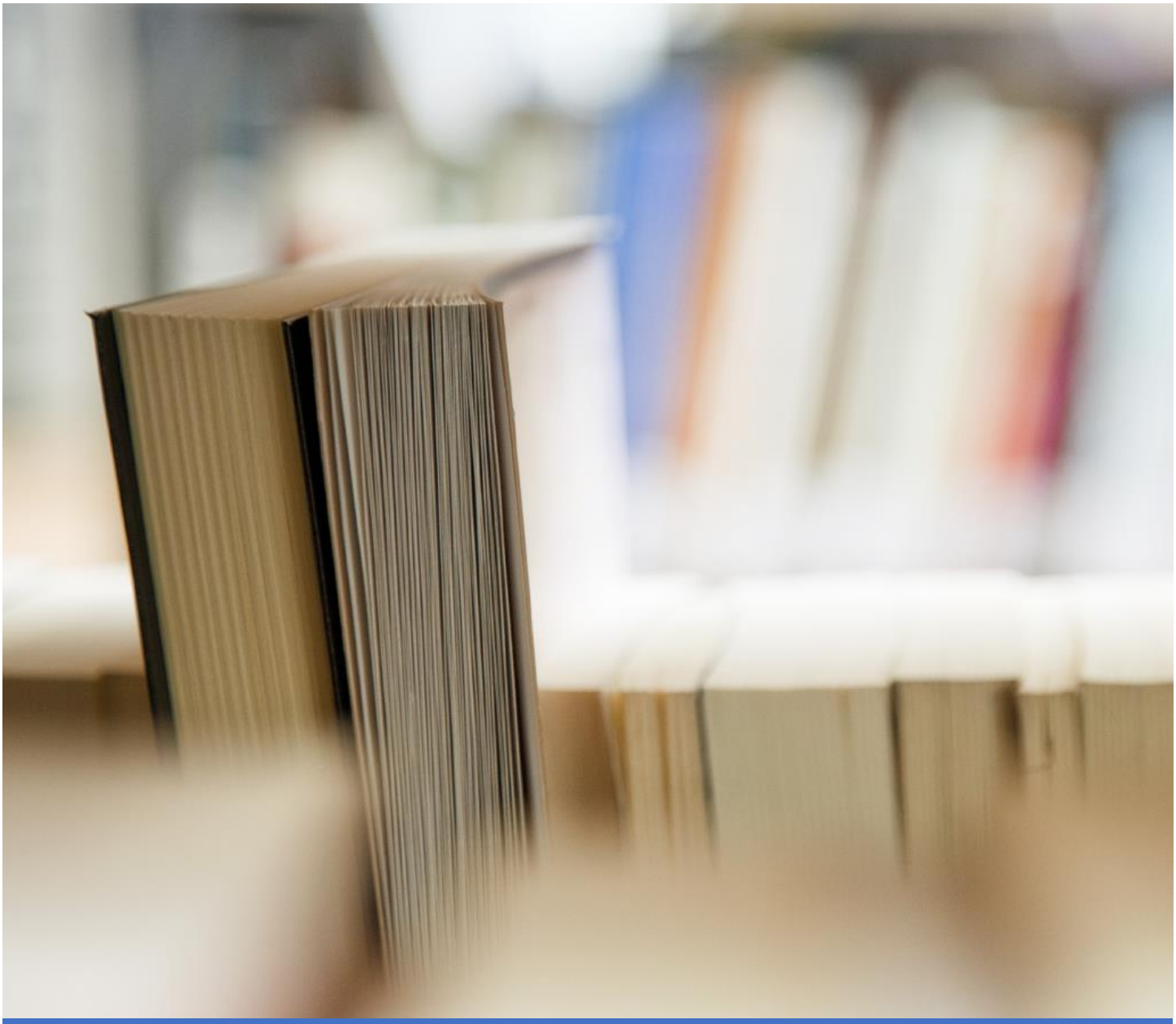

Demo: Create a virtual network

Saurav Raghuvanshi 10/21/21 Azure Solution Architect

Author: Saurav Raghuvanshi

Aim: 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.

Some Useful Link:

- Azure free Tier account creation: https://azure.microsoft.com/en-us/free/
- Azure Portal: https://portal.azure.com/#home
- Service Categories: https://azure.microsoft.com/services/
- Designing a Solution: https://docs.microsoft.com/azure/architecture/
- Azure Quickstart Templates: https://azure.microsoft.com/en-in/resources/templates/

Introduction

What is Azure Virtual Machine?

- Azure Virtual Machines (VM) is a on-demand, scalable computing resource that Azure offers. Typically, you choose a VM when you need more control over the computing environment.
- Azure VM gives you the flexibility of virtualization without having to buy and maintain the physical hardware that runs it. However, you still need to maintain the VM by performing tasks, such as configuring, patching, and installing the software that runs on it.

What is Azure Virtual Network?

- Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure.
- VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks.
- VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation.

Instructions:

Task 1: Create a Virtual Network(VNet)

