U52860307 raveenaginjala@usf.edu

Get Started with AWS S3 CL

Introduction:

AWS S3 (Simple Storage Service) is a cloud storage service provided by Amazon Web Services (AWS) that allows you to store and retrieve data from anywhere on the internet. AWS CLI (Command Line Interface) is a command-line tool that provides an easy way to interact with S3 using the terminal. With AWS S3 CLI, you can manage your S3 objects and buckets, upload and download files, set access controls, and perform other tasks without having to use the AWS Management Console. AWS S3 CLI is especially useful for automating tasks, scripting, and integrating with other command-line tools. In this project, the basics of getting started with AWS S3 CLI, including installing and configuring AWS CLI, creating an S3 bucket using AWS CLI, and performing basic S3 operations such as uploading and downloading files.

Methodology:

The project was divided into four main steps:

Step 1: Installing AWS CLI

Step 2:Configuring AWS CLI

Step 3:Creating an S3 bucket

Step 4:Performing basic S3 operations like uploading and downloading files.

Step 1: Installing AWS CLI

Download AWS CLI: Download AWS CLI from the official AWS website provided below: https://aws.amazon.com/cli/ .Select the appropriate installation package for your operating system and download the package.

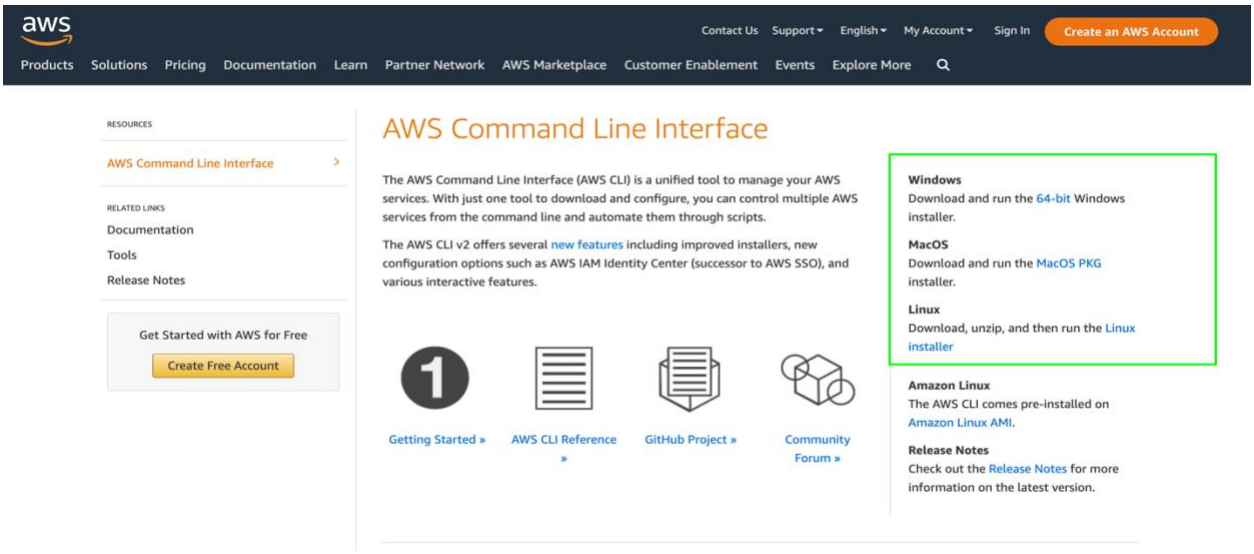


Fig a: Official AWS website.

