

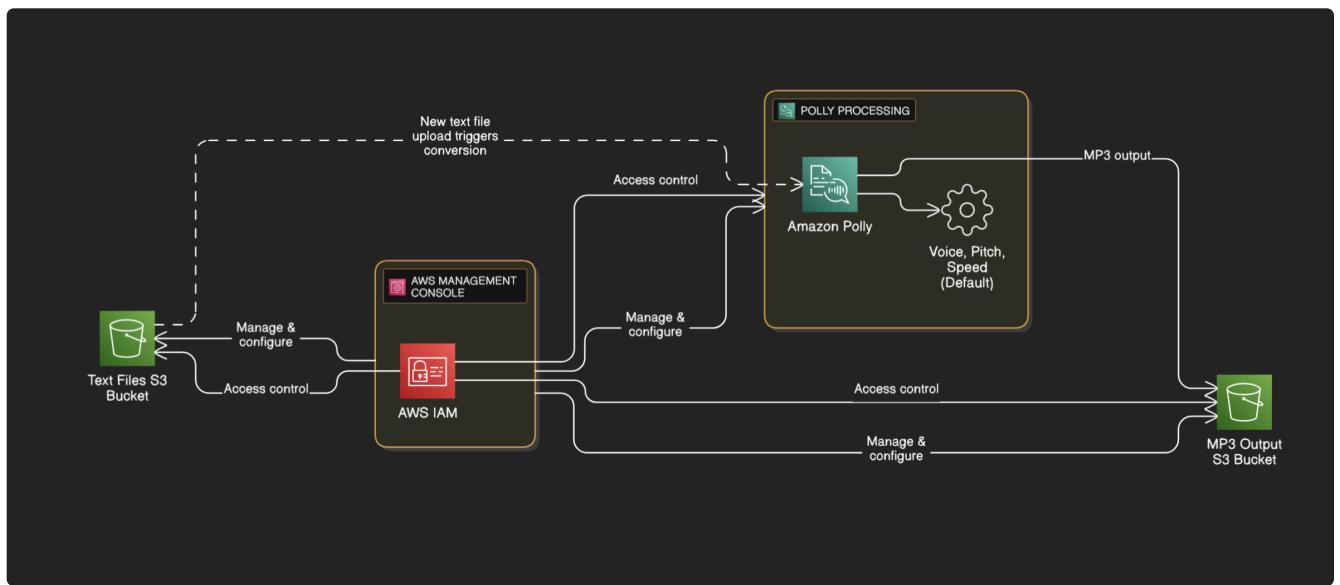
Amazon Polly Text Narrator

In this project, we will be developing a text narrator using Amazon Polly. A piece of text (book, article, newsletter) will be uploaded in an Amazon S3 bucket and converted to speech. The voice, pitch and speed parameters can be adjusted.

Services Used

- Amazon Polly: Converts text to life like speech with customizable features.
- AWS Management Console: Manages accounts and configures Amazon Polly.
- AWS IAM: Ensures secure access by managing user permissions.

Architectural Diagram



Steps for building amazon polly text narrator

1. Exploring Amazon Polly

![[Screenshot 2025-06-22 135948.png]]

Screenshot of the Amazon Polly Text-to-Speech interface showing the Neural engine selected.

Text-to-Speech [Info](#)

Engine [Info](#)
The Long-Form engine isn't supported in every region. For a list of supported regions, see [Feature and Region Compatibility](#).
The Generative engine isn't supported in every region. For a list of supported regions, see [Feature and Region Compatibility](#).

Generative
Produces the most expressive and adaptive speech using Generative AI.

Long-Form
Produces the most natural sounding speech for longer content.

Neural
Produces more natural and human-like speech than Standard Engine.

Standard
Produces natural-sounding speech.

Language [Info](#)
English, US

Voice [Info](#)
Joanna, Female

SSML [Info](#)

Input text [Info](#)
Hi! My name is Joanna. I will read any text you type here.

58 characters used

[Restore default text](#) [Clear text](#)

▼ Additional settings

[CloudShell](#) [Feedback](#) © 2025, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

we can also change the language and voice

Screenshot of the Amazon Polly Text-to-Speech interface showing the Language dropdown expanded.

Text-to-Speech [Info](#)

Engine [Info](#)
The Long-Form engine isn't supported in every region. For a list of supported regions, see [Feature and Region Compatibility](#).
The Generative engine isn't supported in every region. For a list of supported regions, see [Feature and Region Compatibility](#).

Generative
Produces the most expressive and adaptive speech using Generative AI.

Long-Form
Produces the most natural sounding speech for longer content.

Neural
Produces more natural and human-like speech than Standard Engine.

Standard
Produces natural-sounding speech.

