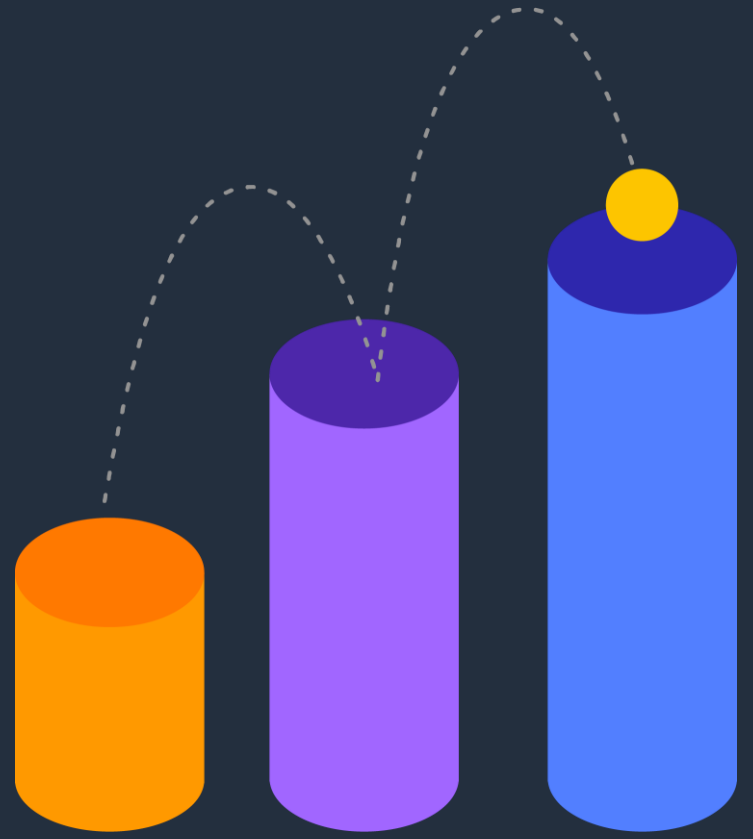
AWS Builders Online Series

Host your static website on Amazon Simple Storage Service (S3)

Kumar Nachiketa, Storage Partner Solutions Architect

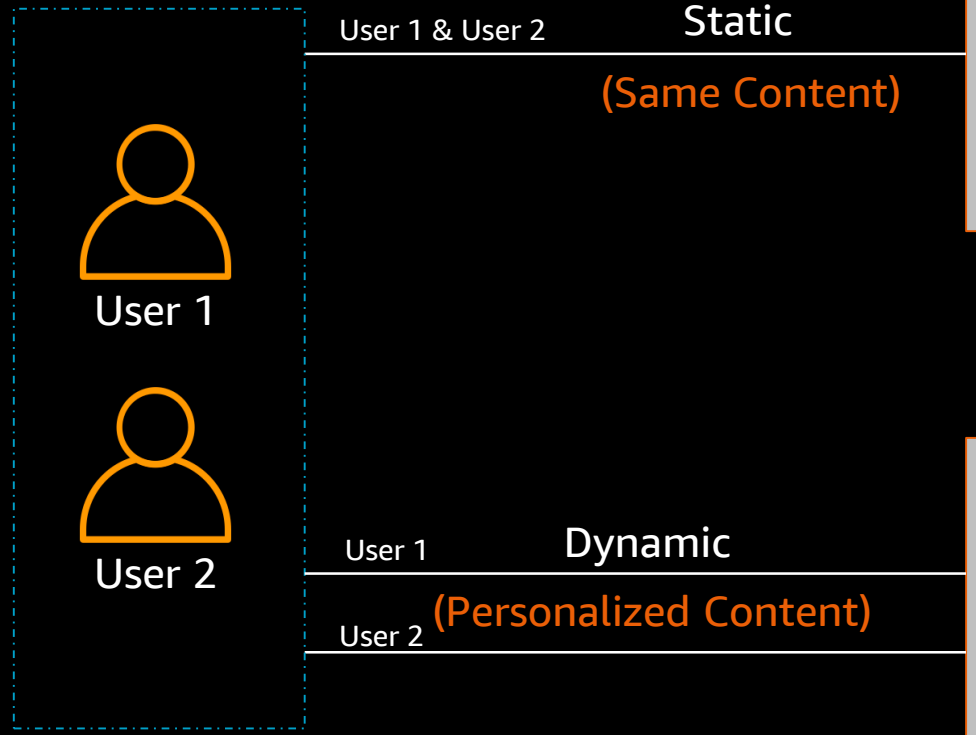


Agenda

- Host your static website: Architecture, Demo
- Key AWS services, concept

What is a Static Website, When to use it?

Static vs Dynamic Website



Serves the content as it is to the users' HTTP request

Server-Side processing for each HTTP request

Freelancer

I Want to build my personal brand

A Cake Shop

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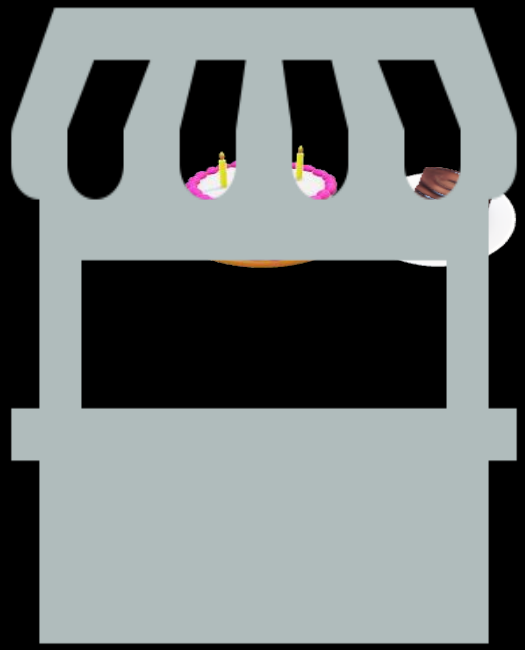
Freelancer

