SFA Homework #13
Elizabet Ivanova

Lab 06 - Implement Traffic Management
For conciseness, not every single step of the assignment is included here

Task 1: Provision the lab environment

1. Creating the resource group and the vnets with 4 VMs:

2. Installing Network Watcher:
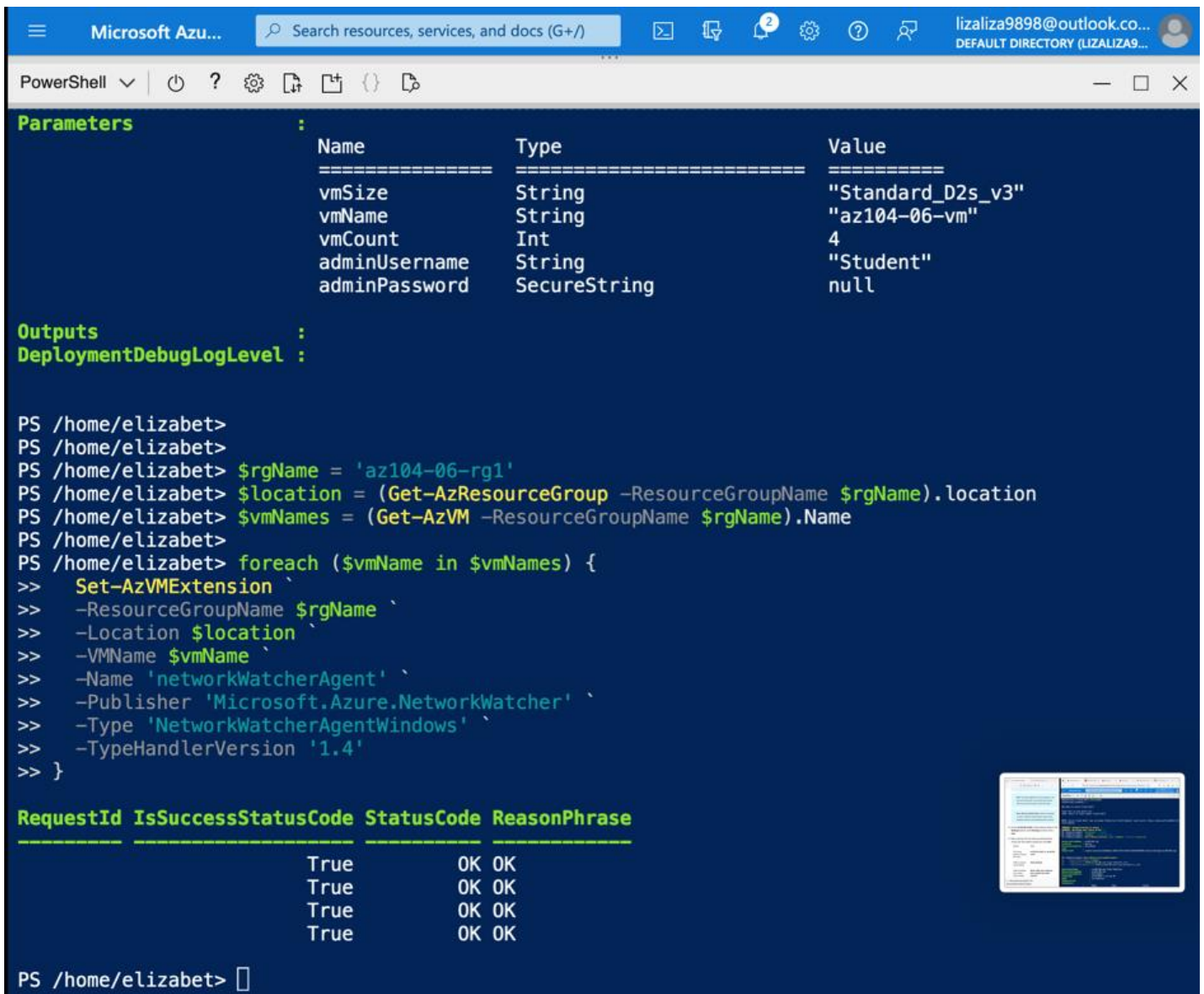
```
Parameters           :
                     Name                Type                         Value
                     ===============     ========================     ==========
                     vmSize              String                       "Standard_D2s_v3"
                     vmName              String                       "az104-06-vm"
                     vmCount             Int                          4
                     adminUsername       String                       "Student"
                     adminPassword       SecureString                 null

Outputs              :
DeploymentDebugLogLevel :


PS /home/elizabet>
PS /home/elizabet>
PS /home/elizabet> $rgName = 'az104-06-rg1'
PS /home/elizabet> $location = (Get-AzResourceGroup -ResourceGroupName $rgName).location
PS /home/elizabet> $vmNames = (Get-AzVM -ResourceGroupName $rgName).Name
PS /home/elizabet>
PS /home/elizabet> foreach ($vmName in $vmNames) {
>>    Set-AzVMExtension `
>>    -ResourceGroupName $rgName `
>>    -Location $location `
>>    -VMName $vmName `
>>    -Name 'networkWatcherAgent' `
>>    -Publisher 'Microsoft.Azure.NetworkWatcher' `
>>    -Type 'NetworkWatcherAgentWindows' `
>>    -TypeHandlerVersion '1.4'
>> }


RequestId IsSuccessStatusCode StatusCode ReasonPhrase
--------- ------------------- ---------- ------------
          True                OK OK
          True                OK OK
          True                OK OK
          True                OK OK

PS /home/elizabet>
```

