Edgecast

AWS S3 Setup

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About This Guide

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AWS S3 & CDN Setup

Overview

Learn how to serve content hosted on Amazon Web Service (AWS) S3 through our CDN.

Recommended setup:

1. Prepare your AWS S3 storage account for use with our CDN services.

2. Create a customer origin configuration.
   Will an edge CNAME configuration or requests to this customer origin reference the AWS S3 bucket name?

   - **Yes:** Point the customer origin to: s3.amazonaws.com.

   - **No:** Point the customer origin to: *BucketName*.s3.amazonaws.com.

3. Request AWS S3 integration from our technical support. Make sure to have key CDN and AWS S3 setup information on hand when submitting this request.

4. Update links to AWS S3 content to use a CDN or edge CNAME URL.

Note: An alternative to the above procedure is to make the desired AWS S3 content public and then create a customer origin configuration that points to the AWS S3 origin server (e.g., *BucketName*.s3.amazonaws.com).

Amazon Web Service Setup

Note: This document assumes that you have already established an Amazon Web Services account.

It is recommended that you segregate and secure content that should be delivered through the CDN from other private content. This can be accomplished by performing the following:

1. Create a bucket that will contain content delivered through the CDN.

2. Create a security policy.

    i. Create a read-only group through the IAM service.

    ii. Create a user and assign it to the read-only group.

    iii. Download the new user's credentials.

3. Upload an asset to the bucket and then generate a URL through which our personnel will be able to verify that AWS S3 has been properly configured with our CDN.

To create a bucket

1. Log in to the AWS Management console and select S3.

2. Click **Create Bucket** to start a wizard through which you will create a bucket that will host CDN content.

3. In the **Bucket Name** option, specify the desired name.

    Note: The specified name must be unique across all AWS customer accounts.

4. In the **AWS Region** option, select the location where your bucket will reside.

5. Click **Create**.

To define a security policy

1. From the **Services** menu, select **IAM**.

   > **Note:** The Identity and Access Management service allows you to define a security policy for all AWS services, including S3.

2. Click the **Groups** menu from the side navigation bar.

3. Click **Create New Group** to start the **Create New Group Wizard**.

4. In the **Group Name** option, define the name of the read-only group that will be created.

5. Click **Next Step**.

6. Mark the **AmazonS3ReadOnlyAccess** policy template. This policy template contains the only permissions required by our CDN:

   ```
   "s3:Get*",
   "s3:List*",
   ```

7. Click **Next Step**.

8. Click **Create Group**.

9. Click **Users** from the side navigation bar.

10. Click **Add user**.

11. In the **User name** option, type the name of the user through which our CDN will request content from AWS S3. This should be a dedicated user that is only used for this purpose.

12. Mark the **Programmatic access** option.

13. Click **Next: Permissions**.

14. Mark the previously created group.

15. Click **Next: Tags**.

16. Click **Next: Review**.

17. Click **Create user**.

18. Click **Download .csv** and save the new user's credentials.

19. Verify that the CSV file contains the credentials for the user account created in this procedure. These credentials are required to integrate AWS S3 with our CDN service and will need to be sent to our personnel.

To generate a test URL

1. From the **Services** menu, select **S3**.

2. Open the recently created bucket by clicking on it.

3. Upload a small text file to it by performing the following steps:

    i.   Click **Upload**.

    ii. Click **Add Files**.

    iii. Browse to and then select the desired text file.

    iv. Click **Open**.

    v.   Click **Upload**.

4. Open the recently uploaded text file.

5. Note the object URL provided on that page. This URL will need to be provided to our personnel.

Note: By default, AWS S3 marks all uploaded content as private. Private content can only be requested through the use of a signed URL. The URL generated by the above procedure is not a signed URL and therefore it cannot be used to request your content. However, our personnel can generate a signed URL from it by leveraging the provided AWS user account credentials.

CDN Setup

The next step in the integration of the AWS S3 storage solution with our CDN service is to create a customer origin that points to AWS S3.

Key information:

- Determine whether the client will be allowed to request content via HTTP, HTTPS, or both.

- The desired AWS S3 hostname must be defined in the **Hostname or IP Address** option and the **HTTP Host Header** option.

- The AWS S3 hostname that should be used varies according to the following factors:

    - Is a regional endpoint needed?

    - Will the AWS S3 bucket name be referenced by the customer origin, edge CNAME, or in the request?

