Automate Something in Azure

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## Restore a VM From Snapshot (VirtualBox)

This portion of the lab takes place in a VirtualBox environment. Because I use this VM regularly, there are several snapshots I can use to restore it.

Graphical user interface

Description automatically generated with low confidence

Here is a screenshot of the VM’s current state (Snapshot 5). This is important because certain features of the server will change when I restore a different snapshot.

Graphical user interface, website

Description automatically generated

This screenshot is also of the VM’s current state, but with the Tools menu open. I screenshotted this to point out differences between the Current State and VM’s restored snapshot state.

Graphical user interface

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Screenshots of the restore process:Graphical user interface, text, application

Description automatically generatedA picture containing diagram

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Here is a screenshot of Snapshot 1 – Before Configuration, the snapshot I chose to restore the VM from. The number of tools available is very different than Snapshot 5’s VM. This is because Snapshot 5 is the latest snapshot, containing all the configuration settings and various roles I added whilst doing assignments.

Graphical user interface, website

Description automatically generated

## Deploy a VM From Template

This is the next portion of the lab where I create a Template through Azure and deploy a VM from it.

Since I’ve never done this before, I’m starting from scratch! First, I need to create a storage account. Below are screenshots of that process.

Graphical user interface, application, Teams

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Graphical user interface, text, application

Description automatically generated

Next, I need to fill out the “Basics” of my new storage account. Screenshots of this process follow.

Graphical user interface, text, application, email

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This is the unique name (resource group) I chose for my storage account:

Text

Description automatically generated with medium confidence

I left the default settings alone and clicked Review + create. After waiting for validation to pass, I clicked Download a template for automation.

Graphical user interface, text, application, email

Description automatically generated



Settings for the new storage account:

Graphical user interface

Description automatically generated Graphical user interface, text

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Here is the template I downloaded. It’s long so I only screenshotted a part of it. The final steps for this portion of the lab include downloading the template to my computer, editing it, and deploying it for automation.

**Graphical user interface

Description automatically generated with medium confidence**

### Editing and Deploying the Template

Before editing, I successfully downloaded and saved the template to my computer. These are the screenshots from that process:



Graphical user interface, text, application, website

Description automatically generated

I also wrote down values from the Parameters tab for later. Here they are:

Graphical user interface, application, Word

Description automatically generatedText

Description automatically generated with low confidenceA picture containing text

Description automatically generated

Now for the editing process. **Deploy a custom template** will be used to edit the template’s code.

A picture containing graphical user interface

Description automatically generated

**Build your own template in the editor** allows me to load the .json file (my template) into the editor for manipulation.

Graphical user interface, text, application

Description automatically generated

Here is a partial screenshot of my template in the editor.

Graphical user interface, text, application, email

Description automatically generated

Only three changes need to be made to the code: removing the storageAccountName line, adding the storageAccountName variable, and updating the name variable to storageAccountName.

Screenshots of those edits (before: top, after: bottom):

Edit #1: removing the storageAccountName parameter.

Text

Description automatically generated

Graphical user interface, text

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Edit #2: creating the storageAccountName variable.

Text

Description automatically generated

A picture containing text

Description automatically generated

Edit #3: update the name element of the storageAccounts resource to the name of the variable in Edit #2.

Graphical user interface, text

Description automatically generated

Text

Description automatically generated

The point of these edits was to change storageAccountName from a parameter to a variable. I believe this was done because parameters are normally constants while variables can change. Change is important here because file names can change and will not always remain constant.

Once the edits were made, I saved the template. Here are the Instance details I defined for the template:

Graphical user interface, application

Description automatically generated

These Instances were filled out using the values from the Parameter tab.

A screenshot of a computer

Description automatically generated with low confidence

After Instances were filled out, I clicked **Review + create**, waited for validation to complete, clicked **Create**, and waited for Deployment.

Deployment was successful!

Graphical user interface, text, application, chat or text message

Description automatically generated

This is the storage account within the resource group I created (its name was generated, not given by me):

Graphical user interface, text, application, email

Description automatically generated

## Create an Azure Pipeline

The final portion of this lab takes place in Azure DevOps. I’ve never used it before, so I had to create a project before continuing with the exercise. I also had to create a GitHub account. Both resources will be used to create a pipeline.

Graphical user interface, text, application

Description automatically generated

After creating those accounts, I ran the template provided in the instructions (Microsoft, 2022).

Graphical user interface, text, application

Description automatically generated

This is the screen that shows after running the template. Let’s go look at the project!

Graphical user interface, text, application, chat or text message, email

Description automatically generated

This is the project page. It is empty because I am the only one working on the project. Take note of the Boards tab as that is where I will be going next.

Graphical user interface, text, application

Description automatically generated

Now it’s time to assign work to myself and start on the project. Here is my board:

Graphical user interface, text, application

Description automatically generated

Next is the pipeline! I had to create one because its my first time making one.

Graphical user interface, text

Description automatically generated

Since my code will be in GitHub, I clicked GitHub on the Connect page.

Graphical user interface, text, application, email

Description automatically generated

The repository is in my newly created GitHub account named 002Strelizia.

Note: before starting this project, I added the Space Game project given in the instructions to my GitHub.

Graphical user interface, text, application

Description automatically generated

Pipeline is through ASP.NET since the code uses .NET Framework.

Graphical user interface, text, application, email

Description automatically generated

A screenshot of my project’s code:

Graphical user interface, text, application

Description automatically generated

And finally, the pipeline has been created. I cannot go any further than this without filing for a free parallelism grant…

Graphical user interface, text, application, email

Description automatically generated

## Extra – Some Fun in GitHub!

Creating a Repository

This is my private GitHub repository named a-new-repository. I added a README file so I can concisely describe my project. If I need to in the future, I will add a license as well, so people know how they can use my code.

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These are the current repositories in my GitHub account. I am going to fidget with the Space Game code in Visual Studio so I can get it to run properly.

A screenshot of a computer screen

Description automatically generated with medium confidence

Opening the Space Game code in Visual Studio:

A screenshot of a computer

Description automatically generated with medium confidence

After some coding I successfully ran Space Game in my web browser! The black box in the screenshot is my Visual Studio code.

Graphical user interface, website

Description automatically generated

Here is the code in a better screenshot. In short, it takes the Space Game file from GitHub and launches it in a browser. Unfortunately, the website is unsecured (HTTP).

Text

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This concludes my lab!

References

Chw-6489. (2021, July 15). *How to resolve "No hosted parallelism has been purchased or granted" in free tier? - Microsoft Q&A*. Developer tools, technical documentation and coding examples | Microsoft Docs. <https://docs.microsoft.com/en-us/answers/questions/477716/how-to-resolve-34no-hosted-parallelism-has-been-pu.html>

Mumian, Alexbuckgit, V-kents, Davidsmatlak, Damabe, & Tfitzmac. (2021, December 13). *Deploy template - Azure Portal - Azure resource manager*. Developer tools, technical documentation and coding examples | Microsoft Docs. <https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/quickstart-create-templates-use-the-portal>

Petchel, T., Microsoft Open Source, Jamcneil, Stijnlegtenberg, & Microsoft GitHub User. (n.d.). *MicrosoftDocs/mslearn-tailspin-spacegame-web: Code used in Microsoft learn modules to support Azure DevOps*. GitHub. <https://github.com/MicrosoftDocs/mslearn-tailspin-spacegame-web>

Steved0x. (n.d.). *Create a build pipeline with Azure Pipelines*. Developer tools, technical documentation and coding examples | Microsoft Docs. <https://docs.microsoft.com/en-us/learn/modules/create-a-build-pipeline/1-introduction>