[version_1.0]

Note

The exercises in this course will have an associated charge in your AWS account. In this exercise, you create or use the following resources:

- AWS Identity and Access Management (IAM) policy and user (Policies and users are AWS account features, offered at no additional charge)
- AWS Cloud9 integrated development environment (IDE) instance
- AWS Lambda function
- Amazon Elastic Container Registry (Amazon ECR) repository

This exercise includes instructions to delete all the resources that you created for this exercise.

Familiarize yourself with **AWS Cloud9 pricing**, **AWS Lambda pricing**, **Amazon Elastic Container Registry pricing**, and the **AWS Free Tier**.

Exercise 6: Running Containers in AWS Lambda

In this exercise, you build a container and run it in a Lambda function.

Task 1: Building the container

In this task, you will build the container.

1. In the AWS Management Console, open AWS Cloud9.
2. Open your IDE instance.
3. In the IDE terminal, build the container.

```
cd ~/environment/lambda-container/

docker build -t ssltester-lambda .
```

4. Log in to Amazon ECR.

```
export ACCOUNT_ID=$(aws sts get-caller-identity --output text --query Account)

export REGION="`wget -q -O - http://169.254.169.254/latest/meta-data/placement/region`"

aws ecr get-login-password | docker login --username AWS --password-stdin ${ACCOUNT_ID}.dkr.ecr.${REGION}.amazonaws.com
```

5. Create an Amazon ECR repository and push the image.

```
aws ecr create-repository --repository-name "ssltester-lambda"

docker tag ssltester-lambda ${ACCOUNT_ID}.dkr.ecr.${REGION}.amazonaws.com/ssltester-lambda:latest

docker push ${ACCOUNT_ID}.dkr.ecr.${REGION}.amazonaws.com/ssltester-lambda:latest
```

Task 2: Running the container

In this task, you will launch the container that you created in the previous task.

1. Launch the container.

```
docker run  --rm -p 9000:8080 ssltester-lambda
```

2. Open a new AWS Cloud9 terminal and run the following:

```
curl -XPOST "http://localhost:9000/2015-03-31/functions/function/invocations" -d '["console.aws.amazon.com","aws.amazon.com","docs.aws.amazon.com","ww
```

Task 3: Creating and testing the function in Lambda

In this task, you will create the function inside Lambda.

1. At the top left, choose the **AWS Cloud9** icon and choose **Go To Your Dashboard**.
2. Search for and open **Lambda**.
3. Choose **Create function**.
4. Choose **Container image**.
5. For **Function name**, enter `ssl-tester`.
6. Under **Container image URI**, choose **Browse images**.
7. In the **Select container image** window, choose the **Select repository** dropdown menu and then choose the **ssltester-lambda** repository.

8. Choose the **latest** tag and choose **Select image**.
9. Choose **Create function**.
10. In the main function pane, choose the **Test** tab.
11. For **Event name**, enter `domains`.
12. In the **Event JSON** box, paste the following:

```
["console.aws.amazon.com","aws.amazon.com","docs.aws.amazon.com","www.amazon.com"]
```

13. Choose **Save** and then choose **Test**.
14. In the **Execution result: succeeded (logs)** box, expand **Details**.

    You should now see the test results, which should be similar to the results from the previous test you ran in AWS Cloud9.

Cleaning up

In this task, you will log in to your AWS account as an administrator and delete the AWS resources that you created for this project.

1. If needed, log in to the console as an administrator.
2. Delete the `ssl-tester` Lambda function.
   - Open the Lambda dashboard.
   - In the navigation pane, choose **Functions**.
   - Delete the **ssl-tester** function and confirm the deletion.
3. Delete the AWS Cloud9 IDE instance.
   - Open the AWS Cloud9 dashboard.
   - Delete the **containers-cloud9** environment and confirm the deletion.
4. Delete the CloudFormation stack
   - Open the AWS CloudFormation dashboard.
   - In the navigation pane, choose **Stacks**.
   - Delete the **exercise-containers** stack and confirm the deletion.
5. Delete the IAM role.
   - Open the IAM dashboard.
   - In the navigation pane, under **Access management**, choose **Roles**.
   - Delete **ssl-tester-role-** and confirm the deletion.
6. Delete the IAM policy.
   - In the IAM navigation pane, under **Access management**, choose **Policies**.
   - Delete the customer managed **eks-directory-service** policy and confirm the deletion.