

Introduction to Serverless Image Processing

Unlock the power of serverless computing to streamline your image processing workflows. Leverage AWS services to automatically resize, optimize, and serve your images without the hassle of managing infrastructure.

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Leveraging AWS Services

Amazon S3

Store your images in a highly scalable and durable object storage service.

AWS Lambda

Run your image processing logic in a serverless, event-driven compute service.

API Gateway

Expose your optimized images through a secure and scalable API.

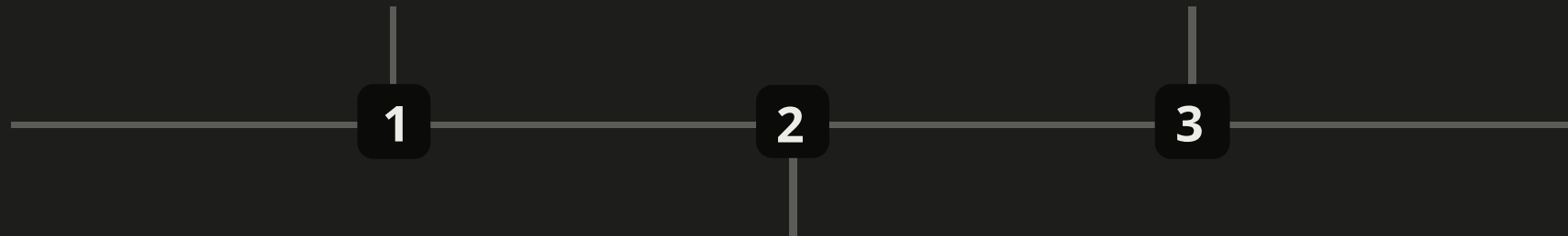
Automatic Image Resizing and Optimization

Image Upload

Users upload images to an S3 bucket.

Process Images

The Lambda function resizes and optimizes the images.



Trigger Lambda

An S3 event trigger invokes a Lambda function.

Configuring S3 Event Triggers

S3 Bucket

Set up an S3 bucket to store the uploaded images.

Event Trigger

Configure the S3 bucket to trigger a Lambda function on object creation.


Function Invocation

The Lambda function is automatically invoked when new images are uploaded.

Lambda > Add trigger

Add trigger

Trigger configuration

 **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.

textextract-documentsbucket-id

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

e.g. images/

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

e.g. .jpg

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

☒ **Enable trigger**
Enable the trigger now, or create it in a disabled state for testing (recommended).

Cancel

Add

Implementing the Lambda Function

1

Image Retrieval

Retrieve the uploaded image from the S3 bucket.

2

Image Processing

Resize and optimize the image using image processing libraries.

3

Upload to S3

Store the optimized image back to the S3 bucket.

4

Response Handling

Return the URL of the optimized image to the client.

Optimizing Image Quality and Size



Compression

Use lossy and lossless compression techniques to reduce file size.



Resolution

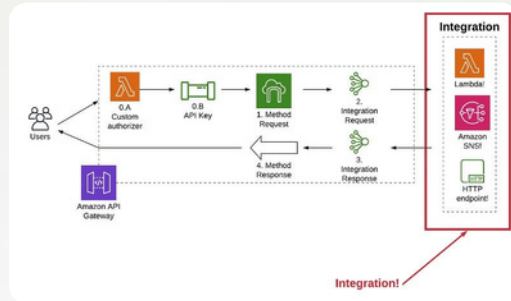
Resize images to the appropriate resolution for the target use case.



Format

Choose the optimal file format (e.g., JPEG, WebP) for each image.

Serving Optimized Images through an API



1

Client Request

The client sends a request to the API for an optimized image.

