

S3: Object Lock

Amazon S3 (Simple Storage Service) provides a feature called "**Object Lock**" that helps you enforce retention policies on objects stored in S3. Object Lock is designed to protect objects from being deleted or overwritten for a specified retention period.

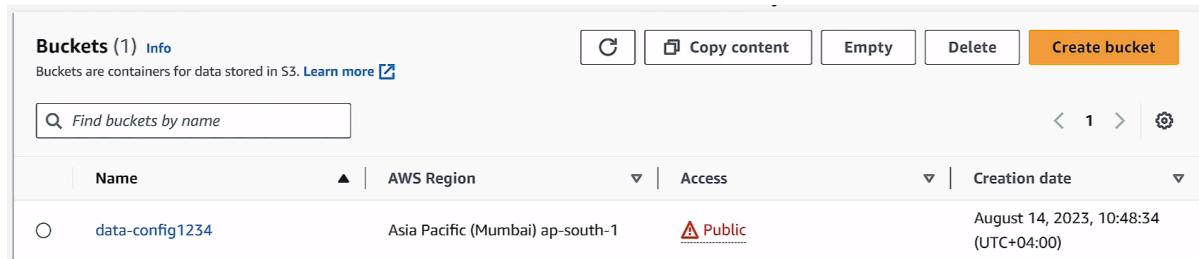
There are two modes of Object Lock:

1. Governance Mode: In Governance mode, you can place an object retention policy on an S3 object, and users with the necessary permissions can still modify or delete the object. However, they must include a special header (`x-amz-object-lock-`) with each request, indicating their intention to delete or modify the object.
2. Compliance Mode: In Compliance mode, once an object is locked with a retention policy, it cannot be deleted or modified by any user, including the root account, until the retention period expires. Compliance mode provides an added layer of protection against object deletion or modification.

Object Lock is often used in scenarios where data immutability is critical, such as meeting regulatory requirements or ensuring data integrity for legal and compliance reasons.

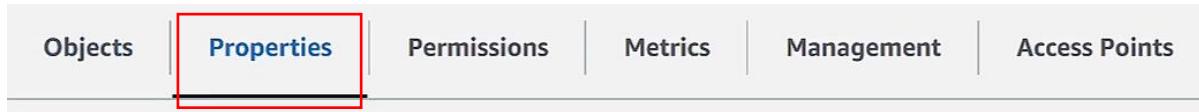
To Begin with the Lab

1. Login to AWS Console. Then navigate to S3
2. Open any of your existing bucket.



The screenshot shows the AWS S3 Buckets list interface. At the top, there's a header with "Buckets (1) [Info](#)". Below the header, a message says "Buckets are containers for data stored in S3. [Learn more](#)". There are buttons for "Copy content", "Empty", "Delete", and "Create bucket". A search bar with placeholder text "Find buckets by name" is present. The main table has columns: Name, AWS Region, Access, and Creation date. One row is shown: "data-config1234", "Asia Pacific (Mumbai) ap-south-1", "Public", and "August 14, 2023, 10:48:34 (UTC+04:00)".

3. In this bucket you have to navigate to properties.



The screenshot shows the navigation tabs for a bucket's properties. The tabs are: Objects, Properties (which is highlighted with a red box), Permissions, Metrics, Management, and Access Points.

4. Now in properties scroll down to the bottom. You will see a properties known as Object lock.
5. But you cannot enable object lock on an existing bucket.

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

[Edit](#)

Object Lock

Disabled

 Amazon S3 currently does not support enabling Object Lock after a bucket has been created. To enable Object Lock for this bucket, contact [Customer Support](#)

6. To enable object lock you have to create a new bucket.
7. While creating your bucket you have to give it a unique name, then if you scroll down, you have to enable the bucket versioning.

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

- Disable
 Enable



8. Then again scroll down to the bottom.
9. In the advanced settings you have enable object lock.

▼ Advanced settings

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

- Disable
 Enable



Permanently allows objects in this bucket to be locked. Additional Object Lock configuration is required in bucket details after bucket creation to protect objects in this bucket from being deleted or overwritten.

