Networking Lab1

Create a Virtual Network

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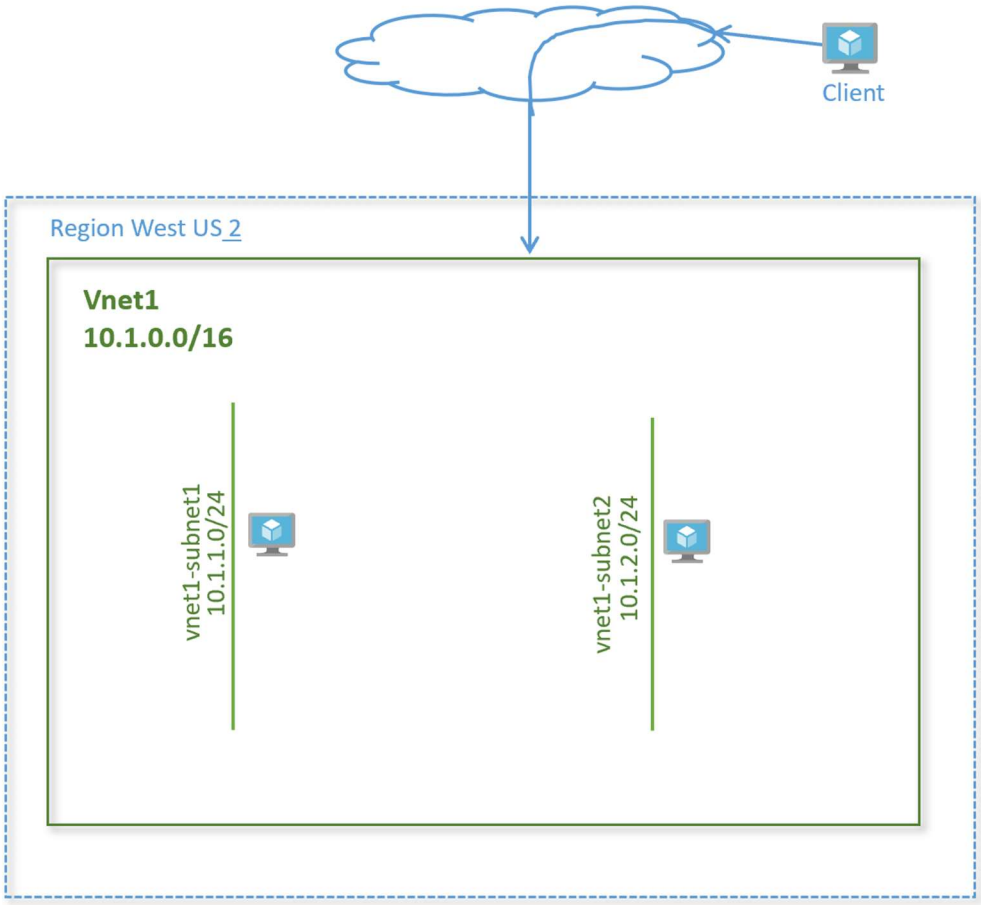
Lab Overview

In this lab, we will learn how to get started with on Azure to deploy your IaaS resources. We will create a virtual network (vnet) in Azure. We will then add two subnets in the lab and add two virtual machines, one in each subnet.

It is expected you have access to Azure portal and have an account and subscription created on Azure.

Lab Diagram



Create a virtual network

1. To access the Azure portal, go to http://portal.azure.com
2. Click on **Create a resource** > **Networking** > **Virtual network**.
3. In **Create virtual network**, enter or select this information:

Setting	**Value**
Subscription	Select your subscription
Resource group	Select **Create new**, enter *rg-lab*, then select **OK**
Name	Enter *vnet1*
Region	Select (US) **West US 2**

