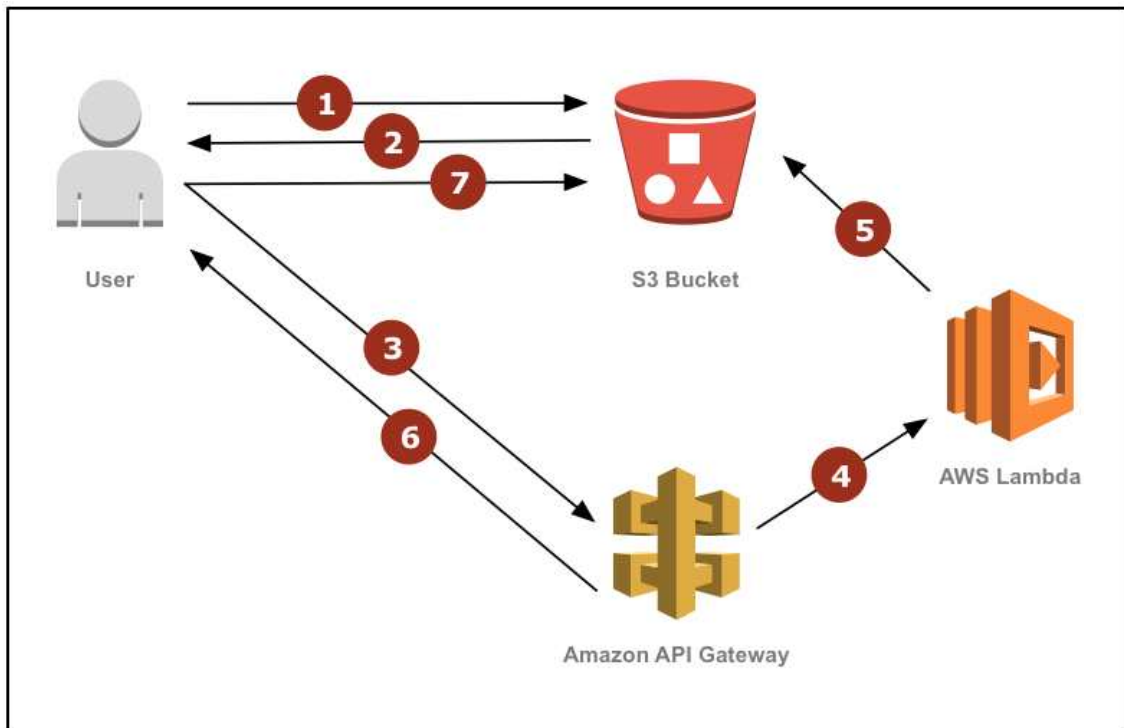# Architecture overview

Here's the process:

1. A user requests a resized asset from an S3 bucket through its static website hosting endpoint. The bucket has a routing rule configured to redirect to the resize API any request for an object that cannot be found.
2. Because the resized asset does not exist in the bucket, the request is temporarily redirected to the resize API method.
3. The user's browser follows the redirect and requests the resize operation via API Gateway.
4. The API Gateway method is configured to trigger a Lambda function to serve the request.
5. The Lambda function downloads the original image from the S3 bucket, resizes it, and uploads the resized image back into the bucket as the originally requested key.
6. When the Lambda function completes, API Gateway permanently redirects the user to the file stored in S3.
7. The user's browser requests the now-available resized image from the S3 bucket. Subsequent requests from this and other users will be served directly from S3 and bypass the resize operation. If the resized image is deleted in the future, the above process repeats and the resized image is re-created and replaced into the S3 bucket.