1. On the Azure portal menu or from the Home page, select **Create a resource**.

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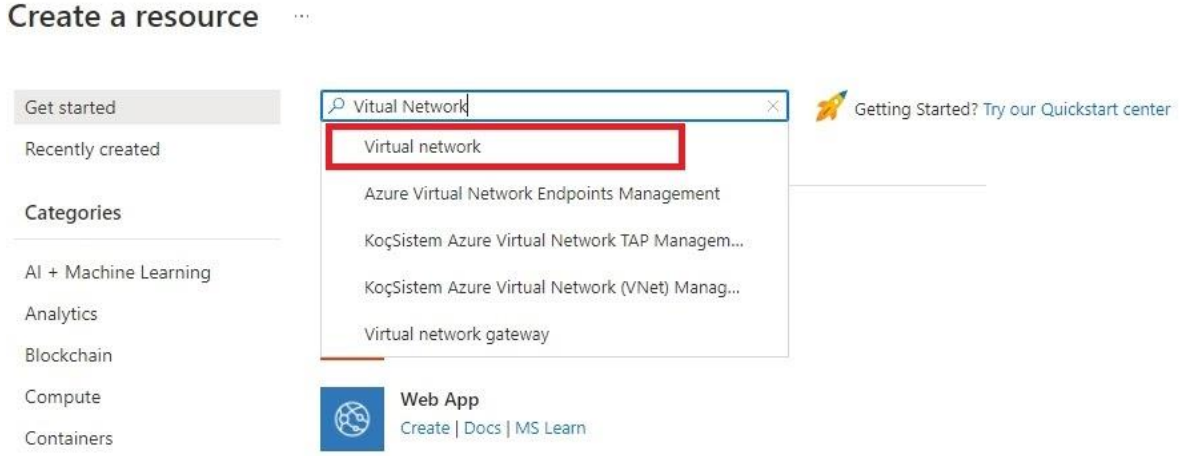
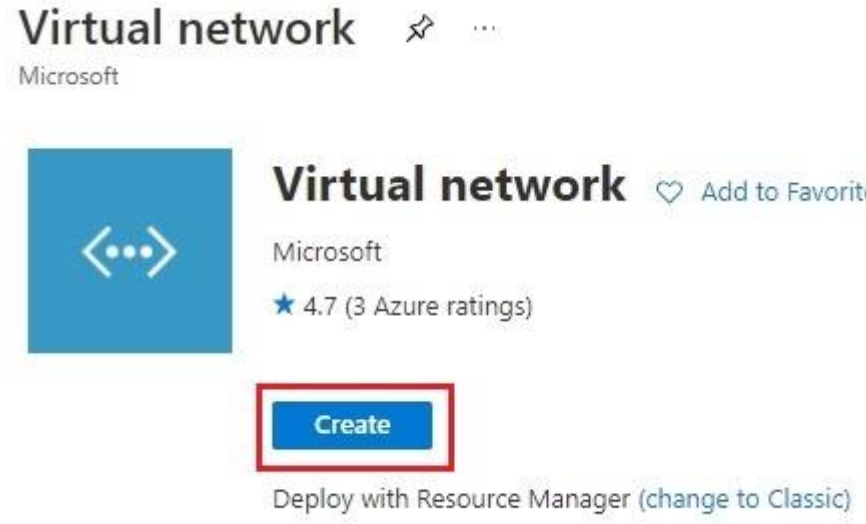
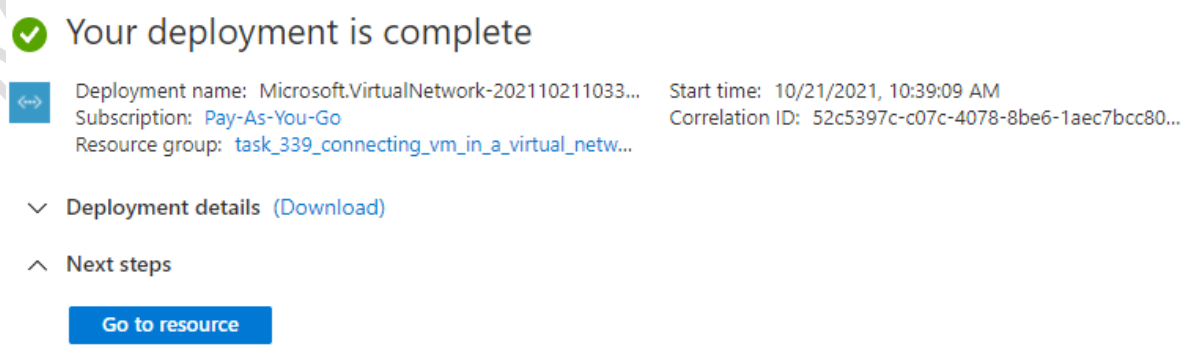
2. Search for ***Virtual Network*** in the search bar and open it.



3. Click on Create



4. Fill out the **Create a Virtual Network** basic details form with the following information.
    - Resource group: Enter ***testrg***
    - Name: Enter ***vnet1***
    - Region: Select **East US**
5. Click on **Review + create** and then click on **Create**
6. Wait for few minutes for deployment to get complete



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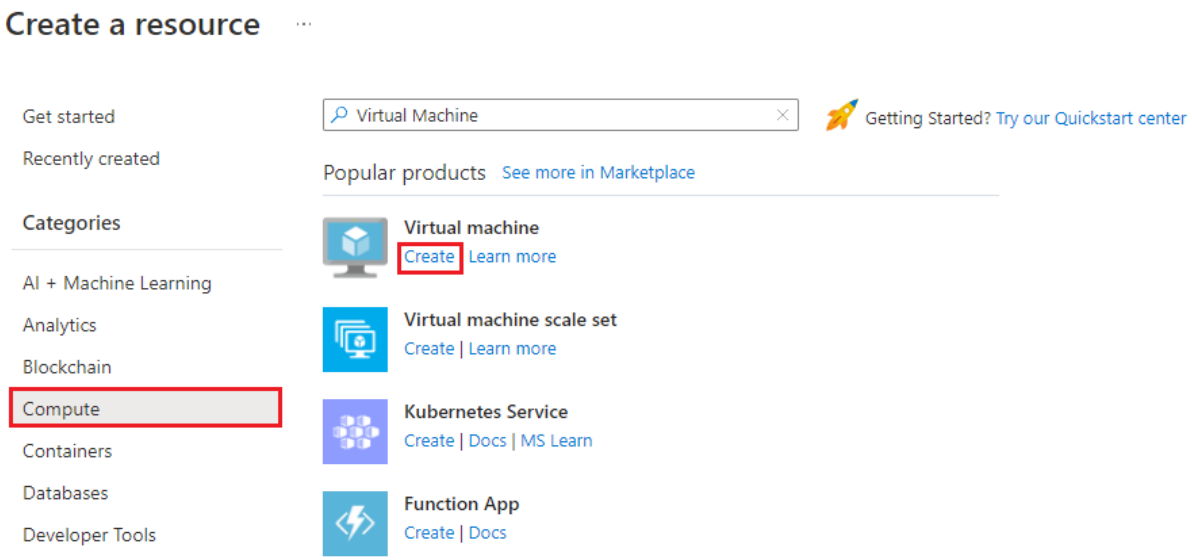
Task 2: Create two Virtual Machine in the same VNet

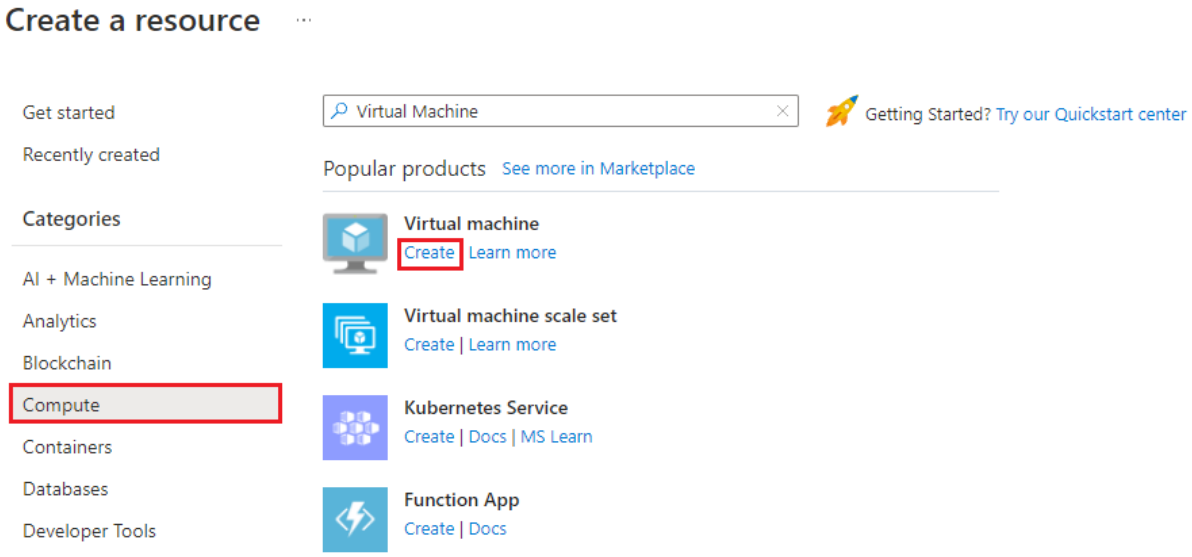
1. Go back to the home page and then click on **Create a resource**.

