

S3

1. Use the S3 browser console to create a bucket that is unique to the region

The screenshot shows the 'Amazon S3 > Buckets' page. A green header bar at the top indicates 'Successfully created bucket "source-training-bucket-20-10-2024"'. Below it, a message says 'To upload files and folders, or to configure additional bucket settings, choose View details.' The main content area shows a table for 'General purpose buckets (1)'. The single entry is 'source-training-bucket-20-10-2024', which was created on October 20, 2024, at 12:08:30 (UTC+05:30). The table includes columns for Name, AWS Region, IAM Access Analyzer, and Creation date.

The screenshot shows the 'Amazon S3 > Buckets > source-training-bucket-20-10-2024' page. A green header bar at the top indicates 'Successfully created folder "projects".' Below it, a message says 'source-training-bucket-20-10-2024'. The main content area shows the 'Objects (1)' section. The single object is 'projects/' (Type: Folder), which was created on October 20, 2024, at 12:08:30 (UTC+05:30). The table includes columns for Name, Type, Last modified, Size, and Storage class.

Successfully created folder "simple".

Amazon S3 > Buckets > source-training-bucket-20-10-2024 > projects/

Copy S3 URI

Objects (1) Info

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Find objects by prefix

Name	Type	Last modified	Size	Storage class
simple/	Folder	-	-	-

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Successfully created folder "complex".

Amazon S3 > Buckets > source-training-bucket-20-10-2024 > projects/

Copy S3 URI

Objects (2) Info

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Find objects by prefix

Name	Type	Last modified	Size	Storage class
complex/	Folder	-	-	-
simple/	Folder	-	-	-

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Successfully created bucket "replica-training-bucket-20-10-2024".
To upload files and folders, or to configure additional bucket settings, choose [View details](#).

View details

Amazon S3 > Buckets

View Storage Lens dashboard

General purpose buckets Directory buckets

General purpose buckets (2) Info All AWS Regions

Buckets are containers for data stored in S3.

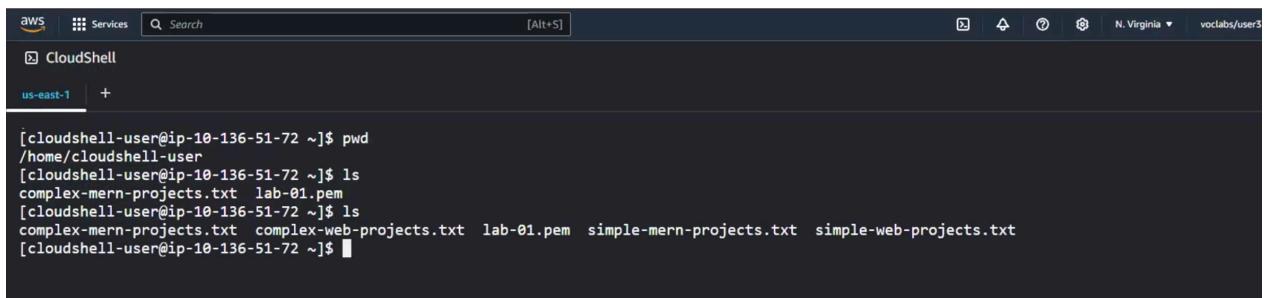
Find buckets by name

Name	AWS Region	IAM Access Analyzer	Creation date
replica-training-bucket-20-10-2024	US East (N. Virginia) us-east-1	View analyzer for us-east-1	October 20, 2024, 12:29:06 (UTC+05:30)
source-training-bucket-20-10-2024	US East (N. Virginia) us-east-1	View analyzer for us-east-1	October 20, 2024, 12:08:30 (UTC+05:30)

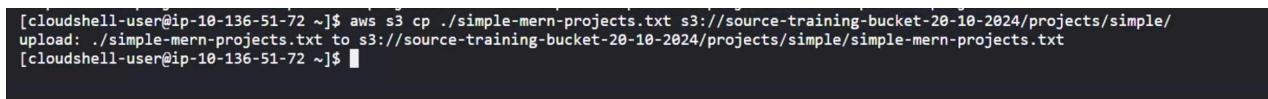
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2. Use the CLI to

