# Lab Answer Key: Module 5: Implementing Azure App Service

# Lab: Implementing web apps

## Exercise 1: Creating web apps

#### Task 1: Create a web app

1. Ensure that the MSL-TMG1 and 20533C-MIA-CL1 virtual machines are running, and then sign in to 20533C-MIA-CL1 as **Student** with the password **Pa$$w0rd**.
2. Open Internet Explorer, browse to **http://portal.azure.com**, and then sign in using a Microsoft account that is either the Service Admin or co-admin of your subscription.
3. In the top-left corner of the portal, click **New**, and then click **Web+Mobile**.
4. In the Web+Mobile blade, click **Web App**.
5. In the Web App blade, in the \*\* App\*\* **name** text box, type a unique name. If the name is unique and valid, a green check mark appears.
6. In the **Resource Group** section, locate the **Create new** radio button and select it.
7. In the **Resource Group** section, locate the dialog box and enter **AdatumLabWebRG** as the name of the *Resource Group*.
8. In the Web App blade, click the **App Service plan/Location** link.
9. In the App Service plan blade, click **Create New**.
10. In the **App Service plan** text box, type **WebAppStandardPlan**.
11. In the **Location** drop down list, select a location near you.
12. In **Pricing tier**, select **S1 Standard**, and then click **OK**.
13. In the Web App blade, click **Create**. The web-app creation process may take several minutes.

#### Task 2: Add a deployment slot

1. On the left of the Azure portal, click **More services**, and then click **App** **Services**.
2. In the App Services blade, click the web app that you created in the first task.
3. In the Settings blade, scroll down to locate the **App Deployment** section, and then click **Deployment slots**.
4. In the Deployment slots blade, click **Add Slot**.
5. In the Add a slot blade, in the **Name** text box, type **Staging**.
6. In the **Configuration Source** list, select the web app you created in the first task, and then click **OK**. Azure adds the new deployment slot to the list.
7. Close the Deployment slots blade.
8. Open Windows PowerShell by clicking its shortcut in the taskbar.
9. Sign in to the Azure subscription by typing the following command in the Azure PowerShell window, and then pressing Enter:

Login-AzureRMAccount

1. Sign in to the Azure subscription with a Microsoft account that is either the Service Admin or co-admin of your subscription.
2. If you have multiple subscriptions, to select the target one type the following commands at the each followed by pressing Enter:

Get-AzureRmSubscription Set-AzureRmContext -SubscriptionName "Name of your subscription"

1. Type the following PowerShell command, and then press Enter:

Get-AzureRMWebApp

1. Verify that the list of web apps includes the web app that you created in Task 1.
2. Type the following Azure PowerShell command, and then press Enter:

Get-AzureRMWebAppSlot -ResourceGroupName AdatumLabWebRG -name "Name of your WebApp"

1. Verify that the web app is listed the staging slot you created in this task.
2. Keep the Azure PowerShell window open.

#### Task 3: Configure deployment credentials

1. In the Azure portal, in the web app that you created in Task 1, in the Settings blade, scroll down to the **App Deployment** section, and then click **Deployment credentials**.
2. In the Set Deployment credentials blade, in the **FTP/Deployment user name** text box, type **ftpadmin *XXXX* *(* *replace****XXXX* is a unique number).
3. In the **Password** text box, type **Pa$$w0rd**.
4. In the **Confirm password** box, type **Pa$$w0rd**, and then click **Save**.
5. Close the Set deployment credentials blade.

**Result**: After completing this exercise, you should have created a new web app in the Azure portal, and configured the new web app with deployment slots and credentials.

