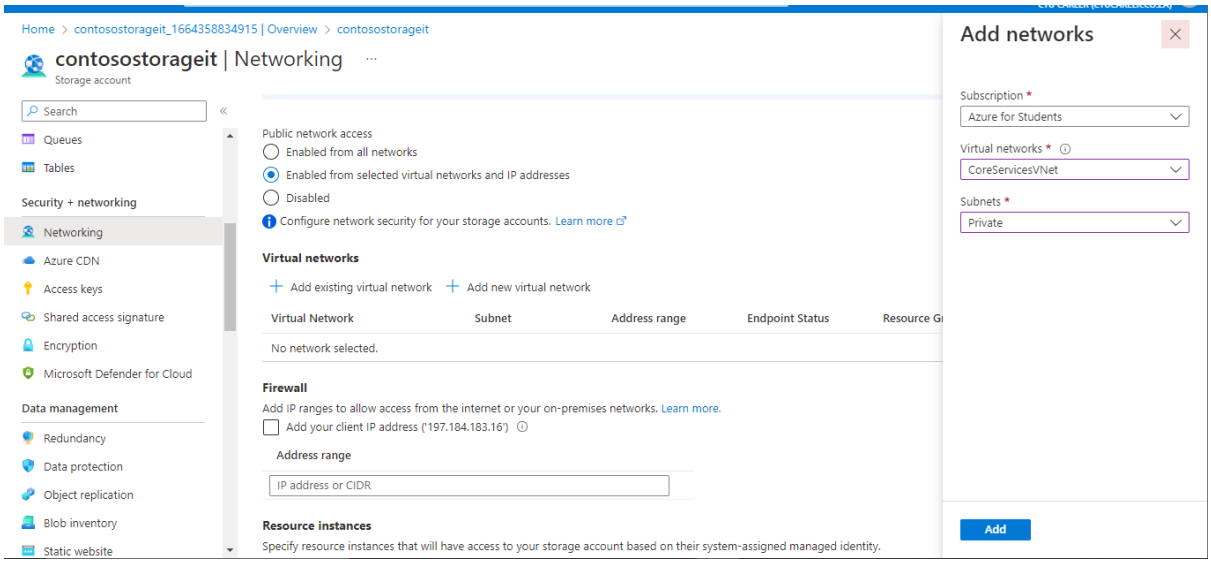


Task 8: Restrict network access to a subnet

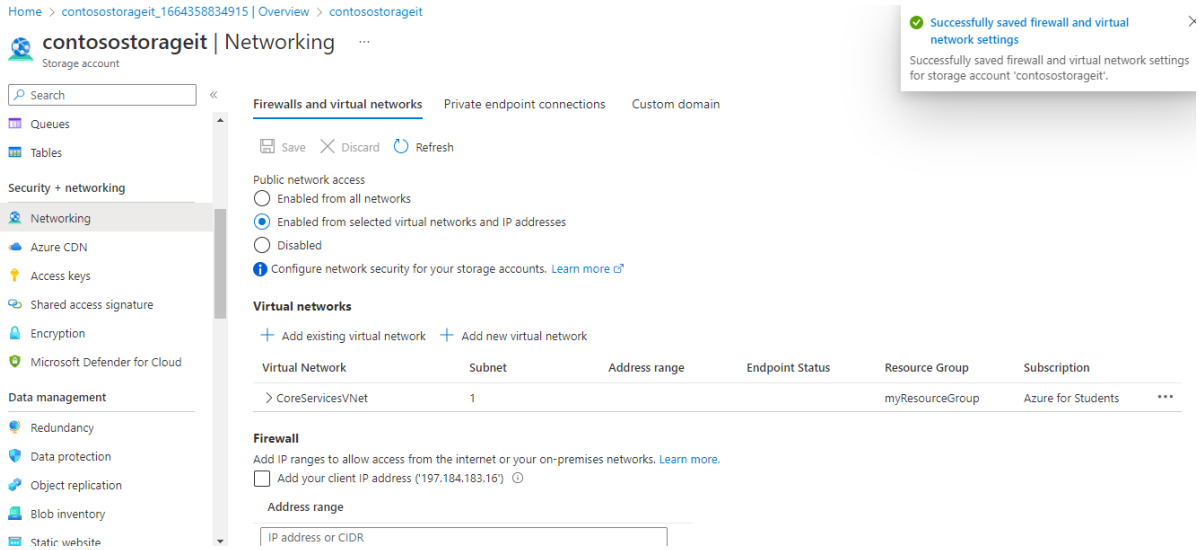
1-2. Select Selected networks.