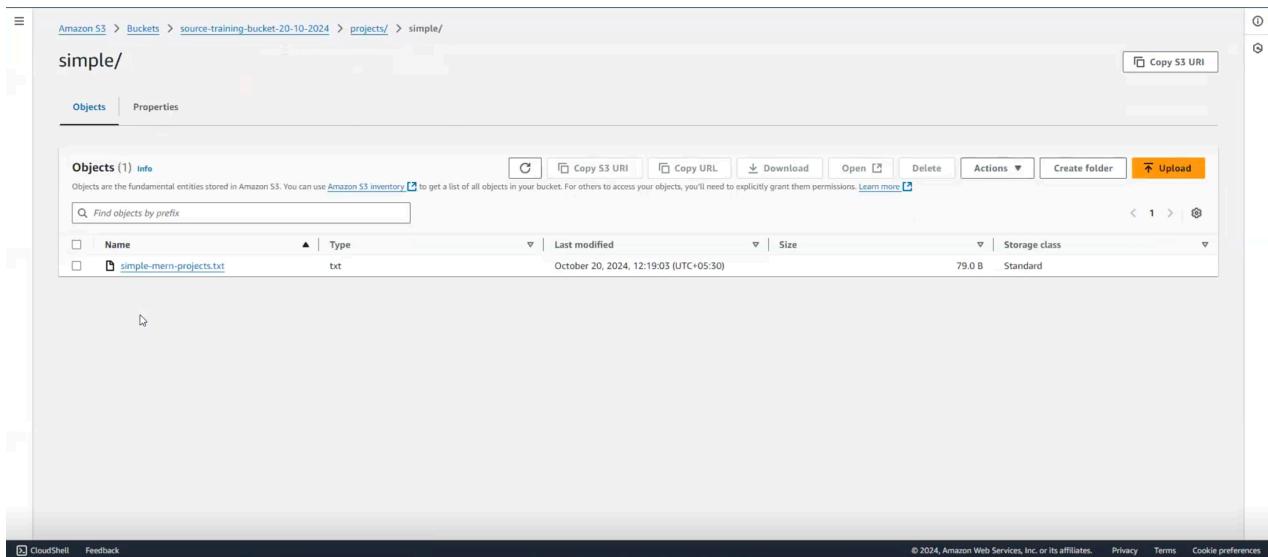
a) Upload a few (non sensitive) files from your local machine to S3 bucket



```
[cloudshell-user@ip-10-136-51-72 ~]$ pwd  
/home/cloudshell-user  
[cloudshell-user@ip-10-136-51-72 ~]$ ls  
complex-mern-projects.txt lab-01.pem  
[cloudshell-user@ip-10-136-51-72 ~]$ ls  
complex-mern-projects.txt complex-web-projects.txt lab-01.pem simple-mern-projects.txt simple-web-projects.txt  
[cloudshell-user@ip-10-136-51-72 ~]$
```



```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 cp ./simple-mern-projects.txt s3://source-training-bucket-20-10-2024/projects/simple/  
upload: ./simple-mern-projects.txt to s3://source-training-bucket-20-10-2024/projects/simple/simple-mern-projects.txt  
[cloudshell-user@ip-10-136-51-72 ~]$
```



The screenshot shows the AWS S3 console interface. The user is in the 'simple' folder of the 'source-training-bucket-20-10-2024' bucket. There is one object listed:

Name	Type	Last modified	Size	Storage class
simple-mern-projects.txt	txt	October 20, 2024, 12:19:03 (UTC+05:30)	79.0 B	Standard



```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 cp ./simple-web-projects.txt s3://source-training-bucket-20-10-2024/projects/simple/  
upload: ./simple-web-projects.txt to s3://source-training-bucket-20-10-2024/projects/simple/simple-web-projects.txt  
[cloudshell-user@ip-10-136-51-72 ~]$
```

Amazon S3 > Buckets > source-training-bucket-20-10-2024 > projects/ > simple/

simple/

Objects Properties

Objects (2) Info

Name	Type	Last modified	Size	Storage class
simple-mern-projects.txt	txt	October 20, 2024, 12:19:03 (UTC+05:30)	79.0 B	Standard
simple-web-projects.txt	txt	October 20, 2024, 12:20:22 (UTC+05:30)	81.0 B	Standard

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```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 cp ./complex-mern-projects.txt s3://source-training-bucket-20-10-2024/projects/complex/upload: ./complex-mern-projects.txt to s3://source-training-bucket-20-10-2024/projects/complex/complex-mern-projects.txt[cloudshell-user@ip-10-136-51-72 ~]$
```

```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 cp ./complex-web-projects.txt s3://source-training-bucket-20-10-2024/projects/complex/upload: ./complex-web-projects.txt to s3://source-training-bucket-20-10-2024/projects/complex/complex-web-projects.txt[cloudshell-user@ip-10-136-51-72 ~]$
```

Amazon S3 > Buckets > source-training-bucket-20-10-2024 > projects/ > complex/

complex/

Objects Properties

Objects (2) Info

Name	Type	Last modified	Size	Storage class
complex-mern-projects.txt	txt	October 20, 2024, 12:20:33 (UTC+05:30)	79.0 B	Standard
complex-web-projects.txt	txt	October 20, 2024, 12:20:43 (UTC+05:30)	81.0 B	Standard

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b) List the buckets