2. In the **Categories** select **Compute** and then Click on **Create** under **Virtual Machine**



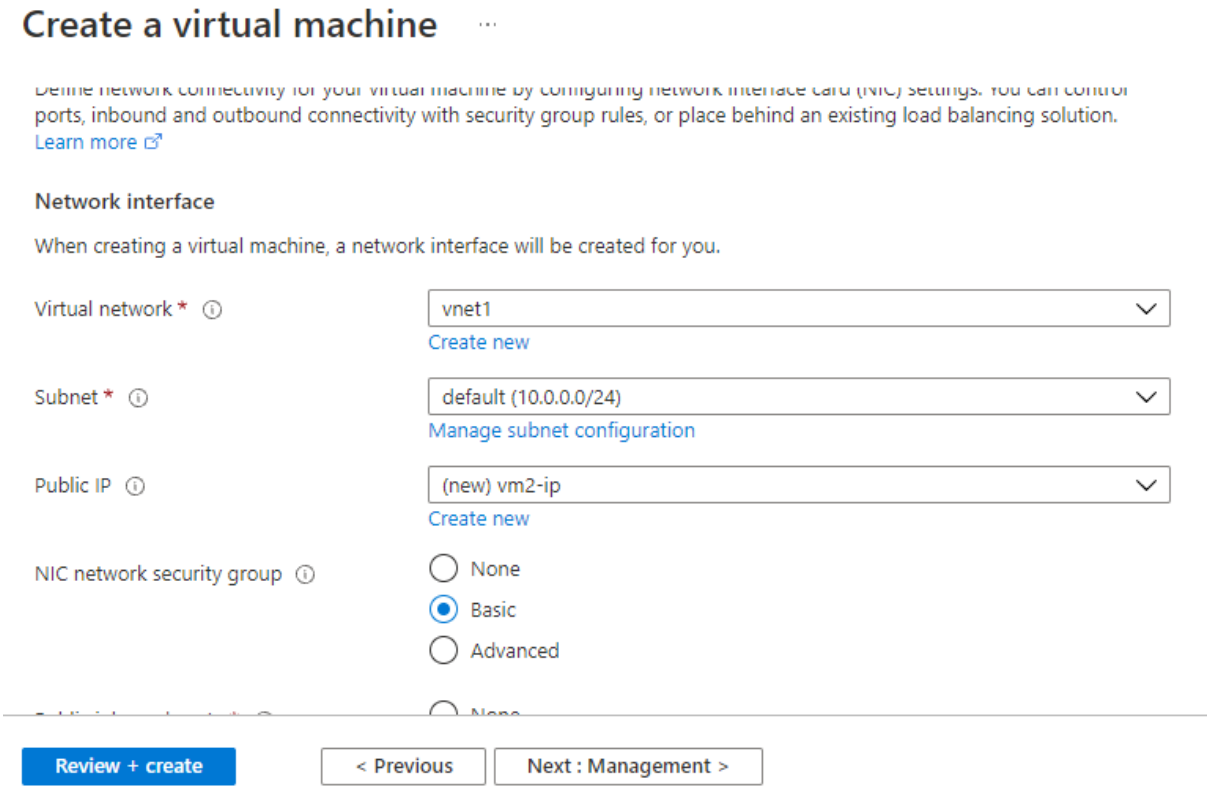
3. Fill out the **Create a Virtual Machine** basic details form with the following information
   - Resource group: Select ***testrg***
   - Virtual Machine Name: Enter ***vm1***
   - Image: Select **Windows Server 2019 Datacenter - Gen2**
   - Username: Enter ***azureuser***
   - Password: Enter ***Pa$$w0rd1234***
   - Confirm Password: Enter ***Pa$$w0rd1234***
   - Leave the other option as default
4. 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.
5. Click on **Review + Create** and then click on **Create**
6. Go back to the home page and then click on **Create a resource**.

7. In the **Categories** select **Compute** and then Click on **Create** under **Virtual Machine**

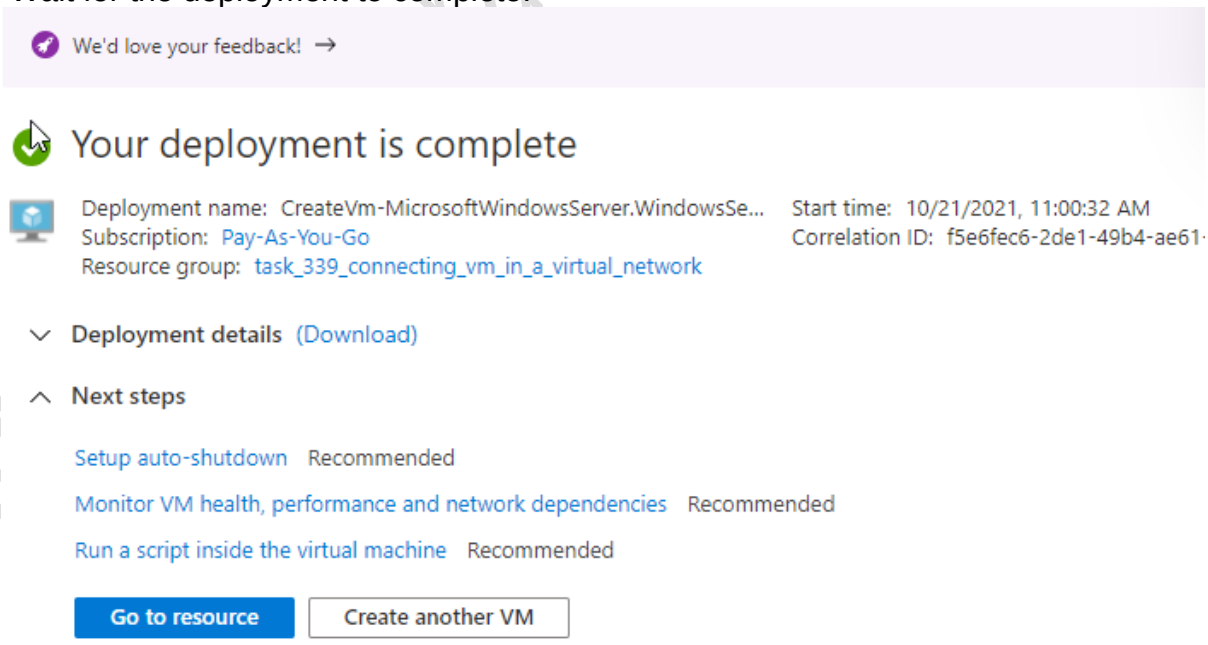


8. Fill out the **Create a Virtual Machine** basic details form with the following information
   - Resource group: Select ***testrg***
   - Virtual Machine Name: Enter ***vm2***
   - Image: Select **Windows Server 2019 Datacenter - Gen2**
   - Username: Enter ***azureuser***
   - Password: Enter ***Pa$$w0rd1234***
   - Confirm Password: Enter ***Pa$$w0rd1234***
   - Leave the other option as default