Install AWS CLI: After downloading the AWS CLI package, navigate to the directory where the package was downloaded and run the installation command. The installation command varies based on your operating system. Here are the installation steps for some common operating systems:

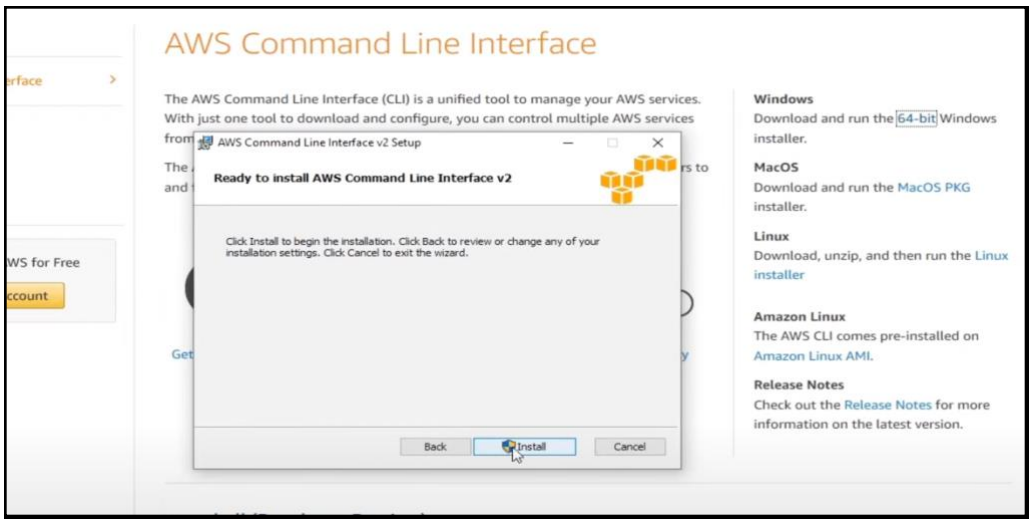


Fig b: First step in installing AWS CLI

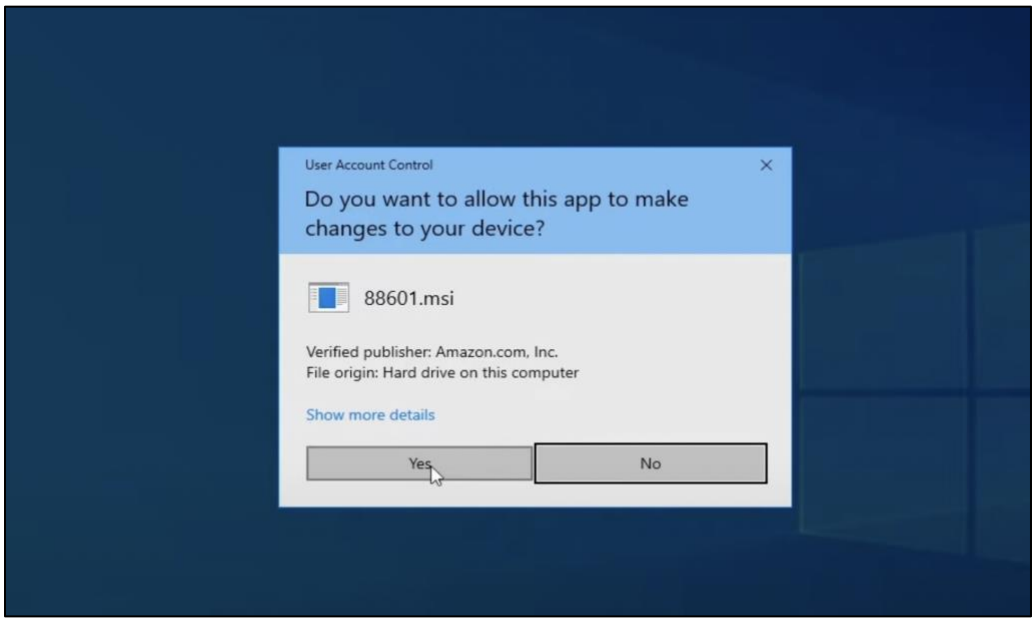


Fig c: Intermediate steps while installing AWS CLI

