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GROWTH





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Philosophy:

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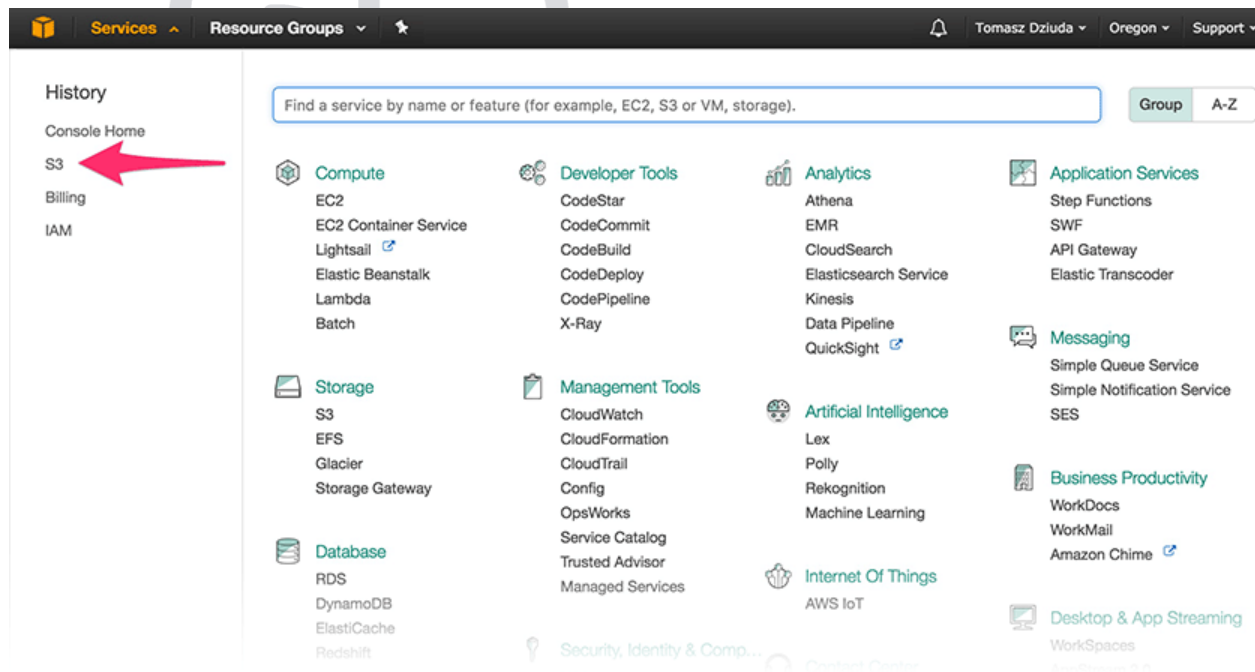
Write feedback to operations@hitechins.in

Simple Storage Service

What Is Amazon S3?

Amazon Simple Storage Service is storage for the Internet. It is designed to make web-scale computing easier for developers.

- Amazon s3 is a highly available and durable object storage which can store virtually any type of data. (Images, Videos, text documents, backups and so on).
 - It is a global service; however, you can get the region-specific endpoint for faster access.
 - It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites.
1. **Bucket:** A logical separation to store data. A bucket should have a unique name as it has a universal namespace. Each bucket can be accessed globally using a unique URL.
 2. **Object:** Each data stored is called an object. Can be accessed via unique URL globally.

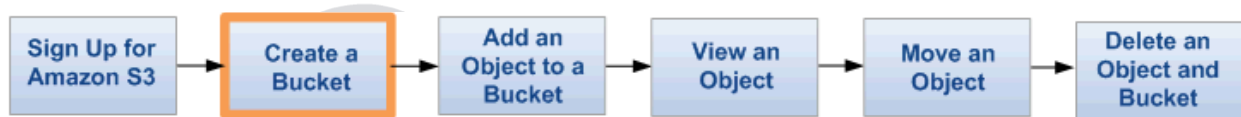


Key Points

1. Pure Object storage
2. Each file can range between 1 b to 5 TB.
3. Allows unlimited storage.
4. Files are stored in buckets.

5. It is a key value store. (key: name, value: data)
6. Each object has a version ID.
7. Each object has a metadata associated with it.
8. AWS provides 99.99% availability and 99.999999999 % of durability.
9. Provides Life Cycle management for objects.
10. Provides versioning of objects.
11. Provides encryption of objects.
12. Provides security using ACL's and Bucket policies.
13. Amazon S3 Transfer Acceleration feature can be used to accelerate the speed of object creation and retrieval. In this scenario, you will be charged only if there is a performance improvement.

