# Lab Answer Key:  Module 6: Resource Manager

## Lab 2: Using the Azure Command Line Tools

You must have the following to complete this lab: - A reliable Internet connection - An active Microsoft Azure subscription - Completed Module 6, lab 1 with the virtual machine VM1 still present - Azure CLI installed on your lab computer. Follow instructions provided in https://docs.microsoft.com/en-us/azure/xplat-cli-install. - Azure PowerShell installed on lab computer. Follow instructions provided in https://docs.microsoft.com/en-us/powershell/azureps-cmdlets-docs/.

Estimated time for completion: 30 Minutes

### Exercise 1: Becoming Familiar with the Azure CLI

The tasks for this exercise are as follows: 1. Connect to your Azure subscription 2. Enumerate resource groups and resources in a resource group 3. Enumerate virtual machines 4. Stop and start a virtual machine

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

To complete this lab, you will need to connect to virtual machine LABVM.

1. Open the Command Prompt window from **Start->Run** (Windows+R)
2. At the command prompt type azure login

If you get prompted to enable data collection, type n.

1. You will be presented with a message that includes the following (although your code may be slightly different):

info: Executing command login  
-info: To sign in, use a web browser to open the page https://aka.ms/devicelogin. Enter the code XXXXXXXXX

1. Start Internet Explorer and browse to **https://aka.ms/devicelogin**
2. In the Internet Explorer window, on the **Device Login** page, type the code displayed within the command prompt window, and click **Continue**
3. In the Internet Explorer window, on the **Microsoft Azure** page, sign-in with the user name and the password of the Microsoft account that is either the Service Administrator or Co-Administrator of your Azure Subscription.
4. Internet Explorer should redirect you to the **Microsoft Azure Cross-platform Command Line Interface** page, confirming that you have signed in to the Microsoft Azure Cross-platform Command Line Interface application on your device. Close the Internet Explorer window and switch back to the Command Prompt window.
5. Because the Azure Resource Manager mode is not enabled by default, execute azure config mode arm to enable Azure CLI Resource Manager commands.
6. List the subscriptions associated with your account by running azure account list
7. If you have more than one subscription, set the current subscription by running from the command prompt azure account set ‘your\_subscription\_name’

#### Task 2: Enumerate resource groups and resources within a resource group

1. Execute azure group list to get the listing of all resource groups in the subscription.
2. Excecute azure group show ARMTemplatesVMRG to list the resources in the resource group ARMTemplatesVMRG, execute the below command.

#### Task 3: Enumerate virtual machines

1. List all virtual machines by executing azure vm list
2. To list all virtual machines in a specific resource group, run azure vm list ARMTemplatesVMRG

#### Task 4: Stop and start a virtual machine

1. Stop the virtual machine created earlier in this course by running azure vm stop ARMTemplatesVMRG VM1

Note: if your resource group or machine name was different you will need to specify those values here

1. This will stop the virtual machine but you will still be responsible for its compute charges. To deallocate the VM and stop it from incurring compute costs you will have to deallocate it by running azure vm deallocate ARMTemplatesVMRG VM1
2. Start the virtual machine back up by running azure vm start ARMTemplatesVMRG VM1

#### Exercise 2: Becoming Familiar with Azure PowerShell Cmdlets

The main tasks for this exercise are as follows: 1. Connect to your Azure subscription 2. Enumerate resource groups and resources in a resource group 3. Enumerate virtual machines 4. Start and stop a virtual machine 5. Reset the lab environment (optional)

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

1. Similar to the Azure CLI, the PowerShell cmdlets need access to your subscription so they can manage your services. On the lab virtual machine, right-click the PowerShell icon to launch PowerShell and select Run as Administrator.
2. The PowerShell console should appear.
3. Execute Login-AzureRmAccount to login using Azure Resource Manager. Provide authentication details in the pop-up window to authenticate to your Azure subscription within the Windows PowerShell session.

If prompted to enable data collection, type n.

1. If your account is associated with multiple Azure subscriptions, select the one you want to work by running Select-AzureRmSubscription –SubscriptionId <Subscription ID>

Note: At this point, all commands that you execute will run against this one particular selected subscription.

#### Task 2: Enumerating Resource Groups and Resources in a Resource Group

1. To enumerate all the Resource Groups, run Get-AzureRmResourceGroup
2. To enumerate all the resources in a subscription, run Get-AzureRmResource | more

#### Task 3: Enumerating Virtual Machines

1. List all virtual machines by executing Get-AzureRmVM
2. To enumerate virtual machines in a specific resource group (ARMTemplatesVMRG in this case), run Get-AzureRmVM –ResourceGroupName ARMTemplatesVMRG

#### Task 4: Starting and Stopping a Virtual Machine

1. Run Stop-AzureRmVM –ResourceGroupName ARMTemplatesVMRG -Name VM1 -Force to stop a VM (with PowerShell this automatically deallocates the virtual machine).
2. To start a VM. run Start-AzuareRmVM –ResourceGroupName ARMTemplatesVMRG -Name VM1

Results: In this lab you have learned how to install Azure CLI and PowerShell SDK, connect to Azure subscription using the respective shells and execute various commands using CLI and PowerShell.

#### Task 5: Reset the lab environment (optional)

Note: To minimize charges associated with running the lab environment, you should consider removing its resources. This is the purpose of this task.

Note: If you want to keep your lab environment in place, then you might want to consider stopping all virtual machines. This will eliminate compute charges associated with keeping these virtual machines online. To ensure that these charges do not accrue, stop the virtual machines from the Azure portal and ensure that they are listed on the Virtual machines blade with the Stopped (deallocated) state (rather than Stopped).

1. In the Azure portal, in the hub menu, click **Resource groups**
2. On the Resource groups blade, click **ARMTemplatesVMRG**
3. On the **ARMTemplatesVMRG** blade, click **Delete**
4. On the **Are you sure you want to delete "ARMTemplatesVMRG?** blade, type **ARMTemplatesVMRG** in the **TYPE THE RESOURCE GROUP NAME** text box, and click **Delete**
5. Wait until the resource group gets deleted.
6. On the Resource groups blade, click **ARMTemplatesVNetRG**
7. On the **ARMTemplatesVNetRG** blade, click **Delete**
8. On the **Are you sure you want to delete "ARMTemplatesVNetRG"?** blade, type **ARMTemplatesVNetRG** in the **TYPE THE RESOURCE GROUP NAME** text box, and click **Delete**