

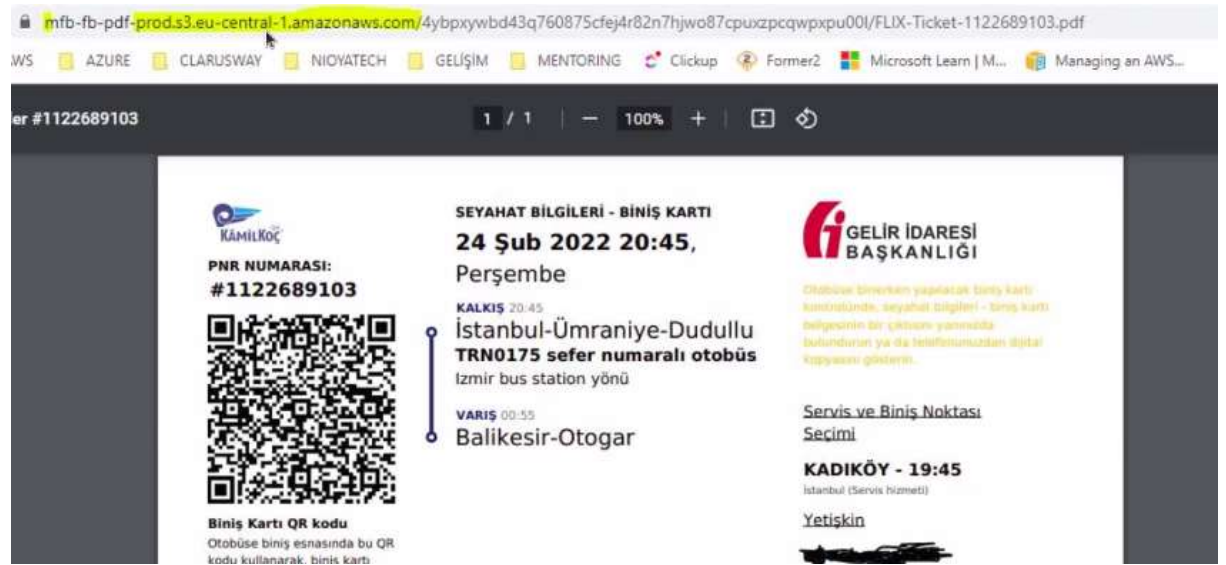
Bir aplikasyon geliştirirken variable lar kullanıyoruz, bu variable ları consume ediyoruz, çağırıyoruz, farklı işlemler yapıyoruz.

Biz verileri üreteceksek ve bunu bir yerde tutmamız gerekiyorsa bir storage mekanizmasına ihtiyaç oluyor. Programların ürettiği ve variable dan daha büyük verilerin tutulması için çeşitli storage çeşitleri var. Bunlardan birisi database, ileride bakacağız. Bir diğeri de S3 tür.

Static imajlar (compute içinde kullanıyoruz), pdf dosyaları (üretebiliriz, kullanabiliriz), log kayıtları S3 te tutulan datalardır.

S3 bir compute mekanizmasının arkasında ihtiyaç duyulan dataların storage edildiği bir depolama şekli olduğunu da akılda tutmak lazım.

Örneğin;



Bir Türk firması aplikasyonunun ürettiği bir pdf dosyasını S3 te saklıyor.

S3 te tutulan veriler birkaç pdf vs den oluşmuyor. Milyonlarca ve neredeyse sonsuz kapasitede (AWS nin iddiası) veriden bahsediyoruz. Bu verilerin yönetilmesi ve maliyet tarafı var. AWS de yüklenen objeler için lifecycle management sistemi geliştirmiş.

Lifecycle Management

What is Lifecycle Management?

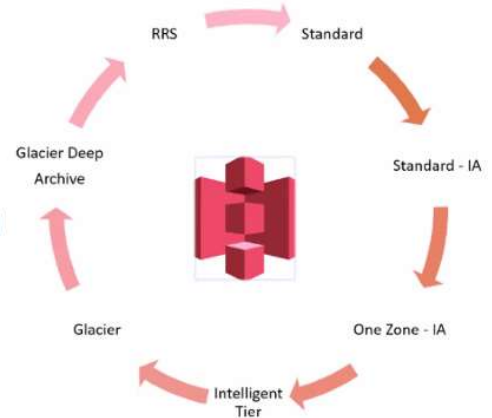
Lifecycle management is to determine how an object will be subject to a **storage policy** during the time it is stored in S3.

So, it is used to ;

Transition objects to another storage class,

Archive objects,

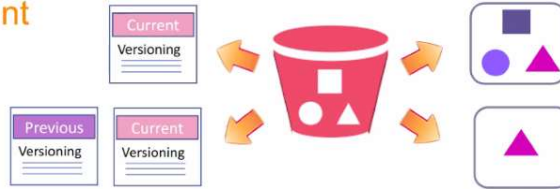
Delete objects after a specified period of time.



Tuttuğumuz verileri erişim sıklığı ile ayrıştırarak storage class lara ayırıyoruz. Her bir storage class ın ödeme yöntemi yani maliyeti farklı. Storage class lar arasında geçişkenlik ve silinmesi var: Transition ve Expiration

S3 te hangi verinin hangi class ta tutulacağını S3 te set ettiğimiz policylerle belirleyebiliyoruz. Bu sayede maliyetleri de düşürmüş oluyoruz.

