# Module 1: Introduction to Microsoft Azure

# Lab: Managing Microsoft Azure

### Scenario

A. Datum Corporation wants to expand their cloud presence by taking advantage of the benefits of Azure. Your task is to explore and compare the available IaaS features by using the Azure portal, Windows PowerShell, and Azure CLI.

### Objectives

After completing this lab, you will be able to:

* Use the Azure portals.
* Use Azure Resource Manager features via the Azure portal.
* Use Azure PowerShell.
* Use Azure CLI

### Lab Setup

Estimated Time: 50 minutes

Virtual Machine: **20533E-MIA-CL1**

User Name: **Student**

Password: **Pa55w.rd**

Before starting this lab, ensure that you have performed the "Preparing the Environment" demonstration at the beginning of the first lesson in this module, and that the setup script has completed.

**Note:** The Microsoft Azure portal is continually improved, and the user interface might have been updated since this lab was written. Your instructor will make you aware of any differences between the steps described in the lab and the current Azure portal user interface.

## Exercise 1: Using the Azure portals

### Scenario

A. Datum has asked you to explore the available browser-based Azure portals to assess how the corporation will use them. In the Azure portal, you must observe the organization of resources and customize the interface to make your testing environment more accessible. In the Azure Account Center, you must view and download your current billing data. You must also identify the association between your subscription and an Azure AD tenant.

The main tasks for this exercise are as follows:

1. Use the Azure portal
2. Use the Azure account portal

#### Task 1: Use the Azure portal

1. In Microsoft Edge, browse to the Azure portal.
2. Edit the dashboard by changing the size of the **All resources** tile to **4x6**.
3. Move the **Service health** tile and the **Marketplace** tile such that they remain adjacent but their top edge aligns with the bottom edge of the **Quickstart tutorials** tile.
4. Save the edits.
5. Review the results and reset the dashboard to the default state.

**Note**: This will remove all customizations of your current Dashboard.

1. Add **Tags** to the hub menu.
2. In the Azure portal, navigate to the blade displaying properties of your subscription.
3. On the blade representing your subscrption, in the **Overview** section, note the **Directory** entry, referencing the Azure Active Directory tenant associated with your subscription. In addition, note the **Change directory** entry in the toolbar, which allows you to switch the association to a different tenant.
4. Leave the Microsoft Edge window open.

#### Task 2: Use the Azure account portal

1. Start Microsoft Edge and browse to the Azure account portal.
2. If prompted, sign in by using the Microsoft account that is the Account Administrator of your Azure subscription.
3. On the Account portal page, navigate to the summary page of your Azure subscription and review the billing summary for your subscription.
4. From the summary page, download usage details in Version 2.
5. Open the usage details 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. The file might not include any data at this point if you have not yet deployed any resources into your subscription.
6. Close Notepad.
7. Close the Microsoft Edge window.

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

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

### Scenario

A. Datum has asked you to create some temporary resources in Azure via the Azure portal. You must create a resource group and a resource, and then tag them to indicate that they are part of the lab environment. Finally, you must delegate the contributor permissions to the resource.

The main tasks for this exercise are as follows:

1. Create and manage a resource group
2. Create Azure resources
3. Configure tagging
4. Configure RBAC

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

1. Switch back to the Microsoft Edge window displaying the Azure portal.
2. In the Azure portal, navigate to the Resource groups blade.
3. From the Resource groups blade, add a new resource group with the following settings:

* Resource group name: **20533E0101-LabRG**
* Subscription: the name of your Azure subscription
* Resource group location: the Azure region closest to the lab location

#### Task 2: Create Azure resources

1. In the Azure portal, navigate to the **New** blade.
2. From the **New** blade, create a new route table with the following settings:

* Name: **20533E0101-rt**
* Subscription: the same Azure subscription in which you created the resource group
* Resource group name: **20533E0101-LabRG**
* Location: the same Azure region in which you created the resource group
* BGP route propagation: **Disabled**

#### Task 3: Configure tagging

1. In the Azure portal, assign the tag named **project** with the value **test** to the resource group **20533E0101-LabRG**.
2. In the Azure portal, assign the tag named **project** with the value **test** to the route table **20533E0101-rt**
3. From the hub menu, navigate to the **Tags** blade.
4. View entries with the tag **project : test**.
5. Pin the list of resources with the tag **project : test** to Dashboard.

#### Task 4: Configure RBAC

1. In the Azure portal, navigate to the **20533E0101-LabRG** resource group.
2. From the resource group blade, grant the contributor role to a valid Microsoft account name.

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

## Exercise 3: Using Azure PowerShell

### Scenario

A. Datum has asked you to investigate the capabilities of Azure PowerShell. You must connect to your Azure subscription by using Azure PowerShell, use Azure PowerShell to create a resource group and a resource, and then move the resource to another resource group.

The main tasks for this exercise are as follows:

1. Connect to your Azure subscription by using Azure PowerShell
2. Manage Azure resources and resource groups by using Azure PowerShell

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

1. On MIA-CL1, start Windows PowerShell ISE as Administrator.
2. From the console pane of the Windows PowerShell ISE window, authenticate to Azure Resource Manager endpoint of your Azure subscription.
3. From the console pane of the Windows PowerShell ISE window, review the list of subscriptions associated with the account you used to sign in.
4. From the console pane of the Windows PowerShell ISE window, enumerate Azure resource providers, their registration state, their resource types, and the Azure regions where these resources are available.

