# Lab Answer Key: Module 1: Introduction to Microsoft Azure

# Lab: Managing Microsoft Azure

## Exercise 1: Using the Azure portals

#### Task 1: Use the Azure classic portal

1. Ensure that you are signed in to the 20533C-MIA-CL1 virtual machine as **Student** with the password **Pa$$w0rd**. You should have already run the preparation script in the "Preparing the environment" demonstration at the beginning of the module.
2. On the taskbar, click the **Internet Explorer** shortcut.
3. In Internet Explorer, in the address bar, type **https://manage.windowsazure.com**, and then press Enter.
4. On the Microsoft Azure sign in page, enter the email address with which your Azure account is associated, and then click **Continue**.
5. On the Sign in page, type the email address and password you set up for this course, and then click **Sign in**.
6. On the Azure classic portal page, in the navigation bar, scroll down, and then click **SETTINGS**.
7. On the **settings** page, click **ADMINISTRATORS**, and then at the bottom of the pane, click **ADD**.
8. In the **EMAIL ADDRESS** box, type a random email address ending with **@outlook.com**, select the check box to select the free trial subscription, and then click the check mark icon. > **Note:** Observe that the email address you typed is now listed as the co-administrator. An email containing an invitation to act as co-administrator has been sent to this email address.
9. On the Azure classic portal page, in the navigation bar, click **ACTIVE DIRECTORY**.
10. In the **active** **directory** pane, click **Default Directory**. This is the default Azure Active Directory (Azure AD) instance for your subscription.
11. On the **Let's talk about Azure AD** page, deselect all checkboxes and then click the checkmark at the bottom of the page.
12. On the **Default Directory** page, click **USERS**. Note the two accounts that are listed: your account and the co-administrator account you created earlier.
13. On the **Default Directory** page, click **DOMAINS**. Note the name of the default domain for your subscription displayed in the Default Directory pane.

#### Task 2: Use the Azure portal

1. In Internet Explorer, on the Azure classic portal page, at the top of the screen, click **Check out the new portal**, and then click **Launch**. If you do not have the Azure classic portal open, go to **https://portal.azure.com.**
2. On the **Dashboard** page, at the top of the screen, click **Edit dashboard**.
3. On the **Dashboard** page, on the **All resources** tile, click the ellipses ( **...**), and then click **4x6**.
4. On the **Dashboard** page, on the **Service health** tile, click the ellipses ( **...**), and then click **2x4**.
5. On the **Dashboard** page, at the top of the screen, click **Done customizing**.
6. On the **Dashboard** page, on the Hub menu, click **More services**, and then click the star beside **Storage accounts**.

#### Task 3: Use the account page of the Azure portal

1. In Internet Explorer, in the address bar, type **https://account.windowsazure.com**, and then press Enter.
2. On the **Account** page, click **SIGN IN**.
3. On the Sign in page, type the email address and password you set up for this course, and then click **Sign in**.
4. On the **Account portal** page, click **subscriptions**.
5. On the **subscriptions** page, click the subscription you are using for this course. View the billing summary for your subscription on the page.
6. On the **subscriptions** page, on the right side of the screen, click **Download usage details.**
7. On the **Summary for Azure Pass** page, click **Download Usage**, and then click **Version 1**.
8. In Internet Explorer, when prompted whether to open or save the .csv file, click **Open**.
9. When prompted, **How do you want to open this file?** Click **Notepad** and then click **OK**.
10. View the contents of the file in Notepad. Note that this is intended to simply review its content - typically to analyze it in more details, you would use Microsoft Excel or other program capable of parsing csv files.
11. Close Notepad.
12. On the **Account portal** page, click **Preview features**.
13. On the **Preview features** page, find a preview feature and click **try it now**.
14. In the Add Preview Feature window, click the check mark to approve the preview feature. After the window closes, note the status of the feature ( **You are queued**).

**Result**: After completing this exercise, you will have used the Azure portals.

## Exercise 2: Using the Azure Resource Manager features in the Azure portal

#### Task 1: Create and manage a resource group

1. In Internet Explorer, in the address bar, type **https://portal.azure.com**, and then press Enter.
2. In the Azure portal, click **Resource groups**.
3. On the Resource groups blade, click **Add**.
4. On the Resource groups blade, type the following values, and then click **Create**:

* Resource group name: **TestRG1**
* Subscription: leave as the default
* Resource group location: *your preferred location*

#### Task 2: Create Azure resources

1. On the Azure portal page, click **New**, click **Storage**, and then click **Storage account**.
2. On the Create storage account blade, in the **Name** box, type a unique name for the storage account you are creating. You can use the current date and your initials to create a unique value in the format **storage***MMDDYYYYab.* > **Note:** For example, a student named Ed Meadows might use **storage04252016em**. > All alphabetical characters must be lowercase.
3. In the **Resource Group** section, click the dropdown box, and then click **TestRG1**.
4. In the **Location** list, select the location you have been using for the course, and then click **Create**. Note the progress of the storage account creation on the dashboard. Wait until the creation is complete before moving to the next task.