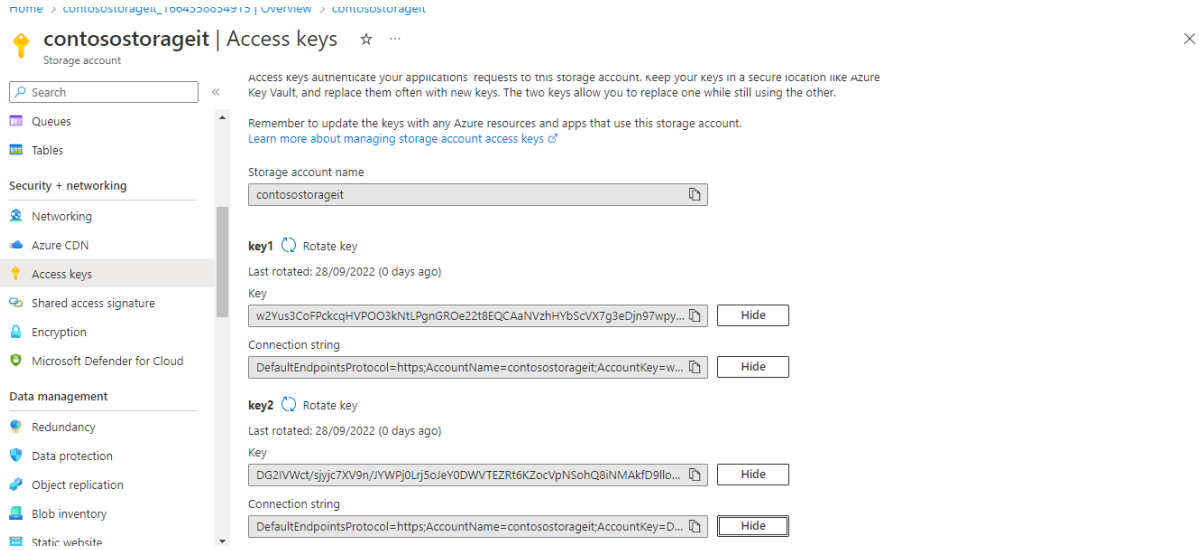
3.-4. Under Add networks, select the following values:



5.-6. Select Save.



7. Under Security and Networking for the storage account, select Access keys. +8. Select Show Keys. Note the Key value, as you'll have to manually enter it in a later step when mapping the file share to a drive letter in a VM.

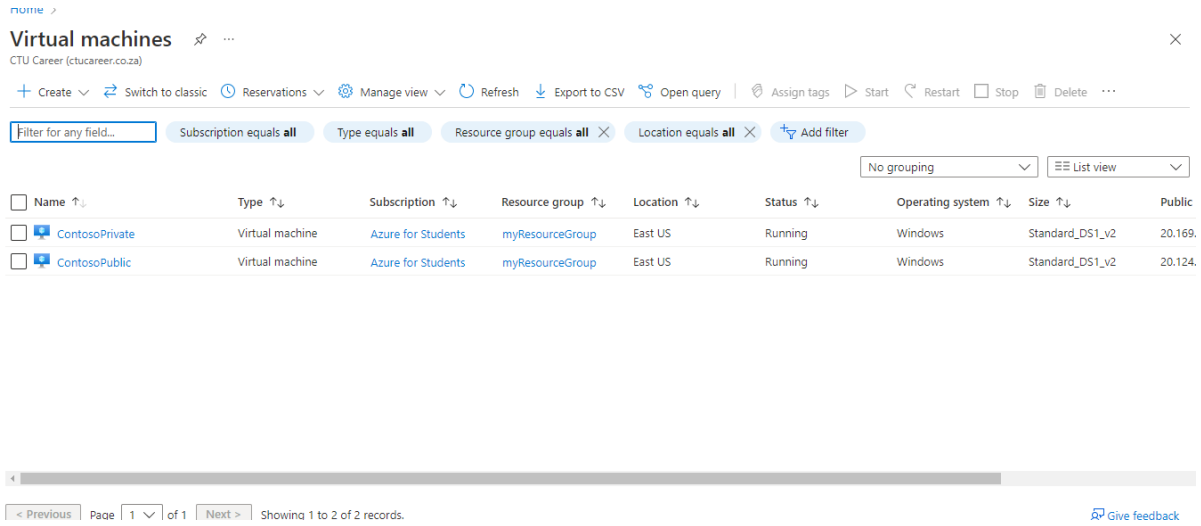


Task 9: Create virtual machines

1-2. In the toolbar of the Cloud Shell pane, select the Upload/Download files icon, in the drop-down menu, select Upload and upload the following files VMs.json and VMs.parameters.json into the Cloud Shell home directory one by one from the source folder F:\Allfiles\Exercises\M07. +3. Deploy the following ARM templates to create the VMs needed for this exercise:

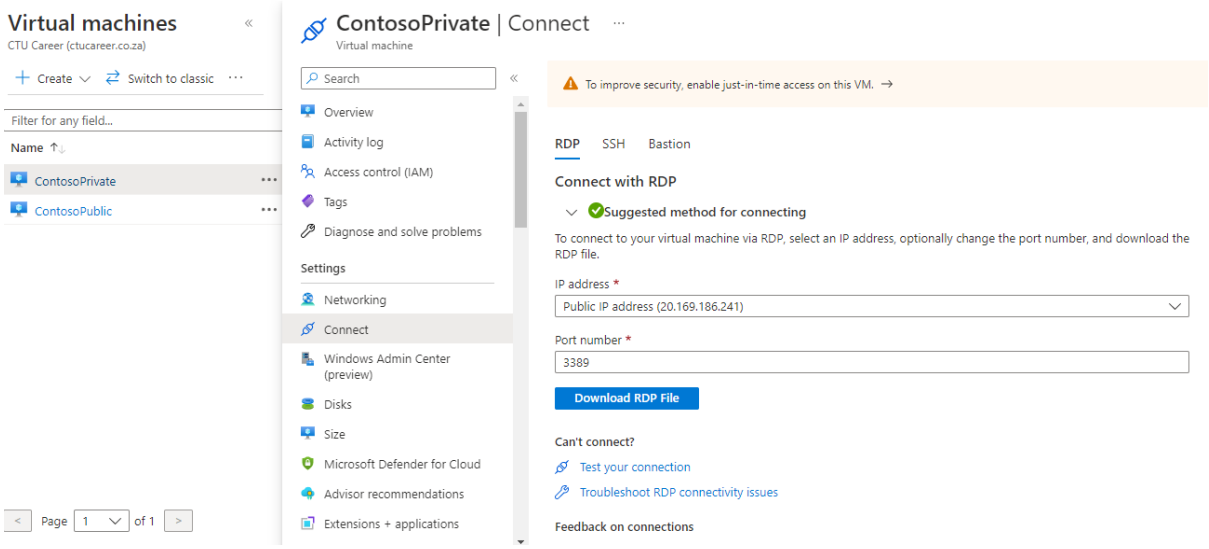
```
Type "help" to learn about Cloud Shell


MOTD: Read more about PowerShell in CloudShell: https://aka.ms/pscloudshell/docs

VERBOSE: Authenticating to Azure ...
VERBOSE: BuildingNew-AzResourceGroupDeployment -ResourceGroupName $RGName -TemplateFile VMs.json -TemplateParameterFile VMs.parameters.json
PS /home/ilunga> New-AzResourceGroupDeployment -ResourceGroupName $RGName -TemplateFile VMs.json -TemplateParameterFile VMs.param
DeploymentName          : VMs
ResourceGroupName       : myResourceGroup
ProvisioningState       : Succeeded
Timestamp               : 9/28/2022 10:40:36 AM
Mode                    : Incremental
TemplateLink            :
Parameters              :
                          Name              Type                       Value
                          ==============    ========================   ==========
                          vmName1           String                     "ContosoPublic"
                          nicName1          String                     "ContosoPublic-nic"
                          vmName2           String                     "ContosoPrivate"
                          nicName2          String                     "ContosoPrivate-nic"
                          vmSize            String                     "Standard_DS1_v2"
                          adminUsername     String                     "TestUser"
                          adminPassword     SecureString               null

Outputs                 :
DeploymentDebugLogLevel :


PS /home/ilunga>
```

4.When the deployment is complete, go to the Azure portal home page, and then select Virtual Machines.