```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 ls2024-10-20 06:59:06 replica-training-bucket-20-10-20242024-10-20 06:38:30 source-training-bucket-20-10-2024[cloudshell-user@ip-10-136-51-72 ~]$
```

The screenshot shows the AWS S3 Buckets page. At the top, there's an account snapshot message: "Account snapshot - updated every 24 hours" and a link to "View Storage Lens dashboard". Below that, tabs for "General purpose buckets" and "Directory buckets" are shown, with "General purpose buckets" selected. A search bar "Find buckets by name" is present. The main table lists two buckets:

Name	AWS Region	IAM Access Analyzer	Creation date
replica-training-bucket-20-10-2024	US East (N. Virginia) us-east-1	View analyzer for us-east-1	October 20, 2024, 12:29:06 (UTC+05:30)
source-training-bucket-20-10-2024	US East (N. Virginia) us-east-1	View analyzer for us-east-1	October 20, 2024, 12:08:30 (UTC+05:30)

At the bottom, there are buttons for "Create bucket", "Copy ARN", "Empty", and "Delete". The footer includes links for CloudShell, Feedback, and various AWS terms like Privacy, Terms, and Cookie preferences.

c) List the contents of a bucket

```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 ls s3://source-training-bucket-20-10-2024
PRE projects/
[cloudshell-user@ip-10-136-51-72 ~]$
```

```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 ls --recursive s3://source-training-bucket-20-10-2024
2024-10-20 06:41:19      0 projects/
2024-10-20 06:43:10      0 projects/complex/
2024-10-20 06:50:33    79 projects/complex/complex-mern-projects.txt
2024-10-20 06:50:43    81 projects/complex/complex-web-projects.txt
2024-10-20 06:42:24      0 projects/simple/
2024-10-20 06:49:03    79 projects/simple/simple-mern-projects.txt
2024-10-20 06:50:22    81 projects/simple/simple-web-projects.txt
[cloudshell-user@ip-10-136-51-72 ~]$
```