9. Click on the Networking tab and make sure it is in **vnet1** and Public IP is **vm2-ip**



10. Click on **Review + create** and then click on **Create**
11. Wait for the deployment to complete.



Task 3: Configure Network Security Group (NSG) to allow ICMP traffic

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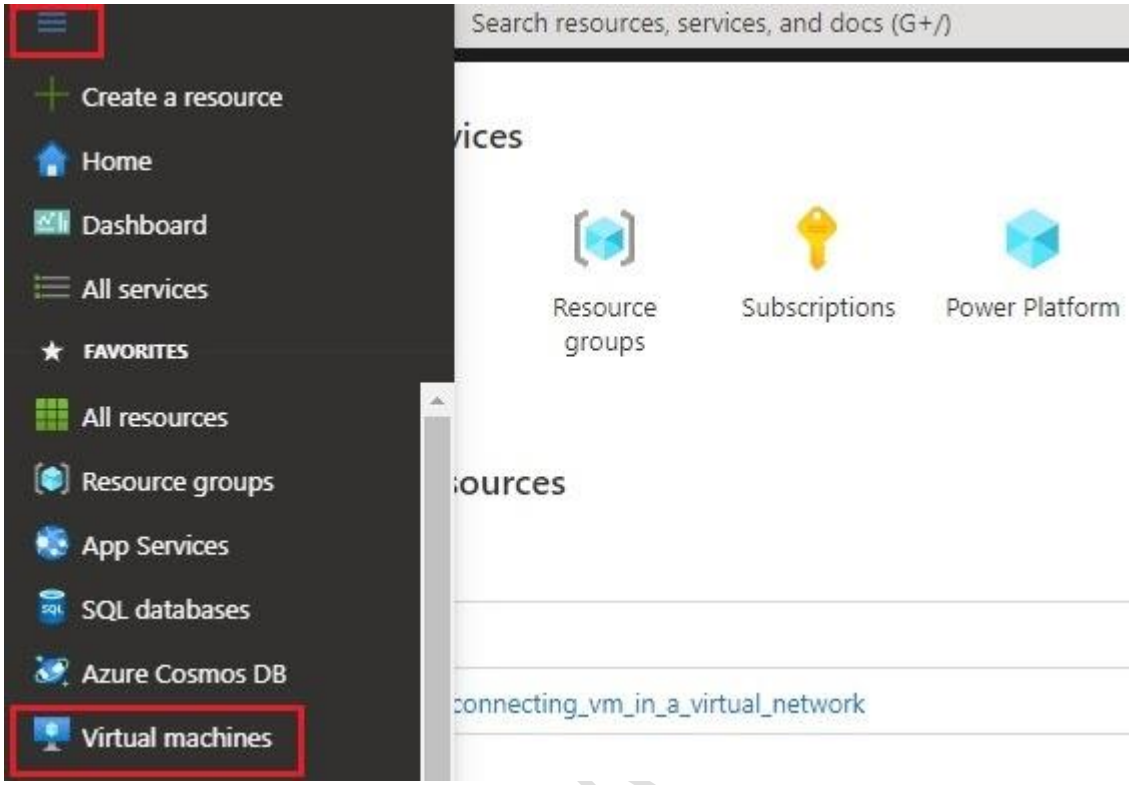
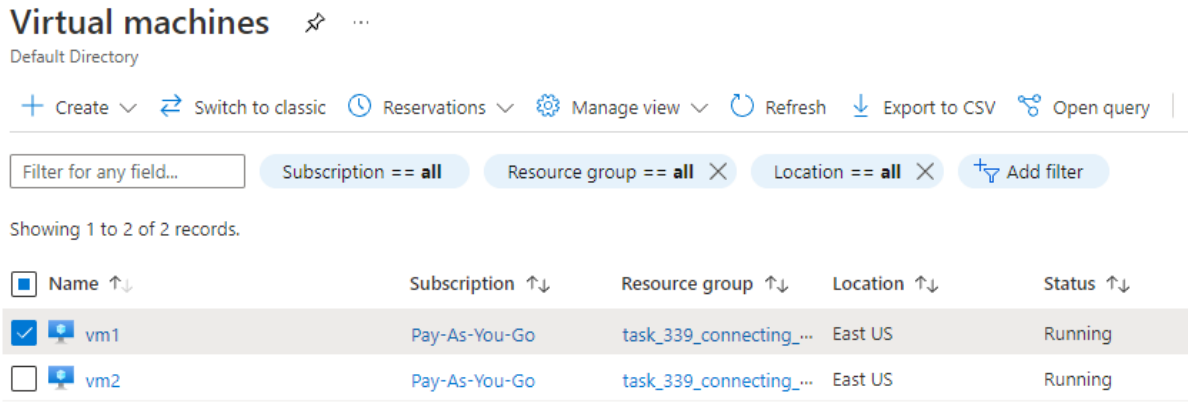
1. Go back to the home page and from the left hand menu bar open click on **Virtual Machines**