#### Task 3: Configure tagging

1. In the Azure portal, on the Hub menu, click **Resource groups**.
2. On the Resource groups blade, click **TestRG1**, and then in the TestRG1 blade, click **Tags.**
3. On the Tags blade, in the **Key** box, type **project**, and then in the **Value** box, type **Test.** Click **Save**.
4. On the TestRG1 blade, click **storage***DDMMYYYYab*, and then in the upper-right area of the storage *DDMMYYYYab* pane, click the **Tags** icon.
5. In the Tags pane, in the **Key** box, type **project**. In the **Value** box, type **Test**. Click **Save**.
6. In the Tags pane, click the ellipses ( **...**) next to **project:** **Test**, and then click **Pin to dashboard**.
7. On the Azure portal page, in the upper left, click **Microsoft Azure** to go to the **Dashboard** page.
8. On the **Dashboard** page, click the **project:Test** tile. View the resources associated with this tag.

#### Task 4: Configure RBAC

1. On the Azure portal page, in the upper left, click **Microsoft Azure** to go to the **Dashboard** page.
2. On the **Hub** menu, click **Resource groups**, and then click **TestRG1**.
3. On the TestRG1 blade, click **Access control (IAM)**.
4. On the Users blade, click **Roles**, and then on the Roles pane, click **Storage Account Contributor**.
5. In the Storage Account Contributor blade, click **Add**, and then in the Add users blade, click the user you added earlier in the lab. Click **Select**.
6. Scroll to the Users blade, and then note that the user has been added to the user list as a Storage Account Contributor.

**Result**: After completing this exercise, you will have used the Azure Resource Manager features in the Azure portal.

## Exercise 3: Using Azure PowerShell

#### Task 1: Connect Azure PowerShell to your Azure subscription

1. On MIA-CL1, on the taskbar, click **Start**, type **ISE**, and then click **Windows PowerShell ISE**.
2. In the Windows PowerShell Integrated Scripting Environment (ISE), at the command prompt, type the following command, and then press Enter:

Login-AzureRMAccount

1. In the sign-in windows that appears, sign in to your Azure account.
2. In the Windows PowerShell ISE window, at the command prompt, type the following cmdlet, and then press Enter:

Get-AzureRmSubscription

1. In the Windows PowerShell ISE window, at the command prompt, type the following cmdlet, and then press Enter:

Get-AzureRmResourceProvider

1. View the Azure resource providers, resource types, and the Azure regions where these resources are available.

#### Task 2: Manage Azure services and resource groups

1. In the Windows PowerShell ISE window, open the **D:0101Starter.ps1** file.
2. In the **#Variables** section, modify the **$locName** variable to match the Azure location that your instructor asked you to use.
3. In the **#Variables** section, modify the **$webappName** variable to a unique name by using the current date and your initials in the **TestWebApp***MMDDYYAB* format.
4. Under the line that starts: **#Create a web app**, type the following code.

New-AzureRmWebApp -Name $webappName -ResourceGroupName $rgname -Location $locName

1. Select all of code in the file, including the line you just typed, right-click it, and then click **Run selection**.
2. In the Windows PowerShell ISE window, at the command prompt, type the following command and then press Enter:

Get-AzureRmResource | Where {$\_.ResourceGroupName -eq $rgName}

1. View the list of resources that belong to the TestRG1 resource group.
2. In the Windows PowerShell ISE window, at the command prompt, type the following command and then press Enter:

New-AzureRMResourceGroup -Name $newrgname -location $locname

1. In the Windows PowerShell ISE window, in the script pane, under the line that starts with \*\* #Move the web app\*\*, type the following code, and then press Enter:

$resource = Get-AzureRmResource -ResourceName $webappname -ResourceGroupName $rgname Move-AzureRmResource -DestinationResourceGroupName $newrgname -ResourceId $resource.ResourceId

1. Select the code in step 9, right-click it, and then click **Run Selection**.
2. In the Confirm window, click **Yes**.
3. In the Windows PowerShell ISE window, at the command prompt, type the following code, and then press Enter:

Get-AzureRmResource | Where {$\_.ResourceGroupName -eq $newrgName}

1. View the web app you created earlier, which is now in the TestWebRG resource group.

#### Task 3: Reset the environment

1. Close all open apps without saving any files.
2. On the taskbar, right-click **Windows PowerShell**, and then click **Run as administrator**. In the **User Account Control** dialog box, click **Yes**.
3. Type the following command, and then press Enter:

Reset-Azure

1. When prompted (twice), sign in by using the Microsoft account associated with your Azure subscription.
2. If you have multiple Azure subscriptions, select the one you want the script to target.
3. When prompted for confirmation, type **y**.

**Note:** This script removes Azure services in your subscription. Therefore, we recommend that you use an Azure trial pass that was provisioned specifically for this course and not your own Azure account. The script resets your Azure environment so that it is ready for the next lab. The script removes all storage accounts, virtual machines, virtual networks, cloud services, and resource groups containing these resources.

**Result**: After completing this exercise, you will have used Azure PowerShell to create and manage Azure resources.

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