```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 ls s3://source-training-bucket-20-10-2024/projects/
PRE complex/
PRE simple/
2024-10-20 06:41:19      0
[cloudshell-user@ip-10-136-51-72 ~]$
```

3. Enable versioning of the bucket

AWS Services Search [Alt+S] N. Virginia v vocabs/us

Amazon S3 > Buckets > source-training-bucket-20-10-2024 > Edit Bucket Versioning

Edit Bucket Versioning Info

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Suspend
This suspends the creation of object versions for all operations but preserves any existing object versions.

Enable

ⓘ After enabling Bucket Versioning, you might need to update your lifecycle rules to manage previous versions of objects.

Multi-factor authentication (MFA) delete
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. [Learn more](#)

Disabled

[Cancel](#) [Save changes](#)

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Successfully edited Bucket Versioning
To transition, archive, or delete older object versions, [configure lifecycle rules](#) for this bucket.

Amazon S3 > Buckets > source-training-bucket-20-10-2024

source-training-bucket-20-10-2024 Info

Objects Properties Permissions Metrics Management Access Points

Bucket overview

AWS Region US East (N. Virginia) us-east-1	Amazon Resource Name (ARN) arn:aws:s3:::source-training-bucket-20-10-2024	Creation date October 20, 2024, 12:08:30 (UTC+05:30)
---	--	---

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Bucket Versioning
Enabled

Multi-factor authentication (MFA) delete
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. [Learn more](#)

Tags (0)
You can use bucket tags to track storage costs and organize buckets. [Learn more](#)

[Edit](#)

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The screenshot shows the 'Edit Bucket Versioning' page for the 'replica-training-bucket-20-10-2024' bucket. The 'Bucket Versioning' section is open, showing two options: 'Suspend' (radio button is empty) and 'Enable' (radio button is checked). A note below states: 'After enabling Bucket Versioning, you might need to update your lifecycle rules to manage previous versions of objects.' The 'Multi-factor authentication (MFA) delete' section is collapsed. At the bottom right are 'Cancel' and 'Save changes' buttons.

The screenshot shows the 'Properties' tab of the 'replica-training-bucket-20-10-2024' bucket's properties page. The 'Bucket overview' section displays basic information: AWS Region (US East (N. Virginia) us-east-1), Amazon Resource Name (ARN) (arn:aws:s3:::replica-training-bucket-20-10-2024), and Creation date (October 20, 2024, 12:29:06 (UTC+05:30)). The 'Bucket Versioning' section is expanded, showing it is 'Enabled'. A note about MFA delete is present. The 'Tags (0)' section is collapsed. At the bottom right are 'Edit' and 'Delete' buttons. The footer includes CloudShell, Feedback, and copyright information.

4. Enable cross region replication

☰ **Replication configuration successfully updated**
If changes to the configuration aren't displayed, choose the refresh button. Changes apply only to new objects. To replicate existing objects with this configuration, choose **Create replication job**.

[Create replication job](#) [X](#)

Amazon S3 > Buckets > source-training-bucket-20-10-2024 > Replication rules

Replication rules [Info](#)

Replication enables automatic and asynchronous copying of objects across buckets in the same or different AWS Regions. A replication configuration is a set of rules that define what options should be applied to a group of objects during replication.

Replication configuration settings

Configuration settings affect all replication rules in the bucket.

[Create replication job](#) [Edit](#)

Source bucket source-training-bucket-20-10-2024	IAM role LabRole
Source Region US East (N. Virginia) us-east-1	

Replication rules (1)

Use replication rules to define options you want Amazon S3 to apply during replication such as server-side encryption, replica ownership, transitioning replicas to another storage class, and more. [Learn more](#)

[View details](#) [Edit rule](#) [Delete](#) [Actions](#) [Create replication rule](#)

Replication rule name	Status	Destination bucket	Destination Region	Priority	Scope	Storage class	Replica owner	Replication Time Control	KMS-encrypted objects (SSE-KMS or DSSE-KMS)	Replica modification sync
All-Objects-Replicate	Enabled	s3://replica-training-bucket-20-10-2024	US East (N. Virginia) us-east-1	0	Entire bucket	Same as source	Same as source	Disabled	Do not replicate	Disabled

[CloudShell](#) [Feedback](#) [Terms](#) [Privacy](#) [Cookie preferences](#)

Amazon S3

Amazon S3 > Buckets > replica-training-bucket-20-10-2024

replica-training-bucket-20-10-2024 Info

Buckets

- Access Grants
- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- Storage Lens groups
- AWS Organizations settings

Feature spotlight ?

AWS Marketplace for S3

Objects Info

C Copy S3 URI Copy URL Download Open Delete Actions Create folder Upload

Find objects by prefix Show versions

Name	Type	Last modified	Size	Storage class
No objects You don't have any objects in this bucket.				

Upload

5. Q: State your observations of the existing objects (are they replicated?)

Sol: Whatever object is there in the source bucket before the replication rule was created, they will not be a part of S3 replication process.

All the objects which are existing there in the bucket currently before the rule was, we are creating the rule only now, right when the rule is after the replication rule is created, only any new object which has been created in the bucket, only that will be replicated onto the replica bucket.

After replication rules were created, a window popped-up asking if we want to replicate existing objects as a part of a batch process outside the scope of history. We did not go ahead with it, so we chose the default option, i.e., “No, do not replicate existing objects.”

Hence, we will not replicate existing objects, as that will separately run as a batch process which we are not interested.

6. Use the CLI, upload a few new files to the same bucket

```
[cloudshell-user@ip-10-136-51-72 ~]$ ls  
aws-cloud.txt complex-mern-projects.txt complex-web-projects.txt java-fsd.txt lab-01.pem simple-mern-projects.txt simple-web-projects.txt  
[cloudshell-user@ip-10-136-51-72 ~]$
```