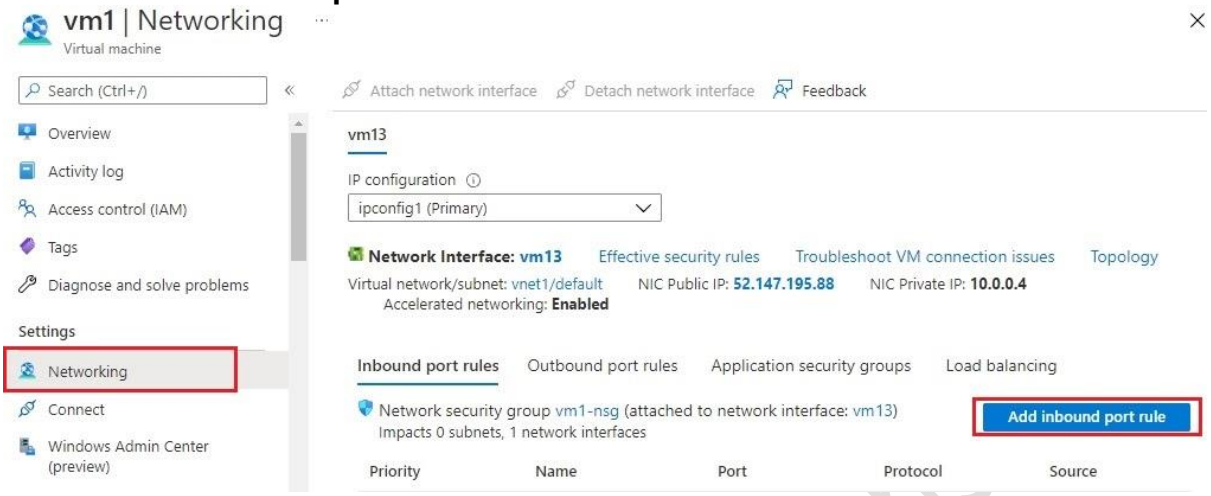


2. Open **vm1**

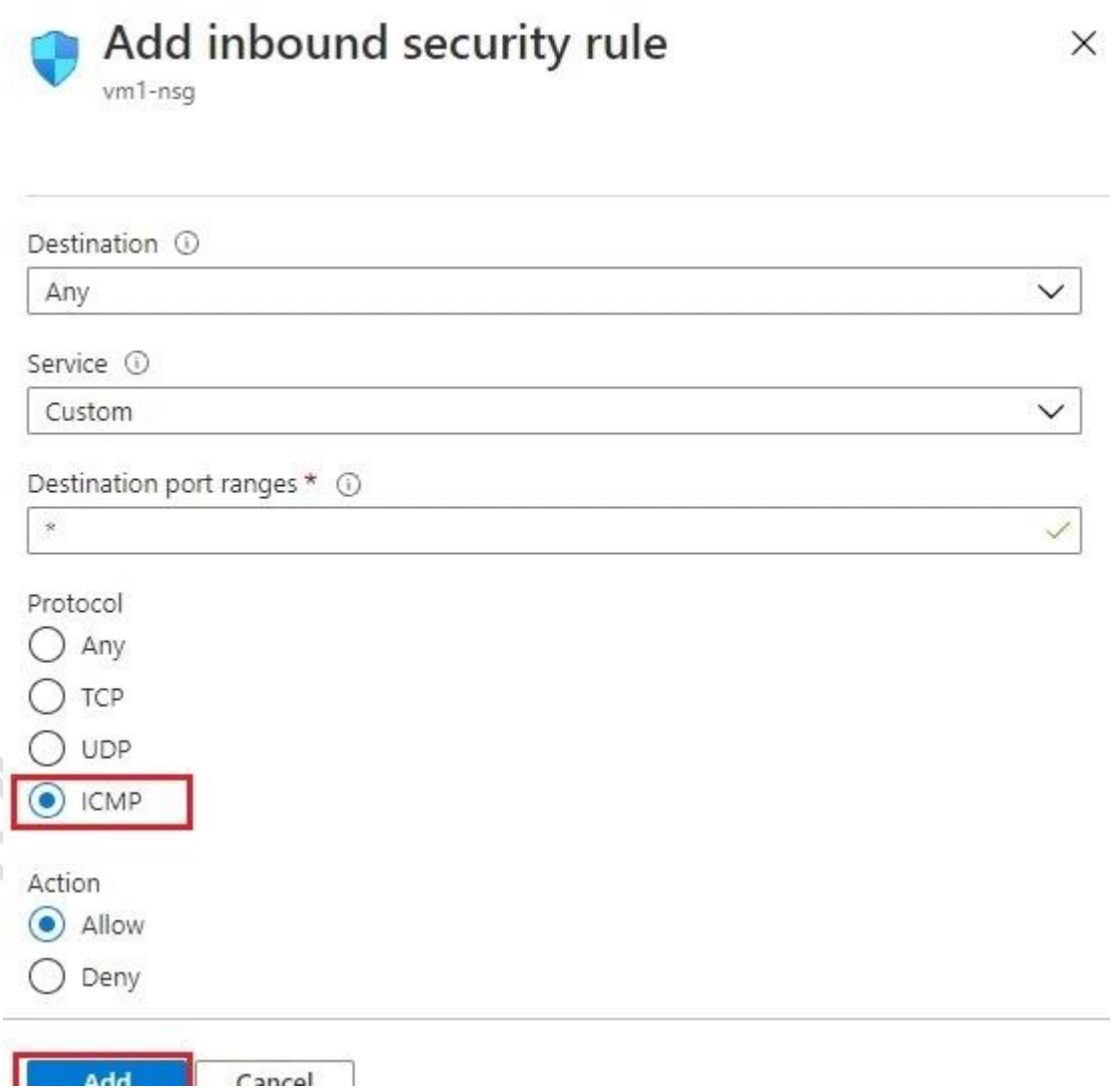


3. From the left hand menu click on **Networking** under Settings

4. Click on **Add inbound port rule**



5. In the Protocol select **ICMP** and leave other option as default and then click on **Add**



Task 4: Setup the operating system to answer to Ping/ICMP echo request

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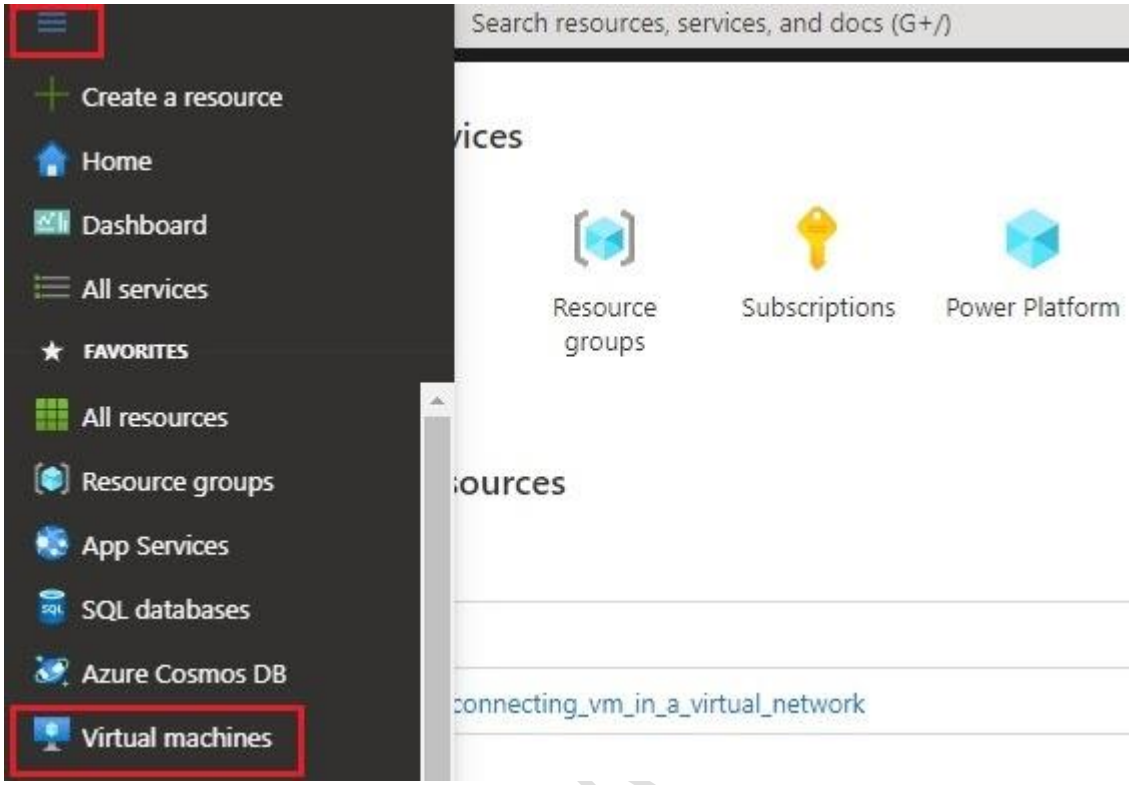
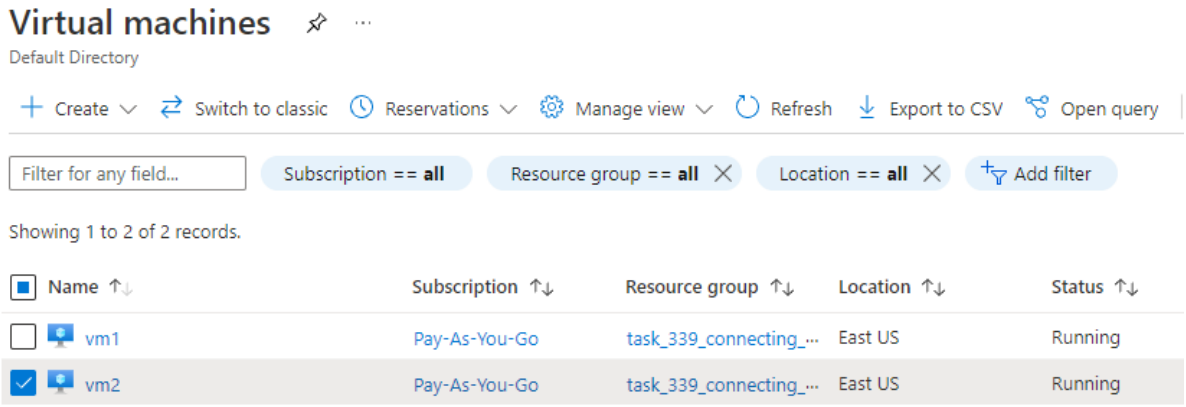
1. Go back to the home page and from the left hand menu bar open click on **Virtual Machines**

