Walkthrough-Create a virtual network via the Azure Portal

In this walkthrough task we will create a virtual network, deploy two virtual machines onto that virtual network and then con igure them to allow one virtual machine to ping the other over that virtual network.

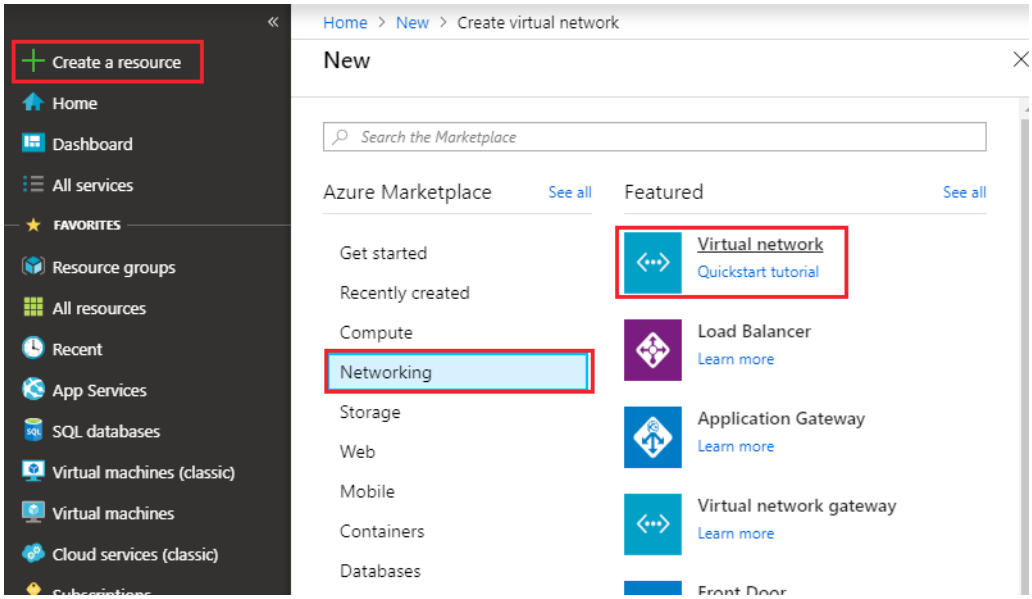
You can complete this walkthrough task by completing the steps outlined below, or you can simply read through them, depending on your available time.

Prerequisites

- You require need an Azure subscription to perform these steps. If you don't have one you can create one by following the steps outlined on the **Create your Azure free account today**[1] webpage.

Steps

1. Sign in to the Azure portal at **https://portal.azure.com**[2]
2. Choose **Create a resource** in the upper left-hand corner of the Azure portal, then select **Networking** > **Virtual network**



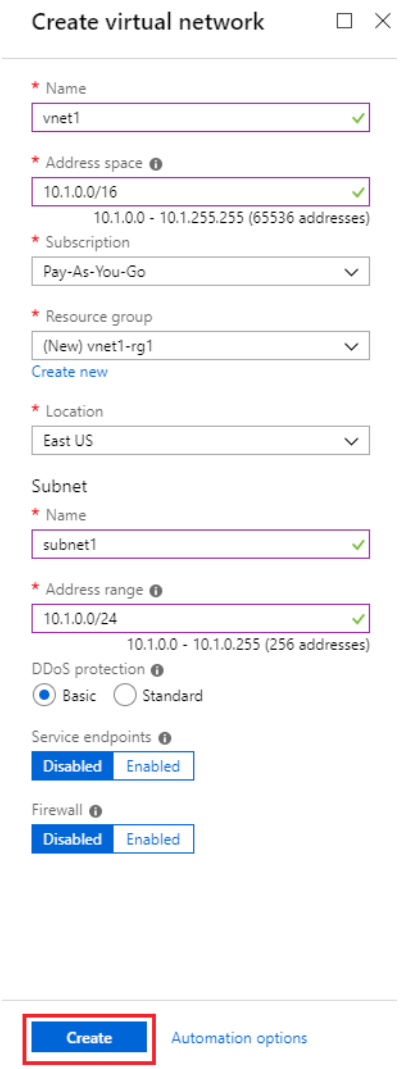
3.
4. In the **Create virtual network** pane above the list of Azure Marketplace resources, search for and select **Windows Server 2016 Datacenter**, then choose **Create**.

