

## Module-9: Lambda Assignment - 1

---

You have been asked to:

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



Services

S3

AWS Lambda X

Dashboard

Applications

Functions \*Additional resources ▼

Code signing configurations

Layers

Replicas

Related AWS resources ▼

Step Functions state machines

## Lambda &gt; Functions

## Functions (0)

Last fetched 6 minutes ago



Actions ▾

Create function \*

&lt; 1 &gt; ⌂

 Filter by tags and attributes or search by keyword

Function name	Description	Package type	Runtime	Last modified
---------------	-------------	--------------	---------	---------------

There is no data to display.

https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/create/function

N. Virginia VAIBHAV VERMA

## Create function Info

AWS Serverless Application Repository applications have moved to Create application.

**Author from scratch**  
Start with a simple Hello World example.

**Use a blueprint**  
Build a Lambda application from sample code and configuration presets for common use cases.

**Container image**  
Select a container image to deploy for your function.

### Basic information

**Function name**  
Enter a name that describes the purpose of your function.  
  
Use only letters, numbers, hyphens, or underscores with no spaces.

**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 3.9

**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

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https://us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-1#roles

aws Services Search [Alt+S] Global VAIBHAV VERMA

## Identity and Access Management (IAM)

**Role deleted VaibhavRoleForLambda**

IAM > Roles

Search IAM Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings

Access reports

- Access analyzer
- Archive rules
- Analyzers
- Settings

Credential report

Organization activity

Service control policies (SCPs)

Identity Center New

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**Roles (15) Info**

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

Delete Create role

Role name	Trusted entities	Last activity
AWSBackupDefaultServiceRole	AWS Service: backup	39 days ago
AWSServiceRoleForAmazonElasticFileSystem	AWS Service: elasticfilesystem (Service-Linked Role)	88 days ago
AWSServiceRoleForApplicationAutoScaling_DynamoDBTable	AWS Service: dynamodb:application-autoscaling (Service-Linked Role)	39 days ago
AWSServiceRoleForAutoScaling	AWS Service: autoscaling (Service-Linked Role)	11 days ago
AWSServiceRoleForBackup	AWS Service: backup (Service-Linked Role)	15 hours ago
AWSServiceRoleForCloudWatchEvents	AWS Service: events (Service-Linked Role)	27 days ago
AWSServiceRoleForElasticLoadBalancing	AWS Service: elasticloadbalancing (Service-Linked Role)	11 days ago
AWSServiceRoleForRDS	AWS Service: rds (Service-Linked Role)	40 minutes ago
AWSServiceRoleForRedshift	AWS Service: redshift (Service-Linked Role)	36 days ago
AWSServiceRoleForSupport	AWS Service: support (Service-Linked Role)	8 days ago
AWSServiceRoleForTrustedAdvisor	AWS Service: trustedadvisor (Service-Linked Role)	
demo-role-lambda-ec2-cloudwatch-01-10-2022	AWS Service: lambda	48 days ago

https://us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-1#/roles/create?step=selectEntities

aws Services Q Search [Alt+5] Global VAIBHAV VERMA

Introducing the new IAM roles experience  
We've redesigned the IAM roles experience to make it easier to use. Let us know what you think.

IAM > Roles > Create role

Step 1 Select trusted entity

Step 2 Add permissions

Step 3 Name, review, and create

## Select trusted entity Info

### Trusted entity type

AWS service Allow AWS services like EC2, Lambda, or others to perform actions in this account

AWS account Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account

Web identity Allows users federated by the specified external web identity provider to assume this role to perform actions in this account

SAML 2.0 federation Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account

Custom trust policy Create a custom trust policy to enable others to perform actions in this account

### Use case

Allow an AWS service like EC2, Lambda, or others to perform actions in this account

Common use cases

EC2 Allows EC2 instances to call AWS services on your behalf

Lambda Allows Lambda functions to call AWS services on your behalf

Use cases for other AWS services

Choose a service to view use case

Cancel Next

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WS Services Search [Alt+S] Global VAIBHAV VERMA

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IAM > Roles > Create role

Step 1 Select trusted entity

Step 2 Add permissions

Step 3 Name, review, and create

## Add permissions Info

### Permissions policies (Selected 1/793) Info

Choose one or more policies to attach to your new role

Filter policies by property or policy name and press enter

1 match

s3fullaccess

Policy name	Type	Description
AmazonS3FullAccess	AWS managed	Provides full access to all buckets via the AWS Management Console

Set permissions boundary - optional Info

Set a permissions boundary to control the maximum permissions this role can have. This is not a common setting, but you can use it to delegate permission management to others.

