



Amazon Simple Storage Service

Amazon Simple Storage Service (Amazon S3) is a scalable object storage service offered by Amazon Web Services (AWS). It is designed to store and retrieve any amount of data from anywhere on the web. S3 is commonly used for backup and recovery, content storage and distribution, web hosting, and data archiving, among other applications.

Key features of Amazon S3 include:

1. **Scalability:** S3 is designed to scale automatically, allowing users to store and retrieve any amount of data without worrying about capacity constraints.
2. **Durability:** Amazon S3 is designed for 99.999999999% (11 9's) durability, meaning that data is highly resilient and unlikely to be lost.
3. **Availability:** S3 is built to provide high availability, ensuring that data is accessible whenever needed.
4. **Security:** S3 offers a range of security features, including access control lists (ACLs), bucket policies, and integration with AWS Identity and Access Management (IAM) for fine-grained access control.
5. **Versatility:** It supports a variety of storage classes with different performance characteristics and costs, allowing users to choose the appropriate storage class based on their specific needs.
6. **Object-based storage:** S3 is an object storage system, which means that data is stored as objects rather than in a traditional file hierarchy. Each object consists of data, a variable amount of metadata, and a unique identifier.

S3 is widely used by businesses and developers to store and manage data in the cloud due to its reliability, scalability, and ease of use.



Use Cases of S3

Amazon S3 (Simple Storage Service) is a versatile and widely used cloud storage service with a range of use cases across various industries. Here are some common use cases for Amazon S3:

1. **Data Backup and Archiving:** Companies use S3 for backing up critical data and archiving older information. Its durability and scalability make it suitable for long-term storage.
2. **Web Hosting:** S3 can be used to host static websites. It provides a simple and cost-effective way to store and serve web content, such as HTML, CSS, images, and other files.
3. **Content Distribution:** S3 integrates with Amazon CloudFront to create a content delivery network (CDN). This is ideal for distributing content globally with low latency, reducing the load on web servers.
4. **Data Lakes:** S3 is often a fundamental component of data lake architectures. It can store large volumes of structured and unstructured data, making it easy to analyze and process using various analytics and machine learning tools.

5. **Media Storage and Distribution:** Media files, such as images, videos, and audio, can be stored in S3 for easy access and distribution. This is commonly used by streaming services, media companies, and content creators.
6. **Log Storage and Analysis:** S3 is suitable for storing log files generated by applications, servers, or other systems. Combined with services like Amazon Athena or Amazon EMR, logs can be analyzed for insights and troubleshooting.
7. **Backup and Disaster Recovery:** S3 is a reliable solution for storing backup copies of critical data, providing a robust foundation for disaster recovery strategies.
8. **Collaborative Workflows:** S3 enables seamless collaboration by providing a central location for teams to store and share documents, images, and other files. This is often integrated with other AWS services like AWS Identity and Access Management (IAM) for access control.
9. **Internet of Things (IoT) Data Storage:** S3 can be used to store and manage large volumes of data generated by IoT devices. This data can be further processed and analyzed for insights.
10. **Application Data Storage:** Many applications leverage S3 to store and retrieve data, such as user-generated content, user files, and application backups.
11. **Compliance and Data Governance:** S3 provides features like versioning, logging, and access controls, making it suitable for industries with strict compliance and data governance requirements, such as healthcare and finance.

These are just a few examples, and the flexibility of Amazon S3 allows it to adapt to a wide range of storage needs in different industries and application scenarios.

To Begin with the Lab

1. Log in to the AWS Console.
2. Then search for S3 (Simple Storage Service) and navigate to it. Choose this service accordingly.



3. This is the dashboard for S3 service.

4. Now click on Create Bucket.
5. You should give it a unique name, because S3 works on global platform so, no regular names would work.
6. With that you can also choose the region where you want to store your buckets.

Create bucket [Info](#)

Buckets are containers for data stored in S3. [Learn more](#)

General configuration

AWS Region

Europe (London) eu-west-2

Bucket name [Info](#)

myawsbucket

Bucket name must be unique within the global namespace and follow the bucket naming rules. [See rules for bucket naming](#)

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

[Choose bucket](#)

Format: s3://bucket/prefix

7. After that just come to the bottom of the screen and create your first bucket.

► Advanced settings

ⓘ After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.

