

Static Website Hosting – Hosting a website on S3 with Route 53 & CloudFront

Hosting a static website on Amazon S3, combined with Route 53 for custom domain resolution and CloudFront for optimized content delivery, significantly improves performance, security, and availability.

Prerequisites:

- ✓ An AWS account
- ✓ A registered domain (either in Route 53 or another provider)

Step 1: Create an S3 Bucket for Website Hosting

1. Open the AWS S3 Console and click Create bucket.
2. Bucket name: Enter your domain name (e.g., example.com).
3. Region: Select your preferred AWS region.
4. Disable Block Public Access:
 - Uncheck "Block all public access" and confirm changes.
5. Enable Static Website Hosting:
 - Go to the Properties tab.
 - Click Edit under Static website hosting.
 - Select Enable.
 - Choose "Host a static website".
 - Set index document as index.html.
 - Note the Bucket Website Endpoint URL.
6. Click Create bucket.

Step 2: Upload Website Files

- Open your S3 bucket.
- Click Upload → Add your index.html, style.css, script.js, etc.
- Click Upload.

Step 3: Configure S3 Bucket Policy for Public Access

- Go to the Permissions tab. Under Bucket Policy, click Edit and paste the following JSON policy: json

```
{  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Effect": "Allow",  
      "Principal": "*",  
      "Action": "s3:GetObject",  
      "Resource": "arn:aws:s3:::example.com/*"  
    }  
  ]  
}
```

- Replace example.com with your bucket name.
- Click Save changes.

Step 4: Register a Domain (if needed) in Route 53

- Open AWS Route 53 Console.
- Click Domains → Register Domain.
- Search for and purchase a domain (e.g., example.com).
- Wait for AWS to complete registration.

Step 5: Create a Hosted Zone in Route 53

- In Route 53, go to Hosted Zones.
- Click Create hosted zone.
- Enter your domain name (example.com).
- Choose Public Hosted Zone.
- Click Create.

Step 6: Set Up CloudFront for Content Delivery

- Open AWS CloudFront Console.
- Click Create distribution.
- Under Origin, configure:
 - Origin domain: Select your S3 bucket.
 - Origin access: Select Public.

- Viewer Protocol Policy: Choose Redirect HTTP to HTTPS.
- Alternate Domain Names (CNAMEs):
 - Enter your domain name (example.com).
- Custom SSL Certificate:
 - Click Request or Import a Certificate with ACM.
 - Request an SSL certificate for your domain.
 - Validate via email or DNS.
 - Once issued, attach it to the CloudFront distribution.
- Click Create distribution and wait for deployment.

Step 7: Update Route 53 DNS Records

- Go to Route 53 → Hosted Zone → Select your domain.
- Click Create record.
- Select Simple routing → Define simple record.
- Record Name: Leave empty (for root domain).
- Record Type: Select A – IPv4 Address.
- Route Traffic To: Choose Alias to CloudFront Distribution.
- Select your CloudFront distribution from the dropdown.
- Click Create record.

Step 8: Verify and Test the Website

- Open a browser and visit your domain (<https://example.com>).
- If it doesn't work immediately, wait for DNS propagation (~30 mins to a few hours).

✅ Your static website is now hosted on AWS S3, accessible via a custom domain with CloudFront caching.