Lifecycle Management



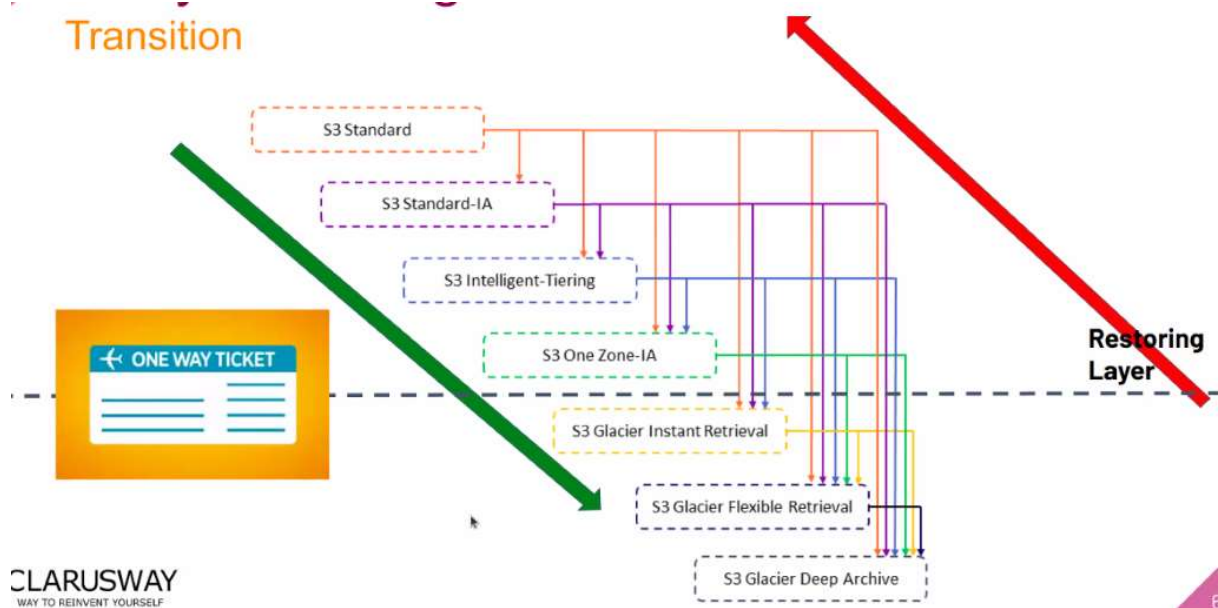
- A lifecycle policy is **bucket-base component**.
- You can narrow Lifecycle Management by using a **prefix** or **tag**
- Available for both **current and previous**
- Minimum days for transition

Bucket içinde prefix ya da tag dediğimiz yapılarla lifecycle management ın kurallarını daraltabiliriz.

Prefix dediğimiz şey hiyerarşik bir yapıdaki folder lama değil. Bir örnek olarak bilmemiz gerekir.

Güncel versiyonlar gibi eski versiyonlar için de kurallar set edilebiliyor. Class lar arasında geçişkenlik için de kurallar set edilebiliyor.

Class lar arasında geçişkenlikler için kurallar:



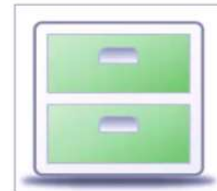
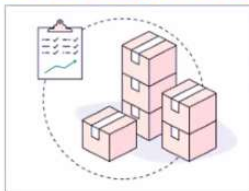
Policy set edip AWS nin policy ye göre transition etmesini istediğimizde Geçişkinlik ile ilgili hiyerarşi yukarıdaki gibidir. Tek yönlü bir geçiş vardır. Oluşturduğumuz policy leri konsoldan oluşturuyoruz AWS ise bunları xml dosyası olarak tutuyor. Bu bilgiler de sınavda çıkabilir.

Lifecycle configuration examples:

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/lifecycle-configuration-examples.html>

Buradaki örnekler de sınavda çıkabilir.

Advantage of Lifecycle Management



It provides you to **arrange your S3 inventory**,

You can **save money** by transition the objects to the cost-effective storage class,

You can **get rid of redundant objects**,

Lifecycle management S3 envanterini düzenlemeyi, maliyet tasarrufu yapmayı ve kullanılmayacak objelerden kurtulmayı sağlar.

Konsoldan şu yolla ulaşılıyor:

Lifecycle Management Path

S3>Bucket> Management > Lifecycle>Add a Lifecycle Rule

Bucket Replication:

What is Bucket Replication?



- Replication is to **copy** the objects in the buckets to **another bucket** in **different region** or in the **same region**.
- There are **2 types** of replication in S3:
 - **Cross-Region Replication (CRR)** is used to copy objects in different AWS Regions
 - **Same-Region Replication (SRR)** is used to copy objects in the same AWS Region

Bucket in verilerinin bir başka region ya da account ta tutulma ihtiyacı olabilir.

AWS iki seçenek sunuyor

Cross-Region Replication (Farklı regionlar) ve Same-Region Replication (Aynı region içinde)

Why Replication?

- Compliance requirements
- Backup
- Minimize latency
- Aggregating related data into a single bucket.

Kanuni gereklilikler, yedekleme ihtiyacı, farklı ülke ve kıtalarda hizmet verildiği durumda gecikmeyi ortadan kaldırma ve ilişkili dataları tek bir bucket ta toplama nedenleriyle Replication gerekebilir.

Replication Features



Keep the object's **metadata** while replicating

Replicating in Different storage class

Option of changing ownership **of the** replicated object

- Synchronizing **within 15 minutes.**
- Narrowing replication based on **prefix or tag**

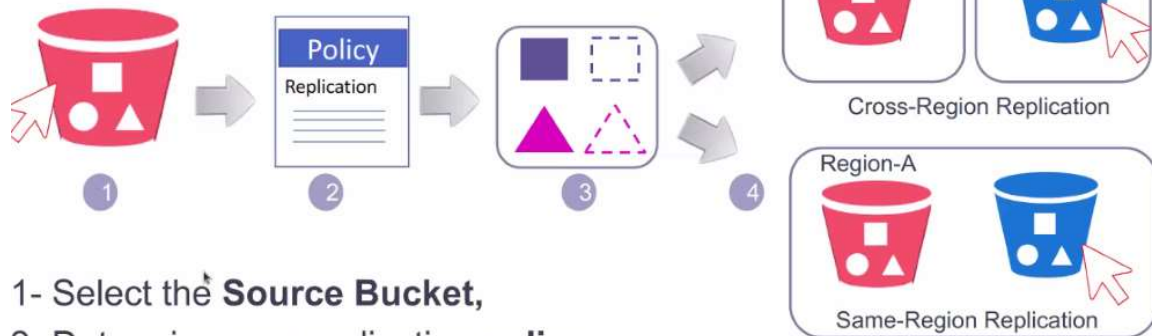
Objenin metadatası replikasyon işlemi sırasında korunur. Replikasyon işlemi sonrasında farklı storage class lar set edebiliriz. Replikasyonlar aynı storage class olmak zorunda değildir.