Language [Info](#)
English, US

Czech
Danish
Dutch
Dutch, Belgian
English, Australian
English, British
English, Indian
English, Irish
English, New Zealand
English, Singaporean
English, South African
English, US

Voice [Info](#)
Joanna, Female

SSML [Info](#)

[Restore default text](#) [Clear text](#)

[CloudShell](#) [Feedback](#) © 2025, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

Searched for "Text-to-Speech"

Amazon Polly > Text-to-Speech

Text-to-Speech Info

Engine Info
The Long-Form engine isn't supported in every region. For a list of supported regions, see [Feature and Region Compatibility](#).
The Generative engine isn't supported in every region. For a list of supported regions, see [Feature and Region Compatibility](#).

Generative
Produces the most expressive and adaptive speech using Generative AI.

Long-Form
Produces the most natural sounding speech for longer content.

Neural
Produces more natural and human-like speech than Standard Engine.

Standard
Produces natural-sounding speech.

Language Info
English, US

Input text Info
Hi! My name is Joanna. I will read any text you type here.
58 characters used

Voice Info
Joanna, Female
Danielle, Female
 Joanna, Female
Ruth, Female
Salli, Female
Kimberly, Female
Kendra, Female
Ivy, Female
Gregory, Male
Kevin, Male
Matthew, Male
Justin, Male
Joey, Male

Additional settings

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

2. Create an IAM role

AWS Lambda needs permission to access Amazon Polly and Amazon S3.

Searched for "Console Home"

Amazon Polly > Console Home

Console Home Info

Recently visited Info
 IAM

Simple Queue Service
 CloudFront
 Systems Manager
 EC2
 Elastic Beanstalk
 CloudFormation

Applications (0) Info
Region: Asia Pacific (Mumbai)
Select Region: ap-south-1 (Current Region)
Find applications

No applications
Get started by creating an application.
Create application

Welcome to AWS
Getting started with AWS Info
Learn the fundamentals and

AWS Health Info
Open issues: 0 Past 7 days

Cost and usage Info
Current month costs: \$0.01 Cost (\$)

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot of the AWS IAM Dashboard:

The left sidebar shows the navigation menu under "Access management":

- User groups
- Users
- Roles** (highlighted with a red arrow)
- Policies
- Identity providers
- Account settings
- Root access management

The main content area displays the following information:

- IAM resources**: Resources in this AWS Account
 - User groups: 1
 - Users: 1
 - Roles: 15
 - Policies: 4
 - Identity providers: 0
- What's new**: Updates for features in IAM
 - AWS IAM announces support for encrypted SAML assertions. 5 months ago
 - AWS CodeBuild announces support for project ARN and build ARN IAM condition keys. 5 months ago
 - IAM Roles Anywhere credential helper now supports TPM 2.0. 6 months ago
 - Announcing AWS STS support for ECDSA-based signatures of OIDC tokens. 7 months ago
- Quick Links**: My security credentials, Manage your access keys, multi-factor authentication (MFA) and other credentials.
- Tools**: Policy simulator (with a brief description).
- Additional information**: Security best practices in IAM, IAM documentation, Videos, blog posts, and additional resources.

Page footer: https://us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/users

Screenshot of the AWS IAM Roles page:

The left sidebar shows the navigation menu under "Access management":

- User groups
- Users
- Roles** (highlighted with a red arrow)
- Policies
- Identity providers
- Account settings
- Root access management

The main content area displays the following information:

- 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.
- Create role** button (highlighted with a red box).
- A table listing 15 roles with columns: Role name, Trusted entities, and Last activity.

Role name	Trusted entities	Last activity
aws-elasticbeanstalk-ec2-role	AWS Service: ec2	-
aws-elasticbeanstalk-service-role	AWS Service: elasticbeanstalk	183 days ago
AWSServiceRoleForApplicationAutoScaling_DynamoDBTable	AWS Service: dynamodb.application	262 days ago
AWSServiceRoleForAutoScaling	AWS Service: autoscaling (Service-Li	291 days ago
AWSServiceRoleForElasticLoadBalancing	AWS Service: elasticloadbalancing (S	291 days ago
AWSServiceRoleForGlobalAccelerator	AWS Service: globalaccelerator (Serv	-
AWSServiceRoleForRDS	AWS Service: rds (Service-Linked Rol	52 minutes ago
AWSServiceRoleForSupport	AWS Service: support (Service-Linker	-
AWSServiceRoleForTrustedAdvisor	AWS Service: trustedadvisor (Service	-
demo-lambda-role-hingl0d7	AWS Service: lambda	-
Demo-SSM-EC2-role	AWS Service: ec2	168 days ago
DemoRoleEC2	AWS Service: ec2	333 days ago
rds-monitoring-role	AWS Service: monitoring.rds	-

Page footer: https://us-east-1.console.aws.amazon.com/iam/roles?region=ap-south-1

Screenshot of the AWS IAM 'Create role' wizard Step 1: Select trusted entity.

