Assignment-1 Lambda

1. Create a sample Python Lambda function.
2. Set the Lambda Trigger as SQS and send a message to test invocations.

1. Create IAM role to Execute SQS

Create function   Info

Choose one of the following options to create your function.

◉ **Author from scratch**	○ **Use a blueprint**	○ **Container image**
Start with a simple Hello World example.	Build a Lambda application from sample code and configuration presets for common use cases.	Select a container image to deploy for your function.

Basic information

Function name
Enter a name that describes the purpose of your function.

```
myLambdaFunction
```

Function name must be 1 to 64 characters, must be unique to the Region, and can't include spaces. Valid characters are a-z, A-Z, 0-9, hyphens (-), and underscores (_).

Runtime   Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

```
Python 3.12                                              ▼
```

Architecture   Info
Choose the instruction set architecture you want for your function code.

◉ x86_64
○ arm64

Permissions   Info

By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ **Change default execution role**

Execution role
Choose a role that defines the permissions of your function. To create a custom role, go to the IAM console ↗.

○ Create a new role with basic Lambda permissions
◉ Use an existing role
○ Create a new role from AWS policy templates

▼ Change default execution role

Execution role

Choose a role that defines the permissions of your function. To create a custom role, go to the IAM console ☑.

- ○ Create a new role with basic Lambda permissions
- ◉ Use an existing role
- ○ Create a new role from AWS policy templates

Existing role

Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.

lambda-SQS ▼ ⟳

View the lambda-SQS role ☑ on the IAM console.

▶ Additional Configurations

Use additional configurations to set up code signing, function URL, tags, and Amazon VPC access for your function.

Cancel   **Create function**

mySQS

Edit | Delete | Purge | Send and receive messages | Start DLQ redrive

Details Info

Name
mySQS

Type
Standard

ARN
arn:aws:sqs:eu-central-1:637423544770:mySQS

Encryption
Amazon SQS key (SSE-SQS)

URL
https://sqs.eu-central-1.amazonaws.com/637423544770/mySQS

Dead-letter queue
-

▶ More

< | **SNS subscriptions** | Lambda triggers | EventBridge Pipes | Dead-letter queue | Monitoring | Tagging | Queue policies | Encryption | Dead-letter queue | >

Subscription region

eu-central-1 ▼

SNS subscriptions (1) Info

View in SNS ↗ | Delete | **Subscribe to Amazon SNS topic**

🔍 Search subscriptions

< 1 > ⚙

○	Subscription ARN ▲	Topic ARN ▽
○	arn:aws:sns:eu-central-1:637423544770:Default_CloudWatch_Alarms_Topic:bbe021b0-07e4-4d6b-ab2f-c304f6fef023	arn:aws:sns:eu-central-1:637423544770:Default_CloudWatch_Alarms_Topic

mySQS

Edit | Delete | Purge | Send and receive messages | Start DLQ redrive

Details Info

Name
mySQS

Type
Standard

ARN
arn:aws:sqs:eu-central-1:637423544770:mySQS

Encryption
Amazon SQS key (SSE-SQS)

URL
https://sqs.eu-central-1.amazonaws.com/637423544770/mySQS

Dead-letter queue
-

▶ More

SNS subscriptions | **Lambda triggers** | EventBridge Pipes | Dead-letter queue | Monitoring | Tagging | Queue policies | Encryption | Dead-letter queue ›

Lambda triggers (1) Info

View in Lambda | Delete | Configure Lambda function trigger

🔍 Search triggers

< 1 >

UUID	ARN	Status	Last modified
7fa6703e-aa60-4a5a-adec-a3ea1f6ce675	arn:aws:lambda:eu-central-1:637423544770:function:myLambdafunction	⊘ Enabled	12/25/2024, 2:44:55 PM

Diagram | Template

myLambdafunction

Layers (0)

