AWS Static Website Hosting Project Documentation

Project: Static Website Hosting with AWS S3 and CloudFront

This project demonstrates how to deploy a secure, fast, and highly available static website using Amazon S3 and Amazon CloudFront. It includes a custom error page and optional custom domain integration.

Technologies & Services Used

AWS S3 - Static website file hosting

CloudFront - CDN to cache & speed up site

Route 53 (optional) - Domain & DNS management

AWS Certificate Manager (ACM) - HTTPS via SSL certificate

Git & GitHub (optional) - Version control

Goals

- Host a static resume/portfolio website on AWS

- Add CDN for speed and reliability (CloudFront)

- Enable HTTPS with a free SSL certificate

- (Optional) Use a custom domain name

Features

- Fully serverless & scalable

- Secure HTTPS via CloudFront

- Custom error page (404.html)

- Optional custom domain with SSL

- Public, shareable portfolio link

Folder Structure

project-root/

  - index.html   # Main homepage

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- error.html   # Custom error page (404)

- style.css   # Styling (optional)

- assets/   # Images, logos, etc.

Deployment Steps

1. Create S3 Bucket

- Go to AWS S3 -> Create Bucket

- Uncheck Block all public access

- Enable Static Website Hosting

  - Index document: index.html

  - Error document: error.html

2. Upload Website Files

- Upload all files: index.html, error.html, assets, etc.

3. Make Files Public

- Use Bucket Policy to allow public access (replace your-bucket-name accordingly):

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "s3:GetObject",
      "Resource": "arn:aws:s3:::your-bucket-name/*"
    }
  ]
}
```

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4. Test S3 Website

Visit the S3 static hosting URL:

http://your-bucket-name.s3-website-region.amazonaws.com

Try a wrong URL (e.g., /xyz.html) to trigger the error page.

5. Add CloudFront CDN

- Go to CloudFront -> Create Distribution

- Origin domain: your S3 website endpoint (not bucket name)

- Viewer Protocol Policy: Redirect HTTP to HTTPS

- Enable compression and caching

- Add alternate domain name (CNAME) if using custom domain

- Attach SSL Certificate (from ACM)

6. (Optional) Add Custom Domain via Route 53

- Create a Hosted Zone in Route 53

- Add A Record (Alias) pointing to your CloudFront distribution

- Update registrar's nameservers to match Route 53

- Issue and validate a free SSL cert in ACM

7. Enable HTTPS

- Use AWS Certificate Manager

- Validate your domain via DNS

- Attach certificate to CloudFront

- Wait for CloudFront to deploy

Optional Git Workflow

git init

git add .

git commit -m "Initial commit"

git remote add origin https://github.com/yourusername/aws-static-site.git

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git push -u origin main

Final Result

Access your live website at:

https://yourcustomdomain.com

or

https://your-cloudfront-id.cloudfront.net

Resume Boost Line

"Deployed a serverless static portfolio website using AWS S3, CloudFront, and Route 53 with custom domain and HTTPS."