Objenin ownership liğini değiştirebiliriz. AWS replikasyon işleminin 15 dk içinde olacağını belirtiyor.

Bucket içindeki prefix ya da tag e istinaden replikasyon kuralı oluşturabiliriz.

► Bucket Replication

How S3 Replication Works?



- 1- Select the **Source Bucket**,
- 2- Determine your replication **policy**,
- 3- Select your data set by object **tag, prefix or entire bucket**,
- 4- Select the **Destination Bucket** in the same region or in different region.

Replication yapılabilmesi için her iki bucket ta da version özelliğinin açık olması gerekiyor.

Kırmızı failure

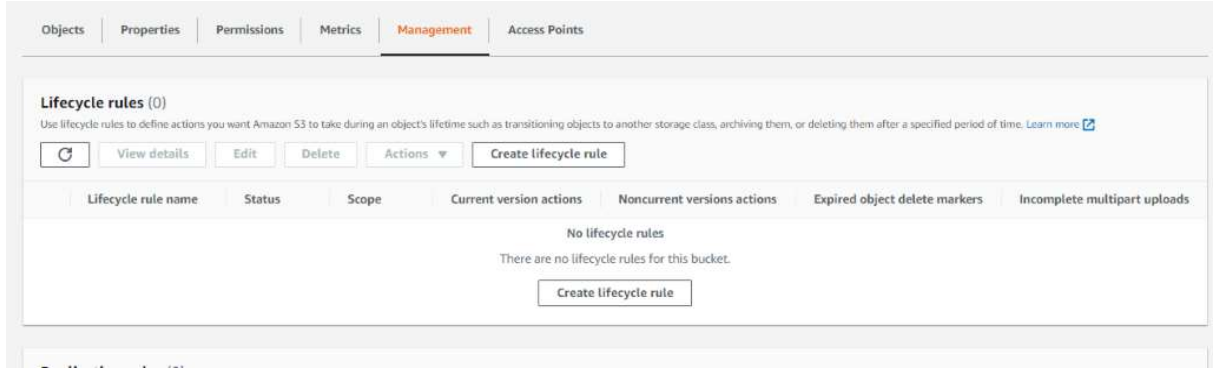
Yeşil success

Mavi on process i simgeler.

Hands-on dayız:

pet.clarusway.lifecycle- isimli bir bucket oluşturduk. İçine cat.jpg ile index.html i upload edip bir de new-folder isimli bir folder oluşturuyoruz.

Lifecycle management ayarlarını Management menüsünden set ediyoruz:



Create LifeCycle Rule diyoruz:

Kural ismi koyuyoruz. Filter type altında prefix kısmına folder ismi girerek sadece o folder için geçerli olur kural:

Lifecycle rule configuration

Lifecycle rule name

Up to 255 characters

Choose a rule scope

☒ Limit the scope of this rule using one or more filters

☐ Apply to all objects in the bucket

Filter type

You can filter objects by prefix, object tags, object size, or whatever combination suits your usecase.

Prefix

Add filter to limit the scope of this rule to a single prefix.

Don't include the bucket name in the prefix. Using certain characters in key names can cause problems with some applications and protocols. [Learn more](#)

Object tags

You can limit the scope of this rule to the key/value pairs added below.

Add tag

Biz tüm bucket için oluşturmak istiyoruz bu nedenle ikinci seçeneği seçeceğiz ve sadece current version için oluşturacağız:

Choose a rule scope

- ☐ Limit the scope of this rule using one or more filters
- ☒ Apply to all objects in the bucket



Apply to all objects in the bucket

If you want the rule to apply to specific objects, you must use a filter to identify those objects. Choose "Limit the scope of this rule using one or more filters". [Learn more](#)

☒ I acknowledge that this rule will apply to all objects in the bucket.

Lifecycle rule actions

Choose the actions you want this rule to perform. Per-request fees apply. [Learn more](#) or see [Amazon S3 pricing](#)

- ☒ Move current versions of objects between storage classes
- ☐ Move noncurrent versions of objects between storage classes
- ☐ Expire current versions of objects
- ☐ Permanently delete noncurrent versions of objects
- ☐ Delete expired object delete markers or incomplete multipart uploads
- These actions are not supported when filtering by object tags or object size.

Storage class ları belirliyoruz. Standart Class defaulttur. Class ların açıklamasında o class ta kaç gün durması gerektiği yazıyor:

Transition current versions of objects between

Choose transitions to move current versions of objects between storage requirements. These transitions start from when the objects are created.

Choose storage class transitions

Intelligent-Tiering

Standard-IA

Infrequently accessed data (once a month) with milliseconds access
30 days minimum storage duration

Intelligent-Tiering

Data with changing or unknown access patterns
No minimum storage duration

One Zone-IA

Recreatable, infrequently accessed data (once a month) stored in a single Availability Zone with milliseconds access
30 days minimum storage duration

Glacier Instant Retrieval

Long-lived archive data accessed once a quarter with instant retrieval in milliseconds
90 days minimum storage duration

Glacier Flexible Retrieval (formerly Glacier)

Long-lived archive data accessed once a

Days after ob

Number of

A valid integer

actions

Object creation dan 30 gün sonra Standart-IA class ına geçsin istiyorum. Standart-IA da en az 30 gün kalması lazım. Standart-IA dan başka bir class a geçmesi için ikinci süreyi en az 60 gün girmem gerekiyor artık.