1 https://azure.microsoft.com/en-us/free/?ref=microsoft.com&utm_source=microsoft.com&utm_medium=docs&utm_campaign=visualstudio

2 https://portal.azure.com

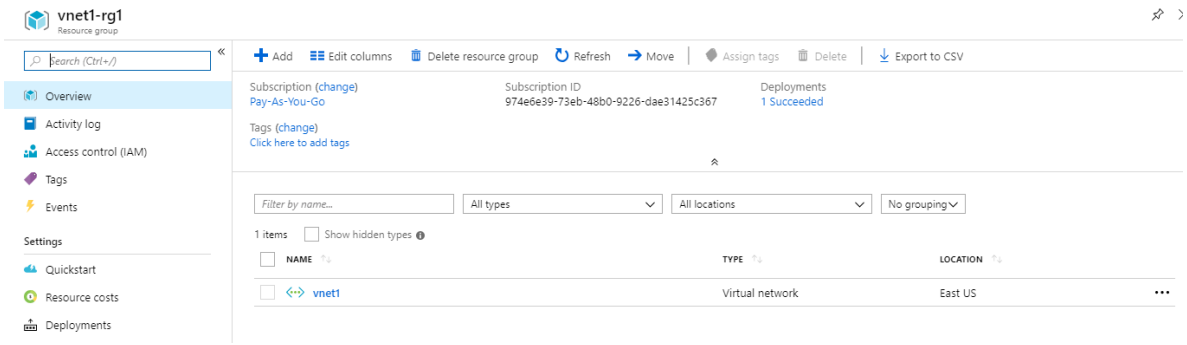
Setting	Value
Name	**vnet1**
Address space	**10.1.0.0/16**
Subscription	< Select your subscription >
Resource group	Select **Create new**, enter **vnet1-rg1**, then select **OK**.
Location	**East US**
Subnet - Name	**subnet1**
Subnet Address range	**10.1.0.0/24**