```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 cp ./aws-cloud.txt s3://source-training-bucket-20-10-2024/courses/  
upload: ./aws-cloud.txt to s3://source-training-bucket-20-10-2024/courses/aws-cloud.txt  
[cloudshell-user@ip-10-136-51-72 ~]$
```

Amazon S3

Buckets

- Access Grants
- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- Storage Lens groups
- AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

CloudShell Feedback

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Amazon S3 > Buckets > source-training-bucket-20-10-2024

source-training-bucket-20-10-2024

Objects (2) Info

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Name	Type	Last modified	Size	Storage class
courses/	Folder	-	-	-
projects/	Folder	-	-	-

Actions ▾ Create folder Upload

Find objects by prefix Show versions

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Amazon S3

Buckets

- Access Grants
- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- Storage Lens groups
- AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

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Amazon S3 > Buckets > source-training-bucket-20-10-2024 > courses/

courses/

Copy S3 URI

Objects (2) Info

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Name	Type	Last modified	Size	Storage class
aws-cloud.txt	txt	October 20, 2024, 12:42:31 (UTC+05:30)	84.0 B	Standard
java-fsd.txt	txt	October 20, 2024, 12:42:51 (UTC+05:30)	109.0 B	Standard

Copy S3 URI

Find objects by prefix Show versions

< 1 > ⚙️

Amazon S3

Buckets

- Access Grants
- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- Storage Lens groups
- AWS Organizations settings

Feature spotlight

AWS Marketplace for S3

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Amazon S3 > Buckets > replica-training-bucket-20-10-2024

replica-training-bucket-20-10-2024

Objects (1) Info

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Name	Type	Last modified	Size	Storage class
courses/	Folder	-	-	-

Actions ▾ Create folder Upload

Find objects by prefix Show versions

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Amazon S3 > Buckets > replica-training-bucket-20-10-2024 > courses/

courses/

Objects (2) Info

Name	Type	Last modified	Size	Storage class
aws-cloud.txt	txt	October 20, 2024, 12:42:51 (UTC+05:30)	84.0 B	Standard
java-fsd.txt	txt	October 20, 2024, 12:42:51 (UTC+05:30)	109.0 B	Standard

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7.Q: State your observations of the new objects

Sol: After the replication rule has been added to the source bucket, new objects created or added to the source bucket will be considered for replication. Objects added after the replication was created, were replicated onto the target replica bucket.

8.Clean-Up Part of S3 bucket or Removing Objects from S3 Bucket

Amazon S3 > Buckets > source-training-bucket-20-10-2024 > projects/ > simple/

simple/

Objects (2) Info

Name	Type	Last modified	Size	Storage class
simple-mern-projects.txt	txt	October 20, 2024, 12:19:03 (UTC+05:30)	79.0 B	Standard
simple-web-projects.txt	txt	October 20, 2024, 12:20:22 (UTC+05:30)	81.0 B	Standard

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```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 rm s3://source-training-bucket-20-10-2024/projects/simple/simple-mern-projects.txt
delete: s3://source-training-bucket-20-10-2024/projects/simple/simple-mern-projects.txt
[cloudshell-user@ip-10-136-51-72 ~]$
```

The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with various navigation options like Buckets, Access Grants, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, IAM Access Analyzer for S3, Storage Lens, Dashboards, Storage Lens groups, and AWS Organizations settings. Below that is a Feature spotlight section and an AWS Marketplace link. The main content area shows the path: Amazon S3 > Buckets > source-training-bucket-20-10-2024 > projects/ > simple/. The Objects tab is selected, displaying one item: simple-web-projects.txt (txt, 81.0 B, Standard storage class). There are buttons for Copy S3 URI, Copy URL, Download, Open, Delete, Actions, Create folder, and Upload.

This screenshot shows the AWS S3 console for the source-training-bucket-20-10-2024 bucket. The sidebar is identical to the previous screenshot. The main content area shows the path: Amazon S3 > Buckets > source-training-bucket-20-10-2024. The Objects tab is selected, displaying two items: courses/ (Folder) and projects/ (Folder). There are buttons for Copy S3 URI, Copy URL, Download, Open, Delete, Actions, Create folder, and Upload.

```
[cloudshell-user@ip-10-136-51-72 ~]$ aws s3 rm --recursive s3://source-training-bucket-20-10-2024/projects/
delete: s3://source-training-bucket-20-10-2024/projects/complex/
delete: s3://source-training-bucket-20-10-2024/projects/simple/simple-web-projects.txt
delete: s3://source-training-bucket-20-10-2024/projects/complex/complex-web-projects.txt
delete: s3://source-training-bucket-20-10-2024/projects/complex/complex-mern-projects.txt
delete: s3://source-training-bucket-20-10-2024/projects/
delete: s3://source-training-bucket-20-10-2024/projects/simple/
[cloudshell-user@ip-10-136-51-72 ~]$
```

Amazon S3

Amazon S3 > Buckets > source-training-bucket-20-10-2024 [Info](#)

source-training-bucket-20-10-2024

Buckets

- Access Grants
- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- Storage Lens groups
- AWS Organizations settings

Feature spotlight [?](#)

AWS Marketplace for S3

Objects | Properties | Permissions | Metrics | Management | Access Points

Objects (1) Info

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Find objects by prefix Show versions

Name	Type	Last modified	Size	Storage class
courses/	Folder	-	-	-

[C](#) [Copy S3 URL](#) [Copy URL](#) [Download](#) [Open](#) [Delete](#) [Actions](#) [Create folder](#) [Upload](#)