Cancel Previous Next

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IAM > Roles > Create role

Step 1  
Select trusted entity

Step 2  
Add permissions

Step 3  
Name, review, and create

## Add permissions Info

### Permissions policies (Selected 2/793) Info

Choose one or more policies to attach to your new role.

Filter policies by property or policy name and press enter

1 match

"cloudwatchlogsfullaccess"

Policy name

Type

Description

CloudWatchLogsFullAccess

AWS managed

Provides full access to CloudWatch Logs

### Set permissions boundary - optional Info

Set a permissions boundary to control the maximum permissions this role can have. This is not a common setting, but you can use it to delegate permission management to others.

https://us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-1#/roles/create?commonUseCase=Lambda&step=addPermission&trustedEntityType=AWS\_SERVICE

IAM > Roles > Create role

Step 1  
Select trusted entity

Step 2  
**Add permissions**

Step 3  
Adding required permissions

## Add permissions [Info](#)

**Permissions policies (Selected 3/793) [Info](#)**  
Choose one or more policies to attach to your new role.

[Create policy](#)

Filter policies by property or policy name and press enter      1 match

"sqfullaccess" [X](#) [Clear filters](#)

<input checked="" type="checkbox"/> Policy name <a href="#">Info</a>	Type	Description
<input checked="" type="checkbox"/> <a href="#">AmazonSQSFullAccess</a>	AWS managed	Provides full access to Amazon SQS via the AWS Management Console

**Set permissions boundary - optional [Info](#)**  
Set a permissions boundary to control the maximum permissions this role can have. This is not a common setting, but you can use it to delegate permission management to others.

[Cancel](#) [Previous](#) [Next](#)

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Introducing the new IAM roles experience

We've redesigned the IAM roles experience to make it easier to use. [Let us know what you think.](#)

IAM > Roles > Create role

Step 1

Select trusted entity

Step 2

Add permissions

Step 3

Name, review, and create

## Name, review, and create

### Role details

#### Role name

Enter a meaningful name to identify this role.

Maximum 64 characters. Use alphanumeric and '+', '@', '-' characters.

#### Description

Add a short explanation for this role.

Allows Lambda functions to call AWS services on your behalf.

Maximum 1000 characters. Use alphanumeric and '+', '@', '-' characters.

### Step 1: Select trusted entities

```
1 * {
2     "Version": "2012-10-17",
3     "Statement": [
4         {
5             "Effect": "Allow",
6             "Action": [
7                 "sts:AssumeRole"
8             ],
9             "Principal": [
10                 "lambda.amazonaws.com"
11             ]
12         }
13     ]
14 }
```

https://us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-1#/roles/create?commonUseCase=Lambda&step=review&trustedEntityType=AWS\_SERVICE

aws Services Q [Alt+S] Global VAIBHAV VERMA

Step 2: Add permissions

Permissions policy summary

Policy name	Type	Attached as
AmazonSQSFullAccess	AWS managed	Permissions policy
CloudWatchLogsFullAccess	AWS managed	Permissions policy
AmazonS3FullAccess	AWS managed	Permissions policy

Tags

Add tags - optional Info

Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources

No tags associated with the resource

Add tag

You can add up to 50 more tags.

Cancel Previous Create role

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[Alt+S]



View role



Role VaibhavRoleforLambda created.

IAM &gt; Roles

## Roles (16) Info

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

Delete

Create role

Search

&lt; 1 &gt;