5. Leave the rest of the settings at their default values and select **Create**.

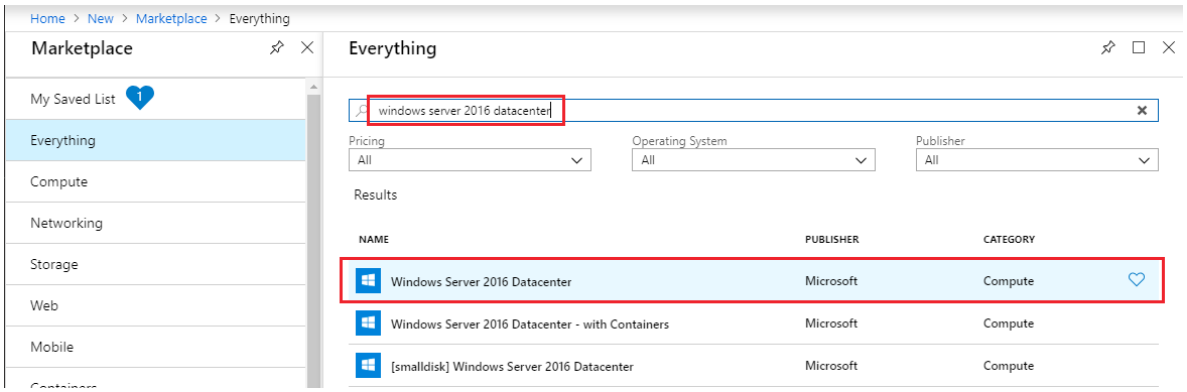


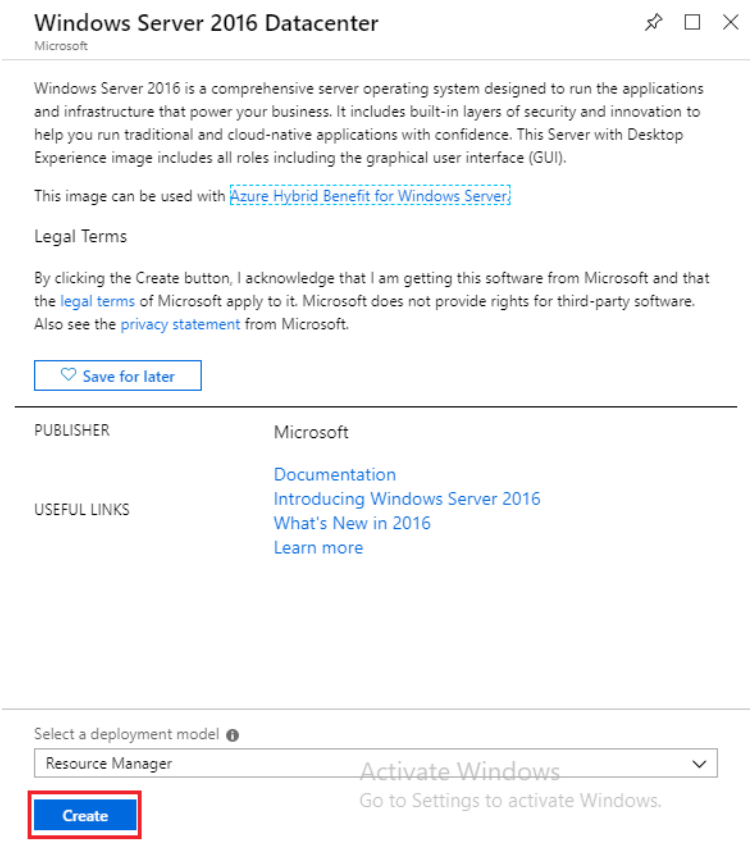
6.

7. Verify the creation of the virtual network by going to the newly created resource group and viewing the virtual network is present, you can click on the virtual network and view its properties if you wish.

8. 

9. Create a virtual machine by going to the the upper-left side of the Azure Portal and selecting **Create a resource** > **Compute** > **Windows Server 2016 Datacenter**

10. 



11.

12. In Create a **virtual machine** - **Basics** tab, enter or select this information:

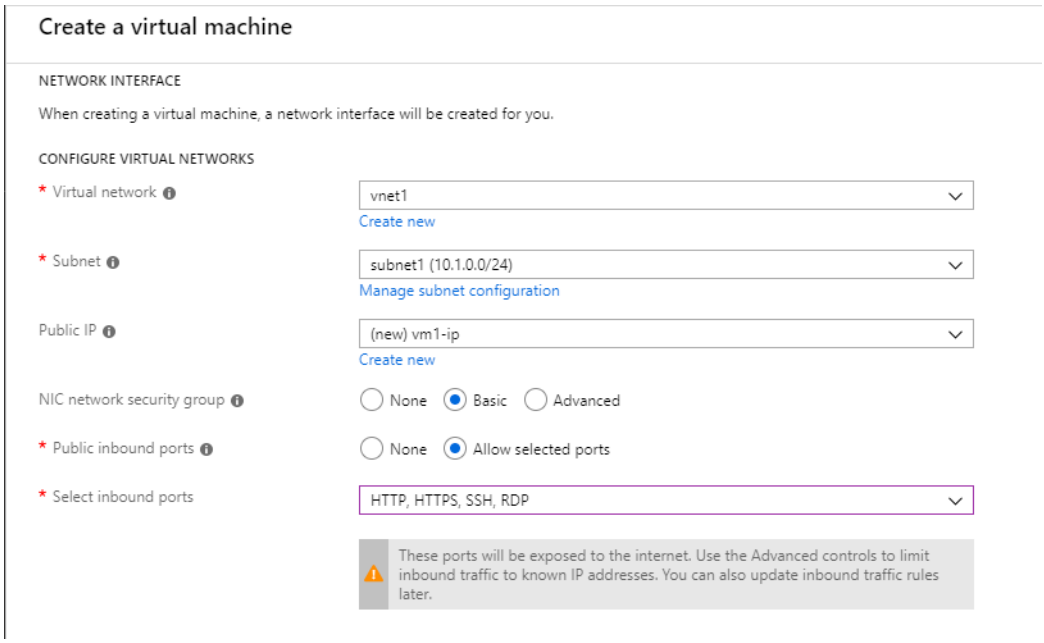
Setting	Value
Subscription	< Select your subscription >
Resource group	The resource group you created it in the last section, i.e. **vnet1-rg1**
Virtual machine name	**vm1**
Region	**East US**
Availability options	Leave the default **No infrastructure redundancy required**
Image	Leave the default **Windows Server 2016 Data-center**
Size	Leave the default **Standard DS1 v2**
Username	**azureuser**
Password	enter a password that meets the complexity requirements.
Public inbound ports	Select **Allow selected ports**
Selected inbound ports	Select **HTTP**, **HTTPS**, **SSH** and **RDP**