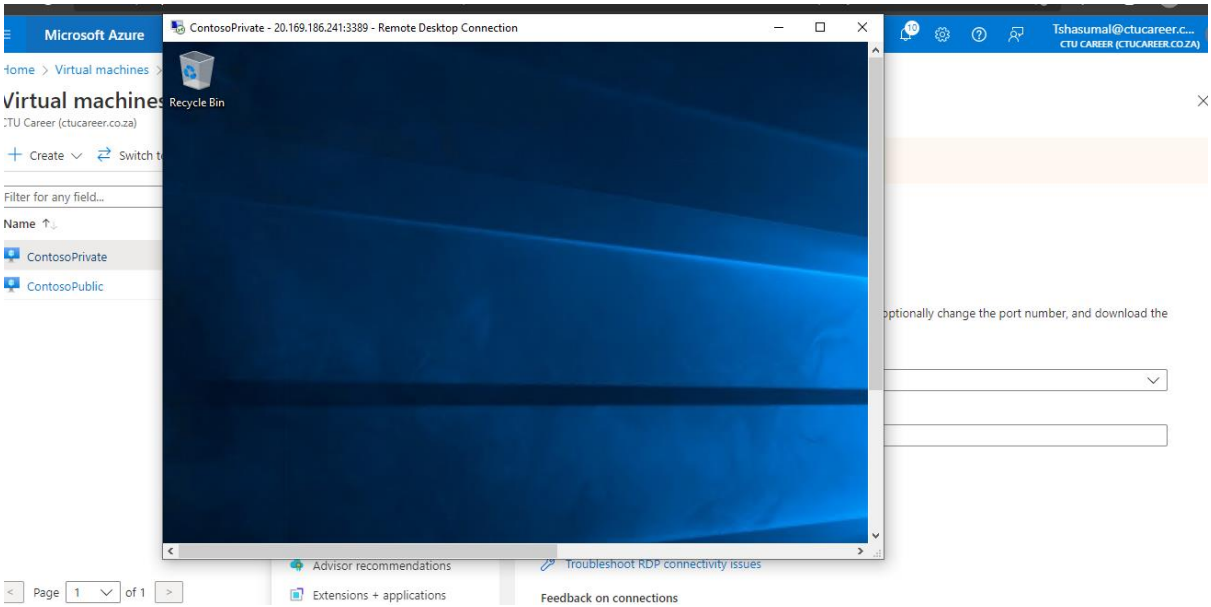


Task 10: Confirm access to storage account

1. Once the ContosoPrivate VM finishes creating, open the blade for the VM by selecting Go to resource. Select the Connect button, then select RDP.



3.-5. You may receive a certificate warning during the sign-in process. If you receive the warning, select Yes or Continue to proceed with the connection.



6.-7. Confirm that the VM has no outbound connectivity to the internet from a command prompt:

```
Name           Used (GB)     Free (GB) Provider      Root
----           ---------     --------- --------      ----
Z                                      FileSystem    \\contosostoragean1.file.core.wi...


PS C:\Users\TestUser> ping bing.com

Pinging bing.com [204.79.197.200] with 32 bytes of data:
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119

Ping statistics for 204.79.197.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
PS C:\Users\TestUser> ping bing.com

Pinging bing.com [204.79.197.200] with 32 bytes of data:
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119

Ping statistics for 204.79.197.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
PS C:\Users\TestUser> $acctKey = ConvertTo-SecureString -String "V7T0g746fgb1IszCImvqI4r92kwo2BMt2LfMTnlPz9kcx
>>
>> $credential = New-Object System.Management.Automation.PSCredential -ArgumentList "contosostoragean1", $acct
```

