Run Containers by Using Azure Container Instances

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Project Guide

Run Containers by Using Azure Container Instances

Introduction

In this lab, you will get some practice with both Azure Container Instances and Azure Container Registry. First, you'll jump into Azure Cloud Shell to create an Azure Container Registry. Then, you will add a simple Docker container image to the registry. Once the container image is pushed to the registry, you will move to the Azure portal to run an instance of the container in Azure Container Instances. To be successful completing the lab on your own, you should be familiar with the Azure portal and Azure CLI, but anyone with an interest in learning more about these two services for containerized code can use the lab guide and solution videos to work through the objectives successfully.

Solution

Logging In

Log in to the Azure portal using the credentials provided on the lab page. Be sure to use an incognito or private browser window to ensure you're using the lab account rather than your own.

Housekeeping (Configuring Cloud Shell)

1. Click the Cloud Shell icon (>_) in the upper right of the Azure portal.
2. When prompted, select a Bash shell (versus PowerShell).

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3. When prompted, choose "**Mount a Storage Account.**
4. Choose the lab subscription and click **Apply**."
5. Select the storage account that's already been deployed for you.
6. Select the one, existing, resource group.
7. Create a new fileshare and name it "fileshare" (all lower-case).
8. Click **Apply**.
9. Wait for the command prompt to appear.

> **Note:** This action could take a few moments to complete.

Create an Instance of Azure Container Registry (ACR)

1. From the command prompt, list out the resource groups:

   ```
   az group list
   ```

2. In the `name` field, copy the name of the resource group for later use.
3. Create environment variables for the resource group and Azure Container Registry (ACR). Replace `<RESOURCE_GROUP_NAME>` with the `name` you just copied:

   ```
   rg=<RESOURCE_GROUP_NAME>
   name=acrlabdemo
   acr="$name$RANDOM"
   ```

4. Create an ACR using the environment variables:

   ```
   az acr create --resource-group $rg --name $acr --sku Basic
   ```

   > **Note:** It may take several minutes for creation to complete.

5. Once the ACR is created, enable an admin user for the registry:

   ```
   az acr update -n $acr --admin-enabled true
   ```

   > **Note:** It can take an extra minute or two for the ACR to finish deploying. If you receive an error that the ACR doesn't exist, wait another minute or two and try again.

Build and Push a Container Image to ACR

1. Navigate into the `clouddrive` directory:

   ```
   cd clouddrive
   ```

2. Create a Dockerfile:

   ```
   echo FROM mcr.microsoft.com/hello-world > Dockerfile
   ```

3. Build and push the image to the ACR using the Dockerfile:

   ```
   az acr build --image sample/hello-world:v1 --registry $acr --file Dockerfile .
   ```

   > **Note:** The period after the `--file` argument is not a stray mark. It is required as a part of the command to indicate that the source location of the file is at the root. It may take several minutes for the image to build.

4. Minimize the Azure Cloud Shell.
5. In the portal, you should be on the resource group **Overview** page. Find the container registry listed under the **Resources** tab, and select it to navigate to the registry. If you don't see it listed, click **Refresh**.
6. On the left navigation menu, click on **Services** and then select **Repositories**. You should now see the `sample/hello-world` image displayed.

Deploy an Image to Azure Container Instances (ACI)

1. Navigate back to the resource group.
2. Click **Create**.
3. In the search bar, type and select **Container Instances**.
4. Click **Create**.
5. Set the following values:
   - **Resource group**: Select the one resource group in the description; do not try to create a new one.
   - **Container name**: Enter a unique name.
   - **Region**: Select **(US) East US**.
   - **Image source**: Select **Azure Container Registry**.

   > **Note:** The **Registry** and **Image** fields should default to the one Azure Container Registry you created and the only image stored in that registry.

6. Click **Review + create**.
7. Click **Create**.

   > **Note**: It may take several minutes for the resource to deploy.

8. Once deployed, click **Go to resource**.
9. Click **Start** > **Yes**.

> **Note**: It may take 1–2 minutes for the resource to start. You can check under **Notifications** to see when the container instance is successfully started. If you get an error message that says the container is "still transitioning," wait a couple of minutes and try again.

10. On left navigation menu, select **Containers**. While your container state is `Running`, you can see its logs from the **Logs** tab. When your container state is `Terminated`, you can check its logs from the Azure CLI using the `az container logs --resource-group $rg --name myacicontainer` command.

Conclusion

Congratulations — you've completed this hands-on lab!

Lab Tools

Lab Diagram | Instant Terminal

Lab Credentials

Help

It is recommended that all Hands-on Labs are opened in an **incognito window**.

Azure portal Account

URL

https://portal.azure.com/#@realhandsonlabs.com/resource/subscriptions/(

Username

cloud_user_p_1db20b2e@realhandsonlabs.com

Password

VB58&$P#

Learning Objectives

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Successfully complete this lab by achieving the following learning objectives.

1 Housekeeping

2 Create an Instance of Azure Container Registry (ACR)

3 Build and Push a Container Image to ACR

4 Deploy an Image to Azure Container Instances (ACI)

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