13. Select **Next** : **Disks**, leave the default values.

14. Select **Next** : **Networking**, complete the following details

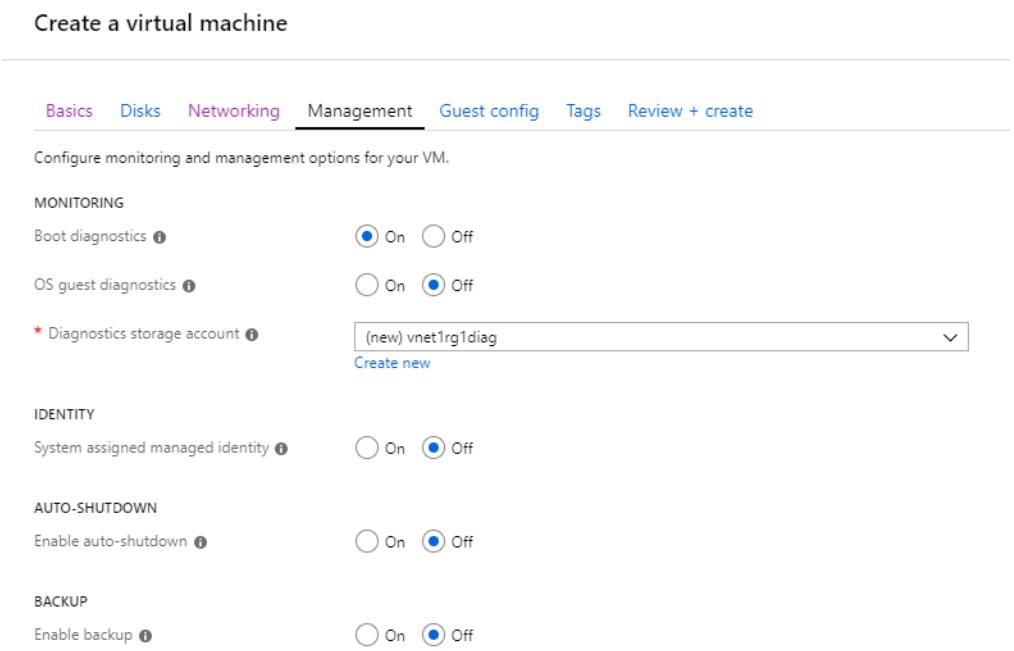
Setting	Value
Virtual network	Leave the default **vnet1**
Subnet	Leave the default **subnet1 (10.1.0.0/24)**
Public IP	Leave the default (new) **vm1-ip**
NIC network security group	accept the default **Basic**
Public inbound ports	Select **Allow selected ports**
Select inbound ports	Select **HTTP**, **HTTPS**, **SSH** and **RDP**

15.



