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Section – 7B

LAB:02

02 - 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:

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes 'Microsoft Azure', a search bar, 'Copilot', and user information ('bsse2280168@szabist.pk'). The main content area displays a deployment named 'vnet1-1762516817783' with the status 'Your deployment is complete'. Deployment details show: Deployment name: vnet1-1762516817783, Subscription: Azure for Students, Resource group: CloudComputing. The deployment was started on 11/7/2025 at 3:00:29 AM with Correlation ID: cabf14bc-33dc-43e7-8aca-acccf336eb... Below this, there are sections for 'Deployment details' and 'Next steps' with a 'Go to resource' button. At the bottom, there are links for 'Give feedback' and 'Tell us about your experience with deployment'. A green banner at the bottom right indicates 'You are screen sharing' with a 'Stop share' button. The left sidebar shows navigation options like Home, Overview, Inputs, Outputs, and Template. A message at the bottom left says 'Add or remove favorites by pressing Ctrl+Shift+F'.

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>
2. 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):

4.

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.

Your deployment is complete

Deployment name : CreateVm-MicrosoftWindowsServer.WindowsServer-202-20251107024036 | Overview

Subscription : Azure for Students Start time : 11/7/2025, 1:43:53 AM Correlation ID : d2eeb48a-fa4a-4b36-bd55-9c6ec8973...

Resource group : CloudComputing

Deployment details

Next steps

Set up 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 Scale out your VM

Give feedback Tell us about your experience with deployment

Add or remove favorites by pressing **Ctrl+Shift+F**

bsse2280168@szabist.pk

Microsoft

bsse2280168@szab...

bsse2280168@szabist.pk

My Microsoft account

Switch directory

Sign out

Get notified to stay within your budget and prevent unexpected charges on your bill.

Set up cost alerts >

- 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.
- Monitor your deployment, but continue on to the next step.
- 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

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar and a Copilot button. On the right, a user profile is shown with the email 'bsse2280168@szabist.pk' and 'DEFAULT DIRECTORY'. Below the search bar, the title is 'CreateVm-MicrosoftWindowsServer.WindowsServer-202-20251107040822 | Overview'. The main content area has a green checkmark icon and the message 'Your deployment is complete'. It lists deployment details: Deployment name: CreateVm-MicrosoftWindowsServer.W... Start time: 11/7/2025, 3:10:06 AM; Subscription: Azure for Students; Correlation ID: b933e9ce-2ba1-4291-8d84-dc5f05ef8...; Resource group: CloudComputing. Below this, there are sections for 'Deployment details' and 'Next steps' with three recommended actions: 'Set up auto-shutdown Recommended', 'Monitor VM health, performance, and network dependencies Recommended', and 'Run a script inside the virtual machine Recommended'. At the bottom, there are three buttons: 'Go to resource' (blue), 'Create another VM' (white), and 'Scale out your VM' (blue). A blue callout bubble points to the 'Scale out your VM' button.

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

8.

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.

- 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.
- On the **Overview** blade, select **Connect** and then select **RDP** from the drop down.

