

Step-by-Step Guide: Hosting a Static Website on Amazon S3

Amazon S3 (Simple Storage Service) is an excellent and cost-effective solution for hosting static websites. This guide will walk you through the process, from creating your S3 bucket to configuring it for web hosting and accessing your site.

Prerequisites

- **An AWS Account:** If you don't have one, you'll need to create it at aws.amazon.com.
- **Your Static Website Files:** Ensure you have all your HTML, CSS, JavaScript, images, and other static assets ready. Your main page should be named `index.html` and your error page (if you have one) should be named `error.html`.

Step 1: Create an S3 Bucket

1. **Sign in to the AWS Management Console:** Go to console.aws.amazon.com/s3/ and sign in with your AWS credentials.
2. **Navigate to S3:** In the AWS services search bar, type "S3" and select "S3" from the results.
3. **Create Bucket:** Click on the "Create bucket" button.
4. **Configure Bucket Details:**
 - **Bucket name:** Enter a globally unique name for your bucket. This name will be part of your website's URL (e.g., `your-website-name.s3-website.us-east-1.amazonaws.com`). It's common practice to use your domain name (e.g., `example.com`) if you plan to use a custom domain later.
 - **AWS Region:** Choose an AWS Region that is geographically close to your users to minimize latency.
 - **Object Ownership:** For static website hosting, it's generally recommended to keep the default "ACLs enabled" and "Bucket owner preferred" setting.
 - **Block Public Access settings for this bucket: IMPORTANT:** To host a public website, you *must* uncheck "Block all public access" and acknowledge the warning. This allows your website content to be publicly accessible.
 - **Bucket Versioning:** (Optional but recommended) You can enable versioning to keep multiple versions of your objects. This helps prevent accidental deletions and allows you to revert to previous versions.
 - **Tags:** (Optional) Add tags for organizational purposes.
 - **Default encryption:** (Recommended) Keep this enabled for data encryption at rest.
5. **Create Bucket:** Click the "Create bucket" button at the bottom.

Step 2: Upload Your Website Files

1. **Select Your Bucket:** From the S3 buckets list, click on the bucket you just created.
2. **Upload Files:** Click the "Upload" button.
3. **Add Files/Folders:**
 - You can drag and drop your website files and folders directly into the upload area.
 - Alternatively, click "Add files" to select individual files or "Add folder" to upload an entire directory.
4. **Set Permissions (for individual files/folders during upload - generally not needed if public access is set at bucket level):** For static website hosting, all objects need to be publicly readable. While uploading, you can set individual object permissions. However, it's often easier to set a bucket policy later that makes all objects public. For now, you can proceed without individual object ACLs if you plan to use a bucket policy.
5. **Upload:** Click the "Upload" button to start the upload process.

Step 3: Enable Static Website Hosting

1. **Select Your Bucket:** Navigate back to your bucket's details page.
2. **Go to Properties Tab:** Click on the "Properties" tab.
3. **Scroll to Static website hosting:** Find the "Static website hosting" section and click "Edit".
4. **Enable Static Website Hosting:**
 - Select "Enable".
 - **Hosting type:** Choose "Host a static website".
 - **Index document:** Enter the name of your main HTML file (e.g., index.html). This is the file S3 will serve when someone accesses your website's root URL.
 - **Error document:** (Optional but recommended) Enter the name of your custom error page (e.g., error.html). This page will be displayed if a user tries to access a non-existent page.
 - **Redirection rules:** (Advanced, optional) You can define rules to redirect requests.
5. **Save changes:** Click "Save changes".

Step 4: Configure Bucket Policy for Public Access

Even though you unchecked "Block all public access" during bucket creation, you still need to add a bucket policy to explicitly allow public read access to your website objects.

1. **Select Your Bucket:** Navigate back to your bucket's details page.
2. **Go to Permissions Tab:** Click on the "Permissions" tab.
3. **Bucket Policy:** Scroll down to the "Bucket policy" section and click "Edit".
4. **Add Policy:** Paste the following JSON policy into the policy editor. **Remember to replace YOUR_BUCKET_NAME with the actual name of your S3 bucket.**