 Object Lock works only in versioned buckets. Enabling Object Lock automatically enables Bucket Versioning.

10. Once you have enabled object lock you have to check the box for acknowledgement.
11. Then just create your bucket.

Enable

Permanently allows objects in this bucket to be locked. Additional Object Lock configuration is required in bucket details after bucket creation to protect objects in this bucket from being deleted or overwritten.

 Object Lock works only in versioned buckets. Enabling Object Lock automatically enables Bucket Versioning.



Enabling Object Lock will permanently allow objects in this bucket to be locked

Enable Object Lock only if you need to prevent objects from being deleted to have data integrity and regulatory compliance. After you enable this feature, anyone with the appropriate permissions can put immutable objects in the bucket. You might be blocked from deleting the objects and the bucket.

Additional Object Lock configuration is required in bucket details after bucket creation to protect objects in this bucket from being deleted or overwritten. [Learn more](#)

I acknowledge that enabling Object Lock will permanently allow objects in this bucket to be locked. 

12. Now after the bucket has been created, open your bucket, then go to properties.

Scroll down to see for object lock.

13. This time you can click on edit.

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

 Edit

Object Lock

Enabled

Default retention

Automatically protect new objects put into this bucket from being deleted or overwritten.

Disabled

14. Now you can enable or disable the object lock.

Edit Object Lock Info

Object Lock

Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. [Learn more](#)

 Once Amazon S3 Object Lock is enabled, you can't disable Object Lock or suspend Bucket Versioning for the bucket.

Object Lock

Enabled

Default retention

Automatically protect new objects put into this bucket from being deleted or overwritten.

- Disable
 Enable 

Cancel

Save changes

15. Once you click on enable, you will see that you have two options.

16. One is governance and other is compliance.

17. You can choose any one of them with your choice.

Object Lock

Enabled

Default retention

Automatically protect new objects put into this bucket from being deleted or overwritten.

- Disable
 Enable

Default retention mode

- Governance
Users with specific IAM permissions can overwrite or delete protected object versions during the retention period.
 Compliance
No users can overwrite or delete protected object versions during the retention period. 

Default retention period

Enter number

Days

Must be a positive whole number.

Cancel

Save changes

18. Apart from this if you will go back and upload any object on your S3 bucket.

19. And if you scroll into the properties of the object.

01.sql [Info](#)

[Copy S3 URI](#) [Download](#) [Open](#) [Object actions](#)

[Properties](#) [Permissions](#) [Versions](#)

Object overview

Owner	S3 URI
68ddf9562ec33c90664067db0fe30a2e59ab7e3e2a225ae50e425ca4d524dd64	s3://appbucket554343/01.sql
AWS Region	Amazon Resource Name (ARN)
Asia Pacific (Mumbai) ap-south-1	arn:aws:s3:::appbucket554343/01.sql
Last modified	Entity tag (Etag)
August 14, 2023, 13:19:11 (UTC+04:00)	e87b45707c4272ba426d6b2bce5395db
Size	Object URL
223.0 B	https://appbucket554343.s3.ap-south-1.amazonaws.com/01.sql

20. You will see an option for object lock legal hold.

21. Now if you will click on edit.

Object Lock legal hold
Prevents objects from being deleted or overwritten until the hold is explicitly removed. Legal hold can be turned on or off by AWS accounts that have specific IAM permissions. [Learn more](#)

[Edit](#)

Legal hold
Disabled

22. Here also you can either enable it or disable it.

23. And only the user who has permission to disable the object lock legal hold can only disable other users can not perform the same action.

Edit Object Lock legal hold [Info](#)

Object Lock legal hold
Prevent objects from being deleted or overwritten until the hold is explicitly removed. Legal hold can be turned on or off by AWS accounts that have specific IAM permissions. [Learn more](#)

Legal hold
 Disable
 Enable

Specified objects

Name	Version ID	Type	Last modified	Size
01.sql	-	sql	August 14, 2023, 13:19:11 (UTC+04:00)	223.0 B

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