Transition current versions of objects between storage classes

Choose transitions to move current versions of objects between storage classes based on your use case scenario and performance access requirements. These transitions start from when the objects are created and are consecutively applied. [Learn more](#)

Choose storage class transitions

Days after object creation

Standard-IA	30	Remove
Glacier Instant Retrieval	60	Remove

Add transition

Expiration set etmek için şu tiki de seçmemiz gerekir:

Lifecycle rule actions

Choose the actions you want this rule to perform. Per-request fees apply. [Learn more](#) or see [Amazon S3 pricing](#)

- ☒ Move current versions of objects between storage classes
- ☐ Move noncurrent versions of objects between storage classes
- ☒ Expire current versions of objects
- ☐ Permanently delete noncurrent versions of objects
- ☐ Delete expired object delete markers or incomplete multipart uploads

These actions are not supported when filtering by object tags or object size.

Expiration ayarı aktif oldu. Burada obje oluşturulduktan kaç gün sonra expire edilecekse onu yazmamız gerekir: (expire silmek demektir)

Expire current versions of objects

For version-enabled buckets, Amazon S3 adds a delete marker and the current version of an object is retained as a noncurrent version. For non-versioned buckets, Amazon S3 permanently removes the object. [Learn more](#)

Days after object creation

Enter number of days

Expiration is required for the selected action. Enter a value or deselect the action.

Policy ayarlarının özetini en altta görebiliyoruz:

Review transition and expiration actions

Current version actions

Day 0

- Objects uploaded

↓

Day 30

- Objects move to Standard-IA

↓

Day 60

- Objects move to Glacier Instant Retrieval

↓

Day 360

- Objects expire

Noncurrent versions actions

Day 0

No actions defined.

CancelContinue

Bu classlar manuel olarak da deęiştirilebilir. Objeyi seçip actions menüsünden edit storage class diyerek o menüye gelebiliriz:

pet.clarusway.lifecycle-mba

Info

ObjectsPropertiesPermissionsMetricsManagementAccess Points

Objects (3)

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.

RefreshCopy S3 URICopy URLDownloadOpenDelete

Find objects by prefix

Show versions

	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	cat.jpg	jpg	December 24, 2022, 11:24:04 (UTC+01:00)	25.9 KB	Standard
<input checked="" type="checkbox"/>	index.html	html	December 24, 2022, 11:24:03 (UTC+01:00)	225.0 B	Standard
<input type="checkbox"/>	new-folder/	Folder	-	-	-

Query with S3 Select

Edit actions

Rename object

Edit storage class

Edit server-side encryption

Edit metadata

Edit tags



Make public using ACL

Actions

Create folder

Upload

Edit storage class [Info](#)

-  This action creates a new version of the object with updated settings and a new last-modified date. You can change the storage class without making a new copy of the object using a [lifecycle rule](#).
- Objects copied with customer-provided encryption keys (SSE-C) will fail to be copied using the S3 console. To copy objects encrypted with SSE-C, use the AWS CLI, AWS SDK, or the Amazon S3 REST API.
 - If this bucket uses the bucket owner enforced setting for S3 Object Ownership, object ACLs will not be copied.
- [Learn more](#) 

Storage class

Amazon S3 offers a range of storage classes designed for different use cases. [Learn more](#)  or see [Amazon S3 pricing](#) 

	Storage class	Designed for	Availability Zones	Min storage duration	Transfer acceleration
<input checked="" type="radio"/>	Standard	Frequently accessed data (more than once a month) with milliseconds access	≥ 3	-	-
<input type="radio"/>	Intelligent-Tiering	Data with changing or unknown access patterns	≥ 3	-	-
<input type="radio"/>	Standard-IA	Infrequently accessed data (once a month) with milliseconds access	≥ 3	30 days	1

Intelligent-Tiering access tiers AWS hangi class ta ne sürede kalacağını otomatik ayarlıyordu:

S3 Intelligent-Tiering access tiers

Frequent Access tier (automatic)

This is the default access tier that any object created or transitioned to S3 Intelligent-Tiering begins its lifecycle in. An object remains in this tier as long as it is being accessed. The Frequent Access tier provides low latency and high throughput performance.

Infrequent Access tier (automatic)

If an object is not accessed for 30 consecutive days, the object moves to the Infrequent Access tier. The Infrequent Access tier provides low latency and high throughput performance.

Archive Instant Access tier (automatic)

If an object is not accessed for 90 consecutive days, the object moves to the Archive Instant Access tier. The Archive Instant Access tier provides low latency and high throughput performance.

Archive Access tier (optional)

S3 Intelligent-Tiering provides you with the option to activate the Archive Access tier for data that can be accessed asynchronously. After activation, the Archive Access tier automatically archives objects that have not been accessed for a minimum of 90 consecutive days. You can extend the last access time for archiving to a maximum of 730 days. The Archive Access tier has the same performance as the S3 [Glacier Flexible Retrieval](#) storage class. Standard retrieval times for this access tier can range from 3-5 hours.

Note

Only activate the Archive Access tier for 90 days if you want to bypass the Archive Instant Access tier. The Archive Access tier delivers slightly lower storage cost with minute to hour retrieval times. The Archive Instant Access tier delivers millisecond access and high throughput performance.

Drop Archive Access tier (optional)

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/intelligent-tiering-overview.html>

Lifecycle rule actions

Choose the actions you want this rule to perform. Per-request fees apply. [Learn more](#) or see [Amazon S3 pricing](#)

- ☒ Move current versions of objects between storage classes
 - ☐ Move noncurrent versions of objects between storage classes
 - ☒ Expire current versions of objects
 - ☐ Permanently delete noncurrent versions of objects
 - ☐ Delete expired object delete markers or incomplete multipart uploads
- These actions are not supported when filtering by object tags or object size.