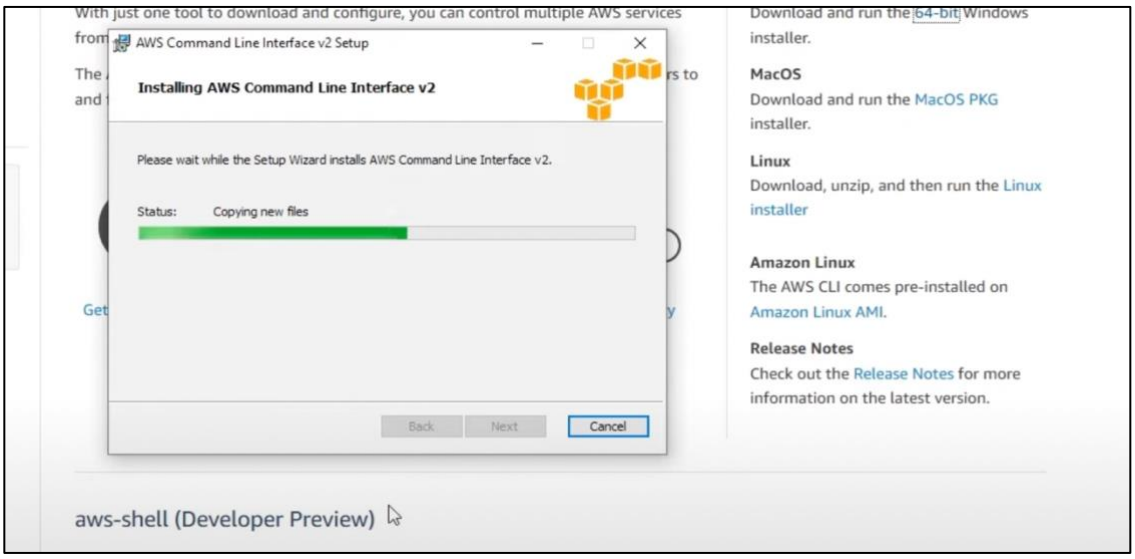


Fig d: Installing AWS CLI

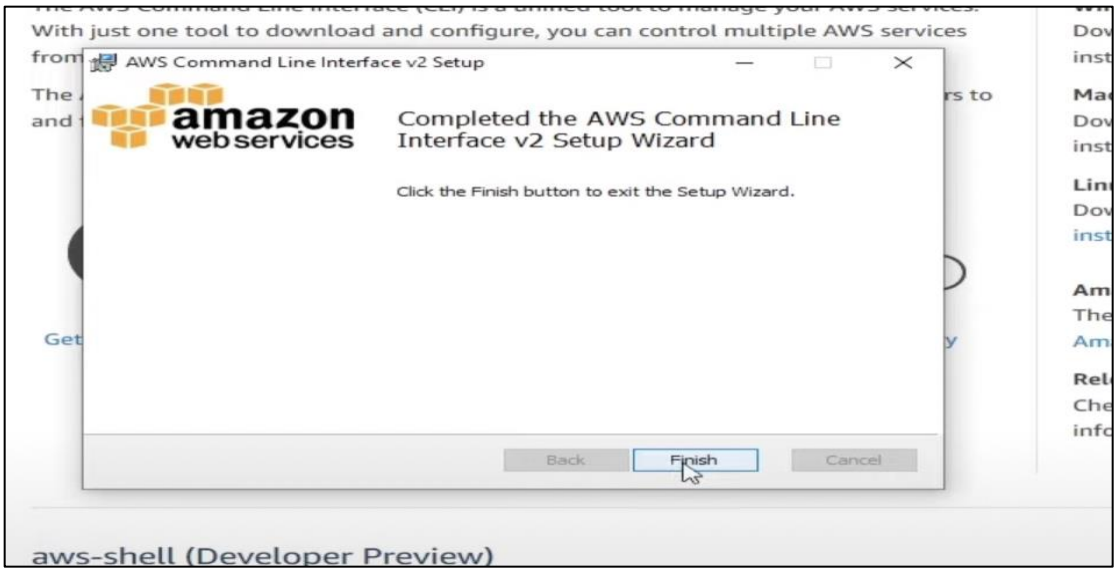


Fig e: Last step in installing AWS CLI

Verify AWS CLI Installation: After installing AWS CLI, we can verify the installation by running the following command in your terminal:

```
C:\Users\ramba\OneDrive\Desktop\Raveena_test>aws --version
aws-cli/2.11.15 Python/3.11.3 Windows/10 exe/AMD64 prompt/off
```

This command displays the version of AWS CLI installed on your system.