Create a Bucket



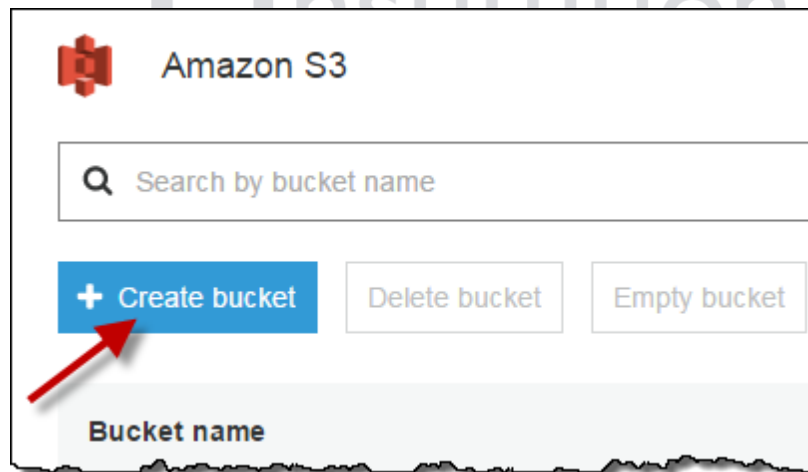
Now that you've signed up for Amazon S3, you're ready to create a bucket using the AWS Management Console. Every object in Amazon S3 is stored in a bucket. Before you can store data in Amazon S3, you must create a bucket.

Note:

AWS are not charged for creating a bucket; AWS are charged only for storing objects in the bucket and for transferring objects in and out of the bucket

To create an S3 bucket

1. Sign in to the AWS Management Console and open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.
2. Choose **Create bucket**.



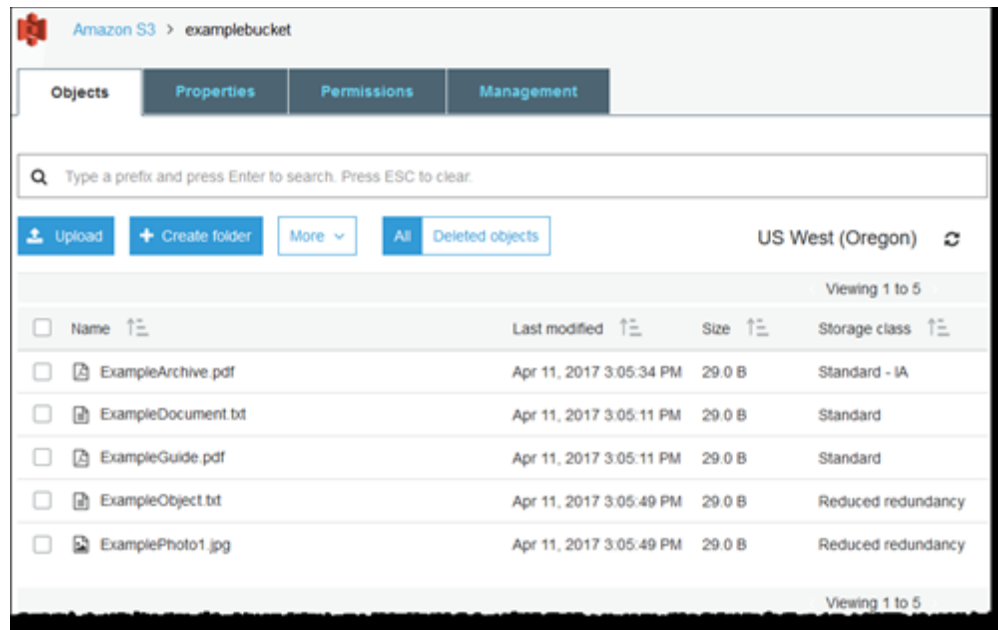
3. In the **Bucket name** field, type a unique DNS-compliant name for your new bucket.
 - The name must be unique across all existing bucket names in Amazon S3.
 - After you create the bucket you cannot change the name, so choose wisely.
4. For **Region**, choose US West (Oregon) as the region where you want the bucket to reside.