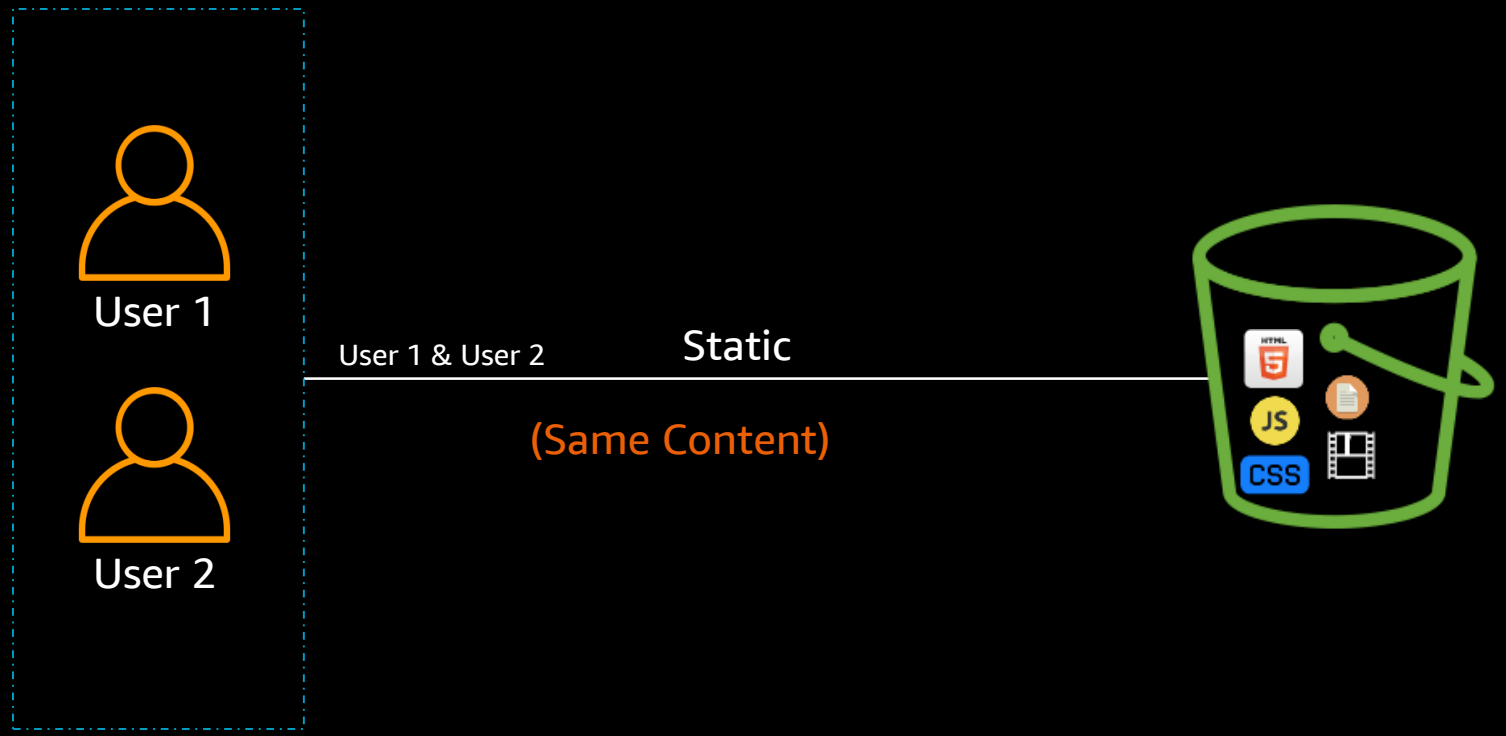
Payment options
Personalized content
(Video, Images..)

A Cake Shop



Order online
Shopping Carts

Amazon S3 to host static website



- 11 9's durability
- Unlimited scale
- Data availability
- Highly secure & performant

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REST API Endpoint vs Website Endpoint

Key Difference	REST API Endpoint	Website Endpoint
Access control	Supports both public and private content.	Supports only publicly readable content.
Error message handling	Returns an XML-formatted error response.	Returns an HTML document
Redirection support	Not applicable	Supports both object-level and bucket-level redirects.
Requests supported	Supports all bucket and object operations	Supports only GET and HEAD requests on objects
Responses to GET and HEAD requests at the root of a bucket	Returns a list of the object keys in the bucket	Returns the index document that is specified in the website configuration
Secure Sockets Layer (SSL) support	Secure Sockets Layer (SSL) support	Does not support SSL connections.