With these steps, now AWS CLI installed successfully on the system. Next is to proceed with configuring AWS CLI to connect to your AWS account.

Step 2:Configuring AWS CLI:

Retrieve AWS access key ID and secret access key:

- Sign into your AWS Learner lab.
- Click on Start Lab.
- Click on AWS Details (as highlighted in green in Fig f).
- Click on show which is next to AWS CLI (as highlighted in green and blue in Fig f).

- Copy the access key ID and secret access key.
- Make sure that copy of the access key ID and secret access key are stored in a file named "credentials" that is located in the folder named .aws which is in the root directory.

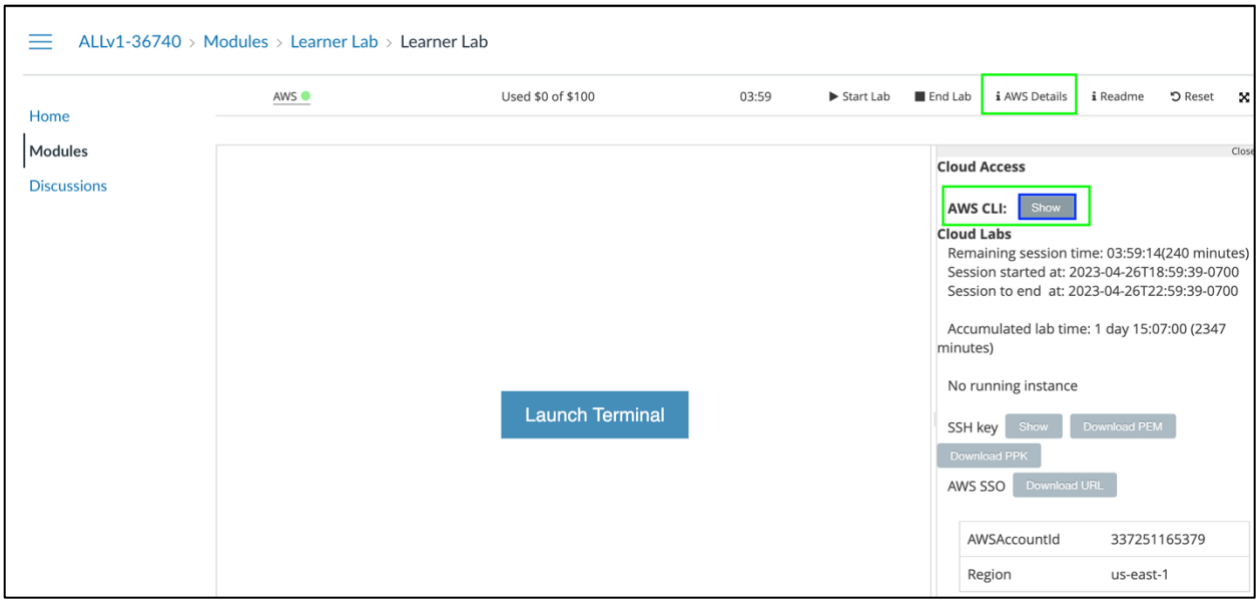


Fig f: Learner Lab console showing where to get access key ID and secret access key.

Open your terminal and run the following command:

- Enter your AWS access key ID and secret access key: You will be prompted to enter your AWS access key ID and secret access key. Paste the access key ID and secret access key that you retrieved (as shown in Fig g).
- Enter your default region name: You will also be prompted to enter your default region name. Enter the name of the region that you want to use for your AWS CLI commands. For example, if you want to use the US East (N. Virginia) region , enter "us-east-1" (as shown in Fig g).
- Enter your default output format: Finally, you will be prompted to enter your default output format. This determines how the output of your AWS CLI commands will be formatted(as shown in Fig g).