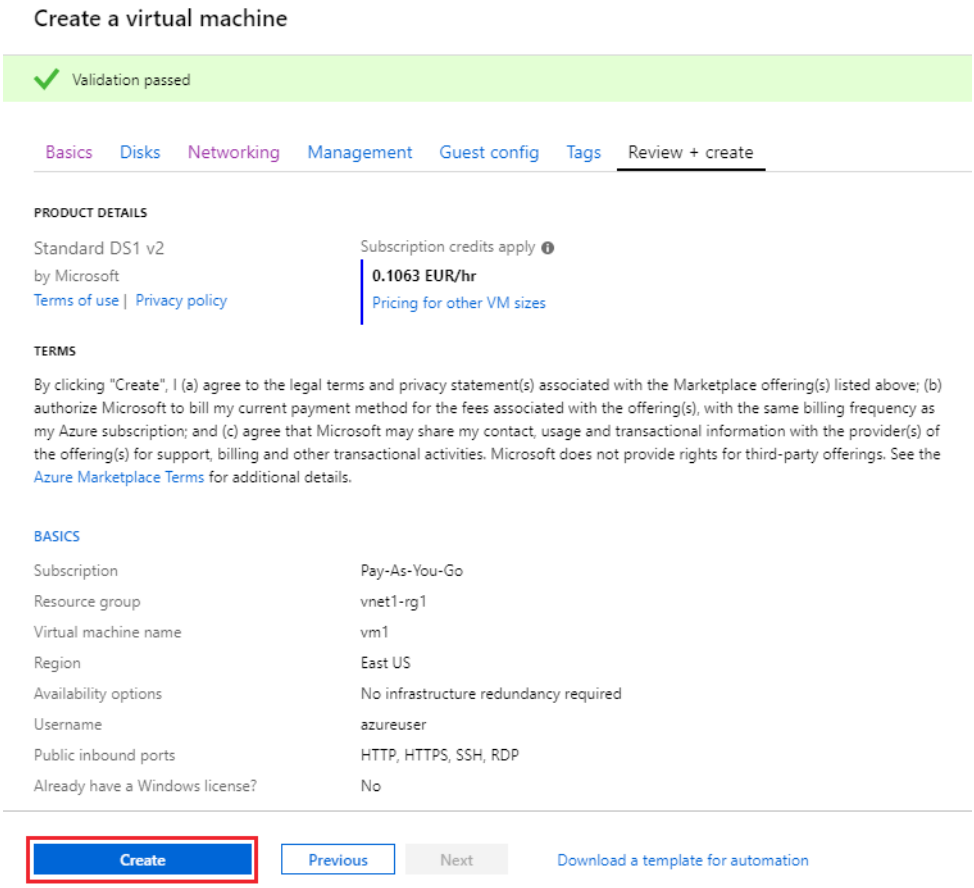
16. Select **Next** : **Management**, accept all the defaut values except for the below settings:

Setting	Value
Boot diagnostics	accept the default value i.e. **On**
Diagnostic storage account	accept the default value i.e. **vnet1rgdiag**



17.

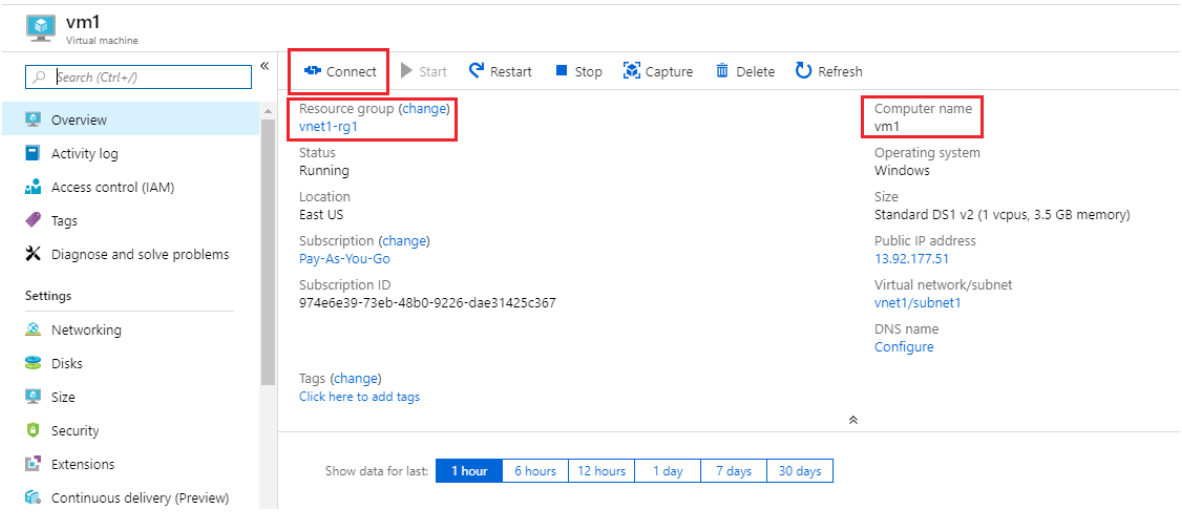
18. Select **Review** + **create**. Azure will validate the configuration. When you see that Validation passed, select **Create**. Deployment times can vary but it can generally take between three to six minutes to deploy.



