Hosting a Static Website on Amazon S3

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At the core of the lesson

You will learn how to do the following:

- Describe the Amazon Simple Storage Service (Amazon S3) static website hosting feature.

- Identify the steps for hosting a static website on Amazon S3.

aws

Amazon S3 static website hosting feature

- You can use Amazon S3 to host a static website.
  - Amazon S3 stores the HTML, CSS, and JavaScript pages of the static website.
  - Amazon S3 automatically assigns an endpoint URL that you can use to access the website.
- The benefits of using the Amazon S3 website hosting feature include the following:
  - You do not need to manage any infrastructure.
  - The feature automatically scales to handle increasing traffic.
  - The feature provides a low-cost option for hosting a static website.

Recall that Amazon Simple Storage Service (Amazon S3) provides object storage and has many practical uses. One of its uses is hosting a static website. By using Amazon S3 for this purpose, you can avoid the need to deploy a complex or costly runtime infrastructure.

In a static website, webpages are built using languages such as HTML, CSS, or JavaScript. By contrast, a dynamic website relies on server-side processing, including server-side scripts such as PHP, JSP, or ASP.NET.

Amazon S3 provides a low-cost and low-maintenance option for hosting a static website because there are no servers to maintain. It also provides high levels of reliability and scale.

Use cases

Amazon S3 static website hosting is best used for the following:

- Websites that do not contain server-side scripting

- Websites that change infrequently

- Websites that need to scale for occasional increases in traffic

- Customers who do not want to manage infrastructure

Amazon S3 can host a website that has client-side scripts because such a website is considered static.

One limitation of Amazon S3 is that it can serve only HTTP requests to a website. If you need to support HTTPS, you can use Amazon CloudFront to serve the static website hosted on Amazon S3.
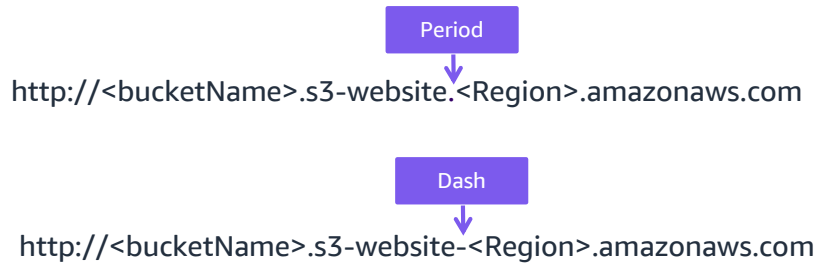
How to host a static website on Amazon S3
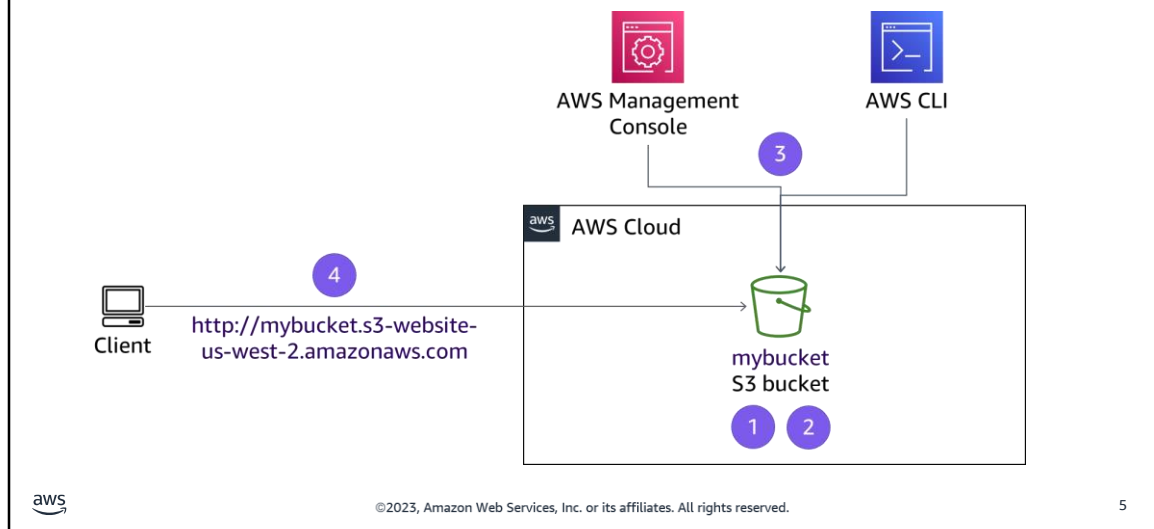
Hosting a static website on Amazon S3 involves the following steps:

1. First, to store the content of the website, create a bucket in Amazon S3. In the diagram, the bucket name is mybucket.
2. Then, to enable website hosting and grant public read permissions to the content of the bucket, configure the S3 bucket.
3. Next, to upload the website content to the bucket, use the AWS Management Console or the AWS Command Line Interface (AWS CLI).
4. You can now access the website at the endpoint URL that Amazon S3 assigns to it. The endpoint URL includes the bucket name and the name of the Region that contains the bucket. In the diagram, the URL is http://mybucket.s3-website-us-west-2.amazonaws.com.