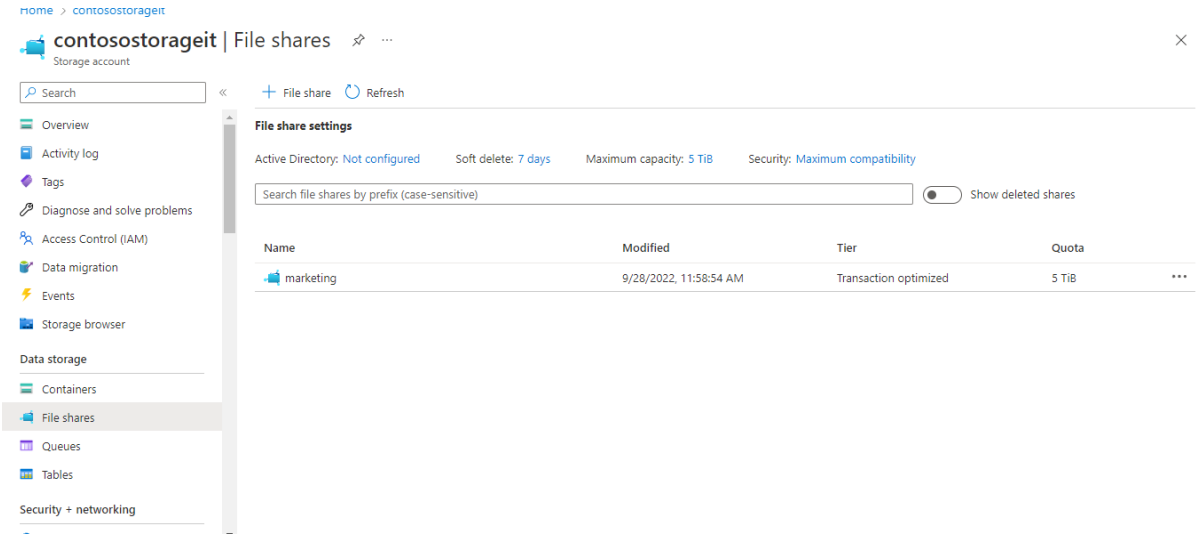
Confirm access is denied to storage account

1-4. Confirm that the public VM does have outbound connectivity to the internet from a command prompt:

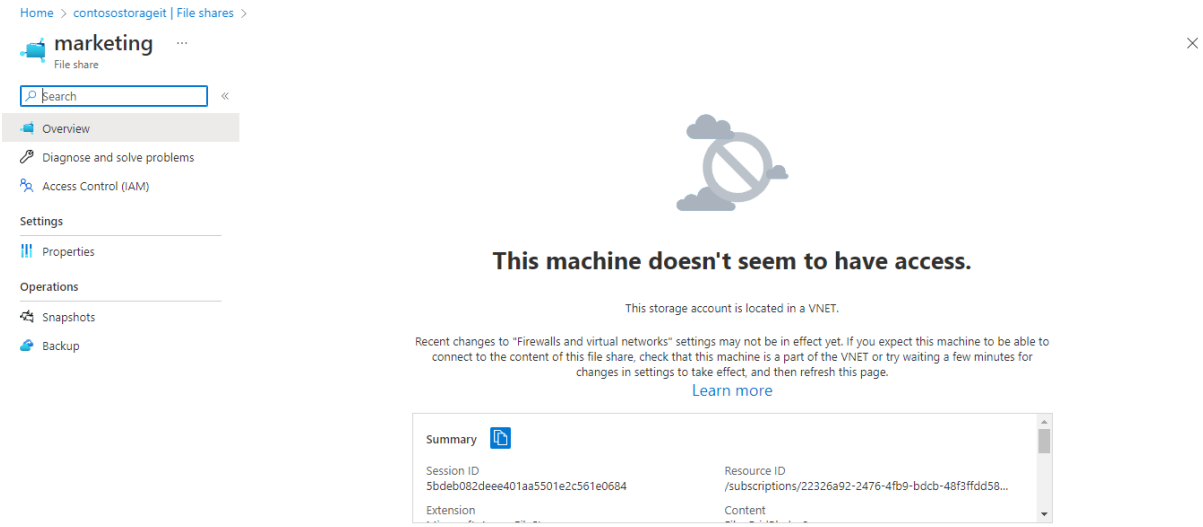
ping bing.com

```
PS C:\Users\TestUser> ping bing.com

Pinging bing.com [204.79.197.200] with 32 bytes of data:
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119
Reply from 204.79.197.200: bytes=32 time=1ms TTL=119

Ping statistics for 204.79.197.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
PS C:\Users\TestUser>
```

5.-7. Enter the name of the storage account you created in the Search resources, services, and docs box. When the name of your storage account appears in the search results, select it



8. Select File shares then select the marketing file share.+9. You receive the error shown in the following screenshot:



Task 11: Clean up resources

1.-2. Delete all resource groups you created throughout the labs of this module by running the following command:

```
PowerShell
Requesting a Cloud Shell.Succeeded.
Connecting terminal...


MOTD: Modules installed with 'Install-Module' are persisted across sessions

VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home/ilunga> Remove-AzResourceGroup -Name 'myResourceGroup' -Force -AsJob

Id     Name            PSJobTypeName   State        HasMoreData     Location             Command
--     ----            -------------   -----        -----------     --------             -------
2      Long Running O… AzureLongRunni… Running      True            localhost            Remove-AzResourceGroup

PS /home/ilunga>
```