



Azure Fundamentals:

Azure Virtual Machines – Practical Exercises

Overview

This course includes optional practical exercises where you can try out the techniques demonstrated in the course for yourself. This guide lists the steps for the individual practical exercises.

See the **Practical Exercises > Overview** page in your course for information about getting started.

You will need an Azure Subscription to complete these exercises. If you already have an Azure subscription you can use in a test or practice environment, you can use that, otherwise there are details available on the **Practical Exercises > Overview** page to help you set up a free trial account. There is also a step by step video available to walk you through this process at the beginning of the course in the **Welcome > Start Here** section, called "**Setting up a Free Microsoft Azure 30-day Trial**"



Deploy a New Virtual Machine (Resource Manager)

In this exercise you will create a new virtual machine with a Resource Manager deployment model.

1. Navigate to the new Azure Portal at <https://portal.azure.com> and sign in.
2. On the Hub menu, click **New**.
3. On the New blade, search for **Server 2012 R2**.
4. In the search results, click **Windows Server 2012 R2 Datacenter**.
5. In the Everything blade, click **Windows Server 2012 R2 Datacenter**.
6. On the Windows Server 2016 R2 Datacenter blade, notice the default deployment model is set to Resource Manager. Click **Create**.
7. On the Create Virtual Machine blade, fill in the following values for basic settings (substituting your information for the user name, subscription, and location) and click **OK**.
 - Name: **SERVER-02**
 - VM disk type: **HDD**
 - User name: **<Your first name>**
 - Password: **Pa\$\$w0rd12345**
 - Subscription: **<Your subscription>**
 - Resource group: Create a new one named **ServersRG**
 - Location: **<Your location>**
8. When the virtual machine is created, double click on the server-02 virtual machine in the virtual machines blade.
9. In the server-02 settings blade, notice the detail in the Essentials section, such as Resource group, location, status, IP address, operating system, size etc
10. At the top of the setting blade click **Connect** and when prompted download the subsequent .rdp file. This file will allow you to use remote desktop to connect into the virtual machine.
11. Once downloaded, locate the file and double click it.
12. When prompted use the credentials you defined earlier when creating the virtual machine. i.e.

- User name: <**Your first name**>
- Password: **Pa\$\$w0rd12345**

13. You should be able to log in successfully and see the virtual machine desktop. You can perform any action you wish as you would on a windows server installation i.e.

- open File Explorer
- Open Server Manager by click on the Server Manager icon in the taskbar, click Local Server in the Server Manager console and notice the properties details.
- Double click the Windows PowerShell icon on the taskbar at the bottom, once open type **dir** to return a list of directories

14. Leave the rdp console open to view the virtual machine status as you do the next exercise.



Sizing Virtual Machines for Azure IaaS (Resource Manager)

In this exercise you will explore the sizing options available for Azure virtual machines. As part of your job managing Azure infrastructure, you need to be familiar with the sizing options so that you can maximize the efficiency of your subscription. Your goal should be to have enough resources to meet your company's requirements but not have more than you need because it impacts your ongoing costs.

1. Navigate to the new Azure Portal at <https://portal.azure.com> and sign in.
2. On the Hub menu, click **Virtual machines**.
3. Click the **SERVER-02** virtual machine.
4. On the SERVER-02 blade, under Settings, click **Size**. Explore the list of available sizing options. As you move down the list review each of the resource options and the estimated cost per months, such as CPU cores, memory, disk drives, and IOPS. Compare the size offerings between the options.
5. Change your virtual machine size by clicking on the **A1 Basic** and click Select
6. Notice the notification message that appears stating that the virtual machine is re-sizing
7. Return to your rdp connection from the previous exercise.
8. Notice that the virtual machine is re-starting, due to the re-sizing that is taking place.
9. Once the virtual machine restarts, log in again using the .rdp file from earlier and verify you can access successfully
10. Return to the server-02 settings blade and in the Essentials section note the virtual machine size has changed to the value you selected.
11. When you are finished exploring the list of virtual machine sizing options, close the web page.



Pre-Built Linux Images (Resource Manager)

In this exercise you will deploy a new Ubuntu Server virtual machine running. Even if you aren't an experienced Linux administrator, you can easily deploy new Linux VMs in the Azure portal.

1. Navigate to the new Azure Portal at <https://portal.azure.com> and sign in.
2. On the Hub menu, click **New**.
3. On the New blade, search for Ubuntu Server.
4. From the search results, select the latest version of Ubuntu Server LTS. Version numbers will evolve over time.
5. On the Ubuntu Server blade, notice the deployment model selected is resource Manager by default, and click **Create**.
6. On the Create Virtual Machine blade, fill in the following values for the settings and then click **OK**.
 - Name: **UBUNTU-01**
 - VM disk type: **HDD** (the pricing is the same for SSD or HDD for the system disk but as part of your cloud resource management, you want to stay vigilant with sizing and costs.)
 - User name: **AdatumAdmin**
 - Authentication type: **Password**
 - Password: **Pa\$\$w0rd1245**
 - Subscription: **<Your subscription>**
 - Resource Group: **Use existing** and select the resource group you created previously **ServersRG**
 - Location: **<Your location>**
7. On the Size blade, select **F1S Standard**.

8. On the Settings blade, review the default options for storage, network, extensions, high availability, and monitoring. Click **OK**
9. On the Summary blade, review the configuration and click the **download template and parameter link**
10. View the template tabs and script details in the template window.
11. In the template blade, click **Add to Library** and save the template by entering a name and description and clicking save and close the Template blade.
12. Click **OK** on the Summary blade to deploy the Linux virtual machine.
13. Notice the notification that the deployment has started,
14. While its deploying, open the Template library to view your saved template by clicking **More Services** > on the Hub menu and typing templates in the search box
15. Notice **Templates** and that it is in preview. This indicates that it is still in preview and not fully released. Click **Templates**
16. Notice the template you saved earlier is present. This is a repository through which you can save, share, edit and manage your templates.
17. Double click on your template and in the template settings notice some options currently available, notice you have the option to deploy the virtual machine via the template you just created.
18. Close the Templates blades and open the virtual machine blade and the **Ubuntu-01** virtual machine settings
19. Browse through the settings available
20. Click on the **Connect** button
21. Notice the message saying "To connect to your Linux virtual machine using ssh, use the following command **ssh AdatumAdmin@<ipaddres>**"
22. If you have a Linux shell available run the above command and connect to the Ubuntu server using the credentials you specified above and run some commands within it to verify you can connect and run commands successfully.
23. Click the Click **OK**.
24. When you are finished stop all running virtual machines to prevent your credit from being used up.