https://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteEndpoints.html

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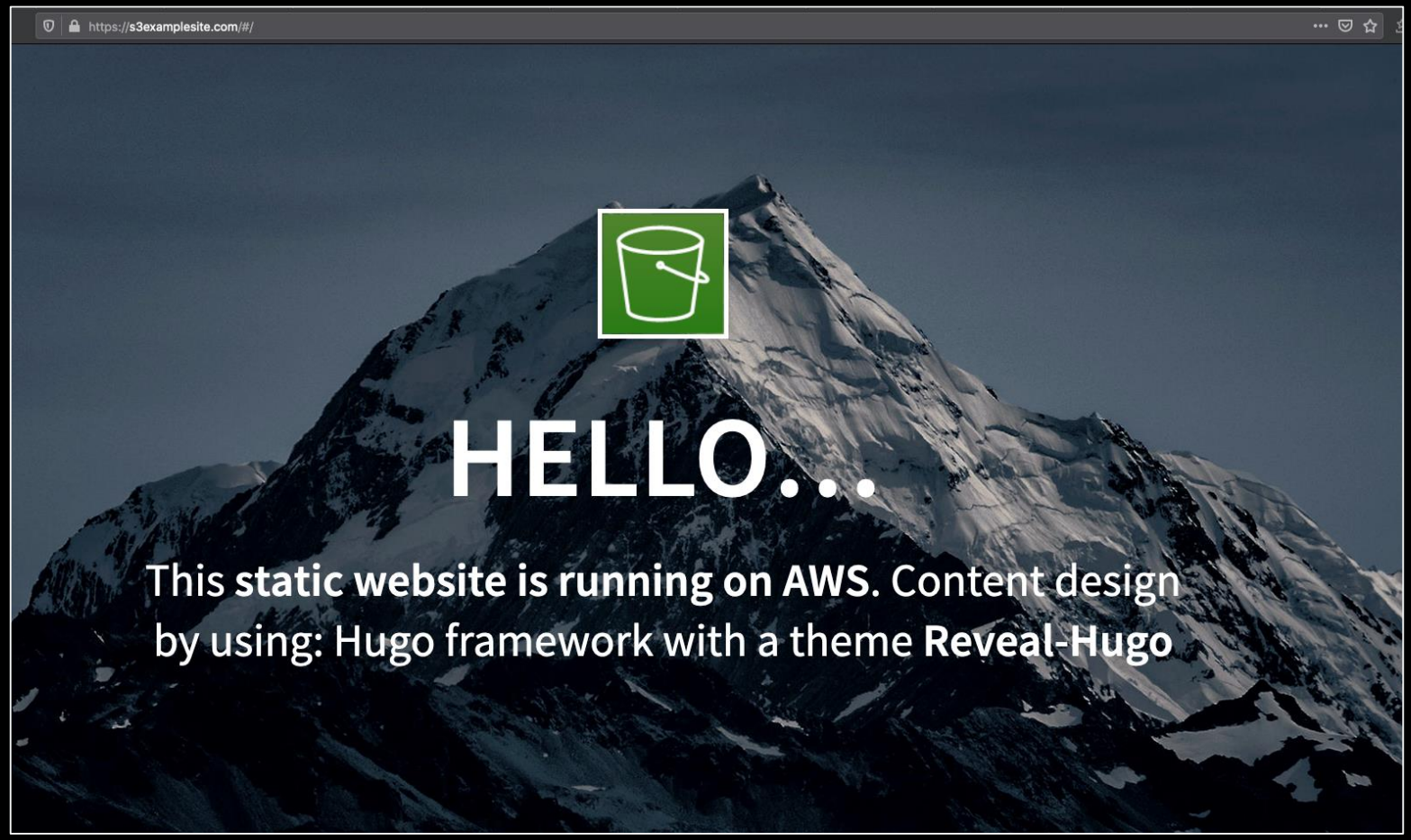
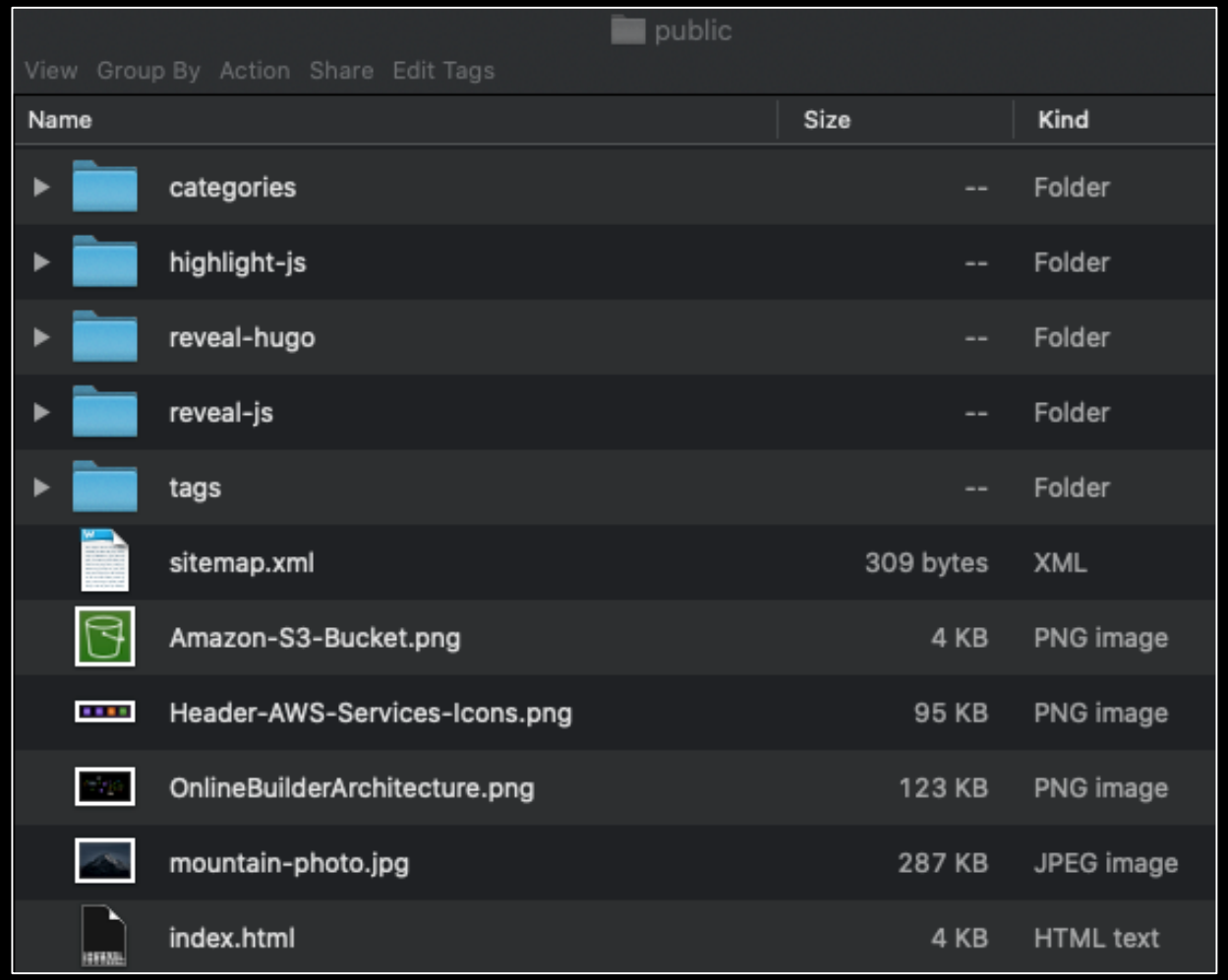
Demo Setup, Architecture