The 'Trusted entity type' section shows five options:

- AWS service** (selected): Allows AWS services like EC2, Lambda, or others to perform actions in this account.
- AWS account**: Allows 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**: Allows 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.

The 'Use case' section indicates: "Allow an AWS service like EC2, Lambda, or others to perform actions in this account." A dropdown menu labeled "Service or use case" is shown, with a red arrow pointing to it. The dropdown contains the placeholder "Choose a service or use case".

Buttons at the bottom right: "Cancel" and "Next".

Screenshot of the AWS IAM 'Create role' wizard Step 1: Select trusted entity, showing the service selection dropdown.

The dropdown menu is titled "Filter service or use case" and lists services under "Commonly used services":

- EC2
- Lambda

Other services listed include: Amazon Aurora DSQL, Amazon EMR Serverless, Amazon OpenSearch Service, Amazon Q Business, Amazon Grafana, Amplify, API Gateway, AppFabric, Application Auto Scaling, Application Discovery Service, Application Migration Service, AppStream 2.0, and AWS Sync.

A red arrow points to the "Service or use case" dropdown menu. A red error message at the bottom states: "Service or use case is required."

Buttons at the bottom right: "Cancel" and "Next".

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.

Service or use case
Lambda

Choose a use case for the specified service.
Use case
 Lambda

- Allows Lambda functions to call AWS services on your behalf.

[Cancel](#) **Next**

3. Attach the following policies:

- **AmazonPollyFullAccess**
- **AmazonS3FullAccess**

Add permissions Info

Permissions policies (1/1058) Info

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

Filter by Type
All types 2 matches

Policy name	Type	Description
<input checked="" type="checkbox"/> AmazonPollyFullAccess	AWS managed	Grants full access to Amazon Polly servic...
<input type="checkbox"/> AmazonPollyReadOnlyAccess	AWS managed	Grants read-only access to Amazon Polly...

Set permissions boundary - optional

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

Screenshot of the AWS IAM 'Create role' wizard, Step 2: Add permissions.

The 'Permissions policies' section shows a list of AWS managed policies. The 'AmazonS3FullAccess' policy is selected (indicated by a red arrow) and highlighted with a blue border. Other policies listed include:

- AmazonS3ObjectLambdaExecutionRole
- AmazonS3OutpostsFullAccess
- AmazonS3OutpostsReadOnlyAccess
- AmazonS3ReadOnlyAccess
- AmazonS3TablesFullAccess
- AmazonS3TablesLakeFormationService
- AmazonS3TablesReadOnlyAccess

A 'Set permissions boundary - optional' section is visible at the bottom.

Screenshot of the AWS IAM 'Create role' wizard, Step 2: Add permissions (continued).

The 'Permissions policies' section shows the same list of AWS managed policies. The 'AmazonS3FullAccess' policy is again selected and highlighted with a blue border. The 'Next Step' button is highlighted with a red box at the bottom right.

Screenshot of the AWS IAM 'Create role' wizard - Step 1: Name, review, and create.

The sidebar shows the steps: Step 1 (Select trusted entity), Step 2 (Add permissions), Step 3 (Name, review, and create). The current step is highlighted.

Role details

Role name: PollyLambdaRole

Description: Allows Lambda functions to call AWS services on your behalf.

Step 1: Select trusted entities

Trust policy:

```
1 [{}  
2   "Version": "2012-10-17",  
3   "Statement": [  
4     {  
5       "Effect": "Allow",  
6       "Action": [  
7         "sts:AssumeRole"  
8       ],  
9       "Principal": "  
10      *"  
11    },  
12  ]  
13 }  
14 ]  
15 ]  
16 ]
```

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot of the AWS IAM 'Create role' wizard - Step 2: Add permissions.

The sidebar shows the steps: Step 1 (Select trusted entity), Step 2 (Add permissions), Step 3 (Name, review, and create). The current step is highlighted.

Permissions policy summary

Policy name	Type	Attached as
AmazonPollyFullAccess	AWS managed	Permissions policy
AmazonS3FullAccess	AWS managed	Permissions policy

Step 3: Add 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 new tag](#)

You can add up to 50 more tags.

Cancel Previous **Create role**

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Searched for "Role" in the search bar.

Role PollyLambaRole created.

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.