1. Create a second Virtual machine by repeating steps **5 to 9** above, using the same values above above ensuring the below settings are set:

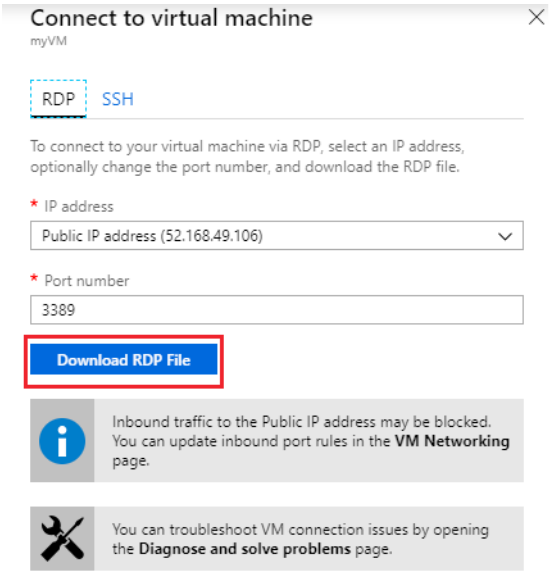
Setting	Value
Virtual machine name	**vm2**
Public IP	Leave the default (new) **vm2-ip**
Diagnostic storage account	Leave the default value i.e. **vnet1rg1diag**

2. When finished filling in the details, validate the configuration by clicking **Review + create** and once successfully validated click **Create**
3. When both virtual machine have completed deployment connect to the first virtual machine, **vm1**, by going to the resource group you placed the virtual machine in, **vnet-rg1** and open up the virtual machine, then click the **Connect** button on the virtual machine properties page.

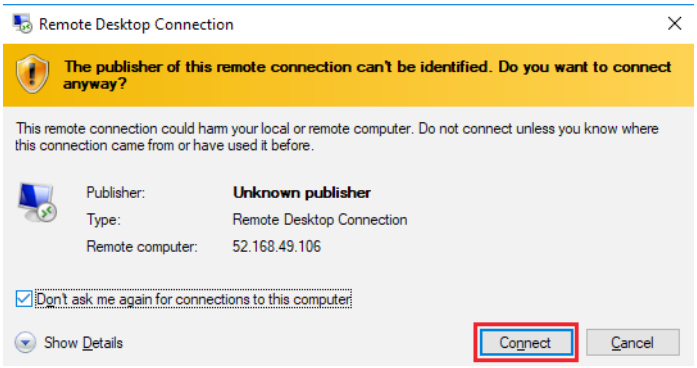


Note: The following directions tell you how to connect to your VM from a Windows computer. On a Mac, you need an RDP client such as this Remote Desktop Client from the Mac App Store and on Linux virtual machine you could connect directly from a bash shell using `ssh`.

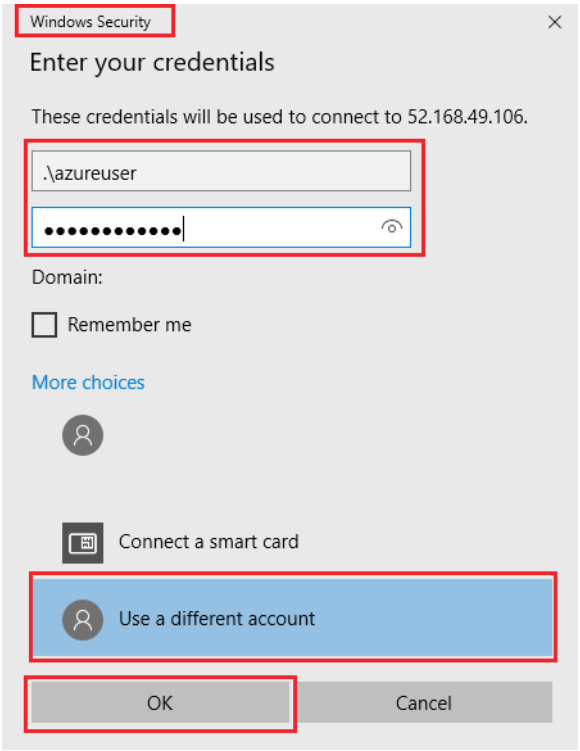
1. In the **Connect to virtual machine** page, keep the default options to connect by DNS name over port 3389 and click **Download RDP File**.