Demo website

https://s3examplesite.com



Website design and content



- HUGO framework
- REVEAL-HUGO theme

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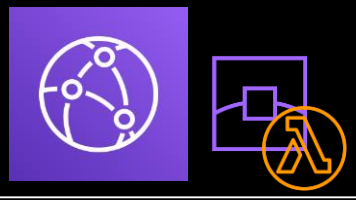
Key AWS Services

Amazon S3

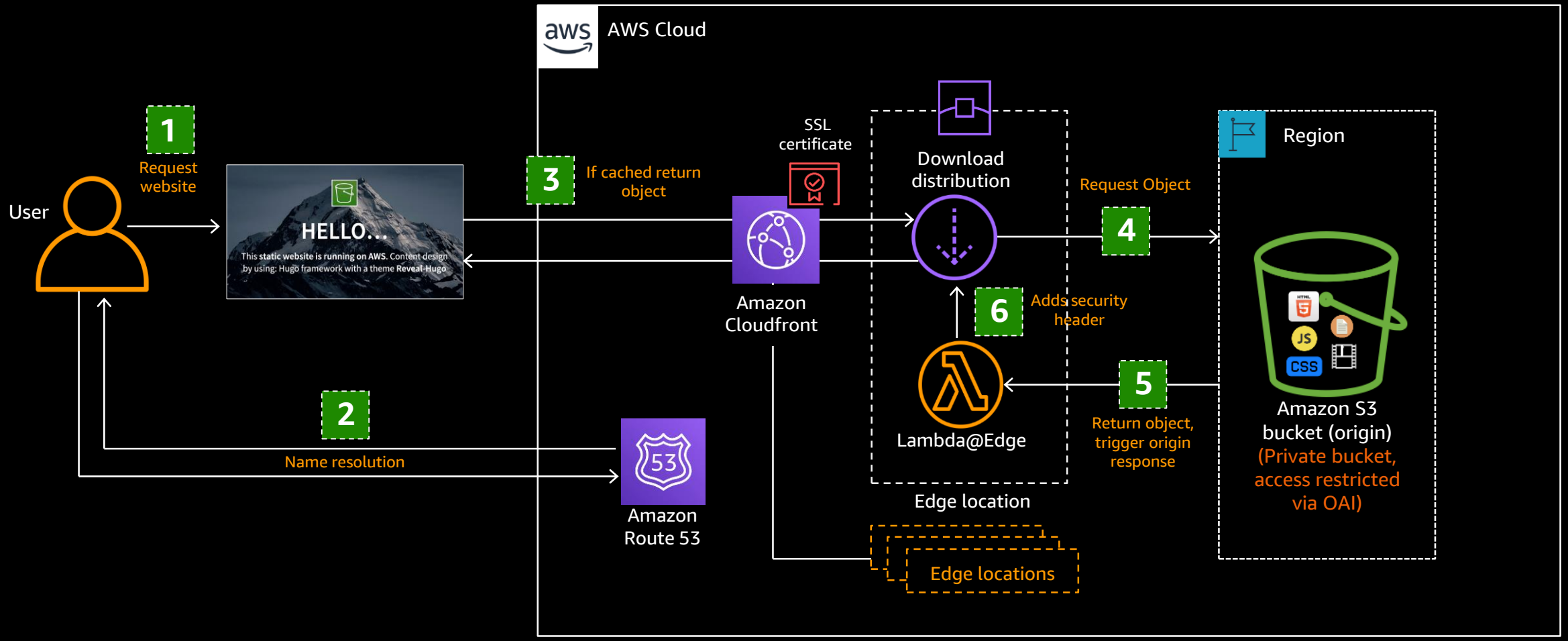


Amazon CloudFront
Lambda@Edge

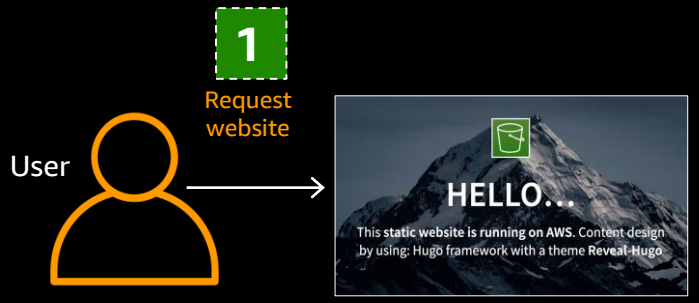
AWS Certificate
Manager

Amazon Route 53
Hosted Zone

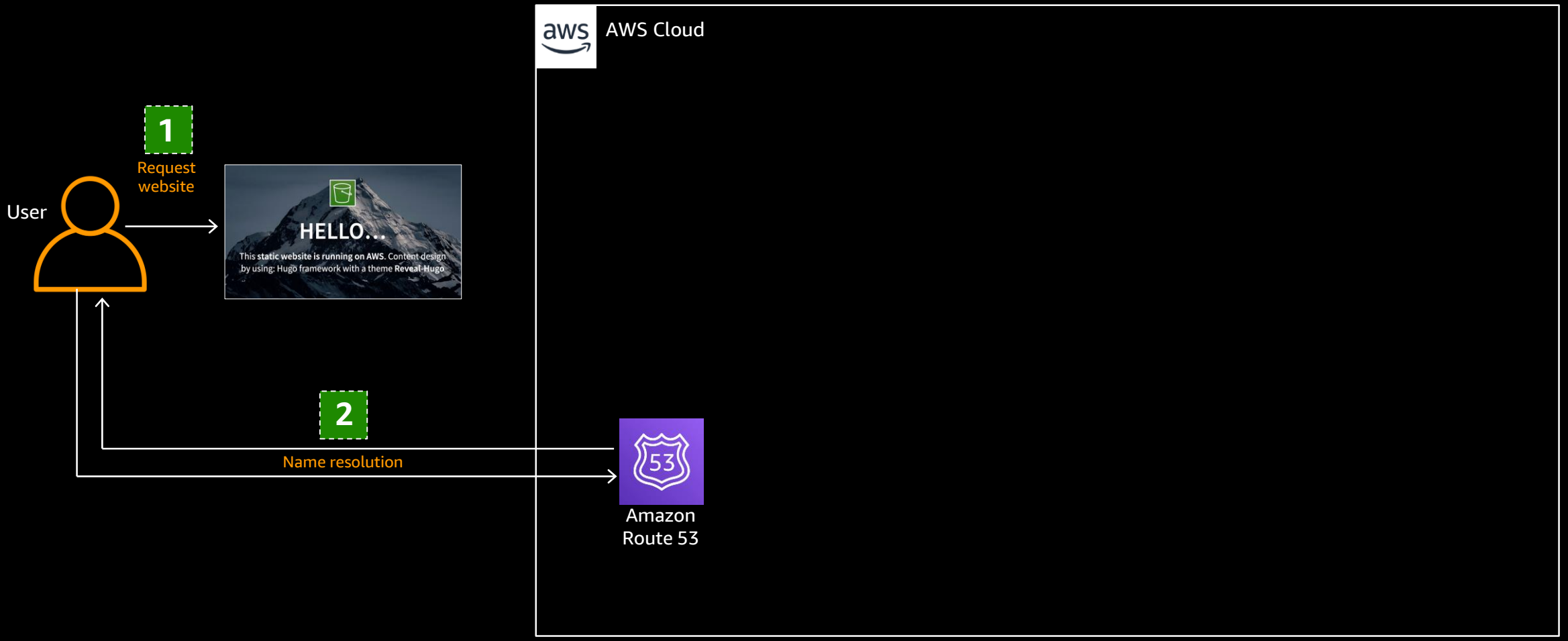
Architecture