The screenshot shows the 'Create bucket' wizard in the Amazon S3 console. The wizard has four steps: 1. Name and region, 2. Set properties, 3. Set permissions, and 4. Review. The first step, 'Name and region', is currently active. It contains three main sections: 'Bucket name' with a text input field containing 'admin-created', 'Region' with a dropdown menu set to 'US West (Oregon)', and 'Copy settings from an existing bucket' with a 'Select bucket (optional)' dropdown. At the bottom, there are three buttons: 'Create', 'Cancel', and 'Next'. Red arrows point to the 'Bucket name' input, the 'Region' dropdown, and the 'Create' button.

5. Select Create

Storage Classes

Each object in Amazon S3 has a storage class associated with it.



S3 Storage Types and Classes

- S3 standard:** 99.99% availability and 99.999999999 % of durability .
 - Can withstand 2 Availability zone failures.
 - Optimal for very frequent data access and storage
 - Supports SSL in transit and rest
- S3 Infrequent Access:** This is for data which need very less accessed data but needs rapid access. Also, Comes with 99.9% availability and 99.999999999 % durability.
 - Cheaper than s3 standard.
 - Comes with a data retrieval charge.
 - This is suitable for a disaster recovery storage option.
 - Supports SSL in transit and rest
- Reduced Redundancy Storage:** Gives 99.99% availability and 99.99% durability.
 - This type is for the data you can afford to loose. Basically non-critical data.
 - Supports SSL in transit and rest
- Glacier:** This is an archival storage.
 - To retrieve data from glacier it takes 3 -5 hrs after the request.

	Standard	Standard - Infrequent Access	Reduced Redundancy Storage
Durability	99.999999999%	99.999999999%	99.99%
Availability	99.99%	99.9%	99.99%

Object versioning is supported by S3.

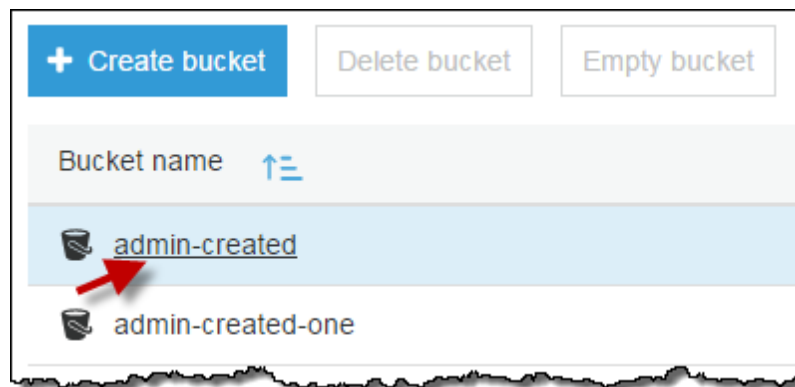
1. Versioning is a means of keeping multiple variants of an object in the same bucket.
2. You can version the object you upload to s3 for to prevent accidental deletion.
3. Every time you update the object a new versioned object will be added to your bucket increasing the space as there is no mechanism for reduplication or incremental backup. So it is necessary to think in terms of cost you are opting for versioning.
4. Once you enable versioning, you cannot disable it. You can only suspend it.
5. Can be integrated with Life Cycle Rules for purging unwanted data.
6. MFA can be used in conjunction with versioning for providing extra security.

In one bucket, for example, you can have two objects with the same key, but different version IDs, such as photo.gif (version 111111) and photo.gif (version 121212).



To enable or disable versioning on an S3 bucket

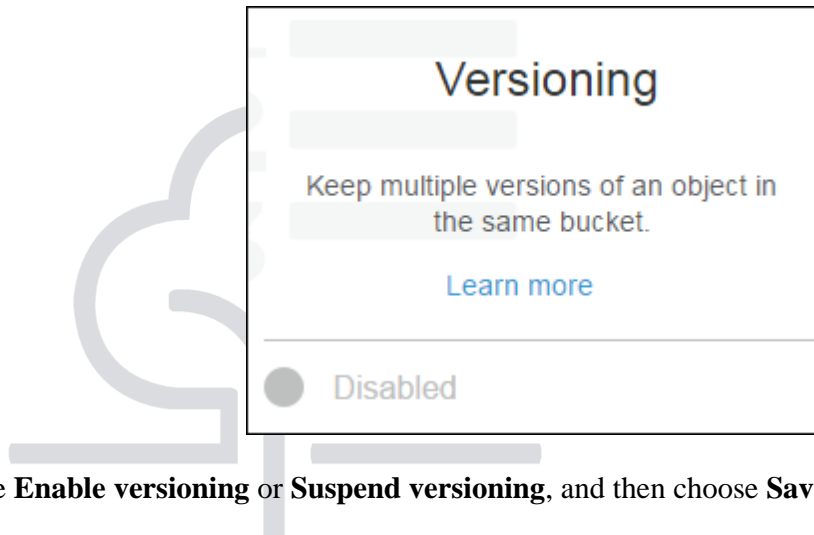
1. Sign in to the AWS Management Console and open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.
2. In the **Bucket name** list, choose the name of the bucket that you want to enable versioning for.