Role name	Trusted entities	Last activity
aws-elasticbeanstalk-ec2-role	AWS Service: ec2	-
aws-elasticbeanstalk-service-role	AWS Service: elasticbeanstalk	184 days ago
AWSServiceRoleForApplicationAutoScaling_DynamoDBTable	AWS Service: dynamodb.application	262 days ago
AWSServiceRoleForAutoScaling	AWS Service: autoscaling (Service-Li)	291 days ago
AWSServiceRoleForElasticLoadBalancing	AWS Service: elasticloadbalancing (S)	291 days ago
AWSServiceRoleForGlobalAccelerator	AWS Service: globalaccelerator (Serv)	-
AWSServiceRoleForRDS	AWS Service: rds (Service-Linked Rol)	55 minutes ago
AWSServiceRoleForSupport	AWS Service: support (Service-Linker)	-
AWSServiceRoleForTrustedAdvisor	AWS Service: trustedadvisor (Service)	-
demo-lambda-role-hingl0d7	AWS Service: lambda	-
Demo-SSM-EC2-role	AWS Service: ec2	168 days ago

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

4. Now create an empty S3 bucket

Searched for "S3" in the search bar.

Console Home

Recently visited: S3, IAM, Amazon Polly, Billing and Cost Management, CloudShell, Cloud9, VPC, Simple Notification Service.

Simple Queue Service, CloudFront, Systems Manager, EC2, Elastic Beanstalk, CloudFormation.

Applications (0) Info

Region: Asia Pacific (Mumbai)

Select Region: ap-south-1 (Current Region)

No applications. Get started by creating an application.

Welcome to AWS

Getting started with AWS

Learn the fundamentals and

AWS Health

Open issues: 0 Past 7 days

Cost and usage

Current month costs: \$0.01 Cost (\$): 0

© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Amazon S3

General purpose buckets
Directory buckets
Table buckets
Access Grants
Access Points for general purpose buckets
Access Points for directory buckets
Object Lambda Access Points
Multi-Region Access Points
Batch Operations
IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- Storage Lens groups
- AWS Organizations settings

Feature spotlight 11

CloudShell Feedback

Account snapshot - updated every 24 hours All AWS Regions

Storage lens provides visibility into storage usage and activity trends. Metrics don't include directory buckets. [Learn more](#)

[View Storage Lens dashboard](#)

General purpose buckets (9) [Info](#) All AWS Regions

Buckets are containers for data stored in S3.

Name	AWS Region	IAM Access Analyzer	Creation date
aws-rekognition-010625	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	June 1, 2025, 13:07:40 (UTC+05:30)
cf-templates-xqkio5zuas5x-eu-north-1	Europe (Stockholm) eu-north-1	View analyzer for eu-north-1	December 20, 2024, 13:14:59 (UTC+05:30)
cf-templates-xqkio5zuas5x-us-east-1	US East (N. Virginia) us-east-1	View analyzer for us-east-1	December 20, 2024, 13:20:09 (UTC+05:30)
democloudfront-s3-bucket	Europe (Stockholm) eu-north-1	View analyzer for eu-north-1	January 16, 2025, 00:03:57 (UTC+05:30)
elasticbeanstalk-ap-south-1-905418461383	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	December 20, 2024, 13:47:04 (UTC+05:30)
elasticbeanstalk-eu-central-1-905418461383	Europe (Frankfurt) eu-central-1	View analyzer for eu-central-1	December 20, 2024, 14:02:23 (UTC+05:30)

[Copy ARN](#) [Empty](#) [Delete](#) [Create bucket](#)

© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Amazon S3 > Buckets > Create bucket

Create bucket [Info](#)

Buckets are containers for data stored in S3.

General configuration

AWS Region: Asia Pacific (Mumbai) ap-south-1

Bucket type: [Info](#)

General purpose
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

Directory
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name [Info](#): **polly-text-narrate-pragya**

Bucket names must be 3 to 63 characters and unique within the global namespace. Bucket names must also begin and end with a letter or number. Valid characters are a-z, 0-9, periods (.), and hyphens (-). [Learn More](#)

Copy settings from existing bucket - optional
Only the bucket settings in the following configuration are copied.

[Choose bucket](#)
Format: s3://bucket/prefix

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

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

CloudShell Feedback

© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

AWS Search [Alt+S] Asia Pacific (Mumbai) Sharmapragya @ aws-sharmapragya-24

Amazon S3 > Buckets > Create 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 enforced

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.

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

AWS Search [Alt+S] Asia Pacific (Mumbai) Sharmapragya @ aws-sharmapragya-24

Amazon S3 > Buckets > Create bucket

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 - optional (0)

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

No tags associated with this bucket.

Add new tag

You can add up to 50 tags.

Default encryption [Info](#)

Server-side encryption is automatically applied to new objects stored in this bucket.

Encryption type [Info](#)

Server-side encryption with Amazon S3 managed keys (SSE-S3)
 Server-side encryption with AWS Key Management Service keys (SSE-KMS)
 Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)
Secure your objects with two separate layers of encryption. For details on pricing, see DSSE-KMS pricing on the Storage tab of the [Amazon S3 pricing page](#).

Bucket Key

Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. [Learn more](#)

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot of the AWS S3 'Create bucket' page.

