04 - Create a virtual network (20 min)

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

Task 1: Create a virtual network

In this task, we will create a virtual network.

Note: Before beginning the lab, disable both the public and private firewall in your virtual machine by opening the Start menu > Settings > Network and Internet > Locate Windows Firewall

- 1. Sign in to the Azure portal at https://portal.azure.com
- From the All services blade, search for and select Virtual networks, and then click + Add, + Create, + New.
- 3. On the Basics tab, fill in the following information (leave the defaults for everything else):

Setting	Value
Subscription	Leave default provided
Resource Group	Create new resource group
Name	vnet1
Region	(US) East US

4. Click the Review + create button. Ensure the validation passes. Then hit create to deploy the resource.

Task 2: Create two virtual machines

In this task, we will create two virtual machines in the virtual network.

- 1. From the **All services** blade, search for **Virtual machines** and then click **+ Add, + Create, + New**, from the drop down select **Virtual Machine**.
- 2. On the Basics tab, fill in the following information (leave the defaults for everything else):

Setting	Value		
Subscription	Use default supplied		
Resource group	Select default in drop down		
Virtual machine name	vm1		
Region	(US) East US		
Image	Windows Server 2019 Datacenter - Gen2		
Username	azureuser		
Password	Pa\$\$w0rd1234		
Public inbound ports	Select Allow selected ports		
Selected inbound ports	RDP (3389)		

3. Select the **Networking** tab. Make sure the virtual machine is placed in the **vnet1** virtual network. Review the default settings, but do not make any other changes.

- 4. Click **Review + create**. After the Validation passes, click **Create**. Deployment times can vary but it can generally take between three to six minutes to deploy.
- 5. Monitor your deployment, but continue on to the next step.
- 6. Create a second virtual machine by repeating steps **2 to 4** above. Make sure you use a different virtual machine name, that the virtual machine is in the same virtual network, and is using a new public IP address:

Setting	Value
Resource group	select default in dropdown (same as Task1-3 & Task2-2)
Virtual machine name	vm2
Virtual network	vnet1
Public IP	vm2-ip

7. Wait for both virtual machines to deploy and status says running.

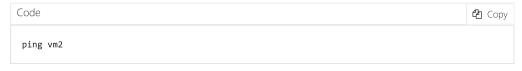
Task 3: Test the connection

In this task, we will try to test whether the virtual machines can communicate (ping) each other. If not we will install a rule to allow an ICMP connection. Usually ICMP connections are automatically blocked.

- 1. From the **All resources** blade, search for **vm1**, open its **Overview** blade, and make sure its **Status** is **Running**. You may need to **Refresh** the page.
- 2. On the **Overview** blade, select **Connect** and then select **RDP** from the drop down.

Note: The following directions tell you how to connect to your VM from a Windows computer.

- 3. On the **Connect with RDP** blade, keep the default options to connect by IP address over port 3389 and click **Download RDP File**.
- 4. Open the downloaded RDP file (located at the bottom left of you VM) and click Connect when prompted.
- In the Windows Security window, type the username azureuser and password Pa\$\$w0rd1234 and then click OK.
- 6. You may receive a certificate warning during the sign-in process. Click Yes to create the connection and connect to your deployed VM. You should connect successfully. Close the Windows Server and Dashboard windows that pop up. You should see a Blue Windows background. You are now in your virtual machine.
- 7. In **both** newly created virtual machines, connect via RDP and disable both the public and private firewall by opening the Start menu > Settings > Network and Internet > Locate Windows Firewall.
- 8. Open up PowerShell on the virtual machine by clicking the **Start** button, and in Search type **PowerShell**, right click on **Windows PowerShell** to **Run as administrator**
- 9. In Powershell, try to ping vm2 by typing:



10. You should be successful. You have pinged VM2 from VM1.

Congratulations! You have configured and deployed two virtual machines in a virtual network, and then you were able to connect them.

Note: To avoid additional costs, you can optionally remove this resource group. Search for resource groups, click your resource group, and then click **Delete resource group**. Verify the name of the resource group and then click **Delete**. Monitor the **Notifications** to see how the delete is proceeding.