**AMAZON S3 STATIC WEB HOSTING**

**Amazon S3 Static Web Hosting** allows you to host a static website directly from an S3 bucket. A static website contains static content such as HTML, CSS, JavaScript, and media files, and does not require server-side scripting (e.g., PHP or Node.js).

**Steps to Set Up Amazon S3 Static Website Hosting**

**1. Create an S3 Bucket**

1. Open the **Amazon S3 Console**.
2. Click **Create bucket**.
3. Enter a **Bucket name** (e.g., example-bucket) and select the **AWS Region**.
4. Uncheck **Block all public access** (needed for website hosting), but ensure you understand the security implications.
5. Click **Create bucket**.

**2. Upload Website Files**

1. Open the bucket in the **S3 Console**.
2. Click **Upload** and add your website files (e.g., index.html, style.css, app.js).
3. Ensure files are uploaded successfully.

**3. Enable Static Website Hosting**

1. Go to the **Properties** tab of your S3 bucket.
2. Scroll down to the **Static website hosting** section.
3. Click **Edit** and:
   * Choose **Enable**.
   * Enter the name of the **Index document** (e.g., index.html).
   * Optionally, specify the **Error document** (e.g., error.html) for handling 404 errors.
4. Save the changes.

**4. Make the Bucket Public**

To allow users to access the website:

1. Go to the **Permissions** tab of your bucket.
2. Scroll to **Bucket policy** and add a policy like this:

{

"Version": "2012-10-17",

"Statement": [

{

"Effect": "Allow",

"Principal": "\*",

"Action": "s3:GetObject",

"Resource": "arn:aws:s3:::example-bucket/\*"

}

]

}

Replace example-bucket with your bucket name. This policy allows public read access to objects in the bucket.

**5. Access Your Website**

1. After enabling static website hosting, you will get a **Website endpoint URL** (e.g., http://example-bucket.s3-website-us-east-1.amazonaws.com).
2. Use this URL to access your website.

**Optional Configurations**

**Custom Domain with Route 53**

1. Purchase or configure a domain name in **Amazon Route 53**.
2. Create a **CNAME record** in Route 53 pointing your domain to the S3 website endpoint.
3. Update the domain name in your static website hosting configuration.

**Enable HTTPS with Amazon CloudFront**

1. Set up a **CloudFront distribution** in front of your S3 bucket.
2. Use an **SSL certificate** from AWS Certificate Manager (ACM) for HTTPS.
3. Configure the CloudFront distribution to point to the S3 bucket.

**Best Practices**

* **Bucket Permissions**: Ensure that only public content is stored in the bucket. Use IAM roles and policies for secure management.
* **Content Delivery Optimization**: Use CloudFront to cache and distribute content globally for faster access.
* **Monitoring**: Use S3 access logs or AWS CloudTrail to monitor access to your website.