The 'Default encryption' section shows 'Server-side encryption is automatically applied to new objects stored in this bucket.' The 'Encryption type' dropdown is set to 'Server-side encryption with Amazon S3 managed keys (SSE-S3)'. The 'Bucket Key' section indicates using an S3 Bucket Key for SSE-KMS reduces costs, with 'Enable' selected.

A 'Advanced settings' section contains a note: 'After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.'

At the bottom right, there are 'Cancel' and 'Create bucket' buttons, with 'Create bucket' highlighted by a red box.

Screenshot of the AWS S3 'Buckets' page showing the newly created bucket 'polly-text-narrate-pragya'.

A green success message at the top states: 'Successfully created bucket "polly-text-narrate-pragya". To upload files and folders, or to configure additional bucket settings, choose View details.' A red arrow points to the 'View details' button.

The main table lists 'General purpose buckets (10)' with columns: Name, AWS Region, IAM Access Analyzer, and Creation date. The newly created bucket 'polly-text-narrate-pragya' is listed in the first row.

Name	AWS Region	IAM Access Analyzer	Creation date
aws-rekognition-010625	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	June 1, 2025, 13:07:40 (UTC+05:30)
cf-templates-xqkio5zuas5x-eu-north-1	Europe (Stockholm) eu-north-1	View analyzer for eu-north-1	December 20, 2024, 13:14:59 (UTC+05:30)
cf-templates-xqkio5zuas5x-us-east-1	US East (N. Virginia) us-east-1	View analyzer for us-east-1	December 20, 2024, 13:20:09 (UTC+05:30)
democloudfront-s3-bucket	Europe (Stockholm) eu-north-1	View analyzer for eu-north-1	January 16, 2025, 00:03:57 (UTC+05:30)
elasticbeanstalk-ap-south-1-905418461383	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	December 20, 2024, 13:47:04 (UTC+05:30)
elasticbeanstalk-eu-central-1-905418461383	Europe (Frankfurt) eu-central-1	View analyzer for eu-central-1	December 20, 2024, 14:02:23 (UTC+05:30)
myawsbucket-pragya	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	September 17, 2024, 14:52:38 (UTC+05:30)
myawsbucket-pragya-replica-v2	Asia Pacific (Sydney) ap-southeast-2	View analyzer for ap-southeast-2	September 30, 2024, 10:57:38 (UTC+05:30)
myawsbucket-pragya-v2	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	September 30, 2024, 10:56:36 (UTC+05:30)
polly-text-narrate-pragya	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	June 22, 2025, 14:57:47 (UTC+05:30)

5. Create a Lambda Function

This function triggers when a `.txt` file is uploaded to the S3 bucket and uses Polly to generate speech.

AWS Lambda search results page. The Lambda service card is highlighted with a red arrow. The card includes the Lambda logo, the text "Run code without thinking about servers", and a star icon.

Services

- Lambda
- CodeBuild
- AWS Signer

Features

- Lambda Insights
- Object Lambda Access Points
- Batch Operations

Were these results helpful?

Resources / for a focused search

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

AWS Lambda landing page. The main heading is "AWS Lambda lets you run code without thinking about servers." Below it, a subtext states: "You pay only for the compute time that you consume — there is no charge when your code is not running. With Lambda, you can run code for virtually any type of application or backend service, all with zero administration." To the right, a "Get started" box contains the text: "Author a Lambda function from scratch, or choose from one of many preconfigured examples." The "Create a function" button is highlighted with a red box.

Compute

AWS Lambda

lets you run code without thinking about servers.

You pay only for the compute time that you consume — there is no charge when your code is not running. With Lambda, you can run code for virtually any type of application or backend service, all with zero administration.

Get started

Author a Lambda function from scratch, or choose from one of many preconfigured examples.

Create a function

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

AWS Lambda "How it works" page. The "Node.js" tab is selected. The code editor displays the following Node.js code:

```
1 exports.handler = async (event) => {
2   console.log(event);
3   return 'Hello from Lambda!';
4 };
5
```

Run Next: Lambda responds to events

.NET Java Node.js Python Ruby Custom runtime

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot of the AWS Lambda 'Create function' wizard.

Basic information

Function name: pollyfunction

Runtime: Python 3.13

Architecture: x86_64

Permissions: 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

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

6. add the previously created IAM role to lambda function

Screenshot of the AWS Lambda 'Create function' wizard.

Architecture: x86_64

Permissions: 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: Use an existing role

Existing role: Existing role (highlighted with a red arrow)

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

Enable Code signing: Use code signing configurations to ensure that the code has been signed by an approved source and has not been altered since signing.

Enable encryption with an AWS KMS customer managed key: Info

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot of the AWS Lambda 'Create function' configuration page.