## Exercise 2: Deploying a web app

#### Task 1: Obtain a publishing profile

1. In the Azure portal, in the blade that shows the web app that you created in the exercise 1, in the command bar located on the top of the blade, click **...More** and **Get publish profile**.
2. In the dialog box, click **Save**. Internet Explorer saves the publishing profile in the **Downloads** folder.
3. On the taskbar, click **Visual Studio 2015**.
4. On the **File** menu, click **Open**, and then click **Project/Solution**.
5. Browse to the folder \*\*D:05\*, click **AdatumWebsite.sln**, and then click **Open**.
6. On the **Debug** menu, click **Start Debugging**.
7. Under **A. Datum Corporation**, click **Learn More**.
8. Click **Contact**.
9. Close Internet Explorer.

#### Task 2: Deploy a web app

1. In Visual Studio, on the **Debug** menu, click **Stop Debugging**.
2. In the Solution Explorer, right-click the **AdatumWebsite** project, and then click **Publish**.
3. In the Publish Web Wizard, on the **Profile** page, click **Import**.
4. In the **Import Publish Settings** dialog box, click **Browse**.
5. Browse to the **Downloads** folder.
6. Select the **.PublishSettings** file that you downloaded in Task 1 of this exercise, and then click **Open**.
7. In the **Import Publish Settings** dialog box, click **OK**.
8. On the **Connection** page, click **Validate Connection**. Visual Studio connects to the Azure web app. If the connection is valid, a green tick mark appears.
9. Click **Next**.
10. On the **Settings** page, in the **Configuration** drop-down list, select **Release**.
11. Click **Next**.
12. On the **Preview** page, click **Start Preview**.
13. Examine the list of changes to apply to the web app.
14. Click **Publish**. > **Note:** The publish operation may take approximately two to three minutes. When the operation is complete, Microsoft Edge opens and displays the new web app hosted in Azure.
15. Verify that A. Datum's web app is open in Microsoft Edge, and then verify the web app's current address.
16. Close the **Home Page** tab.
17. Close Visual Studio.

**Result**: After completing this exercise, you should have a deployed a web app hosted in Azure that you can open with any common web browser.

## Exercise 3: Managing web apps

#### Task 1: Deploy a web app for staging

1. In Internet Explorer, in the Azure portal, navigate to the web app you created in Exercise 1, Task 1.
2. In the Settings blade, scroll down to the **App Deployment** section, and then click **Deployment Slots**.
3. In the Deployment slots blade, click the staging slot ***yourwebapp*-staging** that was created in Exercise 1, Task 2.
4. In the *yourwebapp*(Staging) blade from the command bar located on the top section of the blade, click **Get publish profile**.
5. In the dialog box, click **Save**.
6. On the taskbar, click **Visual Studio 2015**.
7. On the **File** menu, click **Open**, and then click **Project/Solution**.
8. Browse to the folder \*\*D:05\*.
9. Click **AdatumWebsite.sln**, and then click **Open**.
10. In Solution Explorer, right-click the **AdatumWebsite** project, and then click **Publish**.
11. In the Publish Web Wizard, on the **Profile** page, click **Import**.
12. In the **Import Publish Settings** dialog box, click **Browse**.
13. In the **Downloads** folder, select the ***YourWebapp*(Staging).PublishSettings** file, and then click **Open**.
14. In the **Import Publish Settings** dialog box, click **OK**.
15. On the **Connection** page, click **Validate Connection**.
16. If the connection details are correct, a green tick mark appears.
17. Click **Next**.
18. In the **Configuration** drop-down list, ensure that **Release** is selected, and then click **Next**.
19. On the **Preview** page, click **Start Preview**.
20. Examine the files that are to be published, and then click **Publish**.
21. When the publish operation is complete, Microsoft Edge opens and displays the new web app in the staging slot.
22. Close Microsoft Edge and Visual Studio.