Fig g: Terminal where prompted to enter AWS access key ID,AWS secret access key, Default region name and Default output format.

Configuring AWS CLI to connect to your AWS account is a crucial step in using AWS CLI to manage your AWS resources.

Step 3: Creating an S3 bucket:

Before creating bucket, you can also check for the buckets available using the command below:

```
C:\Users\ramba>aws s3 ls
2023-02-24 10:45:44 cf-templates-6bsf13kafch3-us-east-1
```

To create an S3 bucket using AWS S3 CLI, users can follow the steps mentioned below:

- In terminal window,type the following command to create a new S3 bucket in your AWS account:

```
aws s3 mb s3://bucket-name
```

- Replace "bucket-name" with the name of the desired S3 bucket (as shown in Fig h).

```
C:\Users\ramba>aws s3 mb s3://raveenareddy-1404
make_bucket: raveenareddy-1404
```

Fig h: Terminal showing bucket (raveenareddy-1404) is created.

- Press enter to execute the command.
- If the bucket is created successfully, the CLI will display a message confirming the creation of the bucket (as shown in Fig h).

Note: It is important to ensure that the bucket name is unique and conforms to the naming conventions specified by Amazon S3. Bucket names must be between 3 and 63 characters long and can contain only lowercase letters, numbers, and hyphens. Otherwise,there is change of getting error as shown below:

```
C:\Users\ramba>aws s3 mb s3://raveena-1404
make_bucket failed: s3://raveena-1404 An error occurred (BucketAlreadyExists) when calling the CreateBucket operation: The requested bucket name is
not available. The bucket namespace is shared by all users of the system. Please select a different name and try again.
```

