**CS 487 DATA SECURITY**

**HOP07 – Deploy Resource Group**

1/2/2021 Developed by Mary Oh

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**Before You Start**

* Version numbers may not match with the most current version at the time of writing. If given the option to choose between stable release (long-term support) or most recent, please choose the stable release rather than beta-testing version.
* This tutorial targets Windows users and MacOS users.
* There might be subtle discrepancies along the steps. Please use your best judgement while going through this cookbook style tutorial to complete each step.
* For your working directory, use your course number. This tutorial may use a different course number as an example.
* The directory path shown in screenshots may be different from yours.
* If you are not sure what to do or confused with any steps:
  + Consult the resources listed below.
  + If you cannot solve the problem after a few tries, ask a TA for help.

**Learning Outcomes**

* Learn how to use Visual Studio Code to deploy Resource Group
* Learn how to do subscription-level deployment

**Resources**

* Microsoft Azure - [https://azure.microsoft.com/](https://azure.microsoft.com/en-us/overview/what-is-azure/?&ef_id=Cj0KCQiAlsv_BRDtARIsAHMGVSac9cd8I7htfl0EVYTYDUBxYJ7mEqQ6dB5bRem2ziaBp-j1Di4wui8aAivlEALw_wcB:G:s&OCID=AID2100131_SEM_Cj0KCQiAlsv_BRDtARIsAHMGVSac9cd8I7htfl0EVYTYDUBxYJ7mEqQ6dB5bRem2ziaBp-j1Di4wui8aAivlEALw_wcB:G:s&gclid=Cj0KCQiAlsv_BRDtARIsAHMGVSac9cd8I7htfl0EVYTYDUBxYJ7mEqQ6dB5bRem2ziaBp-j1Di4wui8aAivlEALw_wcB)
* Microsoft Documentation - <https://docs.microsoft.com/>

**What is Azure?**

Azure cloud platform is cloud services designed to help bring new solutions to life. You can build, run, and manage application across multiple clouds, on-premises, and at the edge, with the tools and frameworks of your choice.

**What is Resource Group?**

By now, you should be familiar with what a resource group is. We have been creating one prior to deploying our codes to azure.

A resource group is a container that holds related resources for an Azure solution. This can include all the resources for the solution, or only those resources that you want to manage as a group. You can decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. Generally, add resources that share the same lifecycle to the same resource group so you can easily deploy, update, and delete them as a group.

**Using ARM template**

1. Download the attached json files.
2. Open the json files with Visual Studio Code.
3. Open the integrated Visual Studio Code terminal using ctrl + ` key.
4. Sign in using your Azure account information. This will open up a new window to sign in.

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

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1. On the resourcegroup.parameters.json file, modify the following.

* rgnName – this stands for resource group name. For the past few HOPs, we have been using rgName value arm-vscode. This time, we will change it to something more appropriate for the resources we have been creating, like **“value”: “CityU-CS487-Winter2021”**
* tags – we talked about tags in previous HOP. Instead of the name:value of “CS487”: “HOP”, let’s change this to **“HOP”: “yourName”.**

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**Deploying on subscription-level**

Notice on our previous HOPs, the schema used in both json files shows ‘deploymentTemplate.json’. This indicates that the template is deployed to an existing resource group. We have also been running the command `az deployment group create` which also indicates resource group level of deployment.

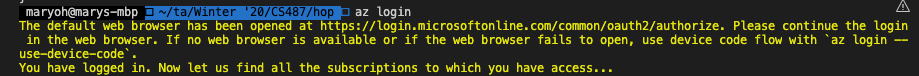
However, for this particular HOP, we are to deploy and create resource group using ARM template. In order to do this, we need to deploy on a subscription level.

1. As mentioned, we were using resource-group level schema for the past few HOP. Therefore, we need to modify this to a subscription-level. Instead of ‘deploymentTemplate.json#’, modify this to subscriptionDeploymentTemplate.json#’ for both template and parameters file.

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1. Make sure to save all changes made.
2. Open the integrated Visual Studio Code terminal using ctrl + ` key.
3. Sign in using your Azure account information. This will open up a new window to sign in.



1. Deploy the template. Type the following command. Ensure you are in the correct directory where the file is saved. Since we used our CityU account for Azure, our subscription is Azure for Students. If you used a different Azure account and have different subscription, please modify this accordingly.

Text

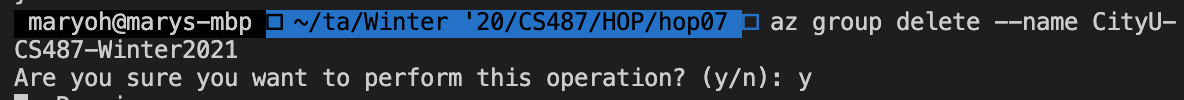
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1. Verify deployment was successful. Open your browser and head to your Azure portal. Select Resource Groups. You should be able to see your resource group as well as the tags available.

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1. To avoid incurring any unnecessary fees, clean up resources. Type the following command in your terminal and enter y.



1. Verify if successful. Head to your Azure in your web browser and refresh. The CityU-CS487-Winter2021 resource group should not be showing.

**CHALLENGE**

1. Deploy 2 resource groups in single deployment process called “yourname-challenge1” and “yourname-challenge2”.

**Questions you can answer for submissions:**

1. **Knowledge:** Why is Resource Group important?
2. **Knowledge:** What is Resource Group? Provide an analogy to understand it better.
3. **Application:** When to use Resource Group? Why?
4. **Technical:** What are the differences between deploying in subscription-level and resource-group level? What are the benefits?

**Push your work to GitHub**

1. Open the integrated Visual Studio Code terminal using ctrl + ` key. Make sure you are in the right path.
2. Type the following command:

git add . (to copy all changes you have made)

git commit -m “Submission for Module 7 - YourGitHubUsername” (To add a message to your submission)

git push origin master (to upload your work to Github)