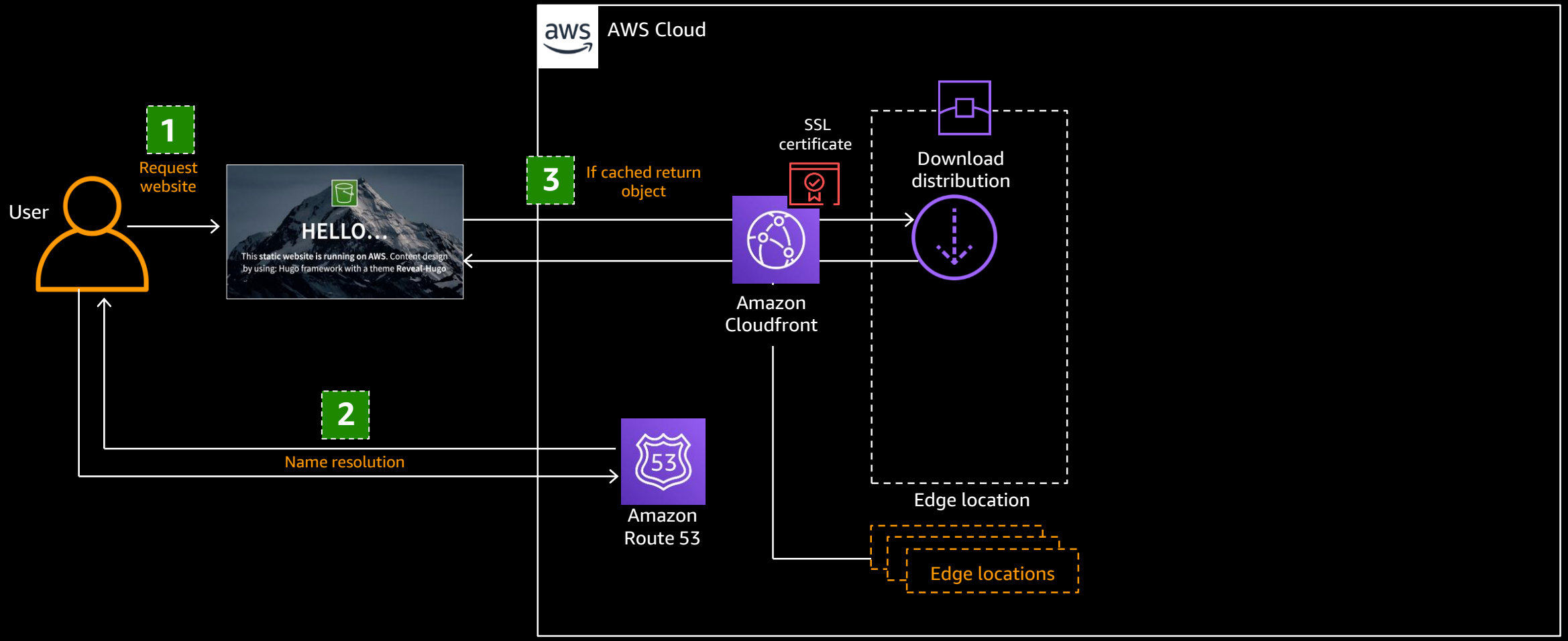
#1 User requests for the website



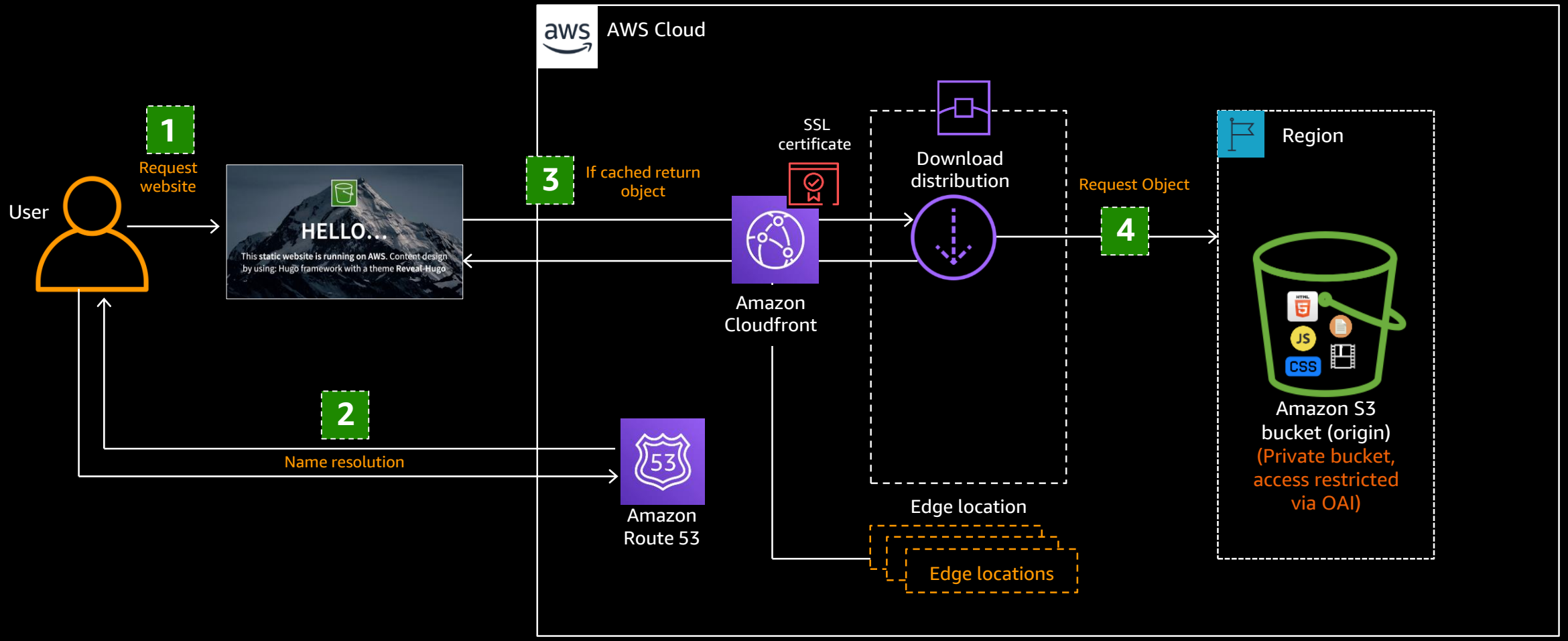
#2 Name resolution via Amazon Route53



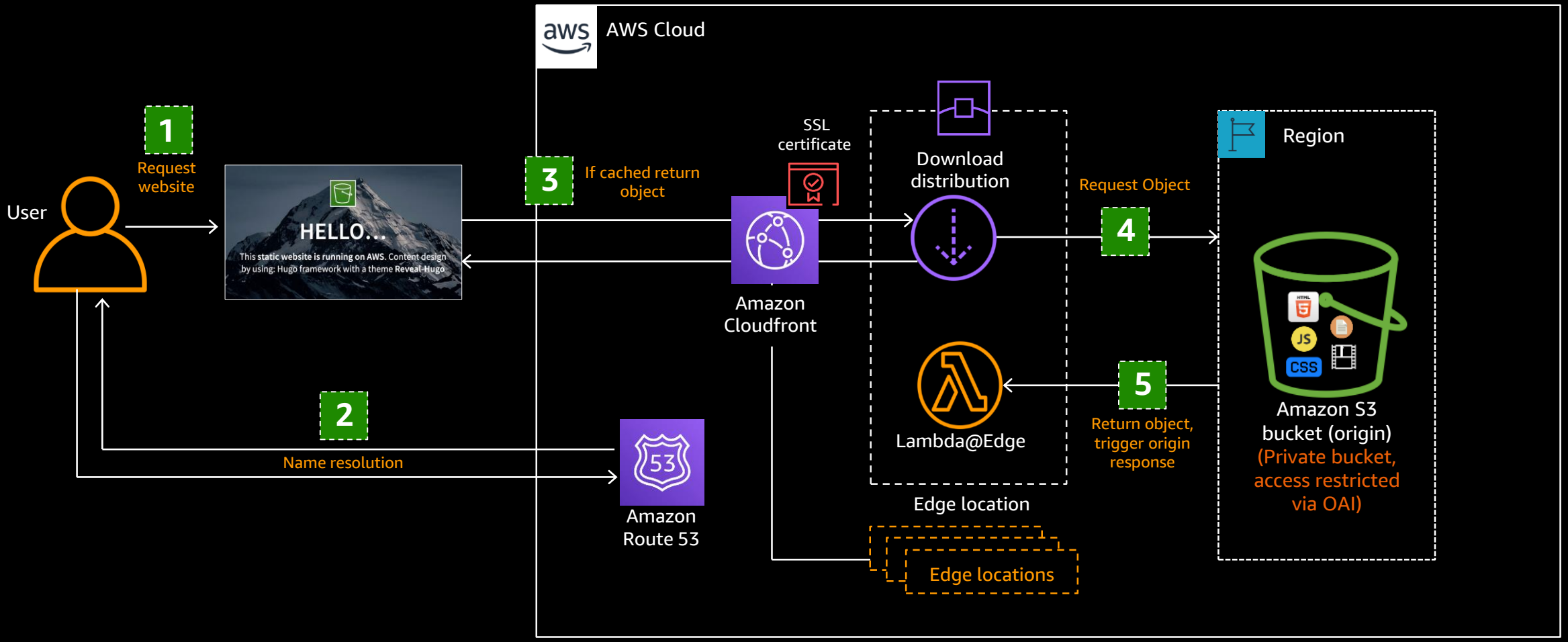
#3 CloudFront Edge responds if object is in cache