#### Task 2: Swap deployment slots

1. In the Azure portal, click **More services**, and then click **App Services**.
2. In In the App Services blade, click the web app you created in Exercise 1, Task 1.
3. In the *yourwebapp* blade, under the **Essentials** section, click the **URL** link for your web app. Notice the color scheme has not changed.
4. Close the tab that displays the A. Datum web app.
5. In the Azure portal, in the Settings blade, scroll down to the **App Deployment** section, and then click **Deployment slots**.
6. In the Deployment slots blade, on the command bar, click **Swap**.
7. In the Swap blade, in the **Swap type** drop-down list, verify that **Swap** is selected.
8. In the **Source** drop-down list, ensure that **Staging** is selected.
9. In the **Destination** drop-down list, ensure that **production** is selected, and then click **OK**.
10. Wait until swap operation completes.
11. Close all the open blades except *yourwebapp* blade.
12. In the *yourwebapp* blade in Essentials section, click the URL link for your web app. Notice that the color scheme is new.
13. Close the tab that displays the A. Datum's web app.

#### Task 3: Roll back a deployment

1. In the Azure portal, in the *yourwebapp* blade in the command bar at the top, click **Swap**.
2. In the Swap blade, in the **Swap type** drop-down list, verify that **Swap** is selected.
3. In the **Source** drop-down list, select **Staging**.
4. In the **Destination** drop-down list, select **production**, and then click **OK** button.
5. Wait until Swap operation completes.
6. In the *yourwebapp* blade, in **Essentials** section, click the URL link for your web app.
7. Notice that the color scheme is reverted to the old scheme.
8. Close the A. Datum tab in Internet Explorer.

**Result**: After completing this exercise, you should have an updated web app staged and published in Azure.

## Exercise 4: Implementing Traffic Manager

#### Task 1: Deploy a web app to another region

1. Switch to Microsoft Azure PowerShell.
2. At the command prompt, type the following command, and then press Enter:

Get-AzureRMWebApp

Note the name of your original web app and location.

1. Choose an Azure region that is different from the location of the original web app. This will become the *"SecondLocation"*
2. At the command prompt, type the following command to create a new resource group, and then press Enter:

New-AzureRMResourceGroup -Name AdatumLabWebRG2 -Location "SecondLocation"

1. At the command prompt, type the following command to create new App Service Plan, and then press Enter:

New-AzureRMAppServicePlan -Location "SecondLocation" -Tier Standard -Name StandardPlan -ResourceGroupName AdatumLabWebRG2

1. At the command prompt, type the following command to create a new web app, and then press Enter:

New-AzureRMWebApp -ResourceGroupName AdatumLabWebRG2 -Name "WebAppName2" -Location "SecondLocation" -AppServicePlan StandardPLan

*WebAppName2* is the name of your first web app with the number 2 appended, and *SecondLocation*\*\*\*\*is the location you chose in step 4.

1. Switch to the Azure portal in the Internet Explorer window.
2. On the left side of the Azure portal, click **More services**, and then click **App Services**.
3. In the App Services blade, click \*\*\_WebAppName\_2\*\*.
4. In the \_WebAppName\_2 blade, on the command bar located at the top of the blade, click **Get publish profile**.
5. When prompted, click **Save**.
6. On the taskbar, click **Visual Studio 2015**.
7. In the Visual Studio, on the **File** menu, click **Open**, and then click **Project/Solution**.
8. Browse to the folder \*\*D:05\*.
9. Click **AdatumWebsite.sln**, and then click **Open**.
10. In Solution Explorer, right-click the **AdatumWebsite** project, and then click **Publish**.
11. In the Publish Web Wizard, on the left click **Profile**, and then click **Import**.
12. In the **Import Publish Settings** dialog box, click **Browse**.
13. In the **Downloads** folder, select the \*\*\_WebAppName\_2.PublishSettings\*\* file, and then click **Open**.
14. In the **Import Publish Settings** dialog box, click **OK**.
15. On the **Connection** page, click **Validate Connection**.
16. If the connection details are correct, a green tick mark appears.
17. Click **Next**.
18. In the **Configuration** drop-down list, ensure that **Release** is selected, and then click **Next**.
19. On the **Preview** page, click **Start Preview**.
20. Examine the files that will be published, and then click **Publish**.
21. When the publish operation completes, Internet Explorer opens and displays the new web app.
22. Close the **Home Page** tab.
23. Close Visual Studio.