3. Click **Next: IP Addresses>**.

IPv4 address space	Enter *10.1.0.0/16*

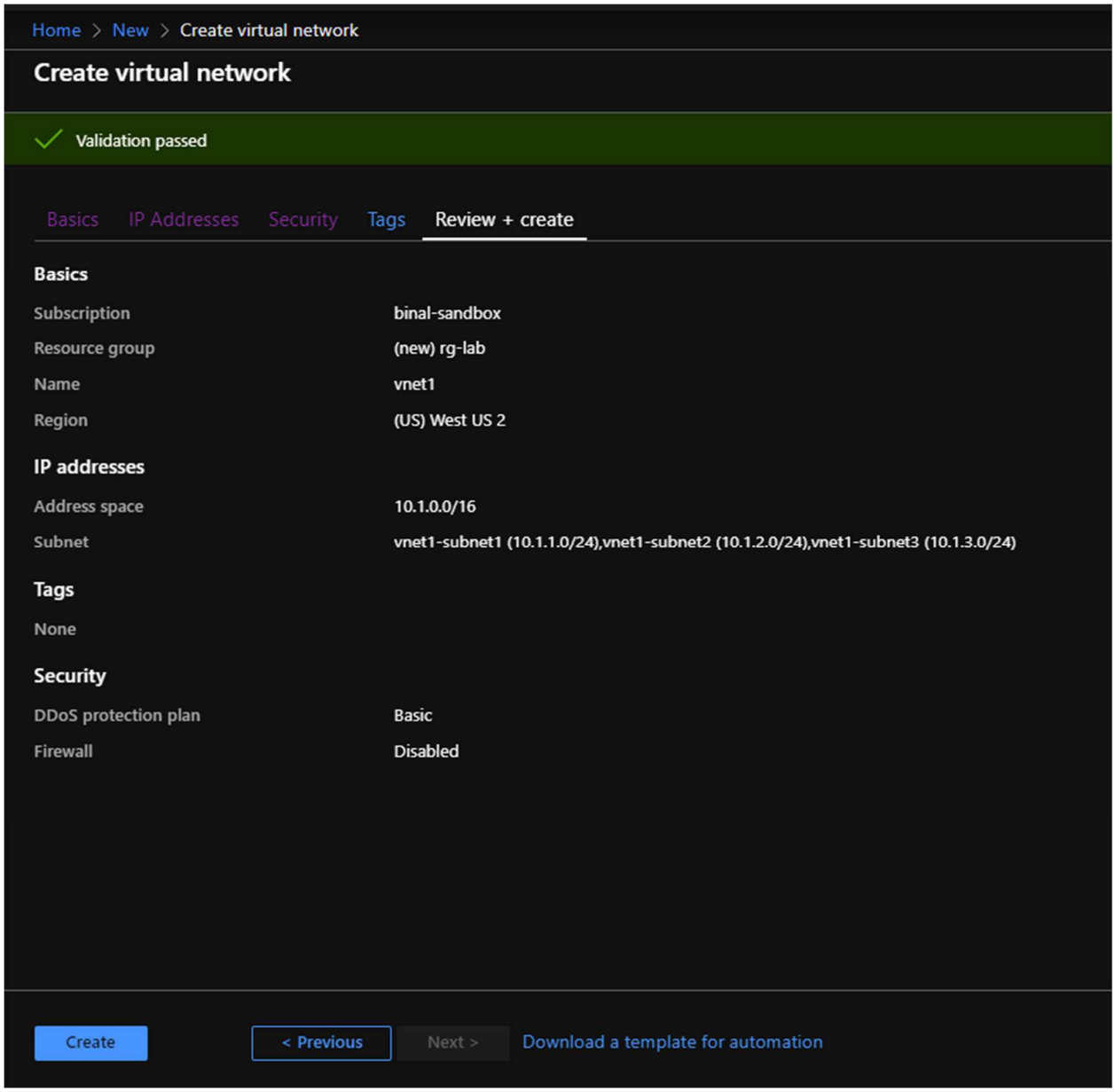
4. Click **+Add subnet**.