Buradaki ikinci seçenek önceki versionlar için de policy set etmeyi aktif hale getirir.
Dördüncü seçenek önceki versionları kalıcı olarak silmeyi aktif hale getirir.

Replication a geçelim:

Öncelikle `source.replica.clarusway-...` isimli source bucket oluşturuyoruz ve içine `cat.jpg` `index.html` dosyalarımızı atıyoruz. Bucket oluştururken versionlama nın açık olması gerekiyor aksi takdirde replication yapamayız.

Bu bucket için statting web site hostingi aditleyerek aktif hale getiriyoruz (dünkü dersin notlarında var)

Permission bölümünden bucket policy set etmediğimiz için hata aldık:

403 Forbidden

- Code: AccessDenied
- Message: Access Denied
- RequestId: T0A3ZN8GG0YE5CTE
- HostId: bLLcGUFkRA4J8G4O5xr/VofJSL/ZK82r9JVZxdhUr4rPOpnophaZYcQ4rr89UCGBjYcTtXli2s=

Bu hata kodları mülakatlarda sorulabilir.


Bucket policy imizi set ediyoruz:

Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. [Learn more](#)

[Policy examples](#) [Policy generator](#)

Bucket ARN

 `arn:aws:s3:::source.replica.clarusway-mba`

Policy

```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Sid": "PublicReadGetObject",
6       "Effect": "Allow",
7       "Principal": "*",
8       "Action": "s3:GetObject",
9       "Resource": "arn:aws:s3:::source.replica.clarusway-mba/*"
10    }
11  ]
12 }
```

Şimdi browser da görebileceiz:



Bu source bucket ımızdı. Şimdi destination bucket oluşturacağız. Cross-region replication yapmak için region u ohio olarak değiştiriyoruz. (Versioning enable olmalı replication için):

Create bucket

[Info](#)

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

General configuration

Bucket name

Bucket name must be globally unique and must not contain spaces or uppercase letters. See rules for bucket naming

AWS Region

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

Destinaion bucket için de static website aktif hale getirecem.
Index.html i yazıyoruz ancak index.html i bucket a yüklemeyeceiz.
Replication ile çalışacak.:

Static website hosting

Use this bucket to host a website or redirect requests. [Learn more](#)

Static website hosting

☐ Disable

☒ Enable

Hosting type

☒ Host a static website
Use the bucket endpoint as the web address. [Learn more](#)

☐ Redirect requests for an object
Redirect requests to another bucket or domain. [Learn more](#)

i For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see [Using Amazon S3 Block Public Access](#)

Index document

Specify the home or default page of the website.

Error document - *optional*

This is returned when an error occurs.

Redirection rules - *optional*

Redirection rules, written in JSON, automatically redirect webpage requests for specific content. [Learn more](#)

Website policy i de edit ediyoruz:

Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. [Learn more](#)

[Edit](#) [Delete](#)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "s3:GetObject",
      "Resource": "arn:aws:s3:::destination.cross.region.replica.clarusway-mba/*"
    }
  ]
}
```

[Copy](#)

Şimdi AWS ye her iki bucket arasındaki replication işlemi için vekalet vermemiz gerekir IAM yetkisiyle yapıyoruz bunu.
Bunu için IAM servisine gidip, sol menüdüne policies i seçip create policy diyoruz:

Identity and Access Management (IAM)

Introducing the new Policies list experience
We've redesigned the Policies list experience to make it easier to use. [Let us know what you think.](#)

IAM > Policies

Policies (1024) Info
A policy is an object in AWS that defines permissions.

Filter policies by property or policy name and press enter.

Policy name	Type	Used as	Description
AWSDirectConnectReadOnlyAccess	AWS managed	None	Provides read only ac
AmazonGlacierReadOnlyAccess	AWS managed	None	Provides read only ac
AWSMarketplaceFullAccess	AWS managed	None	Provides the ability to

Hangi işlemler için yetki verdiğimizizi policy lerle belirliyoruz.

Burada JSON u seçip boş policy i silip hazırdaki policy mizi buraya yapıştırıyoruz:

Create policy

1 2 3

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

Visual editor JSON Import managed policy

```
12 {
13   "Version": "2012-10-17",
14   "Statement": [
15     {
16       "Action": [
17         "s3:ReplicateObject",
18         "s3:ReplicateDelete",
19         "s3:ReplicateTags",
20         "s3:GetObjectVersionTagging"
21       ],
22       "Effect": "Allow",
23       "Resource": "arn:aws:s3:::destination.cross.region.replica.clarusway(change me)/*"
24     }
25   ]
26 }
```

Security: 0 Errors: 0 Warnings: 0 Suggestions: 0

Policy de source bucket adresini değiştiriyorum:

```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Action": [
6         "s3:Get*",
7         "s3:ListBucket"
8       ],
9       "Effect": "Allow",
10      "Resource": [
11        "arn:aws:s3:::source.replica.clarusway-levo",
12        "arn:aws:s3:::source.replica.clarusway-levo/*"
13      ]
14    }
15  ]
16 }
```

Destination bucket adresini de değiştiriyorum:

```
13 {
14   "Version": "2012-10-17",
15   "Statement": [
16     {
17       "Action": [
18         "s3:ReplicateObject",
19         "s3:ReplicateDelete",
20         "s3:ReplicateTags",
21         "s3:GetObjectVersionTagging"
22       ],
23       "Effect": "Allow",
24       "Resource": "arn:aws:s3:::destination.cross.region.replica.clarusway(change me)/*"
25     }
26   ]
27 }
```

Bu sayede izinleri yerleştirmiş olduk. Next diyoruz. Tag sayfasından da Next diyoruz:

NAME ve description ekliyoruz ve create policy diyoruz:

Review policy

Name* yourname.cross.replication.iam.policy

Use alphanumeric and '+', '@', '-' characters. Maximum 128 characters.

Description yourname.cross.replication.iam.policy

Maximum 1000 characters. Use alphanumeric and '+', '@', '-' characters.

Summary

This policy defines some actions, resources, or conditions that do not provide permissions. To grant access, policies must have an action that has an applicable resource or condition. For details, choose **Show remaining**. [Learn more](#)

Role tanımlamak için sol menüden role e tıklıyoruz ve create role diyoruz.

Identity and Access Management (IAM) x

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings

Access reports

Now! Securely access AWS services from your data center with IAM Roles Anywhere. [Learn more](#)

IAM > Roles

Roles (2) info

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

Search

Role name	Trusted entities	Last activity
<input type="checkbox"/> AWSServiceRoleForSupport	AWS Service: support (Service-Linked Role)	-
<input type="checkbox"/> AWSServiceRoleForTrustedAdvisor	AWS Service: trustedadvisor (Service-Linked Role)	-

Roles Anywhere info

Manage

Burada AWS Service e yetki vereceğimiz için o seçili olacak. Aşağıdan da S3 servisini seçiyoruz:

Trusted entity type

☒ **AWS service**
Allow AWS services like EC2, Lambda, or others to perform actions in this account.

☐ **AWS account**
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.

☐ **Web identity**
Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.

☐ **SAML 2.0 federation**
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.

☐ **Custom trust policy**
Create a custom trust policy to enable others to perform actions in this account.

Use case

Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Common use cases

- ☐ **EC2**
Allows EC2 instances to call AWS services on your behalf.
- ☐ **Lambda**
Allows Lambda functions to call AWS services on your behalf.

Use cases for other AWS services:

- ☐ **S3**
Allows S3 to call AWS services on your behalf.
- ☒ **S3**
Allows S3 to call AWS services on your behalf.
- ☐ **S3 Batch Operations**
Allows S3 Batch Operations to call AWS services on your behalf.

Burada policy mizi seçip next diyoruz:

IAM > Roles > Create role

Step 1
Select trusted entity

Step 2
Add permissions

Step 3
Name, review, and create

Add permissions [Info](#)

Permissions policies (Selected 1/802) [Info](#)

Choose one or more policies to attach to your new role.

<input type="checkbox"/>	Policy name ↗	Type	Description
<input checked="" type="checkbox"/>	emre.cross.replication.i...	Custom...	emre.cross.replication.iam.policy
<input type="checkbox"/>	AWSDirectConnect...	AWS m...	Provides read only access to AWS Direct Connect via the AWS Management Console.
<input type="checkbox"/>	AmazonGlacierRea...	AWS m...	Provides read only access to Amazon Glacier via the AWS Management Console.

Role için isim ve description yazıyoruz ve create diyoruz:

Step 1
Select trusted entity

Step 2
Add permissions

Step 3
Name, review, and create

Name, review, and create

Role details

Role name
Enter a meaningful name to identify this role.

Maximum 64 characters. Use alphanumeric and "+", "@", "_" characters.

Description
Add a short explanation for this role.

Maximum 1000 characters. Use alphanumeric and "+", "@", "_" characters.

Step 1: Select trusted entities [Edit](#)