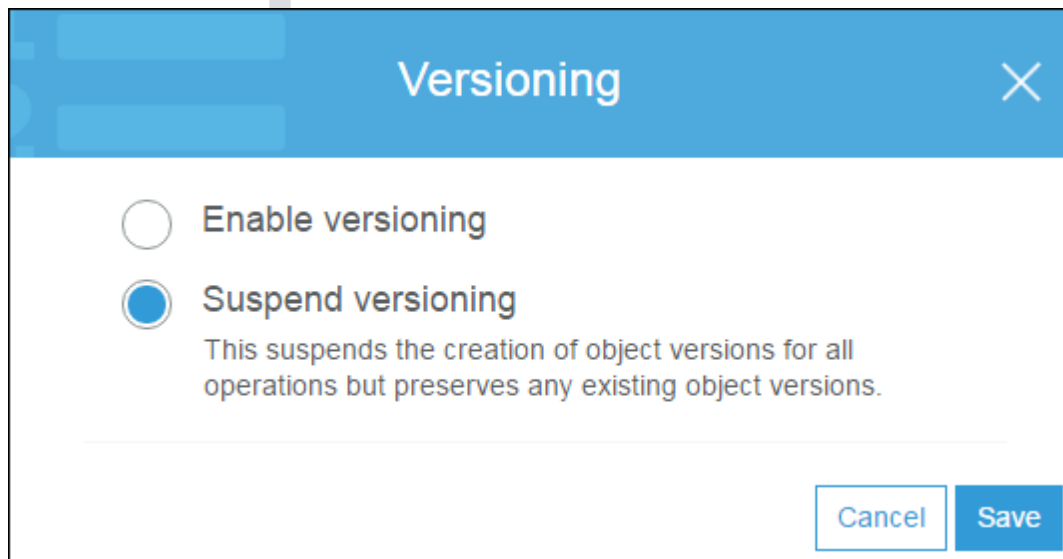
Choose **Properties**.



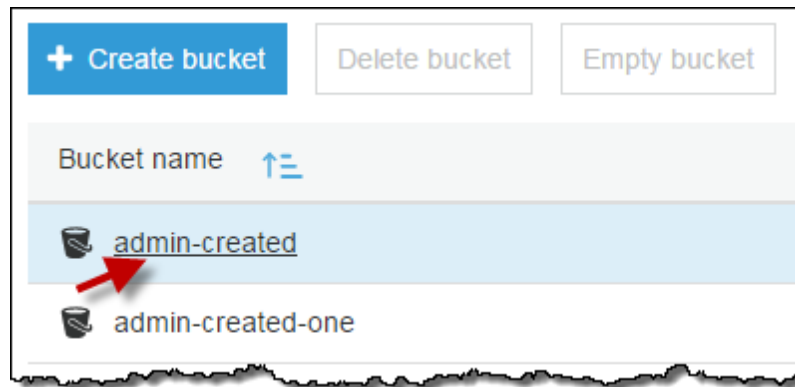
Choose **Versioning**.



Choose **Enable versioning** or **Suspend versioning**, and then choose **Save**.



To see multiple versions of an object



To see a list of the versions of the objects in the bucket, choose **Show**. For each object version, the console shows a unique version ID, the date and time the object version was created, and other properties.

To list the objects without the versions, choose **Hide**.

<div> <div>Upload</div> <div>Create folder</div> <div>More</div> <div> <div>Versions</div> <div>Hide</div> <div>Show</div> </div> </div>				
<input type="checkbox"/>	Name	Version ID		Last modified
	amt-bp.docx			Dec 14, 2015 5:49:03 PM
<input type="checkbox"/>	amt-bp.docx	Dec 14, 2015 5:49:03 PM (Latest version)	null	265.2 KB
	amt-dg.pdf			Aug 28, 2017 3:28:27 PM
<input type="checkbox"/>	amt-dg.pdf	Aug 28, 2017 3:28:27 PM (Latest version)	0ckuONQ6ORCpW8uJDr4TTI...	296.8 KB
<input type="checkbox"/>	amt-dg.pdf	Dec 11, 2015 1:51:38 PM	null	296.8 KB
	amt-ui.pdf			Aug 28, 2017 3:00:19 PM
<input type="checkbox"/>	amt-ui.pdf	Aug 28, 2017 3:00:19 PM (Latest version)	HirvaDVkOtRcaZmendqpKYY...	2.9 MB
<input type="checkbox"/>	amt-ui.pdf	Dec 14, 2015 5:47:43 PM	null	2.9 MB