1. Open the downloaded RDP file and click **Connect** when prompted.

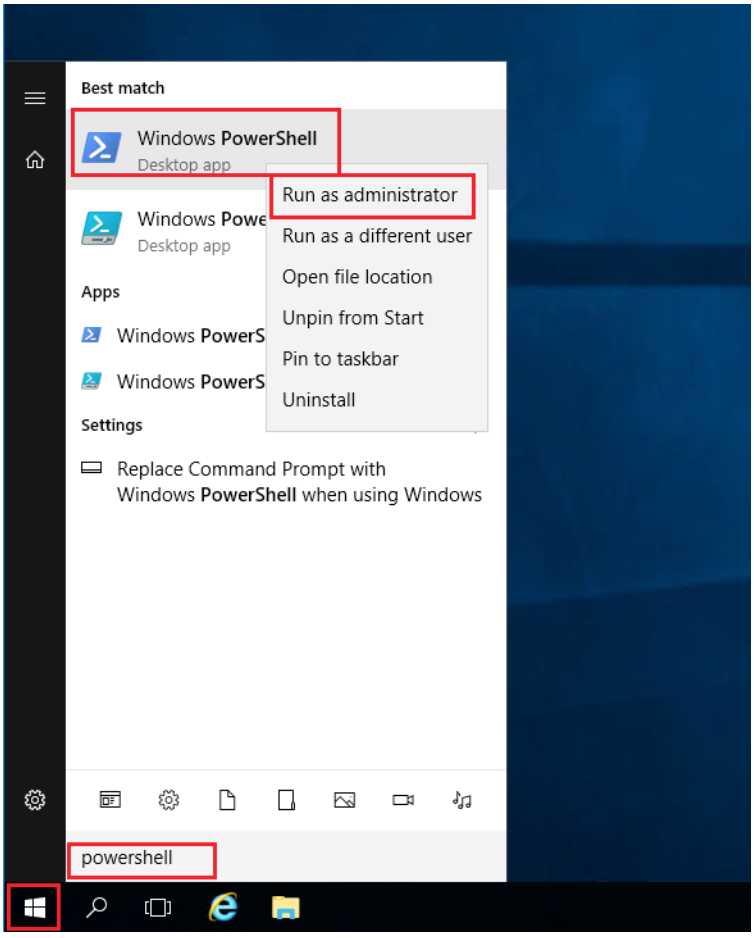


1. In the **Windows Security** window, select **More choices** and then **Use a different account**. Type the username as localhost\username, (you could also type **.\azureuser**) enter password you created for the virtual machine, and then click **OK**.



1. You may receive a certificate warning during the sign-in process. Click **Yes** or to create the connection and connect to your deployed VM. You should connect successfully.

1. Open up a PowerShell command prompt on the virtual machine, by clicking the **Start** button, typing **PowerShell** right clicking **Windows PowerShell** in the menu and selecting **Run as administrator**



