# Lab Answer Key: Module 11: Implementing Azure-based management and automation

# Lab: Implementing Automation

## Exercise 1: Configuring Automation accounts

#### Task 1: Create an Automation account

1. Ensure that you are signed in to MIA-CL1 as **Student** with the password **Pa55w.rd**, and that the **Add-20533EEnvironment** script successfully completed. The script creates two Azure VMs in your subscription and leaves them in the running state. You will use an Azure Automation runbook to stop them.
2. Start Microsoft Edge and browse to [**https://portal.azure.com**](https://portal.azure.com). When prompted, sign in by using the Microsoft account that is the Service Administrator of your Azure subscription.
3. Note the user name entry in the upper right corner of the Azure portal and ensure that you are signed on to the correct Azure Active Direcory tenant. If not, click the **Directory + subscription** filter icon appearing directly to the left of your name in the upper right corner of the Azure portal and, in the **Directory + Subscription** pane, click the name of the Azure Active Directory tenant associated with the Azure subscription that you chose when running the provisioning script at the beginning of this module.
4. In the hub menu of the Azure portal, click **All services** and then, in the service menu, click **Virtual machines**. On the **Virtual machines** blade, note **20533E1101-vm0** and **20533E1101-vm1** virtual machines with the running status.
5. In the hub menu, click **+ Create resource**, and then click **Management Tools**.
6. Click **Automation**.
7. On the Add Automation Account blade, specify the following and click **Create**:

* Name: **AutomationAccount-20533E11**
* Subscription: the name of your Azure subscription
* Resource group: ensure that the **Create new** option is selected and type **20533E1102-LabRG** in the text box
* Location: the same Azure region that you chose when running **Add-20533EEnvironment** script at the beginning of this module or, if not available, another region close to it
* Create Azure Run As account: **Yes**

1. Wait for the Automation account to be provisioned. This should take less than a minute.

#### Task 2: Create and review Automation assets

1. In the Azure portal, in the Hub menu, click **All services**, and then click **Automation Accounts**.
2. On the Automation Accounts blade, click **AutomationAccount-20533E11**.
3. On the AutomationAccount-20533E11 blade, in the **SHARED RESOURCES** section, click **Variables**.
4. Click **Add a variable**.
5. On the **New Variable** blade, specify the following and click **Create**:

* Name: **VM0**
* Description: **the first VM**
* Type: **String**
* Value: **20533E1101-vm0**
* Encrypted: **No**

1. Repeat the steps 4 and 5 to create additional two non-encrypted string variables. For each variable, specify the following name, description and value::

* Name: **VM1**
* Description: **the second VM**
* Value: **20533E1101-vm1**
* Name: **ResourceGroup**
* Description: **VM resource group**
* Value: **20533E1101-LabRG**

1. On the AutomationAccount-20533E11 blade, on the SHARED RESOURCES section, click **Schedules**.
2. Click **Add a schedule**.
3. On the **New Schedule** blade, specify the following and click **Create**:

* Name: **EndOfDay**
* Description: **End of day**
* Starts: tomorrow's date at **6:00:00 PM** with the time zone of the Azure region containing the Automation account
* Recurrence: **Recurring**
* Recur every: **1 Day**
* Set expiration: **No**

1. On the AutomationAccount-20533E11 blade, on the SHARED RESOURCES section, click **Connections**.
2. Note two precreated connections **AzureClassicRunAsConnection** and **AzureRunAsConnection**. They were created automatically during provisioning of the Automation account since you selected the option to create the Azure Run As account.

**Result**: After completing this exercise, you should have configured a new Microsoft Azure Automation account and created Automation assets.

## Exercise 2: Creating and executing runbooks

#### Task 1: Import a runbook

1. In the Azure portal, on the AutomationAccount-20533E11 blade, in the **PROCESS AUTOMATION** section, click **Runbooks**.
2. Click **Add a runbook**.
3. On the **Add Runbook** blade, click **Import an existing runbook**.
4. On the **Import** blade, specify the following and click **Create**:

* Runbook file: **F:\Labfiles\Lab11\Starter\Stop-20533E1101VMs.ps1**
* Runbook type: **PowerShell Workflow**
* Name: **Stop-AzureVMs-Workflow**
* Description: **Stop Azure VMs in parallel**

1. On the Runbooks blade, click **Stop-AzureVMs-Workflow**
2. On the Stop-AzureVMs-Workflow blade, click **Edit**.
3. On the Edit PowerShell Workflow Runbook blade, review the content of the PowerShell workflow.

#### Task 2: Publish and execute a runbook

1. On the Edit PowerShell Workflow Runbook blade, click **Publish**.
2. When prompted to confirm, click **Yes**. You will be automatically redirected to the **Stop-AzureVMs-Workflow** blade.
3. Click **Start**.
4. When prompted to confirm, click **Yes**. You will be automatically redirected to a blade displaying the current job, which name consists of the combination of the runbook name and timestamp of its invocation.
5. Click the **Output** tile.
6. Monitor the runbook execution. Wait until the job completes.
7. In the hub menu of the Azure portal, click **Virtual machines**. On the **Virtual machines** blade, note that the status of **20533E1101-vm0** and **20533E1101-vm1** virtual machines has changed to Stopped.

#### Task 3: Remove the lab environment

1. On MIA-CL1, close all open windows without saving any files.
2. On the taskbar, right-click the **Windows PowerShell** icon, and then click **Run as Administrator**. In the User Account Control dialog box, click **Yes**.
3. Type the following command, and then press **Enter**:

Remove-20533EEnvironment

1. When prompted, sign in by using the Microsoft account that is the Service Administrator of your Azure subscription.
2. If you have multiple Azure subscriptions, select the one you want the script to target.
3. If prompted, specify the current lab number.
4. When prompted for confirmation, type **y**.
5. Start Microsoft Edge, browse to the Azure portal at [**https://portal.azure.com**](https://portal.azure.com), and sign in by using the Microsoft account that is the Service Administrator of your Azure subscription.
6. In the Azure portal, on Dashboard, click **Edit**.
7. Right-click unoccupied area of the dashboard and, in the right-click menu, click **Reset to default state**. When prompted to confirm, click **Yes**.
8. Click **Done customizing**.
9. Close all open windows.

**Result**: After completing this exercise, you should have imported, published, and executed a PowerShell workflow-based runbook that deploys two virtual machines in parallel.

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