#### Task 2: Create a Traffic Manager profile

1. In Internet Explorer, in the Azure portal, click **New**, and then click **Monitoring + management**.
2. In the Networking blade, click **Traffic Manager profile**.
3. In the Create Traffic Manager profile blade, in the **Name** text box, type a unique name. This will be appended with the suffix **trafficmanager.net**. If the name is unique and valid, a green checkmark appears.
4. In the **Routing Method** drop-down list, select **Performance**.
5. In the **Resource Group** section, locate the **Create new** radio button and select it.
6. In the **Resource Group** section, locate the dialog box and enter **AdatumLabTMRG** as the name of the *Resource Group*.
7. In the **Resource group location** drop-down list box, select the Azure region that is closest to your location, and then click **Create**. Wait until the Traffic Manager profile is created.

#### Task 3: Add endpoints, and configure Traffic Manager

1. In the hub menu on the left side, click **More services**, and then select **Traffic Manager Profiles**.
2. In the Traffic Manager profiles blade, locate and click your previously created profile.
3. In the Settings blade, click **Endpoints**.
4. In the Endpoints blade, click **Add**.
5. In the Add endpoint blade, in the **Type** drop-down list, select **Azure** **endpoint**.
6. In the **Name** text box, type the name of your web app, which you created in Exercise 1.
7. In the **Target resource type** drop-down list of websites, select **App Service**.
8. Click **Choose an app service**.
9. In the Resource blade, select the web app that you created in Exercise 1.
10. Click **OK** to add the endpoint.
11. Repeat steps 4 through 10 to add a second endpoint for the web app that you created in Exercise 4.
12. Close the Endpoints blade.
13. In the Settings blade, click the **Configuration** link.
14. In the Configuration blade, in the **DNS time to live (TTL)** text box, remove the original setting, and then type **30**.
15. On the command bar at the top, click **Save**.
16. Close the Configuration blade, and then close the Settings blade.

#### Task 4: Test Traffic Manager

1. In Internet Explorer, in the Azure portal, in the *Yourname* Traffic Manager blade, click the link under the **DNS name** section.
2. Internet Explorer displays the Adatum web app.
3. On the Start menu, type **cmd**, and then press Enter.
4. Type the following command, and then press Enter:

nslookup dnsname

where *dnsname* is the DNS name of the traffic manager profile that you accessed in step 1.

1. Note the aliases that are returned.
2. In Internet Explorer, switch to the tab that displays the Azure portal.
3. In the *Yourname* **Traffic Manager blade**, click the **All settings** link.
4. In the Settings blade, click the Endpoints link.
5. In the Endpoints blade, in the list of endpoints, select the web app that you created in Exercise 1.
6. In the *YourWebApp* blade, click **Edit.** Under **Status**, click **Disabled**, and then click **Save**.
7. Switch to the command prompt, type the following command, and then press Enter:

nslookup dnsname

Please note *dnsname* is the DNS name that you used in step 4.

1. Note that the aliases that return are different from those returned in step 4.

**Note:** If the aliases are not changed, at the command prompt, reissue the **nslookup** commands until there is a change.

#### Task 5: Reset the Azure environment

1. Close all open applications 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 may remove 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 will take approximately two or three minutes to reset your Azure environment, so that you are ready for the next lab. The script removes all storage, virtual machines, virtual networks, cloud services, and resource groups. **Important:** The script may not have exclusive access to a storage account so that it can delete it. If this occurs, you will see an error. If you find objects remaining after the reset script is complete, you can rerun the **Reset-Azure** script, or use the Azure portal to delete all objects in your Azure subscription manually, with the exception of the default directory. Do not delete it.

**Result**: After completing this exercise, you should have a web app set up in two Azure regions and Traffic Manager configured to distribute requests between them.

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