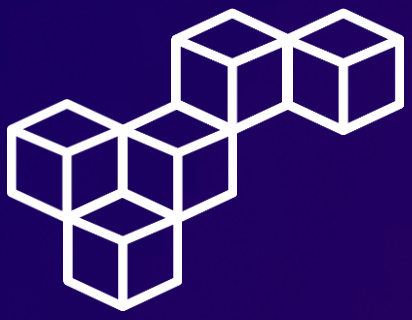
AWS re:Start

CHALLENGE LAB

Amazon S3 Exercise

WEEK 10

aws re/start



Overview

Amazon Simple Storage Service (Amazon S3) is a widely used cloud storage service provided by Amazon Web Services (AWS). It offers a secure, scalable, and highly durable platform for storing various types of data, including files, images, videos, and backups. S3 provides features such as versioning, encryption, and lifecycle policies, making it suitable for a diverse range of applications, from data archiving and backup to hosting static websites and serving content for applications.

With Amazon S3, users can create buckets to organize their data and upload objects into these buckets. Access to objects can be controlled using bucket policies, access control lists (ACLs), or by generating presigned URLs for temporary access. Additionally, S3 supports event notifications, enabling users to automate workflows based on changes to their stored data. Overall, Amazon S3 provides a robust and reliable solution for managing and storing data in the cloud.

Your Challenge

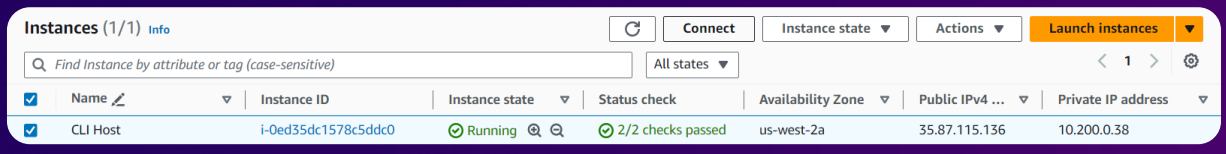
- Create an S3 bucket.
- Upload an object into this bucket.
- Try to access the object by using a web browser.
- Make the object (not the bucket) publicly accessible.
- Access the object by using a web browser.
- List the contents of the S3 bucket by using the AWS Command Line Interface (AWS CLI).

Task 1

Connecting to the CLI Host instance

Step 1: Connect to the CLI Host

In the EC2 Management Console, navigate to the **Instances** section, select the **CLI Host**, and connect to the instance using EC2 Instance Connect.



Step 2: Configure the AWS CLI

To set up the AWS CLI profile with credentials, run the aws configure command in the EC2 Instance Connect terminal. At the prompts, enter the following information.

```
[ec2-user@ip-10-200-0-38 ~]$ aws configure
AWS Access Key ID [None]: AKIA3FLDYBRKMA6HL5W7
AWS Secret Access Key [None]: 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
Default region name [None]: us-west-2
Default output format [None]: json
[ec2-user@ip-10-200-0-38 ~]$
```

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Task 2

Finish the challenge

Step 1: Create an S3 bucket

To create an S3 bucket, enter the following aws s3 mb command.

```
[ec2-user@ip-10-200-0-38 ~]$ aws s3 mb s3://restart-bucket \
> --region us-west-2
make_bucket: restart-bucket
[ec2-user@ip-10-200-0-38 ~]$
```

Step 2: Upload an object into the bucket

To upload an object into the bucket, enter the following aws s3api put-object command.

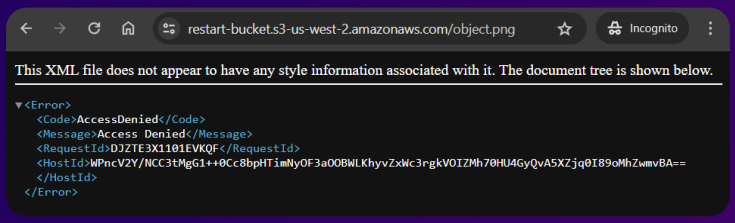
```
[ec2-user@ip-10-200-0-38 ~]$ aws s3api put-object \
> --bucket restart-bucket \
> --key object.png \
> --body ~/sysops-activity-files/images/Cookies.png \
> --content-type "image/png"
{
    "ETag": "\"f543b055659b87bba9fd0344433a2706\"",
    "ServerSideEncryption": "AES256"
}
[ec2-user@ip-10-200-0-38 ~]$
```

Task 2

Finish the challenge

Step 3: Try to access the object

To try to access the object using a web browser, build the object URL https://<bucket-name>.s3.amazonaws.com/<object-key>.



Step 4: Unblock public access

To unblock public access for the bucket, enter the following aws s3api put-public-access-block command.

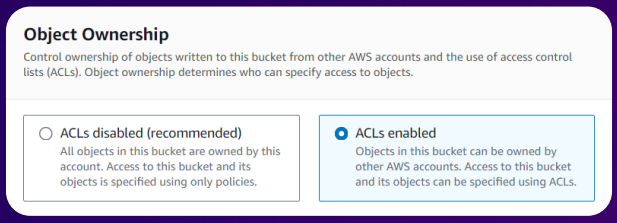
```
[ec2-user@ip-10-200-0-38 ~]$ aws s3api put-public-access-block \
> --bucket restart-bucket \
> --public-access-block-configuration \
> "BlockPublicAcls=false,IgnorePublicAcls=false,BlockPublicPolicy=false,RestrictPublicBuckets=false"
[ec2-user@ip-10-200-0-38 ~]$
```

Task 2

Finish the challenge

Step 5: Enable ACLs

In the S3 Management Console, select the bucket, navigate to the **Object Ownership** section, and select ACLs enabled.