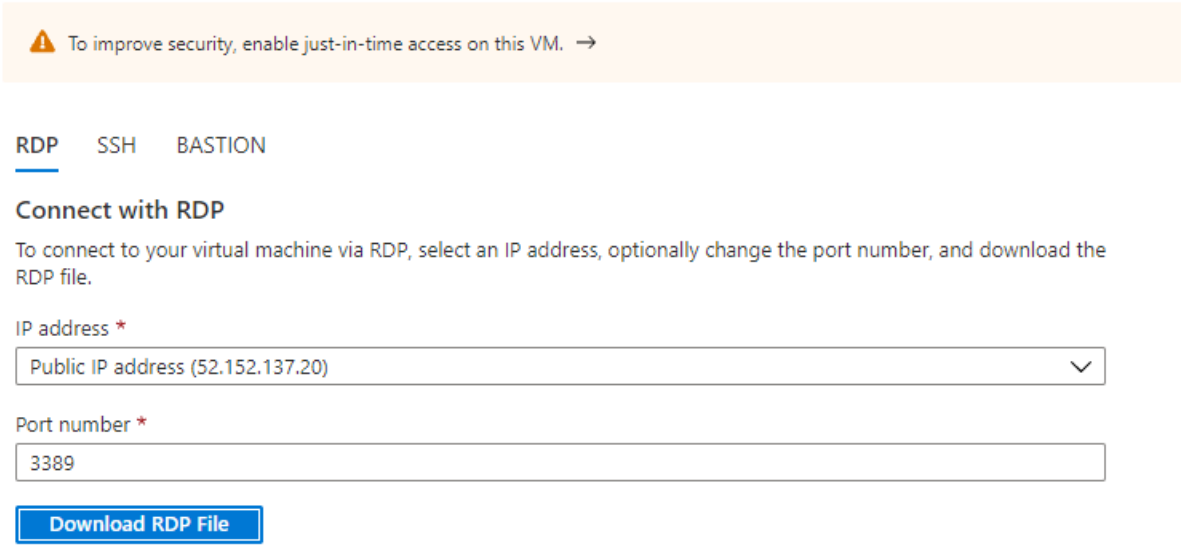


2. Open **vm2**

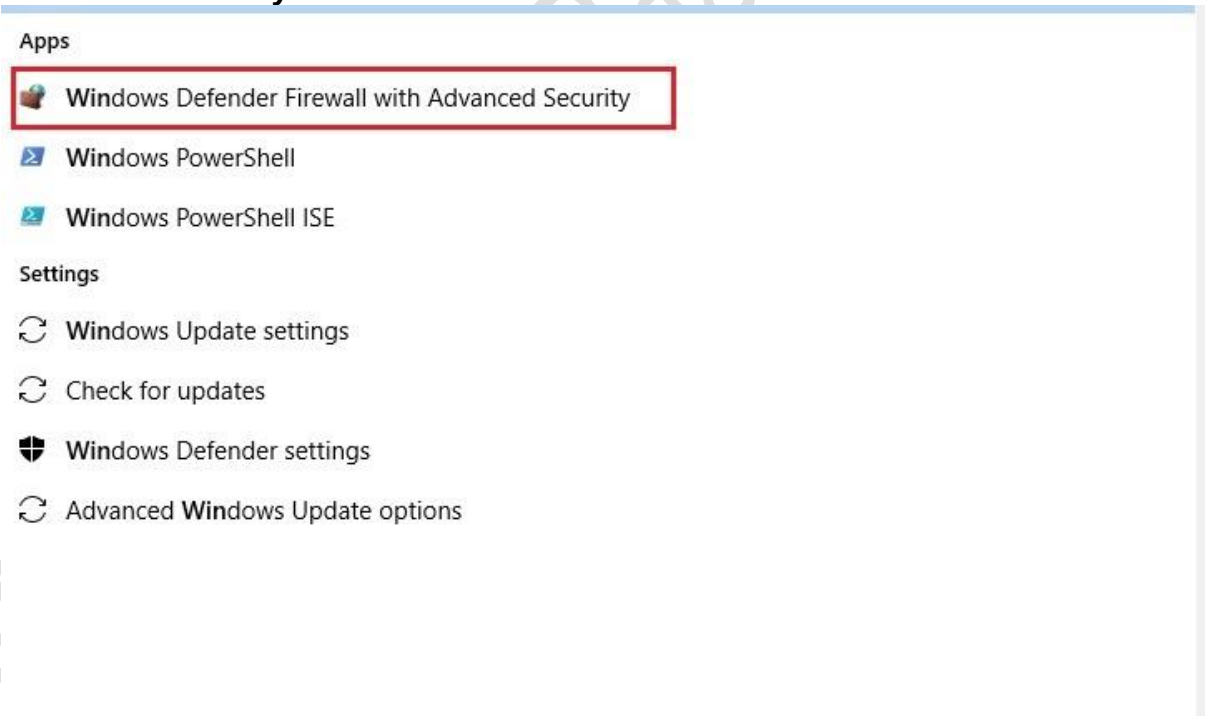


3. Click on **Connect** from the top and then select **RDP**

4. Click on **Download RDP File** and open once download is complete

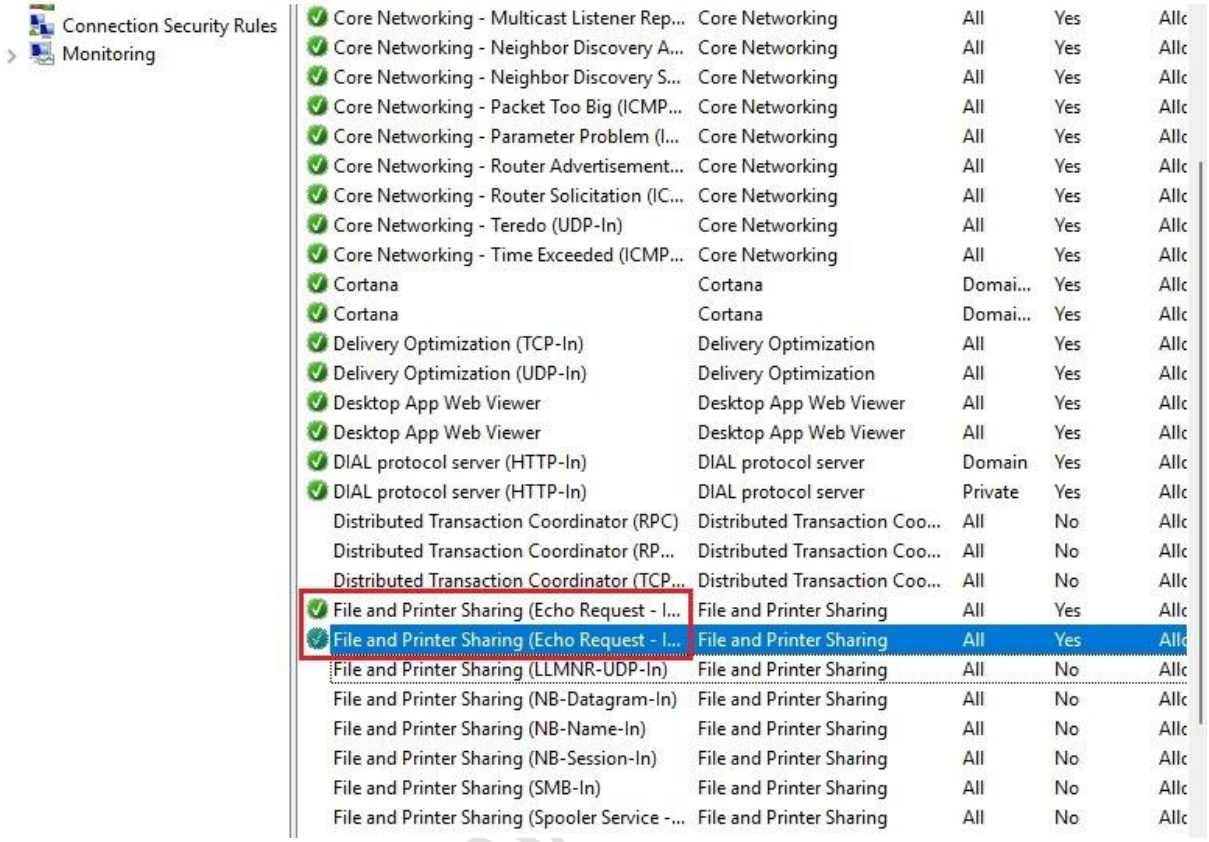


5. Click on **Connect** and then in the username enter ***azureuser*** and in password enter ***Pa$$w0rd1234*** and then click on **Ok**
6. Click on **Yes** to allow certificate
