

Test Cloud Storage

- Cloud storage services facilitate web application and services to store and access objects in the storage service.
- Improper access control configuration, however, may result in sensitive information exposure, data being tampered, or unauthorized access.

Test Objectives

- Assess that the access control configuration for the storage services is properly in place.

How To Test

- First identify the URL to access the data in the storage service, after that consider the following steps.
 - o Read the unauthorized data
 - o Upload a new arbitrary file
- Here, we use curl commands to test the application.

E.x.

1. To test the ability to read an object:
curl -X GET <https://<cloud-storage-service>/<object>>
2. To test the ability to upload a file:
curl -X PUT -d 'test' '<https://cloud-storage-service/tesT.txt>'

Testing for Amazon S3 Bucket Misconfiguration

- The Amazon S3 bucket URLs follow one of two formats, either virtual host style and path-style.

Host Style Access

Example :- <https://bucket-name.s3.Region.amazonaws.com/key-name>

<https://my-bucket.s3.us-west-2.amazonaws.com/puppy.png>

Here,

My-bucket :- s3 bucket name

Us-west-2 :- region

Puppy.png :- key name

Path Style Access

Example :- <https://s3.Region.amazonaws.com/bucket-name/key-name>

<https://s3.us-west-2.amazonaws.com/my-bucket/puppy.jpg>

Here,

My-bucket :- s3 bucket name

Us-west-2 :- region

Puppy.png :- key name

For some regions, the legacy global endpoint that does not specify a region-specific endpoint can be used.

Example :-

Virtual Hosted Style Access :-

<https://bucket-name.s3.amazonaws.com>

Path Style Access :-

<https://s3.amazonaws.com/bucket-name>

Testing With AWS -CLI Tool

- The following command lists all the objects of the bucket when it is configured public.
 - o **aws s3 ls s3://<bucket-name>**
- The following is the command to upload a file
 - o **aws s3 cp arbitrary-file s3://bucket-name/path-to-save**
- This example shows the result when the upload has been successful.
 - o **\$ aws s3 cp test.txt s3://bucket-name/test.txt**
upload: ./test.txt to s3://bucket-name/test.txt
- This example shows the result when the upload has failed.
 - o **\$ aws s3 cp test.txt s3://bucket-name/test.txt**
upload failed: ./test2.txt to s3://bucket-name/test2.txt An error occurred (AccessDenied) when calling the PutObject operation: Access Denied
- The following is the command to remove an object
 - o **aws s3 rm s3://bucket-name/object-to-remove**

Tools

- <https://aws.amazon.com/cli/>

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