Provisioning ARM Templates on Azure using Powershell and Github Chat Copilot

A lab/workshop document that teaches how to deploy Azure resources using code for AI development

# Introduction

In this lab, you will learn how to provision Azure resources using Azure Resource Manager (ARM) templates and Powershell. You will also use Github Chat Copilot, an AI-powered coding assistant, to help you write and edit your code. By the end of this lab, you will be able to deploy a web app and a database on Azure using code and AI.

# Prerequisites

To complete this lab, you will need the following:

* An Azure subscription. If you don't have one, you can create a free account undefined.
* A Github account. If you don't have one, you can create one undefined.
* A Github Chat Copilot extension for Visual Studio Code. You can install it from the Visual Studio Marketplace undefined.
* A Visual Studio Code editor. You can download it from undefined.
* A Powershell terminal. You can use the integrated terminal in Visual Studio Code or any other terminal of your choice.

# Steps

Follow these steps to complete the lab:

1. Create a Github repository for your project and clone it to your local machine.
2. Start VS Code and create a new “ARM Deployment” directory and add a “deploy.ps1 to the root
3. Open the CoPilot Chat Extension

A black and white chat bubbles

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Prompt CoPilot:

As a devops developer I need **to** provision an existing resource group with Azure AI Services that will support document intelligence **for** forms processing of pdf documents. I need **to** provision a service **for** sentiment analysis of the document contents, **and** finally, I need **to** translate the findings into Spanish **and** German **for** my affiliates **in** those countries Create an ARM template **to** provision these resources with Powershell. That Powershell script need **to** login into my personal azure account **and** dispatch the ARM template with parameters. Create the procedure **and** scripts

GitHub Copilot: Sure, I can help you create an ARM template and a PowerShell script to provision the resources you need. Here's a step-by-step plan:

1. Create an ARM template that provisions the following resources:

- Azure Cognitive Services for Form Recognizer to process PDF documents

- Azure Cognitive Services for Text Analytics to perform sentiment analysis

- Azure Cognitive Services for Translator Text to translate the findings into Spanish and German

2. Create a PowerShell script that:

- Logs into your Azure account

- Deploys the ARM template with the necessary parameters

Here's the code:

ARM Template (create azuredeploy.json):

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{  
 "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",  
 "contentVersion": "1.0.0.0",  
 "parameters": {  
 "location": {  
 "type": "string",  
 "defaultValue": "[resourceGroup().location]"  
 }  
 },  
 "resources": [  
 {  
 "type": "Microsoft.CognitiveServices/accounts",  
 "apiVersion": "2021-04-30",  
 "name": "formRecognizer",  
 "location": "[parameters('location')]",  
 "kind": "FormRecognizer",  
 "sku": {  
 "name": "F0"  
 }  
 },  
 {  
 "type": "Microsoft.CognitiveServices/accounts",  
 "apiVersion": "2021-04-30",  
 "name": "textAnalytics",  
 "location": "[parameters('location')]",  
 "kind": "TextAnalytics",  
 "sku": {  
 "name": "F0"  
 }  
 },  
 {  
 "type": "Microsoft.CognitiveServices/accounts",  
 "apiVersion": "2021-04-30",  
 "name": "translatorText",  
 "location": "[parameters('location')]",  
 "kind": "TextTranslation",  
 "sku": {  
 "name": "F0"  
 }  
 }  
 ]  
}

PowerShell Script ( create deploy.ps1 ):

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# Login to Azure  
Connect-AzAccount  
  
# Set your subscription  
Set-AzContext -SubscriptionId 'your-subscription-id'  
  
# Set the resource group name and location  
$resourceGroupName = 'your-resource-group-name'  
$location = 'your-location'  
  
# Create the resource group  
**New**-AzResourceGroup -Name $resourceGroupName -Location $location  
  
# Deploy the ARM template  
**New**-AzResourceGroupDeployment -ResourceGroupName $resourceGroupName -TemplateFile './azuredeploy.json'

Replace `'your-subscription-id'`, `'your-resource-group-name'`, and `'your-location'` with your actual Azure subscription ID, resource group name, and location respectively. Run the PowerShell script to deploy the resources.

how **do** i run **this** **in** powershell

GitHub Copilot: To run the PowerShell script, follow these steps:

1. Save the script in a file, let's say `deploy.ps1`.

2. Open PowerShell.

3. Navigate to the directory where you saved the script using the `cd` command. For example, if you saved it in `C:\scripts`, you would type `cd C:\scripts`.

4. Before running the script, you might need to change the execution policy in PowerShell. You can do this by running: `Set-ExecutionPolicy RemoteSigned`. This needs to be done only once on your computer.

5. Now, you can run the script by typing

.\**deploy**.ps1

and pressing Enter.

Please replace `'your-subscription-id'`, `'your-resource-group-name'`, and `'your-location'` in the `deploy.ps1` script with your actual Azure subscription ID, resource group name, and location respectively.

Command Execution will resemble:

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Your Azure Portal will resemble:

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