Subnet-name	Enter *vnet1-subnet1*
Subnet - Address range	Enter *10.1.1.0/24*

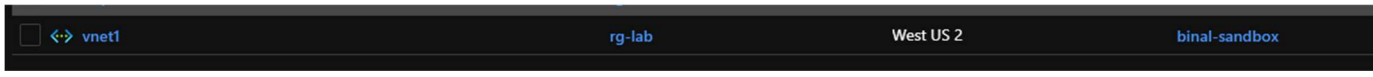
5. Click **Add**.
6. Repeat steps 4 and 5 to add one more subnet as below:

Subnet-name	Enter *vnet1-subnet2*
Subnet - Address range	Enter *10.1.2.0/24*

7. Leave the rest as default and select **Review+Create**. Review the values. Your output should look like this:

8. 

9. Click **Create**.
10. Once the deployment is complete, go to the search bar at the top and type 'Virtual Networks'. Select **Virtual Networks** in the search results. You should see vnet1 show up in the list.



Create virtual machines

Create a virtual machine in the virtual network:

Create the first VM

1. On the upper-left side of the screen, select **Create a resource** > **Compute** > **Virtual Machine**.
2. In **Create a virtual machine - Basics**, enter or select this information:

Setting	Value
PROJECT DETAILS	
Subscription	Select your subscription.
Resource group	Select **rg-lab**. You created this in the previous section.
INSTANCE DETAILS	
Virtual machine name	Enter *vnet1-vm-mgmt1.*
Region	Select **West US 2**.
Availability options	Leave the default **No infrastructure redundancy required**.
Image	Leave the default **Ubuntu Server 18.04 LTS**.
Size	Leave the default **Standard DS2 v3**.
ADMINISTRATOR ACCOUNT	
Username	Enter a user name of your choosing.
Password	Enter a password of your choosing. The password must be at least 12 characters long and meet the defined complexity requirements.
Confirm Password	Reenter password.
INBOUND PORT RULES	
Public inbound ports	**None**

3. Select **Next : Disks**.
4. In **Create a virtual machine - Disks**, leave the defaults and select **Next : Networking**.
5. In **Create a virtual machine - Networking**, select this information:

Setting	Value
Virtual network	Leave the default **vnet1**.
Subnet	Leave the default **vnet1-subnet1 (10.1.1.0/24)**.
Public IP	Leave the default **(new) vnet1-vm-mgmt1-ip**.

Public inbound ports	Select **Allow selected ports**.
Select inbound ports	Select **HTTP** and **SSH**.

9. Select **Review + create**. You're taken to the **Review + create** page where Azure validates your configuration.
10. When you see the **Validation passed** message, select **Create**.
11. Once the deployment is complete, click **Go to resource**. This will take you to the VM overview page. Verify the VM status shows as **Running**.

Create a second virtual machine

Repeat the above steps to spin up a second virtual machine with the following configuration:
Instance name: **vnet1-vm-web1**
Subnet: **vnet1**
Subnet: **vnet1-subnet2**
Public Inbound ports: **SSH, HTTP**

Keep the rest of the parameters default and create the virtual machine.

Install web server on virtual machine vnet1-vm-web1

Connect to the virtual machine.

1. Search virtual machines in the **Search** bar in the portal.
2. Select the virtual machine **vnet1-vm-web1**.
3. Go to the **Overview** page.
4. Copy the public IP address of the VM.
5. From your laptop terminal, run command:
   ssh <username>@<Public_IP_of_the_VM>

6. Install apache2 on the server.
   sudo apt-get -y update
   sudo apt-get -y install apache2

7. Verify the service is running on the server. You should see a status of active (running) in the output:
   sudo service apache2 status

8. When done, type exit to leave the SSH session.

View the web server in action

Use a web browser of your choice to view the default welcome page. Type the public IP address of the VM as the web address. The public IP address can be found on the VM overview page or as part of the SSH connection string you used earlier.
Verify the web page loads successfully.