#### Task 2: Manage Azure resources and resource groups by using Azure PowerShell

1. In the Windows PowerShell ISE window, open the **F:\Labfiles\Lab01\Starter\Set-20533E0101Lab.ps1** file.
2. In the **# Variables** section, note the values of predefined variables. They need to match the names of resource and the resource group you created in the previous exercise.
3. Under the line that states **# Identify the location of the resource group containing the resource**, type the following:

$locName = (Get-AzureRmResourceGroup -Name $rg1Name).Location

1. Run the resulting script.
2. Under the line that states **# Create a new resource group in the same location**, type the following:

$rg2 = New-AzureRmResourceGroup -Name $rg2Name -Location $locName

1. Run the newly typed line only.
2. Under the line that states **# Retrieve an object representing the resource and store it in a variable**, type the following:

$res = Get-AzureRmResource -ResourceName $resName -ResourceGroupName $rg1Name

1. Run the newly typed line only.
2. Under the line that states **# Move the resource to the new resource group**, type the following:

Move-AzureRmResource -DestinationResourceGroupName $rg2Name -ResourceId $res.ResourceId

1. Use the resulting script to move the resource represented by the $res variable to the resource group represented by the variable $g2.
2. Under the line that states **# View resources in the new resource group**, type the following:

Get-AzureRmResource | Where-Object ResourceGroupName -eq $rg2Name

1. Run the newly typed line.

**Result**: After completing this exercise, you should have used Azure PowerShell to manage Azure resources and resource groups.

## Exercise 4: Using Azure CLI

### Scenario

A. Datum has asked you to investigate the capabilities of Azure CLI. You must connect to your Azure subscription by using Azure CLI. Then you must use Azure CLI to create a resource group and a resource, and move the resource to another resource group.

The main tasks for this exercise are as follows:

1. Connect to your Azure subscription by using Azure CLI
2. Manage Azure resources and resource groups by using Azure CLI
3. Remove the lab environment

#### Task 1: Connect to your Azure subscription by using Azure CLI

1. On MIA-CL1, start **Command Prompt** as Administrator
2. From **Administrator: Command Prompt**, use Azure CLI 2.0 to sign in to your Azure subscription.
3. From **Administrator: Command Prompt**, use Azure CLI 2.0 to display properties of the Azure subscription associated with the account you used to sign in. Take note of the value of the **id** parameter, representing your Azure subscription ID. You will need it in the next task.
4. From **Administrator: Command Prompt**, use Azure CLI 2.0 to list Azure resource providers, their registration state, and their resource types.

#### Task 2: Manage Azure resources and resource groups by using Azure CLI

1. From **Administrator: Command Prompt**, use Azure CLI 2.0 to display properties of the resource group **20533E0101-LabRG**.
2. From **Administrator: Command Prompt**, use Azure CLI 2.0 to list resources in the resource group **20533E0102-LabRG**.
3. In the list of resources, note the value of the **id** property of the **20533E0101-rt**.
4. From **Administrator: Command Prompt**, use Azure CLI 2.0 to move the **20533E0101-rt** resource from the resource group **20533E0102-LabRG** to the resource group **20533E0101-LabRG**.
5. From **Administrator: Command Prompt**, use Azure CLI 2.0 to list resources in the resource group **20533E0101-LabRG**

#### Task 3: Remove the lab environment

1. On MIA-CL1, close all open windows without saving any files.
2. Start **Windows PowerShell** as Administrator and, from the **Administrator: Windows PowerShell** window, run **Remove-20533EEnvironment**.
3. When prompted, sign in by using the Microsoft account that is the Service Administrator of your Azure subscription.
4. If you have multiple Azure subscriptions, select the one you want the script to target.
5. If prompted, specify the current lab number.
6. When prompted for confirmation, type **y**.
7. Start Microsoft Edge, browse to the Azure portal, and sign in by using the Microsoft account that is the Service Administrator of your Azure subscription.
8. In the Azure portal, reset the dashboard to the default state.
9. Close all open windows.

**Result**: After completing this exercise, you should have used Azure CLI to manage Azure resources and resource groups.

**Question** Why did you use Azure PowerShell cmdlets that contained **Rm** in the lab?

©2016 Microsoft Corporation. All rights reserved.

The text in this document is available under the [Creative Commons Attribution 3.0 License](https://creativecommons.org/licenses/by/3.0/legalcode), additional terms may apply. All other content contained in this document (including, without limitation, trademarks, logos, images, etc.) are **not** included within the Creative Commons license grant. This document does not provide you with any legal rights to any intellectual property in any Microsoft product. You may copy and use this document for your internal, reference purposes.

This document is provided "as-is." Information and views expressed in this document, including URL and other Internet Web site references, may change without notice. You bear the risk of using it. Some examples are for illustration only and are fictitious. No real association is intended or inferred. Microsoft makes no warranties, express or implied, with respect to the information provided here.