Role name	Trusted entities	Last activity
AWSBackupDefaultServiceRole	AWS Service backup	39 days ago
AWSServiceRoleForAmazonElasticFileSystem	AWS Service elasticfilesystem (Service-Linked Role)	88 days ago
AWSServiceRoleForApplicationAutoScaling_DynamoDBTable	AWS Service dynamodb application-autoscaling (Service-Linked Role)	39 days ago
AWSServiceRoleForAutoScaling	AWS Service autoscaling (Service-Linked Role)	11 days ago
AWSServiceRoleForBackup	AWS Service backup (Service-Linked Role)	15 hours ago
AWSServiceRoleForCloudWatchEvents	AWS Service events (Service-Linked Role)	27 days ago
AWSServiceRoleForElasticLoadBalancing	AWS Service elasticloadbalancing (Service-Linked Role)	11 days ago
AWSServiceRoleForRDS	AWS Service rds (Service-Linked Role)	57 minutes ago
AWSServiceRoleForRedshift	AWS Service redshift (Service-Linked Role)	36 days ago
AWSServiceRoleForSupport	AWS Service support (Service-Linked Role)	8 days ago
AWSServiceRoleForTrustedAdvisor	AWS Service trustedadvisor (Service-Linked Role)	-
demo-role-lambda-ec2-cloudwatch-01-10-2022	AWS Service lambda	48 days ago

Services Q 53 X

VaibhavLambdaFunction

Use only letters, numbers, hyphens, or underscores with no spaces.

**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 3.9**

**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

**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.  
VaibhavRoleforLambda View the VaibhavRoleforLambda role on the IAM console. ⟳

**► Advanced settings**

Cancel

Create function

https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/vaibhavlambdafunction?newFunction=true&tab=code

N. Virginia VAIBHAV VERMA

Successfully created the function vaibhavlambdafunction. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Lambda > Functions > vaibhavlambdafunction

## vaibhavlambdafunction

Throttle Copy ARN Actions ▾

Function overview Info

vaibhavlambdafunction

Layers (0)

+ Add trigger + Add destination

Description

Last modified 55 seconds ago

Function ARN arn:aws:lambda:us-east-1:111952067877:function:vaibhavlambdafunction

Function URL Info

Code Test Monitor Configuration Aliases Versions

Code source Info Upload from ▾

File Edit Find View Go Tools Window Test λ

λ lambda\_function

vaibhavlambdafunction import.json

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## lambda code - Notepad

File Edit Format View Help

```
import json
import boto3
import urllib

def lambda_handler(event, context):
    s3_client = boto3.client('s3')
    bucket_name = event['Records'][0]['s3']['bucket']['name']
    key = event['Records'][0]['s3']['object']['key']
    key = urllib.parse.unquote_plus(key, encoding='utf-8')

    message = 'File' + key + ' is successfully uploaded in bucket ' + bucket_name
    print(message)

    response = s3_client.get_object(Bucket=bucket_name, Key=key)
    contents = response["Body"].read().decode()
    contents = json.loads(contents)

    print("The data in the file is: \n", contents)
```

Successfully created the function **vaibhavlambdafunction**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Code Test Monitor Configuration Aliases Versions

### Code source [Info](#)

File Edit Find View Go Tools Window [Test](#) Deploy Changes not deployed

Go to Anything (Ctrl-P) lambda\_function

Environment vaibhavlambdafunction lambda\_function.py

```
1 import json
2 import boto3
3 import urllib
4
5 def lambda_handler(event, context):
6     s3_client = boto3.client('s3')
7     bucket_name = event['Records'][0]['s3']['bucket']['name']
8     key = event['Records'][0]['s3']['object']['key']
9     key = urllib.parse.unquote_plus(key, encoding='utf-8')
10
11     message = 'File' + key + ' is successfully uploaded in bucket ' + bucket_name
12     print(message)
13
14     response = s3_client.get_object(Bucket=bucket_name, Key=key)
15     contents = response["Body"].read().decode()
16     contents = json.loads(contents)
17
18     print("The data in the file is: \n", contents)
```

https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/vaibhavlambdafunction?newFunction=true&tab=code

aws Services Q S3 X

Successfully updated the function vaibhavlambdafunction.

Code Test Monitor Configuration Aliases Versions

Code source Info

File Edit Find View Go Tools Window Test Deploy

Environment Go to Anything (Ctrl-P) lambda\_function

vaibhavlambdafunction lambda\_function.py

```
1 import json
2 import boto3
3 import urllib
4
5 def lambda_handler(event, context):
6     s3_client = boto3.client('s3')
7     bucket_name = event['Records'][0]['s3']['bucket']['name']
8     key = event['Records'][0]['s3']['object']['key']
9     key = urllib.parse.unquote_plus(key, encoding='utf-8')
10
11     message = 'File' + key + ' is successfully uploaded in bucket ' + bucket_name
12     print(message)
13
14     response = s3_client.get_object(Bucket=bucket_name, Key=key)
15     contents = response["Body"].read().decode()
16     contents = json.loads(contents)
17
18     print("The data in the file is: \n", contents)
```

