Lab Answer Key: Module 3: Virtual machines in Microsoft Azure

Lab: Creating a VM in Azure

Exercise 1: Create a VM from the Azure Portal by using an Azure Marketplace image

Task 1: Select and create a VM

1. On MIA-CL1, start Internet Explorer, browse to **http://portal.azure.com <http://portal.azure.com>**, and then when prompted, sign in by using the Microsoft account for either the Service Administrator or Co-Administrator of your Azure subscription.
2. In the **Hub** vertical menu on the left side of the portal page, click **New**.
3. In the **New** blade, click **Compute**.
4. In the **Compute** blade, click **Windows Server 2012 R2 Datacenter**.
5. In the **Windows Server 2012 R2 Datacenter** blade, ensure that **Resource Manager** appears in the **Select a deployment model** drop-down list, and then click **Create**. This will open the **Create virtual machine** blade and the **Basics** blade to its right.
6. In the **Basics** blade, specify the following settings, and then click **OK**:

- Name: **labvm1**
- VM Disk type: **HDD**
- User name: **Student**
- Password: **Pa$$w0rd1234**
- Subscription: Your Azure subscription
- Resource group: **Create new**
- New resource group: **labvm1RG**
- Location: Azure datacenter closest to the classroom location

7. Click **OK**. In the **Choose a size** blade, click **View all**.
8. In the **Choose a size** blade, click **D1 Standard**, and then click **Select**.
9. In **Settings**, specify the following settings, and then click **OK**:
   - Storage account: Accept the default value (this will create a new storage account)
   - Virtual network: Accept the default value (this will create a new virtual network)
   - Subnet: **default (10.0.0.0/24)**
   - Public IP address: **(new) labvm1-ip**
   - Network security group: **(new) labvm1-nsg**
   - Extensions: **No extensions**
   - Boot Diagnostics: **Disabled**
   - Guest OS Diagnostics: **Disabled**
   - Availability set: None
10. In the **Summary** blade, note the **Validation passed** message and click **OK**.
11. Note the **Deployment started** message in the notification area at the top of the page.

12. Wait for the deployment to complete.

Task 2: Verify VM creation

1. On MIA-CL1, in the Internet Explorer window, in the Azure Portal, once the deployment of the labvm1 VM completes, you will be automatically presented with the **labvm1** blade and its **Settings** blade. If you are not presented with the **Settings** blade automatically, click the **labvm1** tile.
2. In the **Settings** blade, click **Audit logs**. This will automatically display the **Events** blade.
3. In the **Events** blade, scroll down to the list of events. Review events associated with successful creation of the VM.
4. Scroll to the left to the **Settings** blade and click **Resource health**.
5. In the **Resource health** blade, verify that there are no known Azure platform problems affecting this VM. Click **Refresh** if you receive a "Resource health unknown' message.
6. Close the Resource health blade.

> **Result**: After completing this lab, you should have:Created a Microsoft Azure virtual machine (VM) from the Azure Portal by using an Azure Marketplace image.Verified creation of the new Azure VM and review corresponding Audit logs.

Exercise 2: Verify the functionality of the VM

Task 1: View the properties of the VM

1. On MIA-CL1, in the Internet Explorer window, in the Azure Portal, ensure that you are focused on the **labvm1** blade and its **Settings** blade.
2. In the **labvm1** blade, review the **Essentials** section. You will notice that the VM has a public IP address, but not a corresponding Domain Name System (DNS) name label. In addition, the **Connect** button will be enabled.
3. Scroll to the right to the **Settings** blade and click **Properties**.
4. Notice that the VM has also a private IP address and the VM agent with a status of **Ready**.

Task 2: Connect to a VM

1. On MIA-CL1, in the Internet Explorer window, in the Azure Portal, in the **labvm1** blade, click **Connect**.
2. When prompted about whether to open or save the .rdp file, click **Open**.
3. In the **Remote Desktop Connection** window, click **Connect**.
4. In the **Windows Security** dialog box, specify the following and click **OK**:
    - User name: **Student**
    - Password: **Pa$$w0rd1234**
5. In the **Remote Desktop Connection** window, click **Yes**.
6. Wait until the connection is successfully established.

> **Result**: After completing this exercise, you should have:Viewed properties of an Azure VM from the Azure Portal.Connected to an Azure VM by using Remote Desktop Protocol (RDP).