SQS

+ Add trigger

+ Add destination

Description
-

Last modified
12 minutes ago

Function ARN
arn:aws:lambda:eu-central-1:637423544770:function:myLambdafunction

Function URL Info
-

Code | Test | Monitor | Configuration | Aliases | Versions

Code source Info

Upload from ▼

myLambdafunction

EXPLORER ···

lambda_function.py ✕

∨ MYLAMBDAFUNCTION
  lambda_function.py

lambda_function.py

```
1  import json
2
3  def lambda_handler(event, context):
4      # TODO implement
5      print(f"Received message: {message_body}")
6      return {
7          'statusCode': 200,
8          'body': json.dumps('Hello from Lambda!')
9      }
10
```

∨ DEPLOY

Deploy (Ctrl+Shift+U)

Test (Ctrl+Shift+I)

CloudWatch

Favorites and recents ▶

▼ **Logs**
- Log groups New
- Log Anomalies
- Live Tail
- **Logs Insights** New
- Contributor Insights

▼ **Metrics**
- All metrics
- Explorer
- Streams

▶ **X-Ray traces** New

▼ **Events**
- Rules
- Event Buses

▶ **Application Signals**

▶ **Network Monitoring** New

▶ **Insights** New

Settings

Logs (28)

Export results ▼   Add to dashboard

Showing 28 of 28 records matched ⓘ
28 records (3.3 kB) scanned in 2.7s @ 10 records/s (1.2 kB/s)

Hide hi...

#	@timestamp	@message	@logStream	@log
▶ 1	2024-12-25T08:55:41.518Z	END RequestId: 39e2cd43-622f-4370-922a-7b5914891bf4	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 2	2024-12-25T08:55:41.518Z	REPORT RequestId: 39e2cd43-622f-4370-922a-7b5914891bf4 Duration: 1.55 ms B…	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 3	2024-12-25T08:55:41.515Z	START RequestId: 39e2cd43-622f-4370-922a-7b5914891bf4 Version: $LATEST	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 4	2024-12-25T08:55:34.834Z	END RequestId: 48062662-72ef-42a3-922c-e0300652ccc1	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 5	2024-12-25T08:55:34.834Z	REPORT RequestId: 48062662-72ef-42a3-922c-e0300652ccc1 Duration: 1.57 ms B…	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 6	2024-12-25T08:55:34.832Z	START RequestId: 48062662-72ef-42a3-922c-e0300652ccc1 Version: $LATEST	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 7	2024-12-25T08:50:35.173Z	END RequestId: 6888d68f-d8a1-4798-aecf-df910a6a6983	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 8	2024-12-25T08:50:35.173Z	REPORT RequestId: 6888d68f-d8a1-4798-aecf-df910a6a6983 Duration: 1.53 ms B…	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 9	2024-12-25T08:50:35.155Z	START RequestId: 6888d68f-d8a1-4798-aecf-df910a6a6983 Version: $LATEST	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 10	2024-12-25T08:46:50.593Z	END RequestId: 01caceb5-93e8-4961-a9fa-ae9b7ac8f6eb	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 11	2024-12-25T08:46:50.593Z	REPORT RequestId: 01caceb5-93e8-4961-a9fa-ae9b7ac8f6eb Duration: 1.41 ms B…	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 12	2024-12-25T08:46:50.577Z	START RequestId: 01caceb5-93e8-4961-a9fa-ae9b7ac8f6eb Version: $LATEST	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 13	2024-12-25T08:46:38.812Z	END RequestId: 0fae755a-fbf5-443a-b746-40100982ab8d	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 14	2024-12-25T08:46:38.812Z	REPORT RequestId: 0fae755a-fbf5-443a-b746-40100982ab8d Duration: 1.52 ms B…	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 15	2024-12-25T08:46:38.809Z	START RequestId: 0fae755a-fbf5-443a-b746-40100982ab8d Version: $LATEST	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 16	2024-12-25T08:46:20.368Z	END RequestId: 99151771-fbde-40ee-b4e0-6eb8286e774f	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction
▶ 17	2024-12-25T08:46:20.368Z	REPORT RequestId: 99151771-fbde-40ee-b4e0-6eb8286e774f Duration: 1.57 ms B…	2024/12/25/[$LATEST]62436254b4a443dc9afa22e5c1acd3d8 ↗	637423544770:/aws/lambda/myLambdaFunction

Assignment-2 Elastic Beanstalk

1. Create an Elastic Beanstalk environment with the runtime as PHP.
2. Upload a simple PHP file to the environment once created.