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https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/vaibhavlambdafunction?newFunction=true&tab=code

N. Virginia VAIBHAV VERMA

# vaibhavlambdafunction

Throttle Copy ARN Actions ▾

## Function overview Info

vaibhavlambdafunction

Layers (0)

+ Add trigger

+ Add destination

Description

Last modified 1 minute ago

Function ARN arn:aws:lambda:us-east-1:111952067877:function:vaibhavlambdafunction

Function URL Info

Code Test Monitor Configuration Aliases Versions

### Code source Info

Upload from ▾

File Edit Find View Go Tools Window Test Deploy

Search Anything (CTRL+F) lambda\_function

Environment

vaibhavlambdafunction

lambda\_function.py

```
1 import json
2 import boto3
3 import urllib
4
5 def lambda_handler(event, context):
```

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## Create bucket Info

Buckets are containers for data stored in S3. [Learn more](#)

### General configuration

#### Bucket name

vaibhavlambdabucket

Bucket name must be globally unique and must not contain spaces or uppercase letters. See rules for bucket naming

#### AWS Region

US East (N. Virginia) us-east-1

#### Copy settings from existing bucket - optional

Only the bucket settings in the following configuration are copied.

[Choose bucket](#)

### Object Ownership Info

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

#### ACLs disabled (recommended)

- All objects in this bucket are owned by this account.
- Access to this bucket and its objects is specified using only policies.

#### ACLs enabled

- Objects in this bucket can be owned by other AWS accounts.
- Access to this bucket and its objects can be specified using ACLs.

#### Object Ownership

Bucket owner preferred



## Object Ownership

### Bucket owner preferred

If new objects written to this bucket specify the bucket-owner-full-control canned ACL, they are owned by the bucket owner. Otherwise, they are owned by the object writer.

### Object writer

The object writer remains the object owner.

If you want to enforce object ownership for new objects only, your bucket policy must specify that the bucket-owner-full-control canned ACL is required for object uploads. [Learn more](#)

## Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

### Block all public access

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

### Block public access to buckets and objects granted through **new** access control lists (ACLs)

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

### Block public access to buckets and objects granted through **any** access control lists (ACLs)

S3 will ignore all ACLs that grant public access to buckets and objects.

### Block public access to buckets and objects granted through **new** public bucket or access point policies

S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

### Block public and cross-account access to buckets and objects through **any** public bucket or access point policies

S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.



**Turning off block all public access might result in this bucket and the objects within becoming public**

AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.

I acknowledge that the current settings might result in this bucket and the objects within becoming public.

## Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

### Bucket Versioning

- Disable  
 Enable

## Tags (0) - optional

You can use bucket tags to track storage costs and organize buckets. [Learn more](#)

No tags associated with this bucket.

[Add tag](#)

## Default encryption

Automatically encrypt new objects stored in this bucket. [Learn more](#)

Server-side encryption

aws Services Search [Alt+S] View details X

Amazon S3 X Successfully created bucket "vaibhavlambdabucket" To upload files and folders, or to configure additional bucket settings choose [View details](#).

Buckets

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

Access analyzer for S3

Block Public Access settings for this account

Storage Lens

Dashboards

AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

Amazon S3 > Buckets

▶ Account snapshot

Storage lens provides visibility into storage usage and activity trends. Learn more

[View Storage Lens dashboard](#)

Buckets (2) Buckets are containers for data stored in S3. Learn more

Name	AWS Region	Access	Creation date
elasticbeanstalk-us-east-1-111952067877	US East (N. Virginia) us-east-1	Objects can be public	October 29, 2022, 19:02:26 (UTC+05:30)
vaibhavlambdabucket	US East (N. Virginia) us-east-1	Objects can be public	November 20, 2022, 03:07:25 (UTC+05:30)

## Add trigger

Trigger configuration Info

S3

aws storage



## Bucket

Please select the S3 bucket that serves as the event source. The bucket must be in the same region as the function.

 s3/vaibhavlambdabucket

Bucket region: us-east-1

## Event type

Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.