Exercise 3: Configure storage of a VM

Task 1: Attach data disks to an Azure VM

1. From MIA-CL1, in the Internet Explorer window, in the Azure Portal, navigate to the **Settings** blade of labvm1. If prompted, sign in by using the Microsoft account that is either the Service Administrator or Co-Administrator of your Azure subscription.
2. In the **Settings** blade of labvm1, click **Disks**.
3. To attach the first disk, in the **Disks** blade, click **Attach new**.
4. In the **Attach new disk** blade, specify the following, and then click **OK**:

- Name: Accept the default
- Type: **Standard**
- Size (GB): **1023**
- Location: Accept the default
- Host caching: **None**

5. Wait until the new disk is provisioned and is displayed in the **Disks** blade.
6. To attach the second disk, in the **Disks** blade, click **Attach new**.
7. In the **Attach new disk** blade, specify the following, and then click **OK**:
   - Name: Accept the default
   - Type: **Standard**
   - Size (GB): **1023**
   - Location: Accept the default
   - Host caching: **None**
8. Wait until the new disk is provisioned and is displayed in the **Disks** blade.

Task 2: Create a two-disk volume in the Azure VM that runs Windows

1. On MIA-CL1, switch to the Remote Desktop session window. If necessary, on the Networks pane, click **No**.
2. In the Remote Desktop session, in the **Server Manager** window, click **File and Storage Services**.
3. In the **Servers** navigation pane on the left side, click **Storage Pools**.
4. In the **STORAGE POOLS** pane, click the **TASKS** menu, and then click **New Storage Pool** on the drop-down list box menu. This will open the New Storage Pool Wizard.
5. On the **Before you begin** page, click **Next**.

6. On the **Specify a storage pool name and subsystem** page, type **StoragePool1** in the **Name** text box, and then click **Next**.
7. On **Select physical disks for the storage pool** page select the check boxes next to **PhysicalDisk2** and **PhysicalDisk3** (which represent disks you attached in the Azure Portal), and then click **Next**.
8. On the **Confirm selections** page, click **Create**.
9. On the **View results** page, select the **Create a virtual disk when this wizard closes** check box, and then click **Close**. This will launch the New Virtual Disk Wizard.
10. On the **Before you begin** page, click **Next**.
11. On the **Select the storage pool** page, ensure that **StoragePool1** is selected, and then click **Next**.
12. On the **Specify the virtual disk name** page, type **VirtualDisk1** in the **Name** text box, and then click **Next**.
13. On the **Select the storage layout** page, ensure that **Simple** is selected, and then click **Next**.
14. On the **Specify the provisioning type** page, ensure that **Fixed** is selected, and then click **Next**.
15. On the **Specify the size of the virtual disk** page select **Maximum size**, and then click **Next**.
16. On the **Confirm selections** page, click **Create**.
17. On the **View results** page, ensure that the **Create a volume when this wizard closes** check box is selected, and then click **Close**. This will open the New Volume Wizard.
18. On the **Before you begin** page, click **Next**.
19. On the **Select the server and disk** page, ensure that **VirtualDisk1** is selected, and then click **Next**.
20. On the **Specify the size of the volume** page, accept the default (2.00 terabytes, or TB), and then click **Next**.
21. On the **Assign to a drive letter or folder** page, accept the default drive letter (F), and then click **Next**.
22. On the **Select file system settings** page, accept the default settings (the NTFS file system with default allocation unit size), and then click **Next**.
23. On the **Confirm selections** page, click **Create**.
24. On the **Completion** page, click **Close**.

25. From the desktop of labvm1, open File Explorer, and then verify that there is a new drive F with 2 TB of available disk space.
26. Close the Remote Desktop session to labvm1.
27. Back on MIA-CL1, in the Internet Explorer window, in the Azure Portal, navigate to the **labvm1** blade.
28. In the **labvm1** blade, click **Stop**.
29. When prompted about whether to stop the VM, click **Yes**.
30. Close all open windows on MIA-CL1.

Task 3: Prepare for the next module

When you are finished with the lab, do not revert the VMs. Please keep all of the VMs running. The VMs in their current state are required for the next module.

> **Result**: After completing this lab, you should have:Attached two data disks to the Azure VM from the Azure Portal. Created a two-disk volume in an Azure VM that runs Windows Server 2012 R2 by using Storage Spaces.