7. Click on **Start** button and then search for **Windows Defender Firewall with Advanced Security**



8. Click on **Inbound Rules**

9. Enable **File and Printer Sharing(Echo Request – ICMPv4-In)** and **File and Printer Sharing(Echo Request ICMPv6-In)**



10. Now close the vm2 connect

Task 6: Test the Connection

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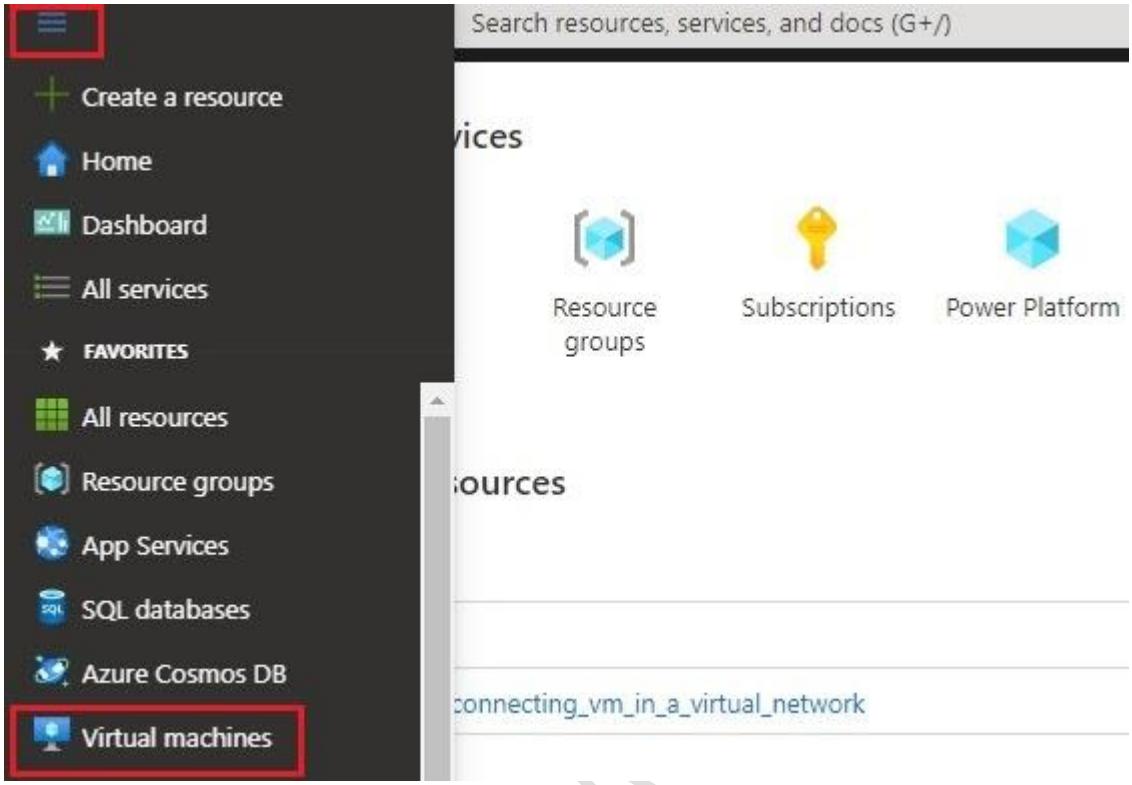
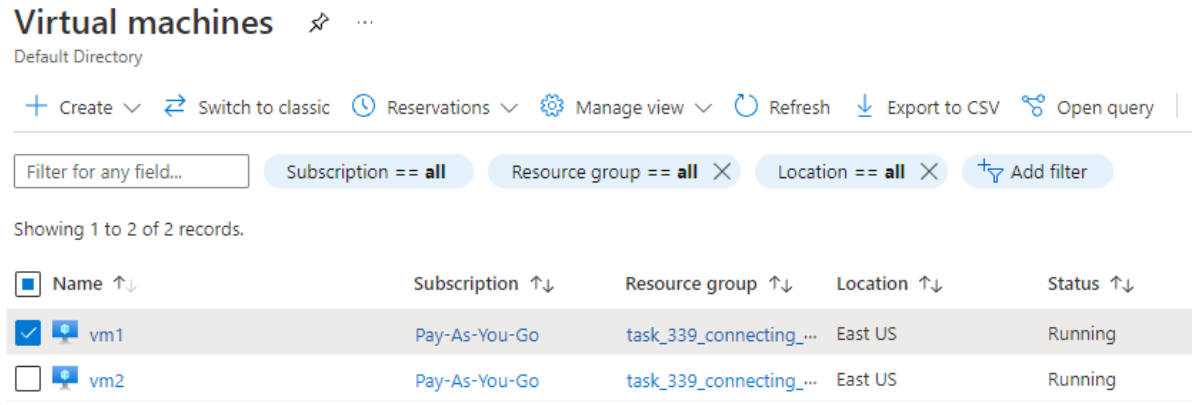
1. Go back to the home page and from the left hand menu bar open click on **Virtual Machines**