Task 2: Configure the hub and spoke network topology

3. Peerings successfully added: **az104-06-vnet01_to_az104-06-vnet2** and **az104-06-vnet01_to_az104-06-vnet3**.

Task 3: Test transitivity of virtual network peering

4. Checking the connection for **10.62.0.4 (az104-06-vm2)** and **10.63.0.4 (az104-06-vm3)**. Here is how I did it:

5. With a view of the topology:

Topology view

az104-06-vm0
10.60.0.4
RTT: 2

az104-06-nic3
10.63.0.4

Give feedback

6. Checking the connection from **az104-06-vm2** to **az104-06-vm3**:

➔ Connection failed because the two vnets are not peered.

Task 4: Configure routing in the hub and spoke topology

7. Enabling IP forwarding to allow **az104-06-vm0** to act as a router so it can route the traffic between the vnets.

8. Installing Remote Access Windows Server through the command script:
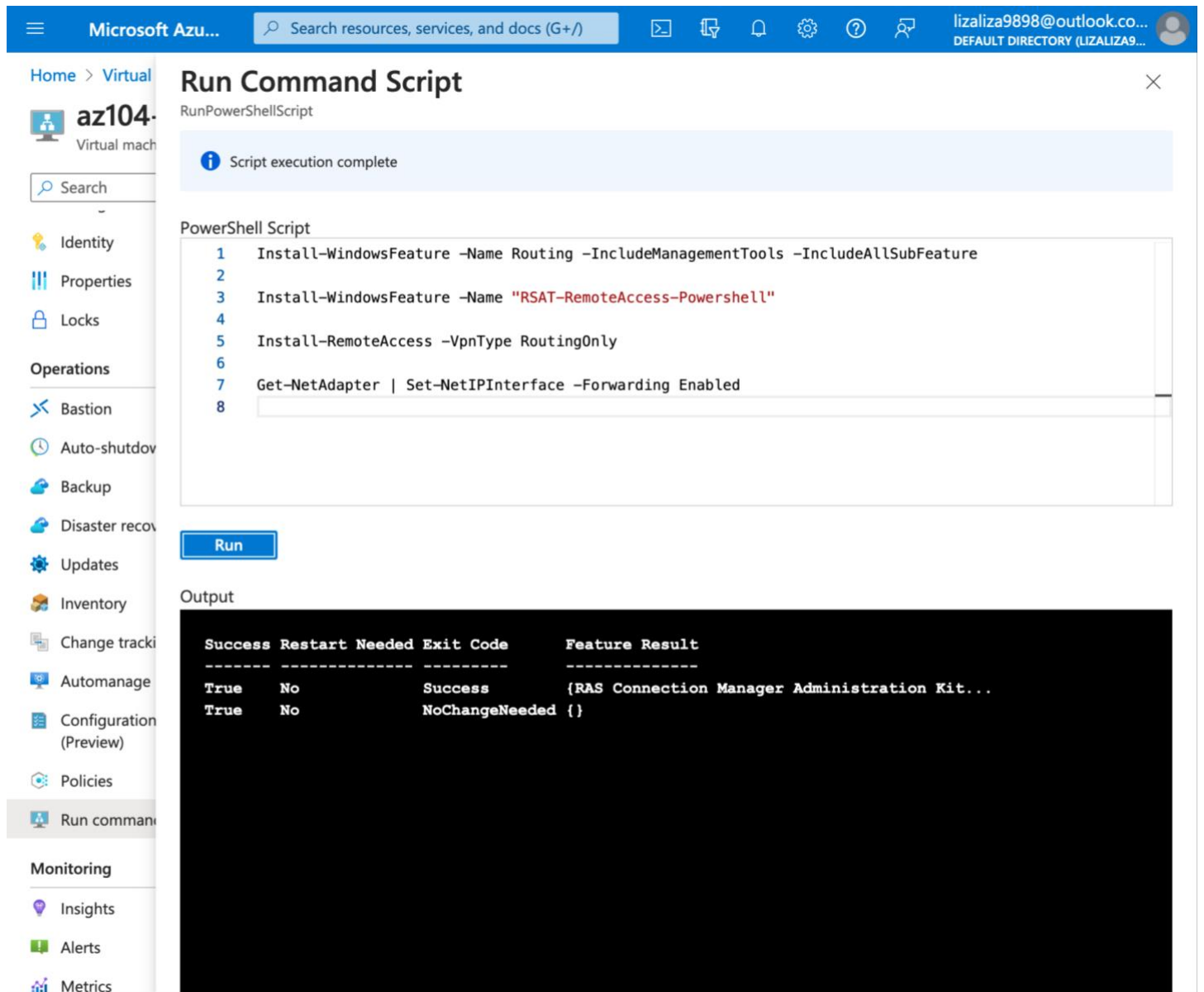
9. Installing the Routing role service through the command script:

10. After creating route table **az104-06-rt23**, I added the following route (and later a subnet, too):

(from **vnet2** to **vnet3**)

11. Next, after adding another route table - **az104-06-rt32** -, I added the following route from vnet3 to vnet2:

12. Adding the new route table's subnet:

13. This is where I ran into a problem. When testing the connection from **az104-06-vm2** to **10.63.0.4**, the test kept failing. I tried stopping and restarting the **az104-06-vm0** as the task suggested, but it still would not work. I even went ahead and restarted all VMs, signed in and out of my account… still, the first test kept failing.

14. At least the topology view became available after many attempts:

Task 5: Implement Azure Load Balancer

15. Creating and configuring a load balancer:

16. Ensuring that the load balancer works properly:

Hello World from az104-06-vm0

Hello World from az104-06-vm1
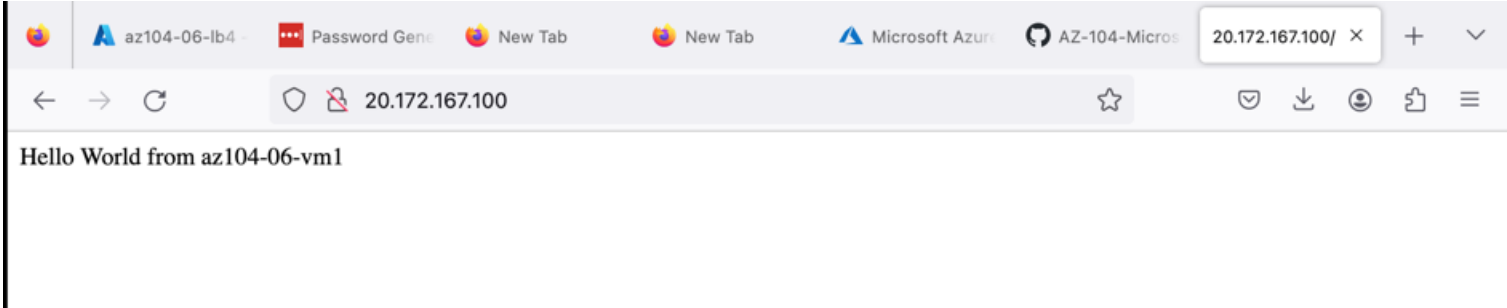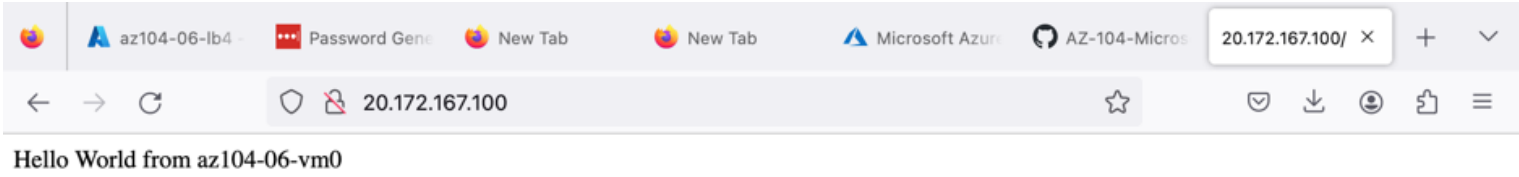
Task 6: Implement Azure Application Gateway

17. After setting up and creating the application gateway, the deployment is complete and now I only need to test it:

18. Messages change each time the browser window is refreshed:

Hello World from az104-06-vm2

Hello World from az104-06-vm3