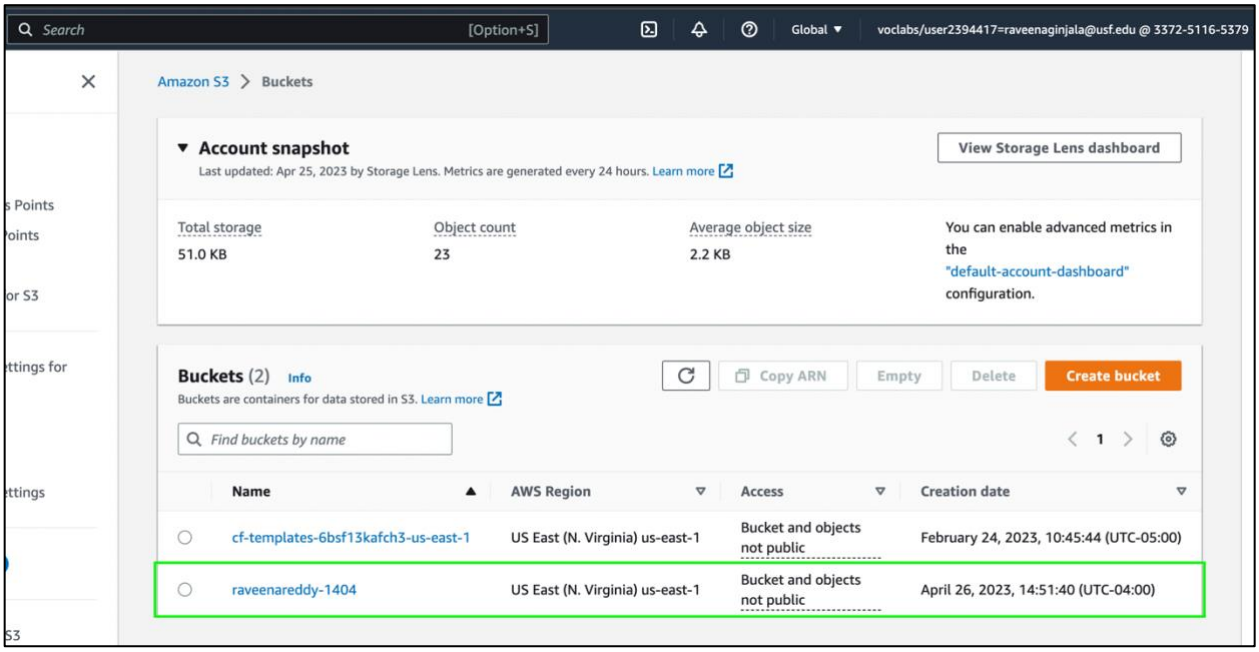


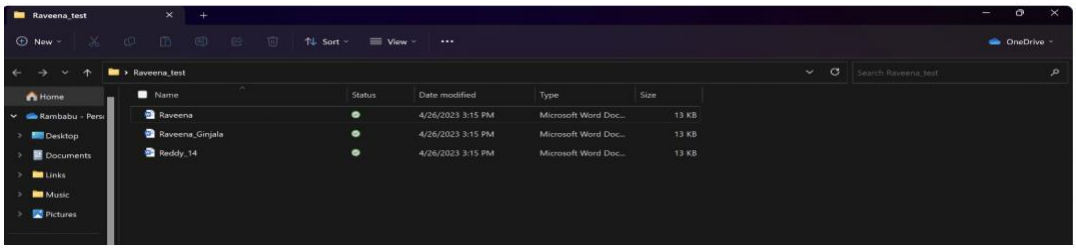
Fig i: Show the bucket created in AWS s3 console.

Step 4:Performing basic S3 operations like uploading and downloading files:

Uploading a file to an S3 bucket:

- Change directory in a terminal (command prompt), use the **cd** command followed by the path to the file you want to upload into bucket (as shown below).

```
C:\Users\ramba> cd C:\Users\ramba\OneDrive\Desktop\Raveena_test
```



- Type the following command to upload a file to your S3 bucket (as shown in the figure below).
- Press enters to execute the command.

```
C:\Users\ramba\OneDrive\Desktop\Raveena_test>aws s3 sync . s3://raveenareddy-1404
upload: .\Raveena.docx to s3://raveenareddy-1404/Raveena.docx
upload: .\Raveena_Ginjala.docx to s3://raveenareddy-1404/Raveena_Ginjala.docx
upload: .\Reddy_14.docx to s3://raveenareddy-1404/Reddy_14.docx
```

Fig j: Uploading a file to your S3 bucket.

- If the upload is successful, the CLI will display a message confirming the completion of the upload.

Downloading a file from an S3 bucket:

- In terminal window, change directory in a terminal (command prompt), use the **cd** command followed by the path to the local directory where you want to download the file.
- Type the following command to download a files to your S3 bucket (as shown in the Fig k).
- Press enter to execute the command.

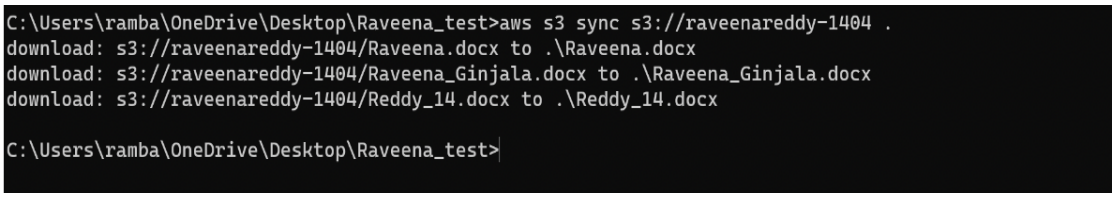


Fig k: Uploading a file to your S3 bucket.

- If the download is successful, the CLI will display a message confirming the completion of the download(as shown in the Fig k).

- S3 Console showing the bucket created and files uploaded to it.