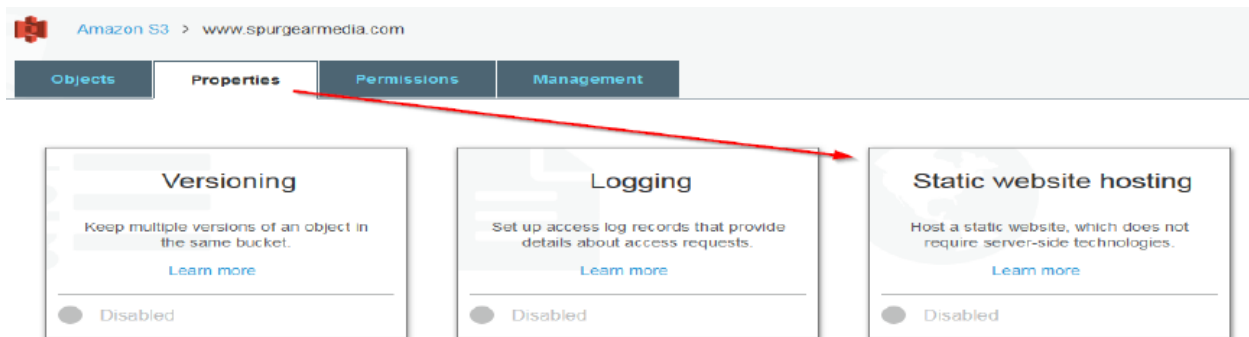
Host a static website using AWS S3

S3 – Create and configure bucket for static hosting

- Log into your AWS account and create a bucket called **www.yourdomain.com**, be sure to include the **www.** at the beginning of the bucket name as this is important. I'm picking **US East**.

The screenshot shows the 'Create bucket' wizard in the AWS Management Console. The title bar is blue with a close button (X) on the right. Below the title bar is a progress bar with four steps: 1. Name and region (active), 2. Set properties, 3. Set permissions, and 4. Review. The main content area is dark blue. Under the heading 'Name and region', there is a 'Bucket name' field with a help icon (i) and a text input containing 'www.spurgearmedia.com'. Below this is a 'Region' dropdown menu showing 'US East (N. Virginia)' with a blue downward arrow. A horizontal line separates this section from the 'Copy settings from an existing bucket' section. This section has a text input showing 'You have no buckets' and a dropdown menu showing '0 Buckets' with a blue downward arrow. At the bottom of the form are three buttons: 'Create' (white with blue text), 'Cancel' (white with blue text), and 'Next' (blue with white text).

- Enable static website hosting for the bucket under the Properties tab. and set index and error document file names and click **SAVE**.



Amazon S3 > www.spurgearmedia.com

Objects Properties Permissions Management

Static website hosting

Host a static website, which does not require server-side technologies.

[Learn more](#)

Disabled

Static website hosting

Endpoint : <http://www.spurgearmedia.com.s3-website-us-east-1.amazonaws.com>

☒ Use this bucket to host a website [i](#) [Learn more](#)

Index document [i](#)

index.html

Error document [i](#)

404.html

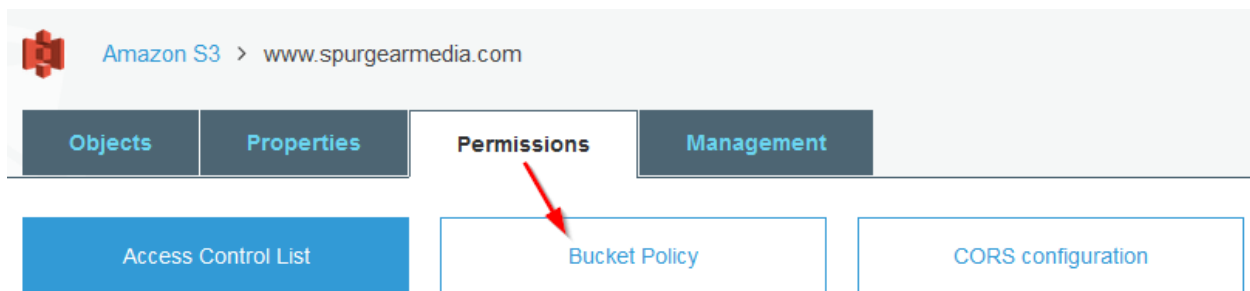
Redirection rules (optional) [i](#)