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
```



```

        "Principal": "*",
        "Action": [
            "s3:GetObject"
        ],
        "Resource": [
            "arn:aws:s3:::YOUR_BUCKET_NAME/*"
        ]
    }
]
}

```

- **"Effect": "Allow":** Grants permission.
- **"Principal": "*":** Allows access to anyone (public).
- **"Action": ["s3:GetObject"]:** Specifies that the allowed action is to retrieve objects (i.e., read them).
- **"Resource": "arn:aws:s3:::YOUR_BUCKET_NAME/*":** Specifies that this policy applies to all objects within your bucket.

5. **Save changes:** Click "Save changes".

Step 5: Access Your Website

1. **Go to Properties Tab:** Navigate back to your bucket's details page and click the "Properties" tab.
2. **Static website hosting:** Scroll down to the "Static website hosting" section.
3. **Endpoint URL:** You will see an "Endpoint" URL (e.g., <http://your-website-name.s3-website.us-east-1.amazonaws.com>). This is your website's URL.
4. **Test Your Website:** Click on the Endpoint URL or copy and paste it into your web browser. You should now see your static website.

Optional (but Recommended) Steps

1. Configure a Custom Domain Name with Amazon CloudFront and Route 53

While the S3 website endpoint works, it's not ideal for a professional website. You'll want to use your own domain name (e.g., www.example.com). This involves:

- **Registering a Domain:** If you don't have one, register a domain name through a domain registrar like Amazon Route 53, GoDaddy, Namecheap, etc.
- **Creating a CloudFront Distribution:** Amazon CloudFront is a Content Delivery Network (CDN) that provides faster content delivery and allows you to use HTTPS (SSL/TLS).
 - Go to the CloudFront service in the AWS console.
 - Create a new distribution.
 - For the "Origin Domain", select your S3 static website hosting endpoint.
 - Configure SSL certificates (you'll need to provision one using AWS Certificate Manager).
 - Configure alternate domain names (your custom domain).
- **Configuring Route 53:** If you use Route 53 for DNS, create an "A record" that points

your custom domain (e.g., `www.example.com`) to your CloudFront distribution.

2. Implement HTTPS (SSL/TLS)

For secure communication and better SEO, it's crucial to serve your website over HTTPS. This is best achieved using **Amazon CloudFront** in conjunction with **AWS Certificate Manager (ACM)**.

- **Provision a Certificate:** Use ACM to request or import an SSL/TLS certificate for your custom domain.
- **Attach to CloudFront:** When creating your CloudFront distribution (as described above), select the ACM certificate for your domain.

3. Enable Logging

S3 can log all requests made to your bucket. This is useful for analyzing website traffic.

- Go to your S3 bucket's "Properties" tab.
- Under "Server access logging", click "Edit" and enable logging, specifying a target bucket for the logs.

4. Configure Redirects (if needed)

If you have a primary domain (e.g., `example.com`) and want to redirect `www.example.com` to it, or vice versa, you can:

- **Create a second S3 bucket:** Name it the domain you want to redirect (e.g., `www.example.com`).
- **Enable static website hosting** on this second bucket.
- **Configure a redirection rule:** Under "Static website hosting" settings, choose "Redirect requests for an object" and specify the target bucket.

This comprehensive guide should help you successfully host your static website on Amazon S3. Remember to always review AWS best practices for security and cost optimization.

Step-by-Step Guide: Hosting a Static Website on Amazon S3

Amazon S3 (Simple Storage Service) is an excellent and cost-effective solution for hosting static websites. This guide will walk you through the process, from creating your S3 bucket to configuring it for web hosting and accessing your site.

Prerequisites

- **An AWS Account:** If you don't have one, you'll need to create it at aws.amazon.com.
- **Your Static Website Files:** Ensure you have all your HTML, CSS, JavaScript, images, and other static assets ready. Your main page should be named `index.html` and your error page (if you have one) should be named `error.html`.

Step 1: Create an S3 Bucket

1. **Sign in to the AWS Management Console:** Go to console.aws.amazon.com/s3/ and sign in with your AWS credentials.
2. **Navigate to S3:** In the AWS services search bar, type "S3" and select "S3" from the results.
3. **Create Bucket:** Click on the "Create bucket" button.
4. **Configure Bucket Details:**
 - **Bucket name:** Enter a globally unique name for your bucket. This name will be part of your website's URL (e.g., `your-website-name.s3-website.us-east-1.amazonaws.com`). It's common practice to use your domain name (e.g., `example.com`) if you plan to use a custom domain later.
 - **AWS Region:** Choose an AWS Region that is geographically close to your users to minimize latency.
 - **Object Ownership:** For static website hosting, it's generally recommended to keep the default "ACLs enabled" and "Bucket owner preferred" setting.
 - **Block Public Access settings for this bucket: IMPORTANT:** To host a public website, you *must* uncheck "Block all public access" and acknowledge the warning. This allows your website content to be publicly accessible.
 - **Bucket Versioning:** (Optional but recommended) You can enable versioning to keep multiple versions of your objects. This helps prevent accidental deletions and allows you to revert to previous versions.
 - **Tags:** (Optional) Add tags for organizational purposes.
 - **Default encryption:** (Recommended) Keep this enabled for data encryption at rest.
5. **Create Bucket:** Click the "Create bucket" button at the bottom.