 All object create events

## Prefix - optional

Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.

 e.g. images/

## Suffix - optional

Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.

 e.g. .jpg

## Recursive invocation

If your function writes objects to an S3 bucket, ensure that you are using different S3 buckets for input and output. Writing to the same bucket increases the risk of creating a recursive invocation, which can result in increased Lambda usage and increased costs. [Learn more](#)

- I acknowledge that using the same S3 bucket for both input and output is not recommended and that this configuration can cause recursive invocations, increased



Services

S3

S3  
aws storage

## Bucket

Please select the S3 bucket that serves as the event source. The bucket must be in the same region as the function.

 s3/vaibhavlambdabucket X C

Bucket region: us-east-1

## Event type

Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.

 All object create events ▼

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Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters.

 e.g. images/

## Suffix - optional

Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters.

 e.g. .jpg

## Recursive invocation

If your function writes objects to an S3 bucket, ensure that you are using different S3 buckets for input and output. Writing to the same bucket increases the risk of creating a recursive invocation, which can result in increased Lambda usage and increased costs. [Learn more](#)

- I acknowledge that using the same S3 bucket for both input and output is not recommended and that this configuration can cause recursive invocations, increased Lambda usage, and increased costs.

Lambda will add the necessary permissions for AWS S3 to invoke your Lambda function from this trigger. [Learn more](#) about the Lambda permissions model.

[Cancel](#)[Add](#)

https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/vaibhavlambdafunction?tab=configure

N. Virginia VAIBHAV VERMA

# vaibhavlambdafunction

S3

+ Add trigger

+ Add destination

Description

Last modified  
24 minutes ago

Function ARN  
`arn:aws:lambda:us-east-1:111952067877:function:vaibhavlambdafunction`

Function URL [Info](#)

Code Test Monitor Configuration Aliases Versions

General configuration

Triggers (1/1) [Info](#)

Find triggers

C Fix errors Edit Delete Add trigger < 1 >

Trigger

S3: vaibhavlambdafunction  
arn:aws:s3:::vaibhavlambdafunction

Details

Tags

VPC

Monitoring and operations tools

Concurrency

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vaibhavlambdabucket [Info](#)[Objects](#) [Properties](#) [Permissions](#) [Metrics](#) [Management](#) [Access Points](#)

## Objects (3)

Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory [\[?\]](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more \[?\]](#)

 [Copy S3 URI](#)  [Copy URL](#)  [Download](#)  [Open](#)  [Delete](#) [Actions ▾](#) [Create folder](#)  [Upload](#) Find objects by prefix

&lt; 1 &gt;

<input checked="" type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input checked="" type="checkbox"/>	Electrical bill 16.11.22 (1).pdf	pdf	November 20, 2022, 03:26:15 (UTC+05:30)	439.9 KB	Standard
<input checked="" type="checkbox"/>	lambda.json	json	November 20, 2022, 03:27:38 (UTC+05:30)	63.0 B	Standard
<input checked="" type="checkbox"/>	Vaibhav_Verma.jpg	jpg	November 20, 2022, 03:26:52 (UTC+05:30)	31.8 KB	Standard

https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#functions/vaibhavlambdafunction?tab=monitoring

N. Virginia VAIBHAV VERMA

## vaibhavlambdafunction

S3 Layers (0) + Add destination

+ Add trigger

Last modified 32 minutes ago

Function ARN arn:aws:lambda:us-east-1:111952067877:function:vaibhavlambdafunction

Function URL: Info

Code Test Monitor Configuration Aliases Versions

Metrics Logs Traces View logs in CloudWatch View X-Ray traces in ServiceLens View Lambda Insights View profiles in CodeGuru

### CloudWatch metrics Info

Lambda sends runtime metrics for your functions to Amazon CloudWatch. The metrics shown are an aggregate view of all function runtime activity. To view metrics for the unqualified or \$LATEST resource, choose Filter by. To view metrics for a specific function version or alias, choose Aliases or Versions, select the alias or version, and then choose Monitor.