Configure environment Info

Environment tier Info

Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications.

- **Web server environment**
  Run a website, web application, or web API that serves HTTP requests. Learn more [↗]
- ○ **Worker environment**
  Run a worker application that processes long-running workloads on demand or performs tasks on a schedule. Learn more [↗]

Application information Info

Application name

```
mysocial
```

Maximum length of 100 characters.

▶ **Application tags (optional)**

Environment information Info

Choose the name, subdomain and description for your environment. These cannot be changed later.

Environment name

```
Mysocial-env
```

Must be from 4 to 40 characters in length. The name can contain only letters, numbers, and hyphens. It can't start or end with a hyphen. This name must be unique within a region in your account.

Domain

```
Leave blank for autogenerated value
```
.eu-central-1.elasticbeanstalk.com   [Check availability]

Environment description

Platform type

◉ Managed platform
Platforms published and maintained by Amazon Elastic Beanstalk. Learn more ↗

◯ Custom platform
Platforms created and owned by you. This option is unavailable if you have no platforms.

Platform

PHP	▼

Platform branch

PHP 8.3 running on 64bit Amazon Linux 2023	▼

Platform version

4.4.2 (Recommended)	▼

Application code Info

◉ Sample application

◯ Existing version
Application versions that you have uploaded.

◯ Upload your code
Upload a source bundle from your computer or copy one from Amazon S3.

Presets Info

Start from a preset that matches your use case or choose custom configuration to unset recommended values and use the service's default values.

Configuration presets

◉ Single instance (free tier eligible)
◯ Single instance (using spot instance)
◯ High availability
◯ High availability (using spot and on-demand instances)
◯ Custom configuration

Service access

IAM roles, assumed by Elastic Beanstalk as a service role, and EC2 instance profiles allow Elastic Beanstalk to create and manage your environment. Both the IAM role and instance profile must be attached to IAM managed policies that contain the required permissions. Learn more [↗]

Service role

◉ Create and use new service role

◯ Use an existing service role

Service role name

Enter the name for an IAM role that Elastic Beanstalk will create to assume as a service role. Beanstalk will attach the required managed policies to it.

aws-elasticbeanstalk-service-role

View permission details

EC2 key pair

Select an EC2 key pair to securely log in to your EC2 instances. Learn more [↗]

zaheerfrankfurt ▼

↻

EC2 instance profile

Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.

EC2FullAccess ▼

↻

View permission details

Cancel   **Skip to review**   **Previous**   **Next**

Log streaming
Deactivated

Retention
7

Lifecycle
false

Updates

Managed updates
Activated

Deployment batch size
100

Deployment batch size type
Percentage

Command timeout
600

Deployment policy
AllAtOnce

Health threshold
Ok

Ignore health check
false

Instance replacement
false

Platform software

Lifecycle
false

Log streaming
Deactivated

Allow URL fopen
On

Display errors
Off

Document root
–

Max execution time
60

Memory limit
256M

Zlib output compression
Off

Proxy server
nginx

Logs retention
7

Rotate logs
Deactivated

Update level
minor

X-Ray enabled
Deactivated

Environment properties

Key ▲	Value ▽
No environment properties	
There are no environment properties defined	

Cancel   Previous   Submit

Once submitted it will take same time to create resources and you will see the sample template in browser(arn:aws:elasticbeanstalk:eu-central-1:637423544770:application/mysocial)

Assignment-3 OpsWork

OpsWorks   Stacks › Select stack ⌄

OpsWorks Stacks

Stacks

Users

OpsWorks for Chef Automate

Chef Automate servers

OpsWorks for Puppet Enterprise

Puppet Enterprise servers

⚠ **Important notice**
AWS OpsWorks Stacks reached end-of-life on 05/26/2024 and is no longer available. For more information, please review the AWS OpsWorks Stacks end of life documentation here.