Python Azure SDK

Getting started with Azure Python SDK and CLI

1. To use Azure SDK for local development we first need to meet few requirements:
   - Have active Azure Account/Subscription
   - Have Python 2.7+ or 3.6+ installed locally
   - Have Azure CLI installed locally (https://docs.microsoft.com/en-us/cli/azure/install-azure-cli)
2. The next step is to connect you Azure CLI to your Microsoft Account.
   - Execute ”az login” command on any local commandline and choose the Azure account you want to use from the browser window.
3. Now that the connection is created, we should make an environment variable to avoid hard coding secrets.
   - Create a new environment variable on your computer:
     - Variable name: **SUBSCRIPTION_ID**
     - Variable value: Log into azure portal and find your subscription id from ”subscriptions”
   - (Now we can reference SUBSCRIPTION_ID from the code without exposing the actual secret)
4. Python libraries need to be installed to local machine before we can run the code. Preferably for each individual python project.
   1. E.g. For managing Resource Groups, we can use azure-mgmt-resource library (**pip3 install azure-mgmt-resource**)

Azure CLI reference: https://docs.microsoft.com/en-us/cli/azure/

Exercises

1. Resource Group
2. Storage
3. ★ Virtual Network
4. ★ Virtual Machine

Documentation to Azure python libraries:
https://docs.microsoft.com/en-us/python/api/overview/azure/?view=azure-python

Tips and samples for exercises:
https://github.com/Azure-Samples/azure-samples-python-management/tree/main/samples

Exercise 1: Resource Group

Complete the exercise using Azure Python SDK

Tip: Use the following code to get the SUBSCRIPTION_ID env variable from your local machine. (See the below link for reference)

```
import os
SUBSCRIPTION_ID = os.environ.get("SUBSCRIPTION_ID", None)
```

1. Create a function to **list** all **resource groups**.
2. Create a function that **creates** a new **resource group**. The function will take resource group name as a parameter.
3. ⭐ Create a function that **get**s a **resource group** by name. The function will take resource group name as a parameter.
4. ⭐ Create a function that **updates** a **resource group** and adds a tag on it. The function will take the tag name and value as parameters.
5. ⭐ Create a function that **deletes** a **resource group**. The function will take resource group name as a parameter.

https://github.com/Azure-Samples/azure-samples-python-management/blob/main/samples/resources/manage_resource.py

Exercise 2: Storage Account

Complete the exercise using Azure Python SDK

1. Create a function that **list** all your **blob containers**.
2. Create a function that **creates** a new **blob container**. The name will be passed to the function as a parameter.
3. Create a function that **saves/uploads** a **file** to blob container. The name of the file is passed to the function as a parameter.
4. Create a function that **downloads** a **file** from blob container. The name of the file is passed to the function as a parameter.
5. Create a function that **deletes** a **file** from blob container. The name of the file is passed to the function as a parameter.
6. ★ Create a function that **deletes** a **blob container**. The name of the blob container is passed to the function as a parameter.

https://github.com/Azure-Samples/azure-samples-python-management/blob/main/samples/storage/manage_blob_container.py
https://docs.microsoft.com/en-us/python/api/overview/azure/storage-index?view=azure-python

★ Exercise 3: Virtual Network

Complete the exercise using Azure Python SDK

1. ★ Create a function that **list** all your **vnets**.
2. ★ Create a function that **creates** a new **vnet**. The name is passed to the function as a parameter.
3. ★ Create a function that **creates** a new **subnet**. The function will take the following parameters: vnetName, subnetName, subnetCIDR
4. ★ Create a function that **deletes** a **subnet**. The name is passed to the function as a parameter.
5. ★ Create a function that **deletes** a **vnet**. The name is passed to the function as a parameter.

https://docs.microsoft.com/en-us/python/api/overview/azure/network?view=azure-python

Exercise 4: Virtual Machine

Complete the exercise using Azure Python SDK

1. Create a function that **list** all your **vms**.
2. Create a function that **creates** a new **vm**. The name is passed to the function as a parameter (maybe other info also).
3. Create a function that **stops** a **vm**. The name is passed to the function as a parameter.
4. Create a function that **starts** a **vm**. The name is passed to the function as a parameter.

https://docs.microsoft.com/en-us/python/api/overview/azure/virtualmachines?view=azure-python


AW
Academy