Architecture | [Info](#)
Choose the instruction set architecture you want for your function code.
 arm64
 x86_64

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.
PollyLambdaRole

Search bar: service-role/demo-lambda-role-hingl0d7

PollyLambdaRole (selected)

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

Enable Code signing | [Info](#)
 Use code signing configurations to ensure that the code has been signed by an approved source and has not been altered since signing.

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot of the AWS Lambda function details page for 'pollyfunction'.

Function overview | [Info](#)

Diagram | [Template](#)

pollyfunction

Description
-

Last modified
4 seconds ago

Function ARN
[arn:aws:lambda:ap-south-1:905418461383:function:pollyfunction](#)

Function URL | [Info](#)
-

Code | Test | Monitor | Configuration | Aliases | Versions

Code source | [Info](#)

Upload from

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

7. Paste the python code in lambda function

```
import json
import boto3
import os

def lambda_handler(event, context):
    s3 = boto3.client('s3')
    polly = boto3.client('polly')

    # Get bucket and object key
    bucket = event['Records'][0]['s3']['bucket']['name']
    key = event['Records'][0]['s3']['object']['key']

    # Get the text file content
    response = s3.get_object(Bucket=bucket, Key=key)
    text = response['Body'].read().decode('utf-8')

    # Convert text to speech
    speech = polly.synthesize_speech(
```

8. Add trigger to lambda

pollyfunction

Function overview [Info](#)

[Diagram](#) | [Template](#)

pollyfunction

[Layers](#) (0)

[+ Add trigger](#)

[+ Add destination](#)

Description
-

Last modified
1 hour ago

Function ARN
[arn:aws:lambda:ap-south-1:905418461383:function:pollyfunction](#)

Function URL [Info](#)
-

[Code](#) | [Test](#) | [Monitor](#) | [Configuration](#) | [Aliases](#) | [Versions](#)

Code source [Info](#)

[Upload from](#)

S | Search [Alt+S] Asia Pacific (Mumbai) Sharmapragya @ aws-sharmapragya-24

Lambda > Add triggers

Add trigger

Trigger configuration [Info](#)

Select a source

[Search](#)

