**Azure Lab 4 – Runbook Automation**

**Description:**  I see this as being able to run PowerShell scripts, on Schedule thru Azure. Here we are going to do something very useful for cost conscious people. To be able to shut down your VM’s for the night and turn them back on during the day. Thereby not needing to pay for compute charges when you don’t need to.

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| Create Active Directory Runbook Service Account | |
| This will be the account that the Runbook will run under | 1. Open the Classic Portal at manage.windowsazure.com. 2. In the left menu choose **Active Directory**. 3. Click on **Default Directory**. 4. Click on **USERS** in the upper menu. 5. Click on the **Add a user** link under Quick tasks. 6. Give them a username (WSUGAuto@....) Take note of the information after the @ sign. You will need that to sign this user on.   USERNAME / EMAIL Address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Enter whatever make sense to you for first name, last name and display name. and Click the **Right arrow** button. 2. Click the Green **Create** button. 3. It will create the user with a random password and display this password. Copy this to notepad. You will need it to logon as this user.   TEMP PASSWORD \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Click on the **Checkbox** in the lower right corner of the add user window. |
| Add as Co-Administrator on the subscription in the classic portal. | 1. Click on the **Gear** at the very bottom of the left menu. 2. Click on your subscription (mine is BIZSPARK) 3. Click **Administrators** on the upper Settings menu 4. Click the **add** button on the bottom menu 5. Enter the Email Address from the upper section, check your subscription. 6. Click on the **Checkbox** in the lower right corner 7. Close the classic portal |
| Logon as user and change password. | 1. Open the Resource Manager Portal at portal.azure.com 2. Click on **Use another account** and use the username and password from the above section 3. Change the password and click **Update password** and sign in. 4. Sign out of the Portal |

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| PowerShell |
| # Install the AzureAD module  install-module AzureAD  import-module AzureAD  # This command uses the AzureRM module.  # you'll need to make note of the ID property  Get-AzureRmTenant  # connect to AzureAD, but specifically the tenantID which is the  # ID from the Get-AzureRMTenant cmdlet call above.  connect-azuread -tenantId <tenantID>  # Create password profile  $passwordProfile = @{  password = 'Password!101'  forceChangePasswordNextLogin = $true  }  # Create the user  $AutoUser = New-AzureADUser -AccountEnabled $true `  -DisplayName 'WSUG Autops' `  -UserPrincipalName 'WSUGAutops@azure1itproboston.onmicrosoft.com' `  -GivenName 'WSUG' `  -Surname 'Auto' `  -mailNickname 'WSUGAuto' `  -passwordProfile $passwordProfile  # Get the admin Roll in Azure AD  $AdminRoll = Get-AzureADDirectoryRole |Where-Object {`  $\_.DisplayName -eq 'Company Administrator'}  # Add the new user to the Azure AD Admin Roll  Add-AzureADDirectoryRoleMember -ObjectId $AdminRoll.ObjectId `  -RefObjectId $AutoUser.objectId  # Now, log on as the user and change the password as documented above. |

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| Assign owner role | |
| Add as Owner on the subscription in the Resource Manager portal.  Note: feels like we are doubling down on permissions here. | 1. Open the Resource Manager Portal at portal.azure.com 2. Logon with your Azure Administrative Account 3. Click on the **Subscriptions** journey in the Navigation Menu 4. Choose your subscription and click **Settings** on the upper menu of the Subscription blade. 5. When the Settings blade appears, Expand the Users blade from the right menu. 6. Click **add** on the Users blade upper menu. 7. For Select a role, choose **owner** 8. For Add users, highlight the user you created, and click **select.** 9. On the Add Access blade, click on the **OK** button. 10. Close blades until you get back to your dashboard. |

***New-AzureRmRoleAssignment -SignInName ‘wsugAuto@...’ -RoleDefinitionName "owner" -ResourceGroupName “WSUG-RG”***

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| PowerShell |
| New-AzureRmRoleAssignment -SignInName ‘wsugAuto@...’ `  -RoleDefinitionName "owner" -ResourceGroupName “WSUG-RG” |

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| Create an Automation account | |
| I think -AM stands for AutoMation ☺ | 1. Click on the **Resource Groups** journey in the Navigation Menu 2. Click on the appropriate Resource Group. (WSUG) 3. Click **Add** on the upper menu. 4. In the marketplace choose or search and select Automation. 5. On the Automation blade click the **Create** button. 6. On the Add Automation Account blade, give the account a Name (WSUG-AM) and click the **Create** button. 7. Close blades back to your dashboard. |

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| PowerShell |
| New-AzureRmAutomationAccount -ResourceGroupName “WSUG-RG” `  -Name “WSUG-AM” -Location "East US2" |