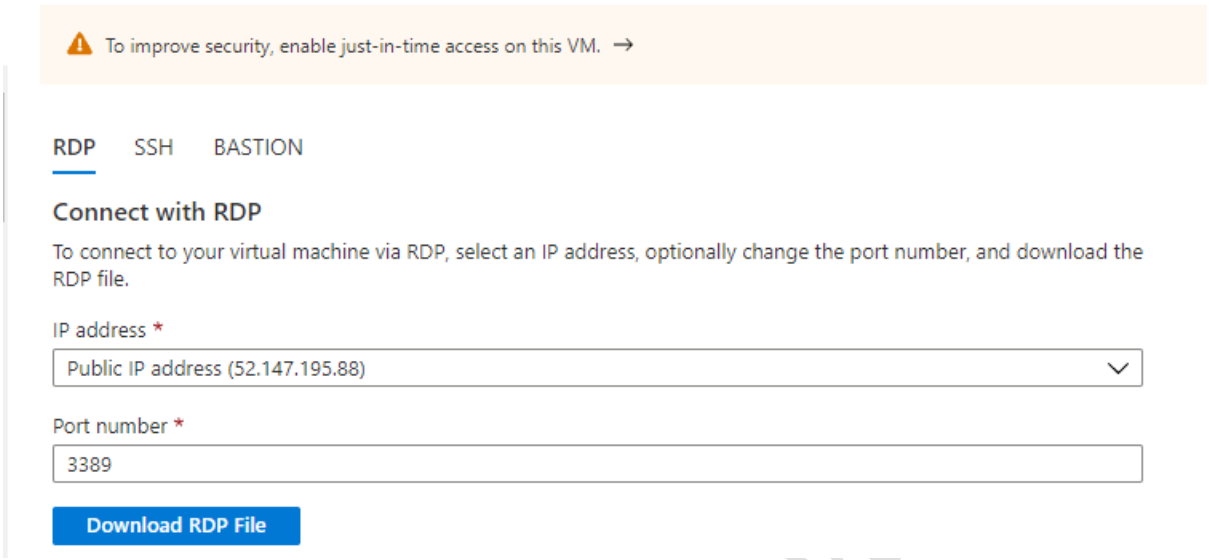


2. Open **vm1**

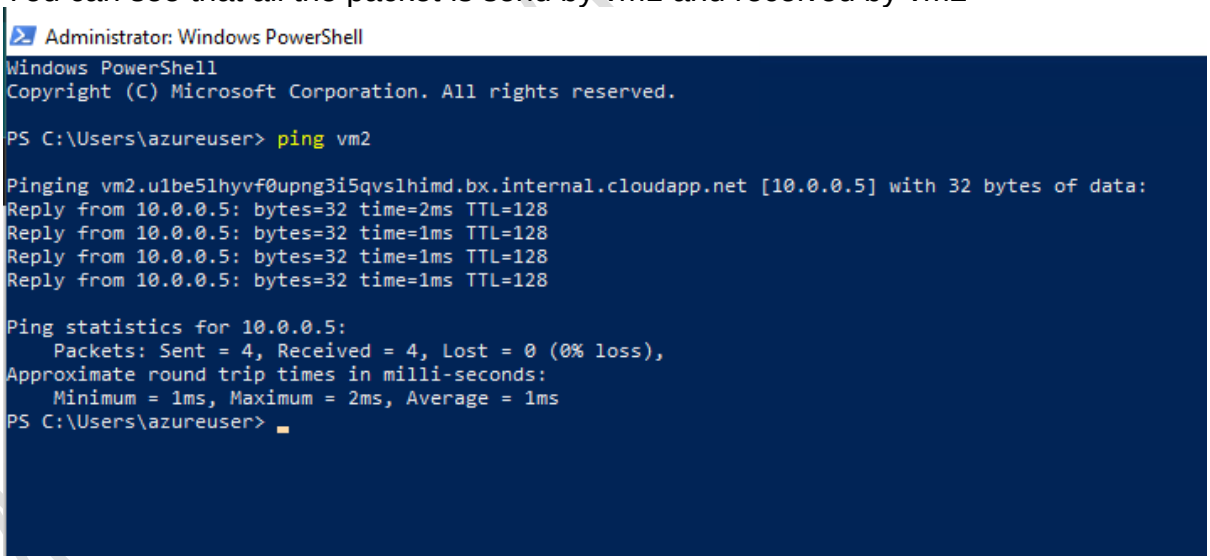


3. Click on **Connect** from the top and then select **RDP**

4. Click on **Download RDP File** and open once download is complete



5. Click on **Connect** and then in the username enter ***azureuser*** and in password enter ***Pa$$w0rd1234*** and then click on **Ok**
6. Click on **Yes** to allow certificate
7. Click on **Start** button and open **Powershell**
8. In the powershell enter the below command
   - **`ping vm2`**
9. You can see that all the packet is send by vm1 and received by vm2



Congratulation you just pinged vm2 from vm1 😊 😊