2

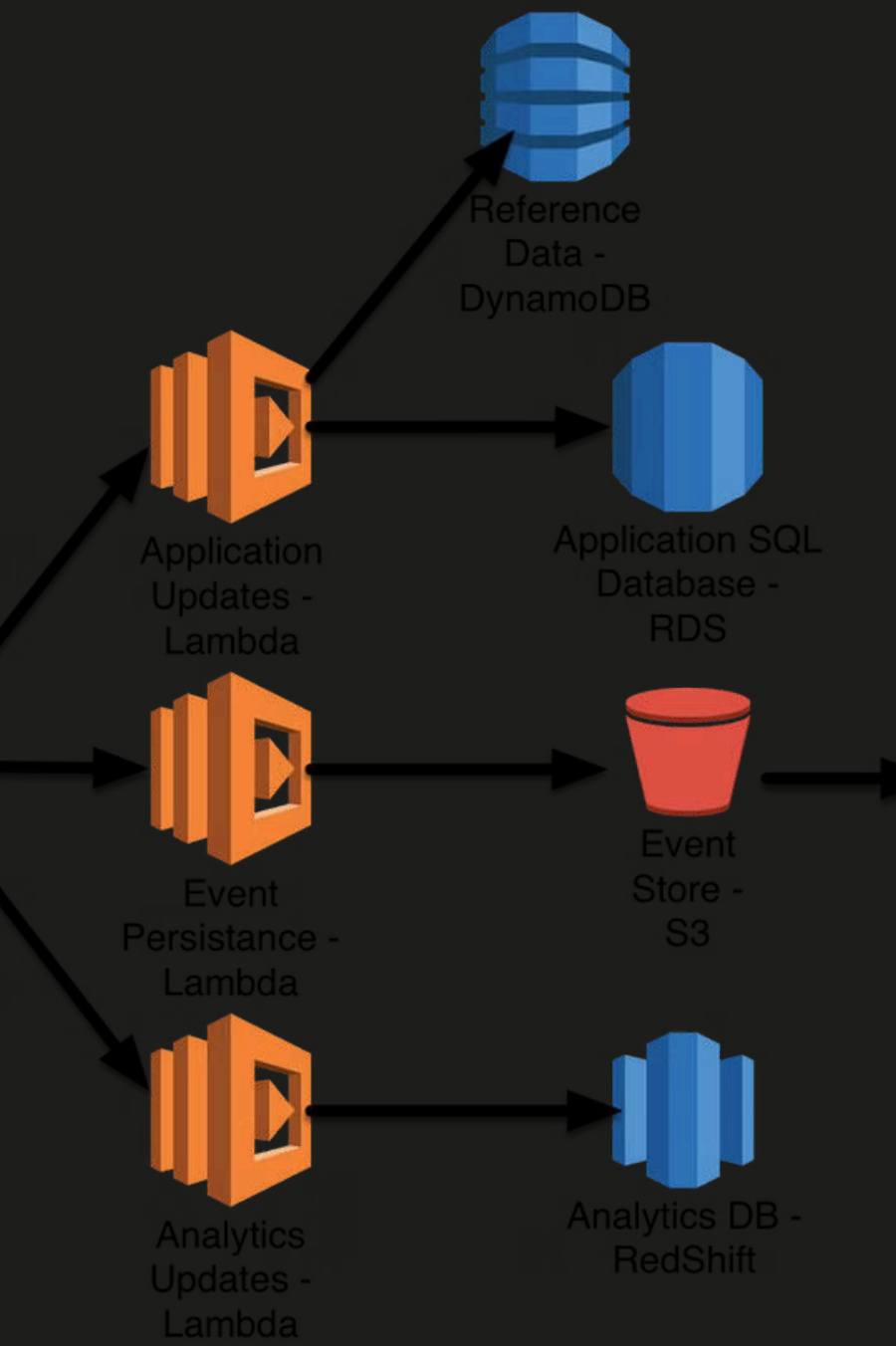
API Gateway

API Gateway receives the request and forwards it to the Lambda function.

3

Lambda Function

The Lambda function retrieves the optimized image from S3 and returns the URL.



Conclusion and Next Steps

The serverless image processing solution you've built leverages AWS services to automatically resize, optimize, and serve your images. Consider expanding your solution to include additional features like real-time image analysis, custom transformations, and integration with other AWS services.