Filter by Function ▾

1h 3h 12h 1d 3d 1w Custom C ▾

Invocations	Duration	Error count and success rate (%)
Count: 3	Milliseconds: 174k	Count: 3 No error
95%	99.4	99.99%

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https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#logsV2:log-groups/log-group/\$252Faws\$252Flambda\$252Fvaibhavlambdafunction

N. Virginia VAIBHAV VERMA

## CloudWatch

Favorites and recents

Dashboards

Alarms In alarm All alarms Billing

Logs Log groups Logs Insights

Metrics X-Ray traces Events

Application monitoring

Insights Settings Getting Started

CloudWatch > Log groups > /aws/lambda/vaibhavlambdafunction

# /aws/lambda/vaibhavlambdafunction

Actions View in Logs Insights Search log group

### Log group details

ARN	Metric filters	KMS key ID
arn:aws:logs:us-east-1:111952067877:log-group:/aws/lambda/vaibhavlambdafunction:*	0	-
Creation time	Subscription filters	Contributor Insights rules
8 minutes ago	0	-
Retention	Contributor Insights rules	-
Never expire	-	-
Stored bytes	-	-

Log streams Metric filters Subscription filters Contributor Insights Tags

#### Log streams (1)

Filter log streams or try prefix search   Exact match

Log stream  Last event time

2022/11/19/[SLATEST]c0a90eb7815b4c41a231254fe5a40a34 2022-11-20 03:26:18 (UTC+05:30)

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[Alt+5]

## Log events

You can use the filter bar below to search for and match terms, phrases, or values in your log events. Learn more about filter patterns [🔗](#)



Actions ▾

Create metric filter

Filter events

Clear

1m

30m

1h

12h

Custom

Display



▶ Timestamp	Message
	No older events at this moment. <a href="#">Retry</a>
▶ 2022-11-20T03:26:16.864+05:30	START RequestId: f2b5d65d-ce57-4489-b5ce-957913b50dd3 Version: \$LATEST
▶ 2022-11-20T03:26:18.266+05:30	FileElectrical bill 16.11.22 (1).pdf is successfully uploaded in bucket vaibhavlambdafunction
▶ 2022-11-20T03:26:18.605+05:30	[ERROR] UnicodeDecodeError: 'utf-8' codec can't decode byte 0x9c in position 147: invalid start byte Traceback (most recent call last): File "/var/task/lambdafunction.py", line 14, in <module>
▶ 2022-11-20T03:26:18.606+05:30	END RequestId: f2b5d65d-ce57-4489-b5ce-957913b50dd3
▶ 2022-11-20T03:26:18.606+05:30	REPORT RequestId: f2b5d65d-ce57-4489-b5ce-957913b50dd3 Duration: 1742.63 ms Billed Duration: 1743 ms Memory Size: 128 MB Max Memory Used: 71 MB Init Duration: 0 ms
▶ 2022-11-20T03:26:53.044+05:30	START RequestId: f35b05e9-fd0d-4dc1-9593-7b66cd514c50 Version: \$LATEST
▶ 2022-11-20T03:26:53.106+05:30	FileVaibhav_Verma.jpg is successfully uploaded in bucket vaibhavlambdafunction
▶ 2022-11-20T03:26:53.302+05:30	[ERROR] UnicodeDecodeError: 'utf-8' codec can't decode byte 0xff in position 0: invalid start byte Traceback (most recent call last): File "/var/task/lambdafunction.py", line 14, in <module>
▶ 2022-11-20T03:26:53.303+05:30	END RequestId: f35b05e9-fd0d-4dc1-9593-7b66cd514c50
▶ 2022-11-20T03:26:53.303+05:30	REPORT RequestId: f35b05e9-fd0d-4dc1-9593-7b66cd514c50 Duration: 259.53 ms Billed Duration: 260 ms Memory Size: 128 MB Max Memory Used: 71 MB
▶ 2022-11-20T03:27:13.774+05:30	START RequestId: f2b5d65d-ce57-4489-b5ce-957913b50dd3 Version: \$LATEST
▶ 2022-11-20T03:27:13.846+05:30	FileElectrical bill 16.11.22 (1).pdf is successfully uploaded in bucket vaibhavlambdafunction
▶ 2022-11-20T03:27:14.069+05:30	[ERROR] UnicodeDecodeError: 'utf-8' codec can't decode byte 0x9c in position 147: invalid start byte Traceback (most recent call last): File "/var/task/lambdafunction.py", line 14, in <module>
▶ 2022-11-20T03:27:14.070+05:30	END RequestId: f2b5d65d-ce57-4489-b5ce-957913b50dd3
▶ 2022-11-20T03:27:14.070+05:30	REPORT RequestId: f2b5d65d-ce57-4489-b5ce-957913b50dd3 Duration: 296.72 ms Billed Duration: 297 ms Memory Size: 128 MB Max Memory Used: 71 MB
▶ 2022-11-20T03:27:39.045+05:30	START RequestId: 5153a2cb-8446-405b-8601-8303a5bc4dc7 Version: \$LATEST
▶ 2022-11-20T03:27:39.125+05:30	Filelambda.json is successfully uploaded in bucket vaibhavlambdafunction
▶ 2022-11-20T03:27:39.290+05:30	The data in the file is:
▶ 2022-11-20T03:27:39.290+05:30	{"key1": "AWS", "key2": "DEVOPS", "key3": "HADOOP"}
▶ 2022-11-20T03:27:39.305+05:30	END RequestId: 5153a2cb-8446-405b-8601-8303a5bc4dc7
▶ 2022-11-20T03:27:39.305+05:30	REPORT RequestId: 5153a2cb-8446-405b-8601-8303a5bc4dc7 Duration: 260.36 ms Billed Duration: 261 ms Memory Size: 128 MB Max Memory Used: 72 MB