Step 6: Make the object publicly accessible

To make the object publicly accessible, enter the following aws s3api put-object-acl command.

```
[ec2-user@ip-10-200-0-38 ~]$ aws s3api put-object-acl \
> --bucket restart-bucket \
> --key object.png \
> --acl public-read
[ec2-user@ip-10-200-0-38 ~]$
```

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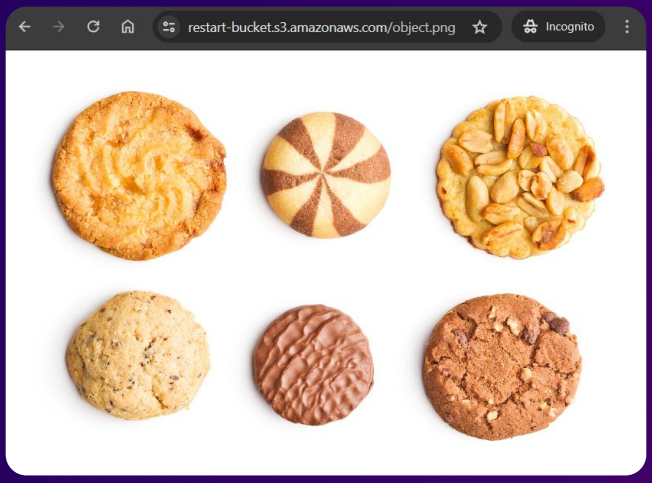
Task 2

Finish the challenge

Step 7: Access the object (Public Read ACL)

Access the object by using the same object URL.



Step 8: Create a presigned URL

You can also grant temporary access to private objects without altering the Block Public Access or ACLs settings by using a presigned URL. Enter the following aws s3 presign command. The structure of the presigned URL contains your **AWS Access Key ID**, a **Expires** timestamp, and a **Signature**.

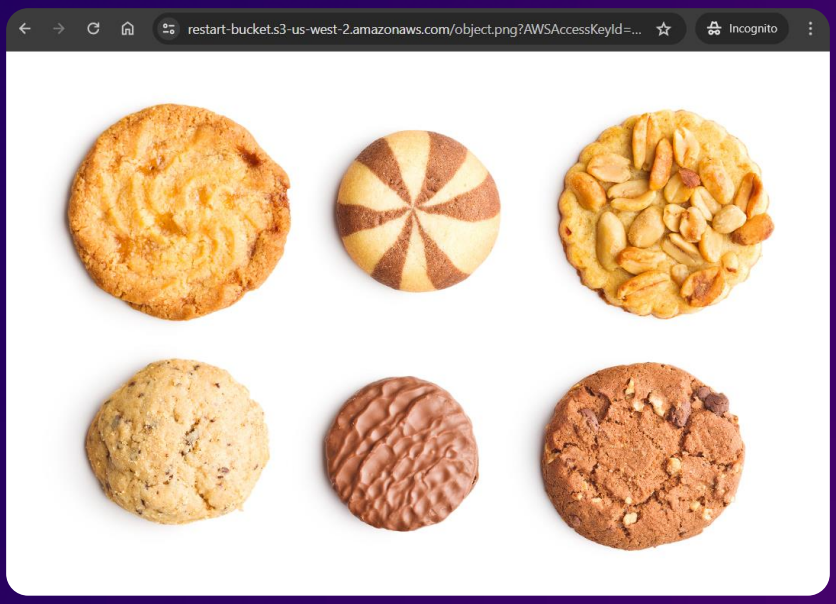
```
[ec2-user@ip-10-200-0-38 ~]$ aws s3 presign s3://restart-bucket/object.png \
> --expires-in 3600
https://restart-bucket.s3.amazonaws.com/object.png?AWSAccessKeyId=AKIA3FLDYBRKMA6HL5W7&Expires=1717249704&Signature=yyA9APh8irQUdpUqXQO1LWGU%2FNA%3D
[ec2-user@ip-10-200-0-38 ~]$
```

Task 2

Finish the challenge

Step 9: Access the object (Presigned URL)

Access the object by using the presigned URL.



Step 10: List the contents of the bucket

To list the contents of the S3 bucket by using the AWS CLI, run the following aws s3 ls command.

```
[ec2-user@ip-10-200-0-38 ~]$ aws s3 ls s3://restart-bucket \
> --recursive \
> --human-readable \
> --summarize
2024-06-01 12:46:01    1.4 MiB object.png

Total Objects: 1
   Total Size: 1.4 MiB
[ec2-user@ip-10-200-0-38 ~]$
```

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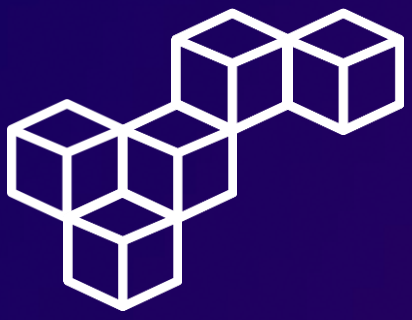

Conclusions

aws s3 mb
Use aws s3 mb to create a new Amazon S3 bucket. This command simplifies the process of setting up storage for your data in the AWS cloud.

aws s3api put-object
The aws s3api put-object command allows you to upload objects to an S3 bucket programmatically, providing flexibility and automation in managing your data.

aws s3api put-public-access-block
With aws s3api put-public-access-block, you can enforce public access settings on your S3 bucket, ensuring that sensitive data remains secure and protected.

aws s3api put-object-acl
Use aws s3api put-object-acl to set access control permissions on specific objects within an S3 bucket, allowing fine-grained control over who can access and modify your data.

aws s3 presign
Use aws s3 presign to generate presigned URLs for S3 objects, facilitating temporary access and enabling controlled sharing of resources.

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