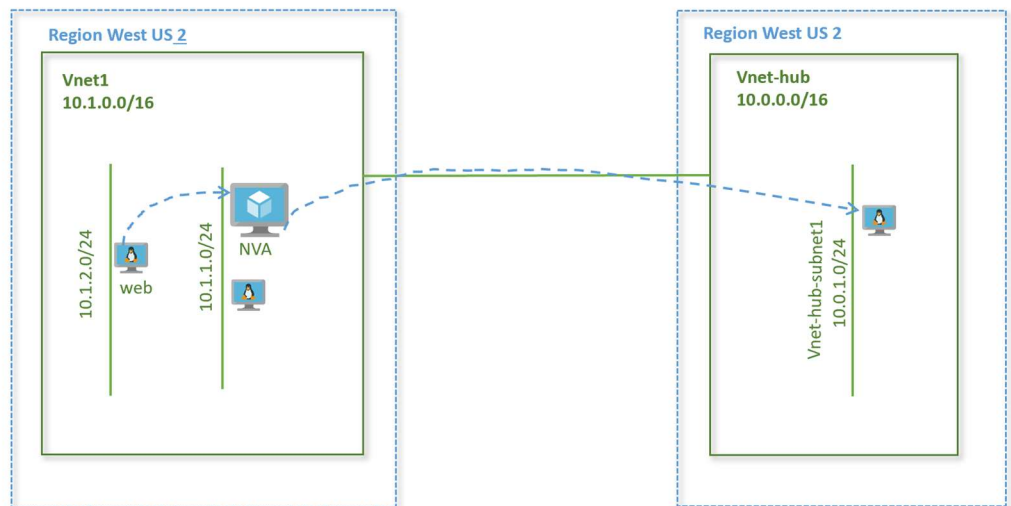# Networking Lab 7

Routing tables

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Lab Overview

Let's look at how routing and custom routes work in a virtual network. We spun up a CSR in the previous lab. We will check how user defined routes work through a network virtual appliance with CSR as an example NVA.

Lab Diagram

Create a route table

1. On the upper-left side of the screen, select **Create a resource** > **Networking** > **Route table**.
2. In **Create route table**, enter or select this information:

Setting	Value
Name	Enter rt-nva.
Subscription	Select your subscription.
Resource group	Select Create new, enter rg-lab, and select OK.
Location	Leave the default West US 2.

3. Select **Create**.

The new route table should show up in the list.

Create a route

1. Click on the route table 'rt-nva' that you just created.
2. Under Settings, select Routes > + Add.
3. In Add route, enter or select this information:

Setting	Value
Route name	Enter route-to-nva
Address prefix	Enter 10.0.1.0/24.
Next hop type	Select Virtual appliance.
Next hop address	Enter 10.1.1.5 (or IP of the NVA CSR.)

4. Select OK.

Associate a route table to a subnet

Click on the route table 'rt-nva' that you just created.

1. From the route table rt-nva page, underr **Settings**, select **Subnets.**
2. Click **Associate**, enter or select this information:

Setting	Value
Virtual network	vnet1
Subnet	vnet1-subnet2

4. Select **OK**.

Enable IP Forwarding on the NVA VM's network interface

Go to the virtual machines page and click on VM csr1.
Select 'Networking' from the VM blade on the left and click on the network interface for the VM.

Click on **IP Configuration** tab in the left blade under 'Settings'..

Verify **IP forwarding** is enabled.

Test routing to 10.0.1.0/24 from a vnet2-vm-web1

1. Ssh into the virtual machine vnet1-vm-web1. Ping the CSR1000v VM csr1. Verify pings are successful.
2. Now ping the destination vm vnet-hub-vm1 using its private IP address 10.0.1.4. Pings should be successful.
3. Now run traceroute to this virtual machine vnet-hub-vm1.
   azuser@vnet1-vm-web1:~$ traceroute 10.0.1.4
   traceroute to 10.0.1.4 (10.0.1.4), 30 hops max, 60 byte packets
   1 10.1.1.6 (10.1.1.6) 1.913 ms 1.900 ms 1.873 ms
   2 * 10.0.1.4 (10.0.1.4) 3.760 ms *
   azuser@vnet1-vm-web1:~$

The next hop for the destination shows as the Ip address of the CSR1000v virtual machine. This is our user defined routes in action.