https://us-east-1.console.aws.amazon.com/sqs/v2/home?region=us-east-1#/create-queue

N. Virginia VAIBHAV VERMA

# Application integration

# Amazon SQS

## A message queuing service

Amazon SQS provides queues for high-throughput, system-to-system messaging. You can use queues to decouple heavyweight processes and to buffer and batch work. Amazon SQS stores messages until microservices and serverless applications process them.

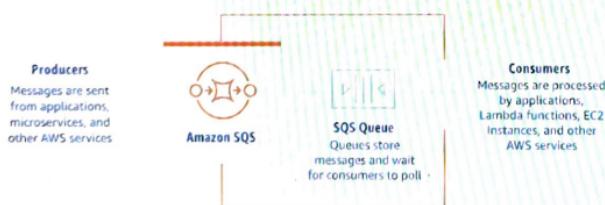
### Get started

Learn how to use Amazon SQS by creating a queue, sending a message to the queue, and receiving and processing the message.

Create queue

The diagram illustrates the message flow: Producers send messages to an SQS Queue, which then stores the messages for Consumers to poll. The Producers section shows a circular icon with arrows. The SQS Queue section shows a rectangular box with three small icons. The Consumers section shows another circular icon with arrows.

## How it works



## Pricing (US)

You can get started with Amazon SQS for free. All customers can make 1 million Amazon SQS requests for free each month. Some applications might be able to operate within this Free Tier limit.

Cost calculator

## Documentation

Developer guide

API reference

FAQs

https://us-east-1.console.aws.amazon.com/sqs/v2/home?region=us-east-1#/create-queue

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## Create queue

### Details

Type  
Choose the queue type for your application or cloud infrastructure.

ⓘ You can't change the queue type after you create a queue.

Standard Info  
At-least-once delivery, message ordering isn't preserved

- At-least once delivery
- Best-effort ordering

FIFO Info  
First-in-first-out delivery, message ordering is preserved

- First-in-first-out delivery
- Exactly-once processing

Name

A queue name is case-sensitive and can have up to 80 characters. You can use alphanumeric characters, hyphens (-), and underscores (\_).

### Configuration

Set the maximum message size, visibility to other consumers, and message retention. [Info](#)

Visibility timeout [Info](#)  
30 Seconds

Message retention period [Info](#)  
4 Days

Should be between 0 seconds and 12 hours.

Should be between 1 minute and 14 days.

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https://us-east-1.console.aws.amazon.com/sqs/v2/home?region=us-east-1#/create-queue

Services Search [Alt+S] N. Virginia VAIBHAV VERMA

Define who can send messages to the queue

Only the queue owner  
Only the owner of the queue can send messages to the queue.

Only the specified AWS accounts, IAM users and roles  
Only the specified AWS account IDs, IAM users and roles can send messages to the queue.

Define who can receive messages from the queue

Only the queue owner  
Only the owner of the queue can receive messages from the queue.

Only the specified AWS accounts, IAM users and roles  
Only the specified AWS account IDs, IAM users and roles can receive messages from the queue.