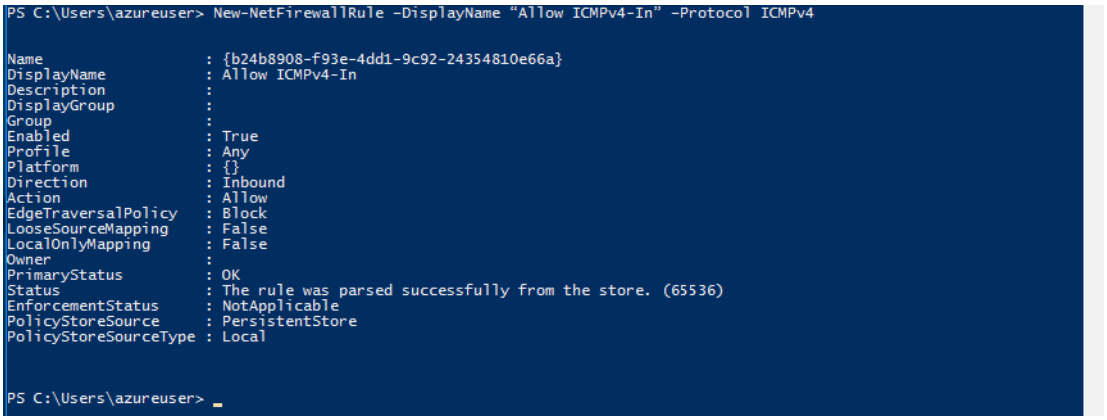
19. Run the command

```
ping vm2
```

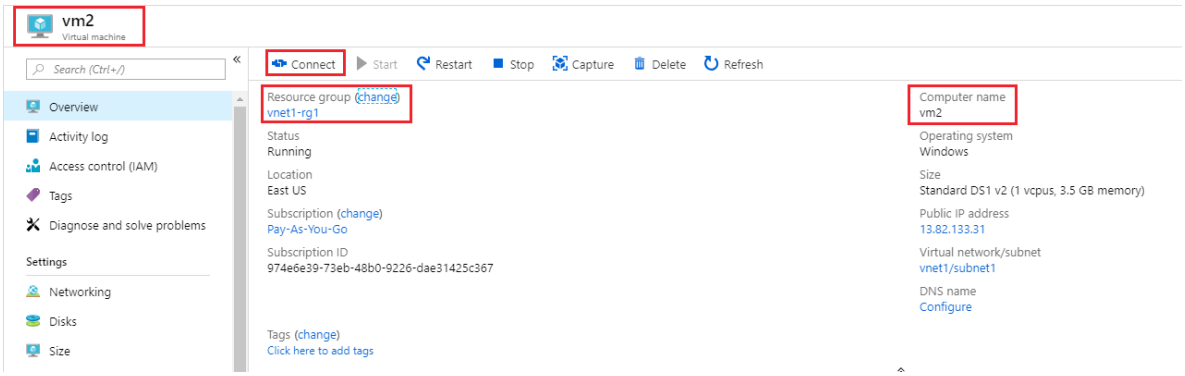
You receive an error, saying request timed out. The `ping` fails, because `ping` uses the **Internet Control Message Protocol (ICMP)**. By default, ICMP isn't allowed through the Windows firewall.

1. To allow *vm2* to ping *vm1* enter the below command. This command allows ICMP inbound through the Windows firewall:

   ```
   New-NetFirewallRule –DisplayName “Allow ICMPv4-In” –Protocol ICMPv4
   ```



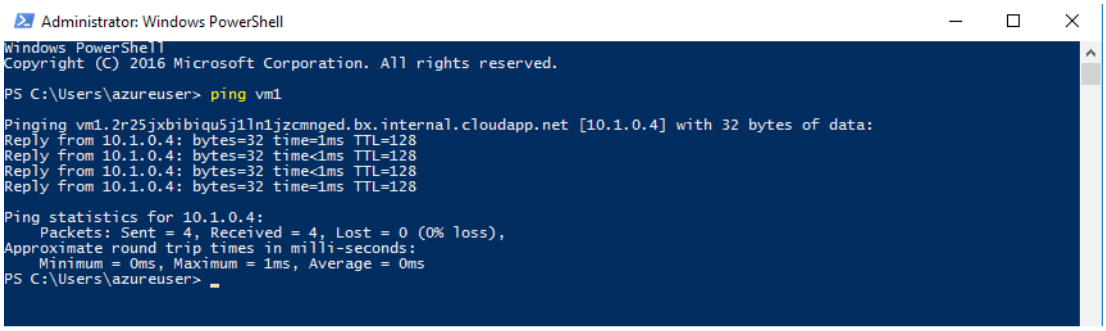
1. Connect to *VM2* as has been done for *VM1*, using rdp. i.e. open **vm2** properties and click the **Connect** button to download and then connect vis RDP



1. Open up a PowerShell command prompt on the virtual machine, VM2, and run the command:

```
ping vm1
```

You should now be able to ping the vm1 virtual machine successfully, because ICMP has been configured to be allowed through the Windows firewall on the *vm1* virtual machine in an earlier step.



Congratualations! This ping is being done using the *virtual network* you created and deployed the two virtual machines into. The two virtual machines are communicating over this *virtual network* that was created.

Note: Remember to delete the resources you have just deployed if you are no longer using them to ensure you do not incur costs for running resources. You can delete all deployed resources by deleting the resource group in which they all reside.