☐ Redirect requests [i](#) [Learn more](#)

☐ Disable website hosting

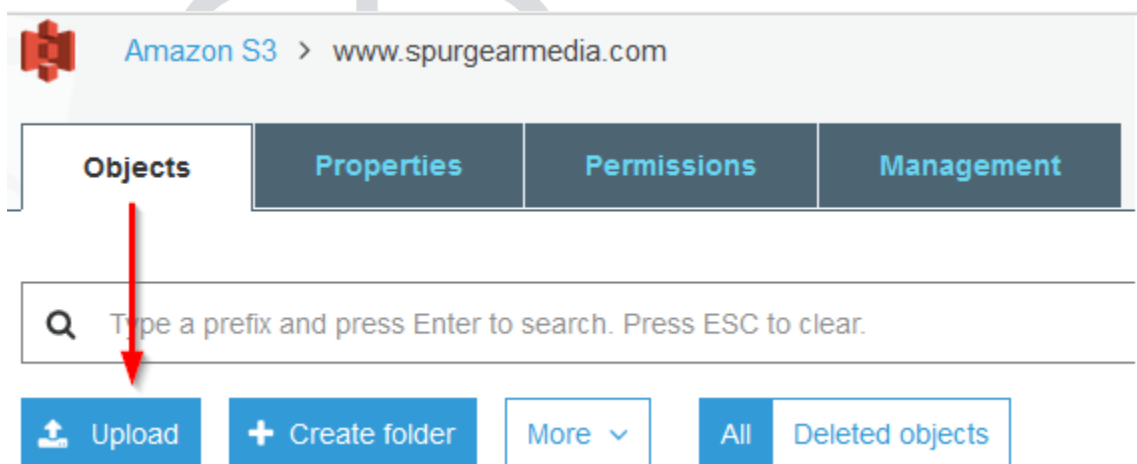
Cancel Save

- To allow this bucket to be publicly view-able we need to edit the bucket policy, under the permissions tab



Note: Be sure to replace **your domain** in the policy with your own domain name!

- Upload your static HTML pages to the new bucket.



At this point you should be able to access your site via the endpoint bucket URL, assuming you also used US East as your region: <http://www.yourdomain.com.s3-website-us-east-1.amazonaws.com>

Cross Region Replication

To maintain high availability of your object, you can enable the cross region replication of bucket. The only catch here is, if you enabling this of an existing bucket with objects, it will not replication the already existing objects. It will only replicate the new objects being uploaded to the bucket.

To enable cross region replication, your source and destination buckets should be versioned.

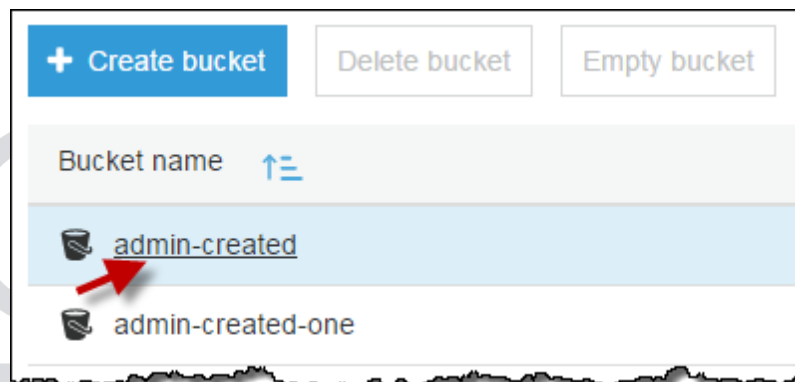
S3 Life Cycle Management

We can set lifecycle policies to your S3 data to move to infrequent storage and then to the glacier for archival. Also, you can mention the deletion time.