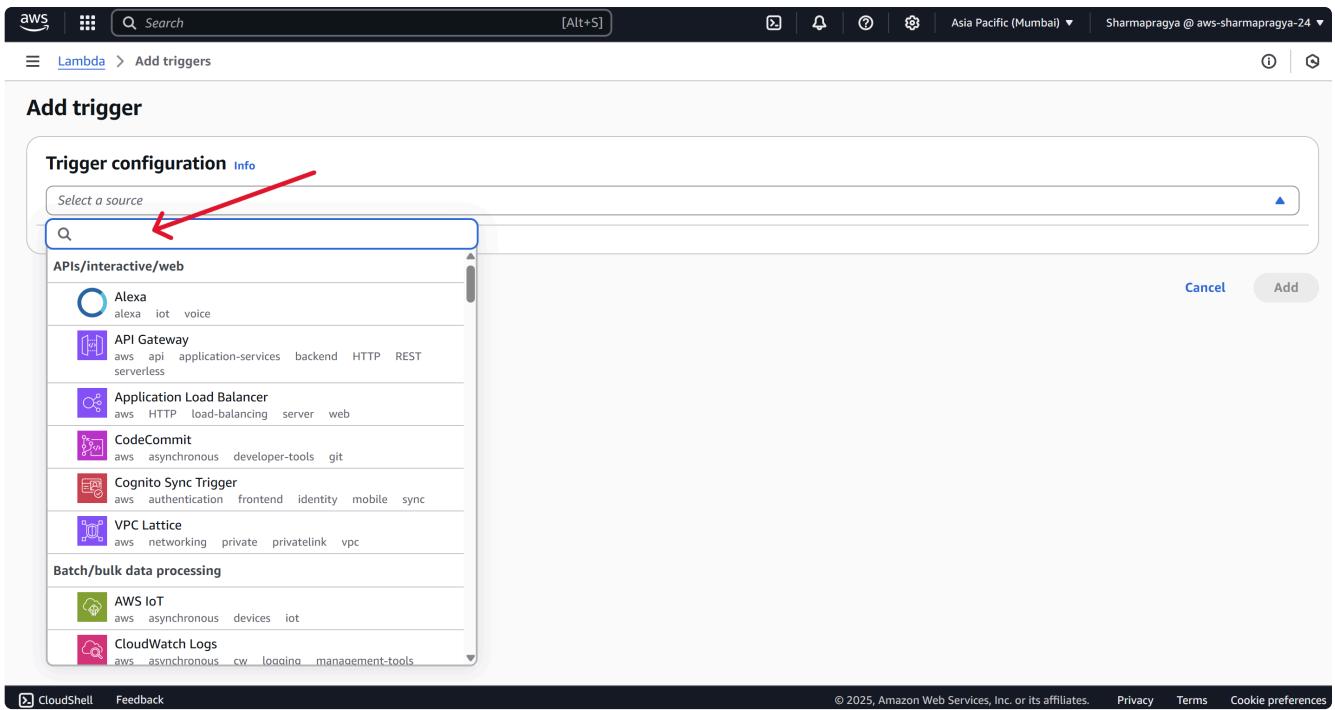
APIs/interactive/web

- Alexa alexa iot voice
- API Gateway aws api application-services backend HTTP REST serverless
- Application Load Balancer aws HTTP load-balancing server web
- CodeCommit aws asynchronous developer-tools git
- Cognito Sync Trigger aws authentication frontend identity mobile sync
- VPC Lattice aws networking private privatelink vpc

Batch/bulk data processing

- AWS IoT aws asynchronous devices iot
- CloudWatch Logs aws asynchronous cw logging management-tools

[CloudShell](#) [Feedback](#) © 2025, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)



S | Search [Alt+S] Asia Pacific (Mumbai) Sharmapragya @ aws-sharmapragya-24

Lambda > Add triggers

Add trigger

Trigger configuration [Info](#)

S3 aws asynchronous storage

Bucket
Choose or enter the ARN of an S3 bucket that serves as the event source. The bucket must be in the same region as the function.

[Search](#) [Create](#)

Bucket must be in region ap-south-1

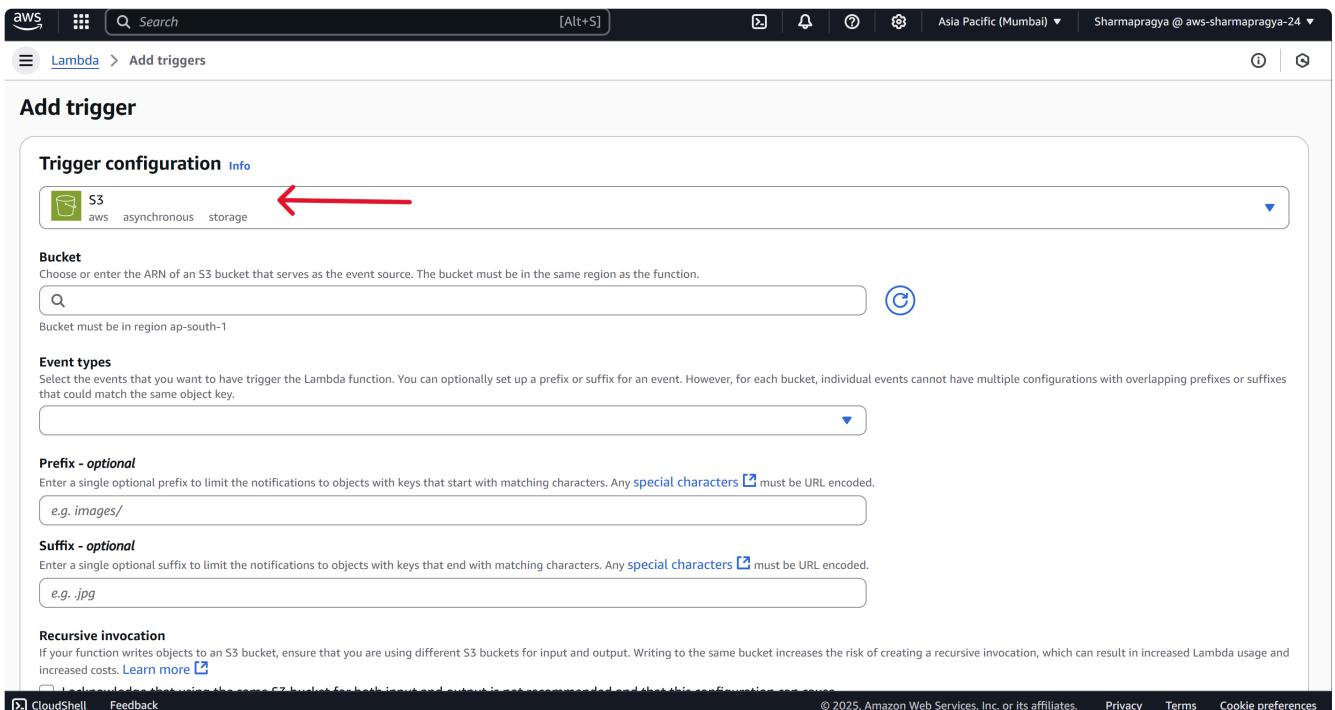
Event types
Select the events that you want to have trigger the Lambda function. You can optionally set up a prefix or suffix for an event. However, for each bucket, individual events cannot have multiple configurations with overlapping prefixes or suffixes that could match the same object key.