- Regardless of whether clients will be allowed to make HTTPS requests, make sure to use the HTTPS protocol when defining the hostname (e.g., https://s3.amazonaws.com).

AWS S3 Bucket Name

Make sure that the AWS S3 bucket name is referenced by one of the following components:

- Customer origin's Host header

- Edge CNAME's relative path

- CDN request URL

Tip: If your links do not already reference the AWS S3 bucket name, then the easiest setup is to either include the AWS S3 bucket name in a customer origin or edge CNAME configuration.

Note: Referencing the AWS S3 bucket name by more than one component will result in an invalid configuration.

The following sample scenarios demonstrate valid configurations.

Customer Origin's Host Header	Edge CNAME'S Relative Path	Request
mybucket.s3.amazonaws.com	[Blank]	https://cdn.mydomain.com/marketing/ad.pdf
s3.amazonaws.com	/mybucket	https://cdn.mydomain.com/marketing/ad.pdf
s3.amazonaws.com	[Blank]	https://cdn.mydomain.com/mybucket/marketing/ad.pdf

Authentication & HTTPS Setup

Our edge servers must provide authentication information when communicating with AWS servers. This authentication information consists of your AWS KI (Key ID) and SAK (Secret Access Key). This authentication information is sensitive and should not be broadcasted as unencrypted text. Therefore, it is important to ensure that your customer origin is configured to only use HTTPS when communicating with AWS servers. This type of configuration will encrypt the request/response between the edge server and the AWS server. As a result, your AWS KI and SAK will be encrypted as well.

Ensure end-to-end encryption of the request/response by performing the following steps:

1. Request a TLS certificate from your CDN account manager.

2. Configure your customer origin to only use HTTPS.

    i. Disable the customer origin's **HTTP Edge Protocol** option.

    ii. Enable the customer origin's **HTTPS Edge Protocol** option and point it to the desired AWS S3 hostname.

    Note: Use the "HTTPS" protocol when defining this hostname (e.g., https://s3.amazonaws.com or https://*BucketName*.s3.amazonaws.com).

3. Create an edge CNAME configuration that points to that customer origin configuration. Add or update a CNAME record via your DNS service provider.

Important: Requests to AWS S3 content via our CDN service will not be honored until our personnel has configured your customer origin to authenticate requests.

Requesting AWS S3 Integration

As previously mentioned, a custom configuration will be applied to your customer origin to automatically authenticate all requests to AWS S3 origin servers. Before this integration process can take place, you will need to provide the following information to our technical support:

- Customer account number (e.g., 0001)

- Platform

- AWS S3 region

- AWS S3 hostname

- AWS Credentials for the user created in the **To define a security policy** procedure. Please either provide credentials.csv or the following information:

  - Amazon KI (Key ID)

  - Amazon SAK (Secret Access Key)

- AWS S3 link generated in the **To generate a test URL** procedure.

- Indicate whether the AWS S3 bucket name will be defined in the customer origin configuration, edge CNAME configuration, or the request.

Linking to AWS S3 Content

Note: Links to AWS S3 content should not be made publicly available until CDN personnel have added AWS S3 support to the corresponding customer origin.

The syntax for links to AWS S3 content varies according to the component where the AWS S3 bucket name is defined. The syntax for each supported configuration is provided below.

Reminder: Contact your CDN account manager if you are interested in adding HTTPS support.

Customer Origin

This section applies to a customer origin whose Host header includes the AWS S3 bucket name (e.g., mybucket.s3.awsamazon.com). Link to AWS S3 content using a standard CDN or edge CNAME URL.

Sample CDN URL (HTTP):

http://wpc.0001.edgecastcdn.net/800001/marketing/campaign/asset.png

Sample Edge CNAME URL (HTTPS):

https://cdn.mydomain.com/campaign/asset.png

Edge CNAME

This section applies to an edge CNAME whose relative path has been set to the AWS S3 bucket name (e.g., /mybucket). Link to AWS S3 content using a standard edge CNAME URL.

Sample Edge CNAME URL (HTTPS):

https://cdn.mydomain.com/campaign/asset.png

Request

This section applies to requests that will directly reference the AWS S3 bucket name (e.g., /mybucket). Link to AWS S3 content using a CDN or edge CNAME URL that includes the bucket name.

Sample CDN URL (HTTP):

http://wpc.0001.edgecastcdn.net/800001/marketing/mybucket/campaign/asset.png

Sample Edge CNAME URL (HTTPS):

https://cdn.mydomain.com/mybucket/campaign/asset.png