

Text Narrator Using Amazon Polly

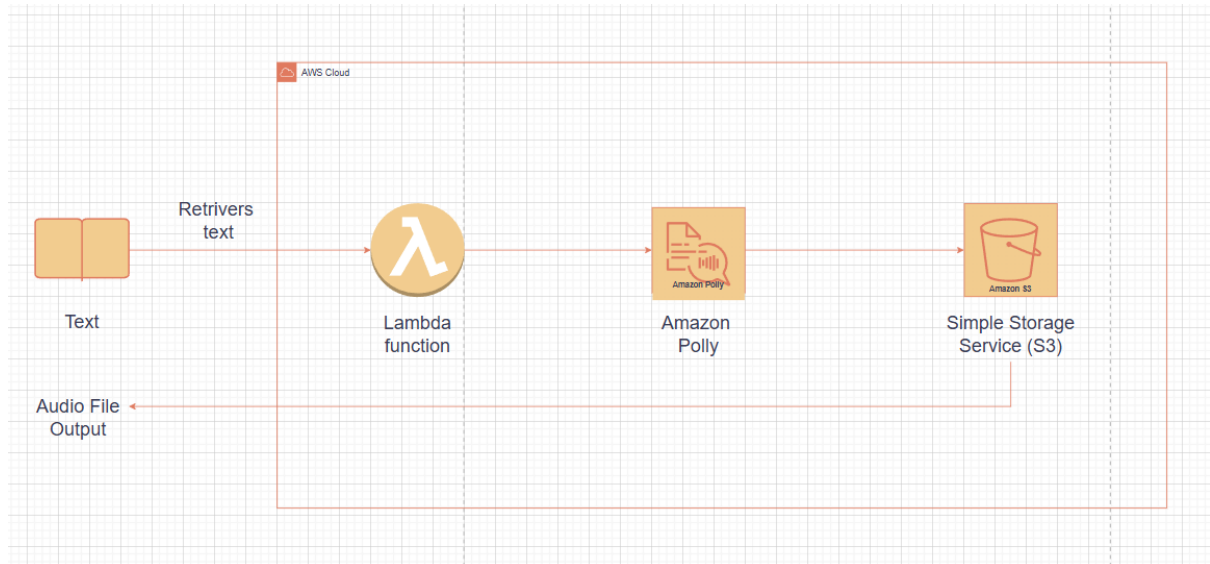
Overview

In this project a piece of textbook will be uploaded in S3 bucket and with the help of Amazon Polly it can be converted into speech where we can adjust the pitch and speed parameters.

Services Used

- Amazon Polly converts text to life like speech with customizable features.
- AWS IAM ensures secure access by managing user permissions.
- AWS Lambda to communicate between Polly (for making text to speech) and S3 (for storing the converted files)

Diagram



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The screenshot shows the Amazon Polly console for a new text-to-speech job. The 'Engine' section is expanded, showing three options: Generative, Long-Form, and Standard. The 'Standard' engine is selected, which produces natural-sounding speech. The 'Language' is set to English, US, and the 'Voice' is set to Ivy, Female. The input text field contains the text 'Hi! My name is Ivy. I will read any text you type here.' and shows 55 characters used. The console also displays buttons for 'Save to S3', 'Download', and 'Listen'.

us-east-1.console.aws.amazon.com/iam/home?region=us-east-2#/roles/create

aws Search [Alt+S]

Global sirix24 (9593-1533-1982) John

☰ 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.

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.

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Global ▾

siri:24 (9593-1533-1982) ▾

John

☰

[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.

Maximum 1000 characters. Use letters (A-Z and a-z), numbers (0-9), tabs, new lines, or any of the following characters: _+=, @-/\(\)\#\\$\%^&*~!@;~"

Step 1: Select trusted entities

Trust policy

```
1 {  
2   "Version": "2012-10-17",  
3   "Statement": [  
4     {  
5       "Effect": "Allow",  
6       "Action": [
```

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Step 1: Add permissions

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

Step 2: Add permissions

Permissions policy summary

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

Step 3: Add tags

Create bucket

Buckets are containers for data stored in S3.

General configuration

AWS Region
US East (Ohio) us-east-2

Bucket type

☒ **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
polly-audio-storage15

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

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)**

☐ **ACLs enabled**

Create function

Choose one of the following options to create your function.

☒ **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.
TextToSpeechFunction
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
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.
Node.js 16.x

Architecture
Choose the instruction set architecture you want for your function code.
☐ arm64
☒ 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.

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