#4 Request Amazon S3 bucket for the object



#5 Return object, triggers origin response

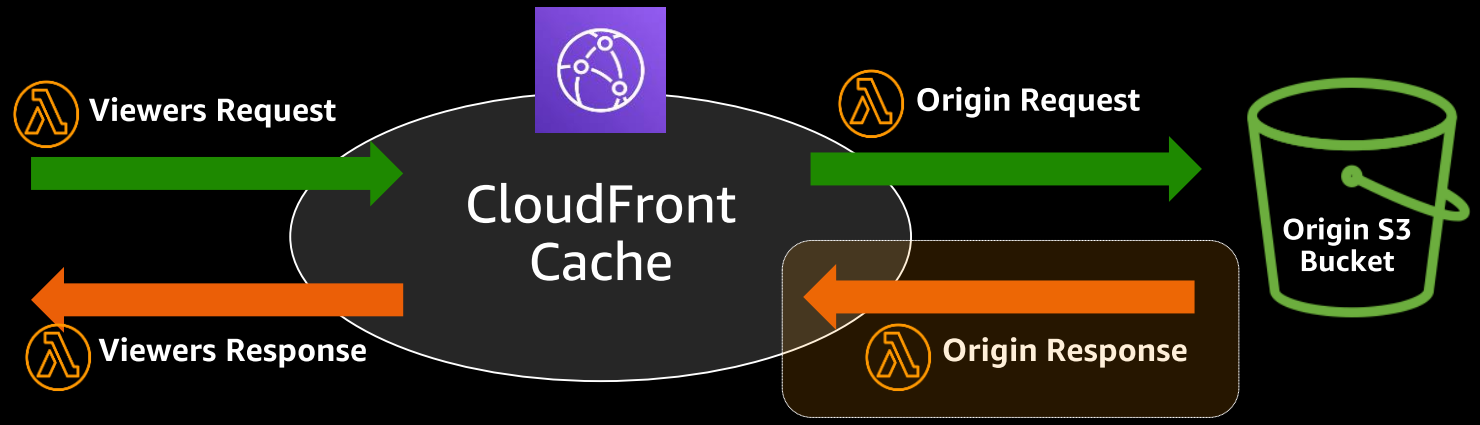


HTTP Security headers, Lambda@Edge

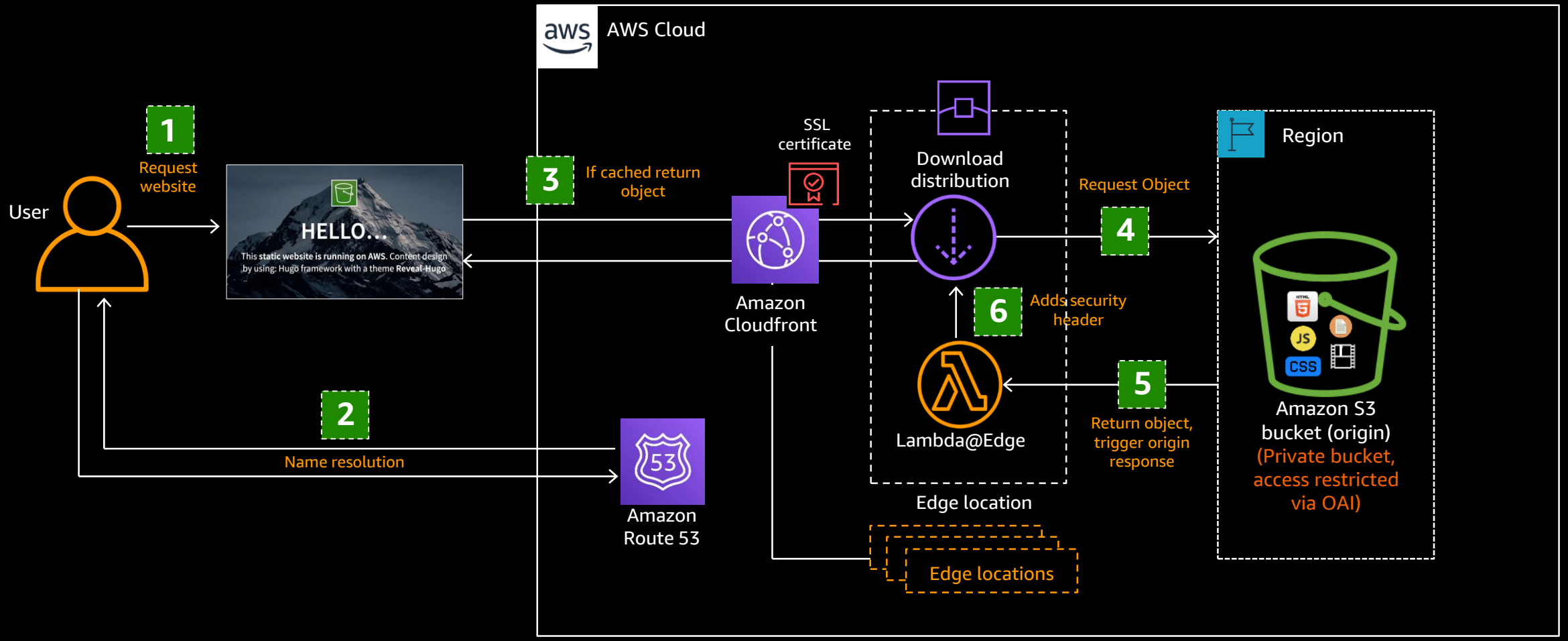
HTTP Security Headers

Strict Transport Security
Content-Security-Policy
X-Content-Type-Options
X-Frame-Options
X-XSS-Protection
Referrer-Policy

