

Delivering Content with AWS



Ryan Lewis

CLOUD ENGINEER

@ryanmurakami ryanlewis.dev



CloudFront



S3 static
websites

Overview

Are invalidations evil?

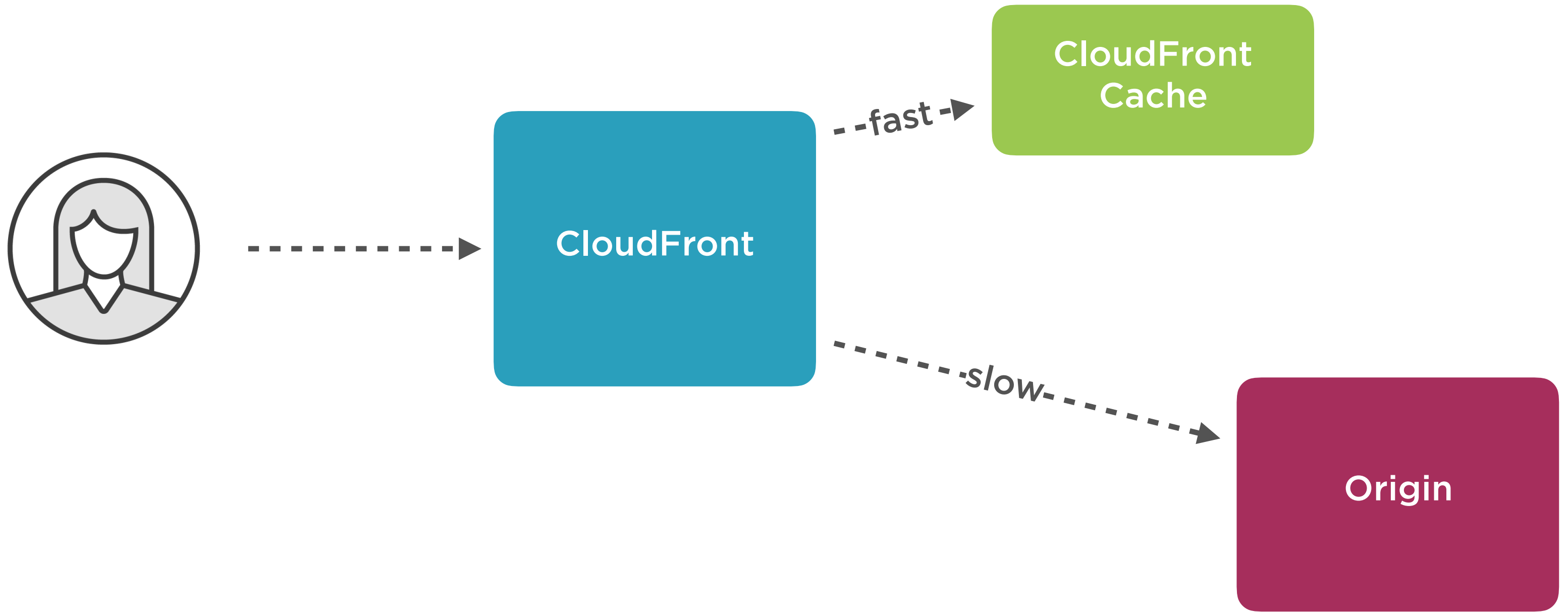
Deliver the hamsters to the world

Simple Storage Service Static Sites (S5)

Deliver content to the world, with limits

Understanding CloudFront Invalidations

CloudFront Delivery Sources



Maximum TTL

The maximum amount of time an object will stay in CloudFront cache before a new copy is retrieved from the origin. The higher, the better. Default is one year.

CloudFront Invalidations

Replaces a designated object with a fresh copy from the origin

Can contain multiple files or directories

3000 object invalidation hard limit

1000 free invalidations/month

Can take minutes to process

Immutable Objects in CloudFront

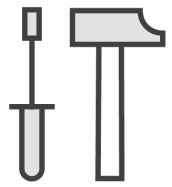
Can be cached for maximum TTL and no invalidations needed

Each object has unique name (eg. add hash)

CloudFront retrieves from origin once

Creating a CloudFront Distribution

Steps to Test New CloudFront Distribution



Rebuild project (`npm run build`)



Deploy code to EC2 instance (`npm run deploy`)



Upload files to S3 (`node scripts/module_04/upload-s3-objects.js`)



Re-populate tables (`node scripts/module_05/populate-dynamo-table.js`)



Wait for CloudFront distribution to finish

The Science Behind S3 Static Website Hosting

Websites vs. S3 Buckets

Website

Request path and receive html

No direct referencing needed

S3 Bucket

Use key to get an object

Direct referencing

S3 Static Websites

Configure an S3 bucket to behave like a website.

S3 Static Website Configuration

Index Document

`index.html`

`myBucket.s3-website-region.amazonaws.com`

Returns `/index.html`

Error Document

`error.html`

`myBucket.s3-website-region.amazonaws.com/hbfl`

Returns `hbfl/index.html`

Configuring an S3 Static Website

Limits with CloudFront and S3 Static Websites

CloudFront Limit

One SSL certificate per distribution

CloudFront Limit

Soft limit on number of distributions and data transfer

Conclusion

Summary

Hash beats invalidation every time

Distributions are so needy

Not so static website

CloudFront isn't so limiting

Up Next

Messaging Inside AWS