[Prefix - optional](#)
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters. Any [special characters](#) must be URL encoded.
e.g. images/

[Suffix - optional](#)
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters. Any [special characters](#) must be URL encoded.
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](#)

[CloudShell](#) [Feedback](#) © 2025, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)



9. Add the bucket name or ARN of the bucket

make event types as PUT

.txt as suffix

aws Search [Alt+S] Asia Pacific (Mumbai) ▾ Sharmapragya @ aws-sharmapragya-24

Lambda > Add triggers

 S3 aws asynchronous storage

Bucket
Choose or enter the ARN of an S3 bucket that serves as the event source. The bucket must be in the same region as the function.

(C)

Bucket region: ap-south-1

Event types
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.

PUT (X)

Prefix - optional
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters. Any [special characters](#) must be URL encoded.

Suffix - optional
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters. Any [special characters](#) must be URL encoded.

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.

CloudShell Feedback © 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

aws [Search] [A[lt+S]] Asia Pacific (Mumbai) ▾ Sharmapragya @ aws-sharmapragya-24

Lambda > Functions > pollyfunction > Edit trigger

S3 aws asynchronous storage

Bucket
Choose or enter the ARN of an S3 bucket that serves as the event source. The bucket must be in the same region as the function.
 

Bucket must be in region ap-south-1

Event types
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.


PUT 

Prefix - optional
Enter a single optional prefix to limit the notifications to objects with keys that start with matching characters. Any [special characters](#) must be URL encoded.

Suffix - optional
Enter a single optional suffix to limit the notifications to objects with keys that end with matching characters. Any [special characters](#) must be URL encoded.

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 **Save**

10. Now upload your .txt sample file in S3 bucket

Successfully created bucket "polly-text-narrate-pragya". To upload files and folders, or to configure additional bucket settings, choose View details.

General purpose buckets Directory buckets

General purpose buckets (10) [Info](#) [All AWS Regions](#)

Buckets are containers for data stored in S3.

Name	AWS Region	IAM Access Analyzer	Creation date
aws-rekognition-010625	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	June 1, 2025, 13:07:40 (UTC+05:30)
cf-templates-xqkio5zuas5x-eu-north-1	Europe (Stockholm) eu-north-1	View analyzer for eu-north-1	December 20, 2024, 13:14:59 (UTC+05:30)
cf-templates-xqkio5zuas5x-us-east-1	US East (N. Virginia) us-east-1	View analyzer for us-east-1	December 20, 2024, 13:20:09 (UTC+05:30)
democloudfront-s3-bucket	Europe (Stockholm) eu-north-1	View analyzer for eu-north-1	January 16, 2025, 00:03:57 (UTC+05:30)
elasticbeanstalk-ap-south-1-905418461383	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	December 20, 2024, 13:47:04 (UTC+05:30)
elasticbeanstalk-eu-central-1-905418461383	Europe (Frankfurt) eu-central-1	View analyzer for eu-central-1	December 20, 2024, 14:02:23 (UTC+05:30)
myawsbucket-pragya	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	September 17, 2024, 14:52:38 (UTC+05:30)
myawsbucket-pragya-replica-v2	Asia Pacific (Sydney) ap-southeast-2	View analyzer for ap-southeast-2	September 30, 2024, 10:57:38 (UTC+05:30)
myawsbucket-pragya-v2	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	September 30, 2024, 10:56:36 (UTC+05:30)
polly-text-narrate-pragya	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	June 22, 2025, 14:57:47 (UTC+05:30)

CloudShell Feedback

© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Amazon S3 > Buckets > polly-text-narrate-pragya

polly-text-narrate-pragya [Info](#)

Objects Properties Permissions Metrics Management Access Points

Objects (0) [Actions](#) [Create folder](#) [Upload](#)

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](#)

Find objects by prefix

Name	Type	Last modified	Size	Storage class
No objects You don't have any objects in this bucket.				

[Upload](#)

CloudShell Feedback

© 2025, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Searched for "Search" [Alt+S]

Amazon S3 > Buckets > polly-text-narrate-pragya > Upload

Upload [Info](#)

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDKs or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose Add files or Add folder.

Files and folders (0)

All files and folders in this table will be uploaded.

Find by name

Name Folder Type Size

No files or folders
You have not chosen any files or folders to upload.

[Remove](#) [Add files](#) [Add folder](#)

Destination [Info](#)

Destination <s3://polly-text-narrate-pragya>

▶ Destination details
Bucket settings that impact new objects stored in the specified destination.

[Permissions](#) [CloudShell](#) [Feedback](#)

© 2025, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)



Adding a file in this S3 bucket will trigger our lambda function and soon an mp3 file of audio generated from amazon polly will appear in the same S3 bucket

Troubleshooting tips

1. add the following permission to roles, to monitor amazon lambda through cloudwatch for easier error detection

AWSLambdaBasicExecutionRole