Lambda@Edge



#6 Lambda@Edge adds security header caches the object



Configuration steps to host static website

STEP 1: Website content preparation

STEP 2: Create an Amazon S3 Bucket, Upload your content

STEP 3: Obtain SSL certificate via AWS Certificate Manager for custom domain

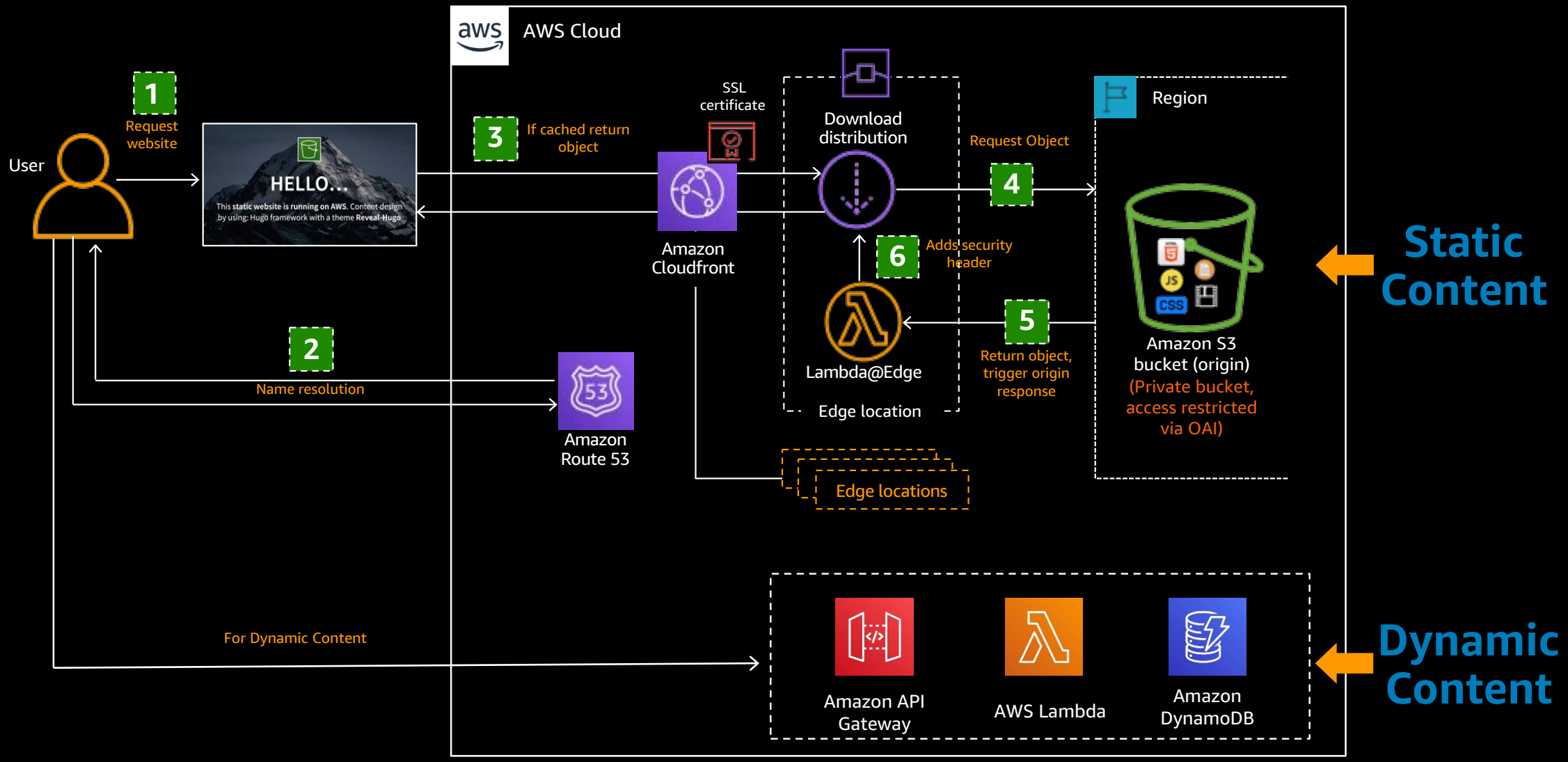
STEP 4: Create CloudFront distribution

STEP 5: Configure Route53 for your custom domain with CloudFront, Test your website

STEP 6: Configure Lambda@Edge for security header, Test again

DEMO

What's Next?



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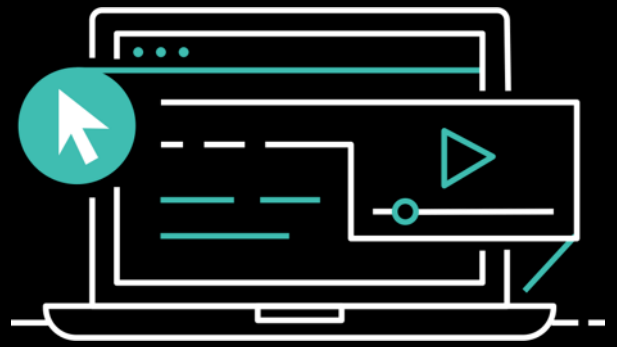

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- Getting Started with Amazon Simple Storage Service (Amazon S3)
  Learn the knowledge to determine when to use Amazon S3 by reviewing typical use cases and understanding how the service provides object storage for your applications

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