JSON (read-only)

```
{  
    "Version": "2008-10-17",  
    "Id": "__default_policy_ID",  
    "Statement": [  
        {  
            "Sid": "__owner_statement",  
            "Effect": "Allow",  
            "Principal": {  
                "AWS": "111952067877"  
            },  
            "Action": [  
                "SQS:  
            ],  
            "Resource": "arn:aws:sqs:us-east-1:111952067877:VaibhavSQS"  
        }  
    ]  
}
```

► Redrive allow policy - *Optional*  
Identify which source queues can use this queue as the dead-letter queue. [Info](#)

► Dead-letter queue - *Optional*  
Send undeliverable messages to a dead-letter queue. [Info](#)

► Tags - *Optional*  
A tag is a label assigned to an AWS resource. Use tags to search and filter your resources or track your AWS costs. [Learn more](#)

Cancel **Create queue**

Queue VaibhavSQS created successfully  
You can now send and receive messages.

Amazon SQS > Queues > VaibhavSQS

## VaibhavSQS

Edit Delete Purge Send and receive messages

Start DLQ redrive

### Details Info

Name

Type  
Standard

ARN

Encryption  
Amazon SQS key (SSE-SQS)

URL

Dead-letter queue

► More

SNS subscriptions

Lambda triggers

Dead-letter queue

Monitoring

Tagging

Access policy

Encryption

Dead-letter queue redrive tasks

Subscription region

us-east-1

SNS subscriptions (0) Info



Subscribe to Amazon SNS topic



Subscription ARN

Topic ARN



1



VS Code https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/vaibhavlambdafunction?tab=code

Services Search [Alt+S] N. Virginia VAIBHAV VERMA

Lambda > Functions > vaibhavlambdafunction

## vaibhavlambdafunction

Throttle Copy ARN Actions ▾

▼ Function overview Info

vaibhavlambdafunction

S3 Layers (0) + Add destination

+ Add trigger

Description

Last modified 12 hours ago

Function ARN arn:aws:lambda:us-east-1:111952067877:function:vaibhavlambdafunction

Function URL Info

Code Test Monitor Configuration Aliases Versions

Code source Info Upload from ▾

File Edit Find View Go Tools Window Test

lambda\_function

vaibhavlambdafunction lambda\_function.py

```
1 import json
2 import boto3
3 import urllib
4
5 def lambda_handler(event, context):
```

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Services

Search

[AR+S]

Lambda > Functions > vaibhavlambdafunction > Add destination

## Add destination

### Destination configuration

Send invocation records to a destination when your function is invoked asynchronously, or if your function processes records from a stream.

#### Source

The type of invocation that maps to the destination.

- Asynchronous invocation
- Stream invocation

#### Condition

The condition for using the destination.

- On failure
- On success

#### Destination type

An SQS queue, SNS topic, Lambda function, or EventBridge event bus.

SQS queue

#### Destination

VaibhavSQS



Cancel

Save



Your changes have been saved.

vaibhavlambdafunction

Layers (0)

S3

+ Add trigger

Amazon SQS

+ Add destination

Description

Last modified

12 hours ago

Function ARN

arn:aws:lambda:us-east-1:111952067877:function:vaibhavlambdafunction

Function URL [Info](#)

Code Test Monitor Configuration Aliases Versions

General configuration

Triggers

Permissions

Destinations

Logs

CloudWatch Metrics

Logs

### Destinations [Info](#)

Add destination

Find destinations

Source

Stream

Condition

Destination

Asynchronous invocation

On failure

arn:aws:sqs:us-east-1:111952067877:VaibhavSQS

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https://us-east-1.console.aws.amazon.com/sqs/v2/home?region=us-east-1#/queues/https%3A%2F%2Fsqs.us-east-1.amazonaws.com%2F111952067877%2FVaibhavSQS

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## VaibhavSQS

Edit Delete Purge Send and receive messages Start DLQ redrive

### Details Info

Name	Type	ARN
VaibhavSQS	Standard	arn:aws:sqs:us-east-1:111952067877:VaibhavSQS
Encryption	URL	Dead-letter queue
Amazon SQS key (SSE-SQS)	https://sqs.us-east-1.amazonaws.com/111952067877/VaibhavSQS	-

▶ More

SNS subscriptions Lambda triggers Dead-letter queue Monitoring Tagging Access policy Encryption Dead-letter queue redrive tasks

1h 3h 12h 1d 3d 1w Custom Add to dashboard

Approximate Age Of Oldest Message	Approximate Number Of Messages Delayed	Approximate Number Of Messages Not Visible
Seconds	Count	Count
1	1	1
0.5	0.5	0.5

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