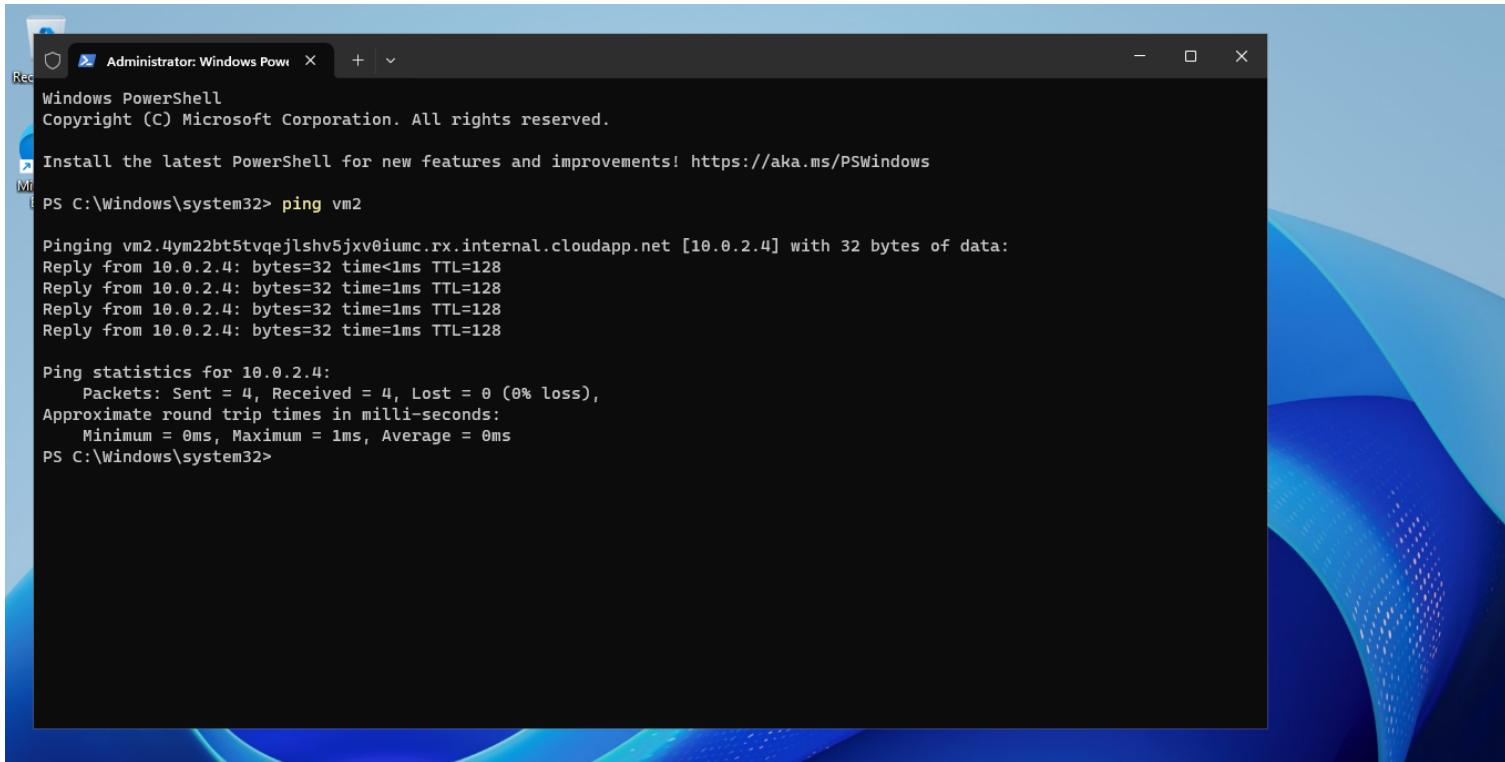
Note: The following directions tell you how to connect to your VM from a Windows computer.

- On the **Connect with RDP** blade, keep the default options to connect by IP address over port 3389 and click **Download RDP File**.
- Open the downloaded RDP file (located at the bottom left of your VM) and click **Connect** when prompted.
- In the **Windows Security** window, type the username **azureuser** and password **Pa\$\$w0rd1234** and then click **OK**.
- 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.
- 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.
- 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**
- In Powershell, try to ping vm2 by typing:

Code: ping vm2

- 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.



A screenshot of a Windows PowerShell window titled "Administrator: Windows Powe". The window shows the command "ping vm2" being run from the path "C:\Windows\system32>". The output displays four successful ping responses to the IP address 10.0.2.4, with round-trip times ranging from 1ms to 128ms. The PowerShell window has a dark theme and is set against a blue abstract background.

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Windows\system32> ping vm2

Pinging vm2.4ym2bt5tqejlshv5jxv0iumc.rx.internal.cloudapp.net [10.0.2.4] with 32 bytes of data:
Reply from 10.0.2.4: bytes=32 time<1ms TTL=128
Reply from 10.0.2.4: bytes=32 time=1ms TTL=128
Reply from 10.0.2.4: bytes=32 time=1ms TTL=128
Reply from 10.0.2.4: bytes=32 time=1ms TTL=128

Ping statistics for 10.0.2.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
PS C:\Windows\system32>
```

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.