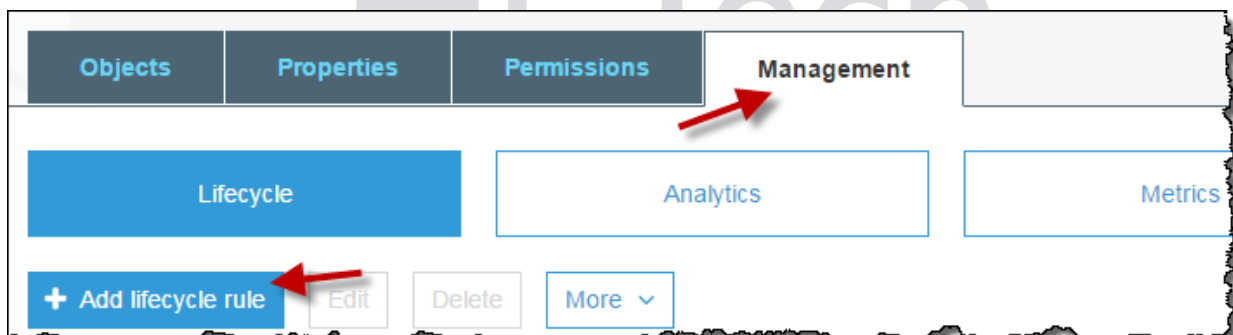
1. The minimum days for moving standard data to infrequent access is 30 days and 128kb data.
2. However, you can move to glacier from standard in 1 day using lifecycle policies.
3. You cannot move objects to RR storage class using policies.

To create a lifecycle policy

Sign in to the AWS Management Console and open the Amazon S3 console at <https://console.aws.amazon.com/s3/>.




Choose the **Management** tab, and then choose **Add lifecycle rule**.



If the bucket does not have a lifecycle policy, you can choose **Get started**.


There is no lifecycle policy applied to this bucket.
Here is how to get started.



Use lifecycle policies to manage your objects

You can manage an object's lifecycle by using a lifecycle policy, which defines how Amazon S3 manages objects during their lifetime.


[Learn more](#)



Automate transition to tiered storage

Lifecycle policies enable you to automatically transition objects to the Standard - IA and/or to the Amazon Glacier storage class.

[Learn more](#)



Expire your objects

Using a lifecycle policy, you can automatically expire objects based on your retention needs or clean up incomplete multipart uploads.

[Learn more](#)

[Get started](#)

In the **Lifecycle rule** dialog box, type a name be unique within the bucket. , choose **Next**.

Lifecycle rule

✕

1 Name and scope

2 Transitions

3 Expiration

4 Review

Enter a rule name

Add filter to limit scope to prefix/tags ⓘ

Cancel

Next

You configure lifecycle rules by defining rules to transition objects to the Standard-IA and Amazon Glacier storage classes.

- Select **Current version** to define transitions that are applied to the current version of the object.
- Select **Previous version** to define transitions that are applied to all previous versions of the object.

Configure transition

Object transitions and/or expiration

☒ Current version ☐ Previous versions

For current version of objects

Object creation Days after object creation

+ Add transition

Choose **Add transitions** and specify one of the following transitions:

- Choose **Transition to Standard-IA after**, and then type the number of days after the creation of an object that you want the transition to be applied (for example, 30 days).
- Choose **Transition to Amazon Glacier after**, and then type the number of days after the creation of an object that you want the transition to be applied (for example, 100 days).

+ Add transition

Select a transition

Transition to Standard-IA after

Transition to Amazon Glacier after

Days X

When you are done configuring transitions, choose **Next**.

Lifecycle rule [X]

1 Name and scope 2 **Transitions** 3 Expiration 4 Review

For current version of objects

Object creation Days after object creation

+ Add transition

Transition to Standard-IA after	30 Days	X
---------------------------------	---------	---

For previous versions of objects

Object becomes a previous version Days after object creation

+ Add transition

Transition to Standard-IA after	30 Days	X
Transition to Amazon Glacier after	100 Days	X

Previous Next

Lifecycle rule [X]

1 Name and scope 2 Transitions 3 **Expiration** 4 Review

☒ Expiration

After 455 Days from object creation

☒ Permanently delete previous versions

After 455 Days from becoming a previous version

☒ Clean up incomplete multipart uploads

After 7 Days from start of upload

Previous Next

For **Review**, verify the settings for your rule. If you need to make changes, choose **Previous**. Otherwise, choose **Save**.

Lifecycle rule

☒ Name and scope

☒ Transitions

☒ Expiration

☒ 4 Review

Name and scope

Name

TestRule

Scope

videos/

Edit

Transitions

For current version of objects

1st transition to Standard-IA after 30 days

2nd transition to Amazon Glacier after 100 days

For previous versions of objects

1st transition to Standard-IA after 30 days

2nd transition to Amazon Glacier after 100 days

Edit

Expiration

Expire after after 455 days

Permanently delete after after 455 days

Clean up incomplete multipart uploads after 7 days

Edit

Previous

Save

If the rule does not contain any errors, it is listed on the **Lifecycle** page and is enabled.