Amazon S3 static website hosting characteristics

In the endpoint URL, the separator character before <Region> is either a period (.) or a dash (-):

Period

http://<bucketName>.s3-website.<Region>.amazonaws.com

Dash

http://<bucketName>.s3-website-<Region>.amazonaws.com

When a static website that is hosted on Amazon S3 is assigned an endpoint URL, the URL conforms to one of two formats. As mentioned previously, the URL contains the bucket name and the name of the Region where the bucket was created. The difference between the two formats is that the separator character before the Region name is either a period (.) or a dash (-). The type of separator depends on the Region that contains the bucket. For example, if the bucket is created in the US West (Oregon) Region, the separator character is a dash. However, if the bucket is created in the Europe (Frankfurt) Region, the separator character is a period.

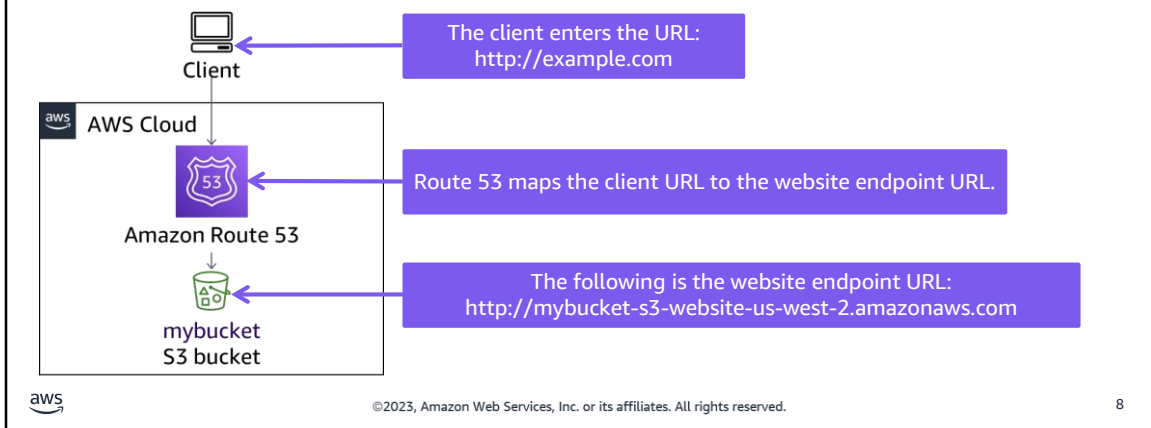## Additional static website hosting characteristics

- The S3 bucket should store the website in a folder hierarchy that reflects the content structure of the website.

- The S3 bucket must include an index document that you define during bucket configuration. The default name is index.html.

Store uploaded web content in an Amazon S3 folder hierarchy that reflects the content structure of the website. In addition, when you enable a bucket for website hosting, you must provide the name of the index document. This document is the default webpage that Amazon S3 returns when a request is made to the root directory of the website or one of its subfolders. Make sure that the loaded web content includes this index document at the proper folder level.

Using an Amazon Route 53 custom domain name

You can use a custom domain name that you registered with Amazon Route 53 to access a static website hosted on Amazon S3.

Client

The client enters the URL:
http://example.com

AWS Cloud

Amazon Route 53

Route 53 maps the client URL to the website endpoint URL.

mybucket
S3 bucket

The following is the website endpoint URL:
http://mybucket-s3-website-us-west-2.amazonaws.com

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Instead of accessing a static website through its assigned Amazon S3 endpoint URL, a user can optionally use the Amazon Route 53 service to map the user's own domain name to the Amazon S3 endpoint.

In the example, the client uses the domain name example.com to access the website hosted in the S3 bucket named mybucket. To support this access, you create an alias record in Amazon Route 53 that maps the domain name to the website's S3 bucket endpoint URL.

Checkpoint questions

1. What is a benefit of hosting a static website on Amazon S3?

2. How must you configure an Amazon S3 bucket in order to host a static website?

3. Which AWS service can you use to map a user's own domain name to an Amazon S3 static website endpoint?

The answers to the questions are as follows:

1. What is a benefit of hosting a static website on Amazon S3?
   The benefits of hosting a static website on Amazon S3 include the following:
   - You do not need to manage any infrastructure.
   - Amazon S3 automatically scales to handle increasing traffic.
   - Amazon S3 provide a low-cost option for hosting a static website.

2. How must you configure an Amazon S3 bucket in order to host a static website?
   You must configure the S3 bucket to enable website hosting and grant public read permissions to the bucket's content.

3. Which AWS service can you use to map a user's own domain name to an Amazon S3 static website endpoint?
   Amazon Route 53

Key ideas

- With Amazon S3, you can host a static website. This feature helps you avoid the cost of a complex runtime infrastructure.

- To host a website, you must configure an S3 bucket to enable website hosting and grant public read permissions to the bucket's content.

- You can use Amazon Route 53 to provide a custom domain name for a static website that you host on Amazon S3.

Thank you

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