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| Create a schedule | |
|  | 1. Click on the **Resource Groups** journey in the Navigation Menu 2. Click on the appropriate Resource Group. (WSUG) 3. Click on the Automation Created above (WSUG-AM) 4. Click on the **ASSETS** part. 5. On the Assets blade, Click on the **Schedules** part. 6. On the Schedules blade, Click **Add a Schedule**. 7. On the New Schedule blade enter **Hourly** for the Name, and then click on **Recurring** toggle. Leave it to recur every 1 hour and click the **Create** button. 8. Close the Schedules blade. 9. Close the Assets blade. |

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| PowerShell |
| New-AzureRmAutomationSchedule -AutomationAccountName “WSUG-AM"  -HourInterval 1 `  -Name Hourly `  -ResourceGroupName “WSUG-RG” `  -StartTime 23:40 |

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| Import Automation Runbook | |
|  | 1. Click on the **Resource Groups** journey in the Navigation Menu. 2. Click on the appropriate Resource Group. (WSUG). 3. Click on your new runbook (WSUG-AM) 4. This expands the Automation Account blade. (which is kind of busy) 5. Click on the **runbooks** “part” 6. On the Runbooks blade, Click **Browse Gallery** on the upper menu, choose or search and choose “Scheduled Virtual machine shutdown/start”. This was created by Automys      1. When the script’s blade opens, click the **import** button in the upper menu. 2. On the Import blade click the **OK** button 3. Close the Settings blade. 4. On the “Assert-AutoShutdownSchedule” blade, Click the **Edit** button from the upper menu. 5. On the Edit PowerShell Runbook blade, view the PowerShell script and then click the **Publish** button on the upper menu. 6. Click on the **Yes** button to publish this version. |

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| PowerShell |
| Import-AzureRmAutomationRunbook -AutomationAccountName “WSUG-AM” `  -Path "C:\dev\runbooks\Assert-AutoShutdownSchedule.ps1" `  # you would have needed to download this from the gallery  -ResourceGroupName “WSUG-RG” `  -Type PowerShell `  -Published |

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| Connect the runbook to the schedule | |
|  | 1. From the “Assert-AutoShutdownSchedule” blade, Click on the Schedules part. 2. Click on the **Add** a schedule button. 3. Click on **“link a schedule to your runbook”** 4. Choose the schedule created earlier (Hourly) 5. Click **ok** 6. Close blades until you return to Assets blade. |

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| PowerShell |
| Register-AzureRmAutomationScheduledRunbook `  -AutomationAccountName “WSUG-AM" `  -ResourceGroupName “WSUG-RG” `  -RunbookName Assert-AutoShutdownSchedule `  -ScheduleName Hourly |

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| Create a variable for the Azure subscription. | |
|  | 1. From the Automation Account’s Assets page. Click on **Variables**. 2. Click on **Add a Variable**. 3. Enter “**Default Azure Subscription**” for the Name of the Variable. 4. Enter “**BizSpark**” for the Value of the Variable. (your value might be different) 5. Click on **Create.** |

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| PowerShell |
| New-AzureRmAutomationVariable -AutomationAccountName “WSUG-AM” `  -Encrypted $false `  -Name "Default Azure Subscription" `  -ResourceGroupName “WSUG-RG” `  -Value “Bizspark” |

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| Create an | |
| Capitalization counts with password AND username | 1. From the Automation Account’s Assets page 2. Click on Credentials 3. Enter “Default Automation Credential” into the Name Field 4. Enter Username and password that you created earlier… this MUST match in capitalization*.* |

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| PowerShell |
| # This MUST match the capitalization in AD  $AutomationOwner = “WSUGAuto@.....onmicrosoft.com"  $AutomationOwnerFile = "C:\dev\WSUGOwner.txt"  $AutomationOwnerPassword = Get-Content $AutomationOwnerFile | ConvertTo-SecureString `  -AsPlainText -Force  $AutomationCredential=New-Object -TypeName System.Management.Automation.PSCredential `  -ArgumentList $AutomationOwner, $AutomationOwnerPassword  New-AzureRmAutomationCredential -AutomationAccountName “WSUG-AM" `  -Name "Default Automation Credential" `  -ResourceGroupName “WSUG-RG” `  -Value $AutomationCredential |

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| Testing the script | |
|  | 1. From your Automation Account blade (WSUG-AM) 2. Click on **Runbooks** part. 3. Click on **Assert-AutoShutdownSchedule** runbook. 4. Click on the **Edit** button on the upper menu. 5. Click on the **test pane** button on the upper menu. (I have seen issues if you click the test pane button too quickly) 6. Click on **start** 7. Will show you the output of the script. |