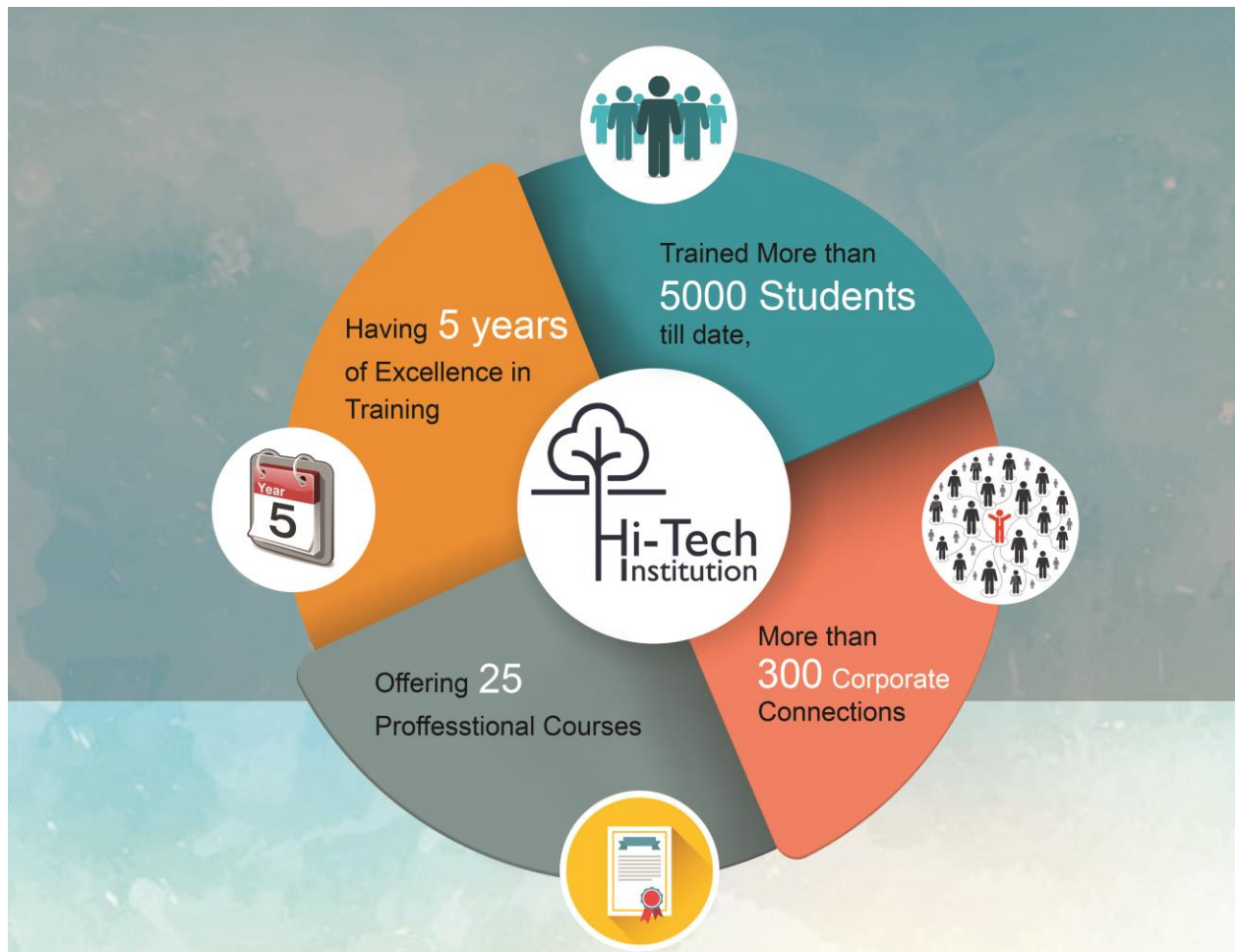
<div>+ Add lifecycle rule</div> <div>Edit</div> <div>Delete</div> <div>More ▾</div>					
Lifecycle rule	Applied to	1st transition	2nd transition	3rd transition	Tran
<input checked="" type="checkbox"/> TestRule	prefix : videos/	Standard-IA	Amazon Glacier	Expire	Yes

S3 Security

By default a new S3 bucket is private. You can secure your bucket objects using the following.

1. Bucket policies
2. Access control lists.
3. You can enable detailed access logs which you can store in a different bucket.





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Chennai – 600 047,
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Velacherry – 600 042,
Nearby Sathya Home Appliances

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