[Cancel](#) [Create bucket](#)

8. Once your bucket is created this is how it will look like in the console.

Name	AWS Region	Access	Creation date
datausr1234	Europe (London) eu-west-2	Bucket and objects not public	January 12, 2024, 19:46:48 (UTC+05:30)

9. Now open your bucket.

10. Here you can see that you upload items in the bucket. And there are more options for you to look around.

Amazon S3 > Buckets > datausr1234

datausr1234 [Info](#)

Objects [Info](#)

Objects (0) [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](#)

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

Find objects by prefix

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

11. For now, click on upload.

12. Here you can see that you can either add files or even folder.

13. Plus, with that you can also drag any of your files and folder to upload here.

Upload [Info](#)

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose **Add files** or **Add folder**.

Files and folders (0)

All files and folders in this table will be uploaded.

Find by name

Name	Folder	Type	Size
No files or folders			
You have not chosen any files or folders to upload.			

14. For the time being click on add files and try to add some files here.

15. Once you have added some files you will see its and size.

16. Then you just need to click on click on upload.

Files and folders (1 Total, 113.0 B)

All files and folders in this table will be uploaded.

<input type="checkbox"/>	Name	Folder	Type	Size
<input type="checkbox"/>	Dockerfile	-	-	113.0 B

17. Your file will be uploaded in no time if its size is small.

18. Here you can see your file.

datausr1234 [Info](#)

[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](#)

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Dockerfile	-	January 12, 2024, 19:51:29 (UTC+05:30)	113.0 B	Standard

19. Now you can also create a folder in here, and upload your desired files and folder in that too.

20. For that you just need to click on create folder.

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](#)

<input type="checkbox"/>	Copy S3 URI	Copy URL	Download	Open	Delete	Actions ▾	Create folder	Upload
--------------------------	-----------------------------	--------------------------	--------------------------	----------------------	------------------------	---------------------------	-------------------------------	------------------------

21. For now, you just need to give a folder name and click on create.

Folder

Folder name

Folder names can't contain "/". [See rules for naming](#)

22. Once the folder is created you can see that below your file.

datausr1234 [Info](#)

[Objects](#) [Properties](#) [Permissions](#) [Metrics](#) [Management](#) [Access Points](#)

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](#)

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Dockerfile	-	January 12, 2024, 19:51:29 (UTC+05:30)	113.0 B	Standard
<input type="checkbox"/>	scripts/	Folder	-	-	-

23. Now you also have the option to upload your files onto this new folder in S3 that you just created.
24. Open your folder, you will see that it is empty, then click on upload then select a file that you want to upload then click on upload.

The screenshot shows the Amazon S3 console interface. At the top, there is a breadcrumb navigation: 'Amazon S3 > Buckets > datausr1234 > scripts/'. Below the navigation, the folder name 'scripts/' is highlighted with a red box. The main area displays the 'Objects (0) Info' section, which includes a note about objects being fundamental entities stored in Amazon S3. It features a toolbar with actions like Copy S3 URI, Copy URL, Download, Open, Delete, Actions, Create folder, and Upload. A search bar labeled 'Find objects by prefix' is present. A table header for 'Name', 'Type', 'Last modified', 'Size', and 'Storage class' is shown, followed by a message 'No objects' and a note 'You don't have any objects in this folder.' A prominent orange 'Upload' button is located at the bottom right of the table area.

25. You can see your files in the folder scripts. For the fact, you can also upload multiple files at a time.

The screenshot shows the same Amazon S3 console interface as the previous one, but now the 'scripts/' folder contains two objects. The breadcrumb navigation remains the same. The folder name 'scripts/' is still highlighted with a red box. The 'Objects (2) Info' section is visible. The table below lists the two files:

Name	Type	Last modified	Size	Storage class
script.yml	yml	January 12, 2024, 19:57:53 (UTC+05:30)	58.0 B	Standard
Slides.pptx	pptx	January 12, 2024, 19:57:55 (UTC+05:30)	4.6 MB	Standard

A toolbar with actions like Copy S3 URI, Copy URL, Download, Open, Delete, Actions, Create folder, and Upload is at the top. A search bar labeled 'Find objects by prefix' is present. The table header for 'Name', 'Type', 'Last modified', 'Size', and 'Storage class' is shown.