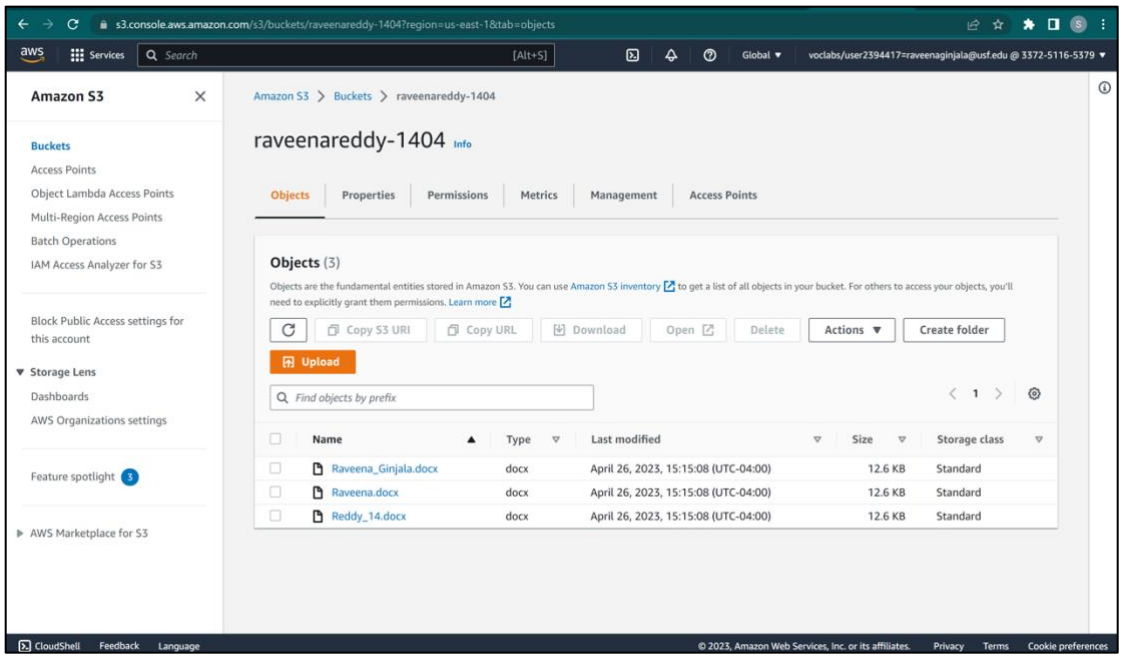


Fig 1: Shows the bucket created and files uploaded to it.

Results: By following the steps outlined in the project, successfully installed and configured AWS CLI, created an S3 bucket using AWS S3 CLI, and performed basic S3 operations like uploading and downloading files. The project was designed to provide a simple and straightforward guide for users to get started with AWS S3 CLI and create an S3 bucket using AWS CLI.

Conclusion: AWS CLI is a powerful tool that allows users to manage their S3 objects and buckets, upload and download files, set access controls, and perform other tasks without using the AWS Management Console. This project provided a step-by-step guide on how to get started with AWS S3 CLI and create an S3 bucket using AWS CLI. By following the instructions outlined in the project, users were able to set up their AWS S3 CLI environment and start managing their S3 data with ease.

```
C:\Users\ramba>aws s3 mb s3://raveenareddy-1404
make_bucket: raveenareddy-1404
```

```
C:\Users\ramba\OneDrive\Desktop\Raveena_test>aws s3 sync . s3://raveenareddy-1404
upload: .\Raveena.docx to s3://raveenareddy-1404/Raveena.docx
upload: .\Raveena_Ginjala.docx to s3://raveenareddy-1404/Raveena_Ginjala.docx
upload: .\Reddy_14.docx to s3://raveenareddy-1404/Reddy_14.docx
```

```
C:\Users\ramba\OneDrive\Desktop\Raveena_test>aws s3 sync s3://raveenareddy-1404 .
download: s3://raveenareddy-1404/Raveena.docx to .\Raveena.docx
download: s3://raveenareddy-1404/Raveena_Ginjala.docx to .\Raveena_Ginjala.docx
download: s3://raveenareddy-1404/Reddy_14.docx to .\Reddy_14.docx

C:\Users\ramba\OneDrive\Desktop\Raveena_test>
```