```
1 {  
2   "Version": "2012-10-17",  
3   "Statement": [  
4     {  
5       "Effect": "Allow",  
6       "Principal": {  
7         "Service": "s3.amazonaws.com"  
8       },  
9       "Action": "sts:AssumeRole"  
10    }  
11  ]  
12 }
```

Şimdi source bucket ta management tarafına geçiyoruz:
Create replication rule diyoruz:

Replication rules (0)

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](#)

[Refresh](#) [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	Replica modification sync
No replication rules										
You don't have any rules in the replication configuration.										
Create replication rule										

İsim veriyoruz ve apply tı al objects seçeneğini seçiyoruz.
Bizden hangi hesap için replication oluşturacağımız soruyor:

Source Region
US East (N. Virginia) us-east-1

Choose a rule scope

☐ Limit the scope of this rule using one or more filters

☒ Apply to all objects in the bucket

Destination

Destination
You can replicate objects across buckets in different AWS Regions (Cross-Region Replication) or you can replicate objects across buckets in the same AWS Region (Same-Region Replication). You can also specify a different bucket for each rule in the configuration. [Learn more](#)

☒ Choose a bucket in this account

☐ Specify a bucket in another account

Bucket name
Choose the bucket that will receive replicated objects.

Browse S3

Destination Region
*

Aynı hesapta oluşturacağız. Değiştirmeden Browse S3 diyoruz:

Choose a bucket

S3 Buckets

Buckets (3)

Name	AWS Region
<input checked="" type="radio"/> destination.cross.region.replica.clarusway-mba	US East (Ohio) us-east-2
<input type="radio"/> pet.clarusway.lifecycle-mba	US East (N. Virginia) us-east-1
<input type="radio"/> source.replica.clarusway-mba	US East (N. Virginia) us-east-1

Cancel Choose path

Destinaiton bucket ımızı seçiyoruz. Choose path diyoruz.

IAM role oluşturduğumuz rolü seçiyoruz:

IAM role

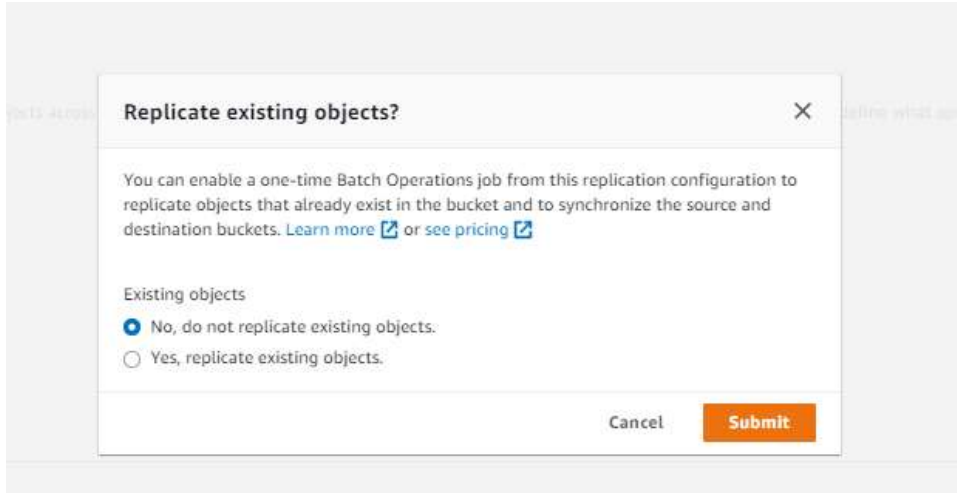
☒ Choose from existing IAM roles

☐ Enter IAM role ARN

IAM role

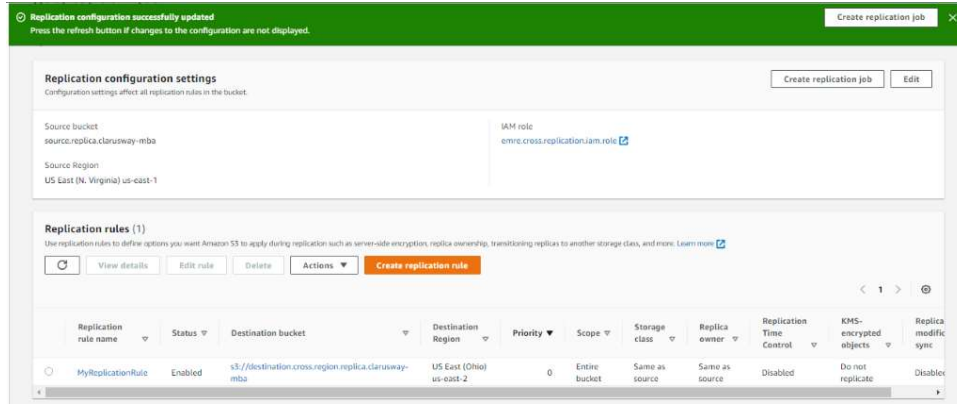
View

Save diyoruz. Önümüze böyle bir uyarı gelecek:

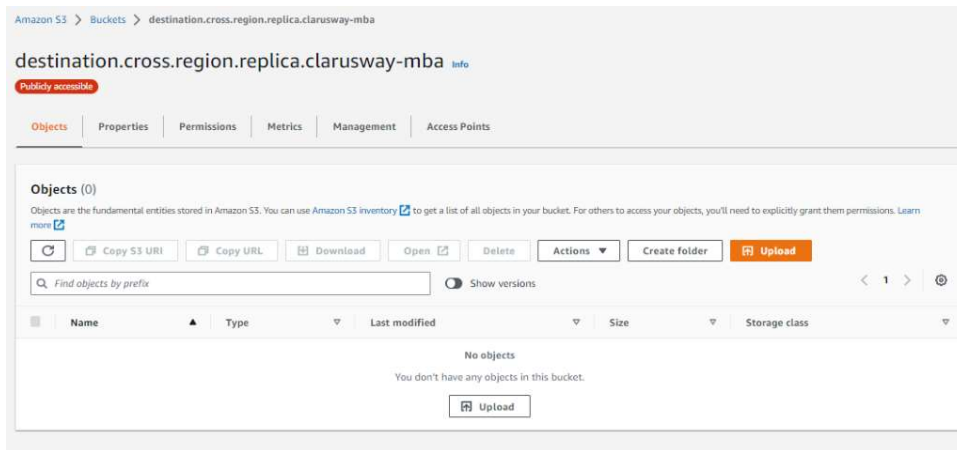


Burada No seçili olacak ve submit ediyoruz. (Yeni değişiklikler ve upload işlemleri igeçerli olacak.)

Replication kuralımız oluştu:



Ancak destination bucket a gittiğimizde objects te bir şey göremeyeceiz:



Şimdi index dosyamızda ufak bir değişiklik yapıp yeni version oluşturmuşuz gibi bir senaryo gerçekleştirelim:


```
<> index.html > html > body > center > h1
1 <html>
2   <head>
3     <title> Cutest Cat </title>
4   </head>
5   <body>
6     <center><h1> My Cutest Cat Version 4</h1></center>
7     <center></center>
8   </body>
9 </html>
```

Şimdi source bucket a gidip cat ve index i tekrar yükleyelim. Source bucket ımızda version olarak bunları görebileceğiz:

Amazon S3 > Buckets > source.replica.clarusway-mba

source.replica.clarusway-mba [Info](#)

Publicly accessible

Objects Properties Permissions Metrics Management Access Points

Objects (4)

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](#)

☒ Show versions

<input type="checkbox"/>	Name	Type	Version ID	Last modified	Size	Storage class
<input type="checkbox"/>	cat.jpg	jpg	r5GP2H0e2R1nOgiGR24m6YgQMfRfFE	December 24, 2022, 12:49:07 (UTC+01:00)	25.9 KB	Standard
<input type="checkbox"/>	cat.jpg	jpg	QCti_cqZNXliqNxm8ZJTaQhLKWlqXZEC3	December 24, 2022, 11:56:17 (UTC+01:00)	25.9 KB	Standard
<input type="checkbox"/>	index.html	html	HIZVXJ3NkzouJ2B7nYVfqqCWpFTxCVM9	December 24, 2022, 12:49:06 (UTC+01:00)	223.0 B	Standard
<input type="checkbox"/>	index.html	html	4DRRZOV0b1pzbqDqJAK1X9jL_7FuQS	December 24, 2022, 11:56:18 (UTC+01:00)	223.0 B	Standard

Destination bucket ımıza gittiğimizde de dosyaların burada olduğunu görebiliyoruz:

Amazon S3 > Buckets > destination.cross.region.replica.clarusway-mba

destination.cross.region.replica.clarusway-mba [Info](#)

Publicly accessible

Objects Properties Permissions Metrics Management Access Points

Objects (2)

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](#)

☐ Show versions

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	cat.jpg	jpg	December 24, 2022, 12:49:07 (UTC+01:00)	25.9 KB	Standard
<input type="checkbox"/>	index.html	html	December 24, 2022, 12:49:06 (UTC+01:00)	223.0 B	Standard

Bütün bucket için replication yaptık. Ancak tag veya prefix ile de sınırlandırabiliriz:

Öncelikle kitten diye bir folder açıyoruz source bucket ta. (destination da da kendisi replikasyon yapacağı için orada da görülecektir) şimdi source bucket ta managements a giderek create replication rule diyerek yeni bir kural oluşturacağız:

Bu kez filter type da kitten prefix ini yazıyorum:

Source Region
US East (N. Virginia) us-east-1

Choose a rule scope

☒ Limit the scope of this rule using one or more filters

☐ Apply to all objects in the bucket

Filter type

You can filter objects by prefix, object tags, or a combination of both.

Prefix

Add a filter to limit the scope of this rule to a single prefix.

kitten

Don't include the bucket name in the prefix. Using certain characters in key names can cause problems with some applications and protocols.

Tags

You can limit the scope of this rule to the key value pairs added below.

Add tag

Destination u seçiyoruz:

Destination

Destination

You can replicate objects across buckets in different AWS Regions (Cross-Region Replication) or you can replicate objects across buckets in the same AWS Region (Same-Region Replication). You can also specify a different bucket for each rule in the configuration. [Learn more](#)

☒ Choose a bucket in this account

☐ Specify a bucket in another account

Bucket name

Choose the bucket that will receive replicated objects.

destination.cross.region.replica.clarusway-mba

Browse S3

Destination Region

US East (Ohio) us-east-2

Destination storage class ı da değiştirebiliriz:

Destination storage class

Amazon S3 offers a range of storage classes designed for different use cases. [Learn more](#) or see [Amazon S3 pricing](#)

☒ Change the storage class for the replicated objects

Storage class

	Storage class	Designed for	Availability Zones	Min storage duration	Cost
<input type="radio"/>	Standard	Frequently accessed data (more than once a month) with milliseconds access	≥ 3	-	-
<input type="radio"/>	Intelligent-Tiering	Data with changing or unknown access patterns	≥ 3	-	-
<input type="radio"/>	Standard-IA	Infrequently accessed data (once a month) with milliseconds access	≥ 3	30 days	1
<input checked="" type="radio"/>	One Zone-IA	Recreatable, infrequently accessed data (once a month) stored in a single Availability Zone with milliseconds access	1	30 days	1
<input type="radio"/>	Glacier Instant Retrieval	Long-lived archive data accessed once a quarter with instant retrieval in milliseconds	≥ 3	90 days	1

Hali hazırda source bucket ın tamamı için replication rule olduğu için yenilikler zaten destinationda görülecek ve yeni prefix replication rule u test edemeyeceiz. Bu nedene ilk replication rule umuzu seçip actions tan disable rule diyerek disable edeceiz:

Replication configuration settings
Configuration settings affect all replication rules in the bucket.

Create replication jobEdit

Source bucket
source.replica.clarusway-mba

Source Region
US East (N. Virginia) us-east-1

IAM role
emre.cross.replication.s3m.role

Replication rules (2)
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 detailsEdit ruleDeleteActions▼Create replication rule

Replication rule name	Status	Destination bucket	Destination Region	Priority	Scope	Storage class	Replica owner	Replication Time Control	KMS-encrypted objects	Replica modification sync
Prefixrule	Enabled	s3://destination.cross.region.replica.clarusway-mba	US East (Ohio) us-east-2	1	Prefix: kitten	Transition to One Zone-IA	Same as source	Disabled	Do not replicate	Disabled
MyReplicationRule	Enabled	s3://destination.cross.region.replica.clarusway-mba	US East (Ohio) us-east-2	0	Entire bucket	Same as source	Same as source	Disabled	Do not replicate	Disabled

Source bucket ımıza yeni objeler atalım. Bir dosyayı bucketın içine atalım. Başka bir dosyayı da kitten folder ına atalım:

Amazon S3 > Buckets > source.replica.clarusway-mba

source.replica.clarusway-mba [Info](#)

Publicly accessible

ObjectsPropertiesPermissionsMetricsManagementAccess Points

Objects (6)
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 URICopy URLDownloadOpenDeleteActions▼Create folderUpload

Find objects by prefixShow versions

Name	Type	Version ID	Last modified	Size	Storage class
cat.jpg	jpg	r5GP2HOu2jR1nDgIeR24n6VgQMkRfE	December 24, 2022, 12:49:07 (UTC+01:00)	25.9 KB	Standard
cat.jpg	jpg	QCtLqZNOi9Nm8ZfJaQhLXWiqKZEC3	December 24, 2022, 11:56:17 (UTC+01:00)	25.9 KB	Standard
index.html	html	HIZVJ5NkzssJ2B7nVYeqCWpF1xCVM9	December 24, 2022, 12:49:06 (UTC+01:00)	225.0 B	Standard
index.html	html	4DRRZOV8tputbDjAK1X9JL...7FuQ5	December 24, 2022, 11:56:18 (UTC+01:00)	225.0 B	Standard
witten/	Folder	-	-	-	-
outside_folder.txt	txt	q5dWzovfEdfKauqbKtVqZJH9uTV5wy	December 24, 2022, 12:58:15 (UTC+01:00)	1.0 B	Standard

Amazon S3 > Buckets > source.replica.clarusway-mba > kitten/

kitten/

ObjectsProperties

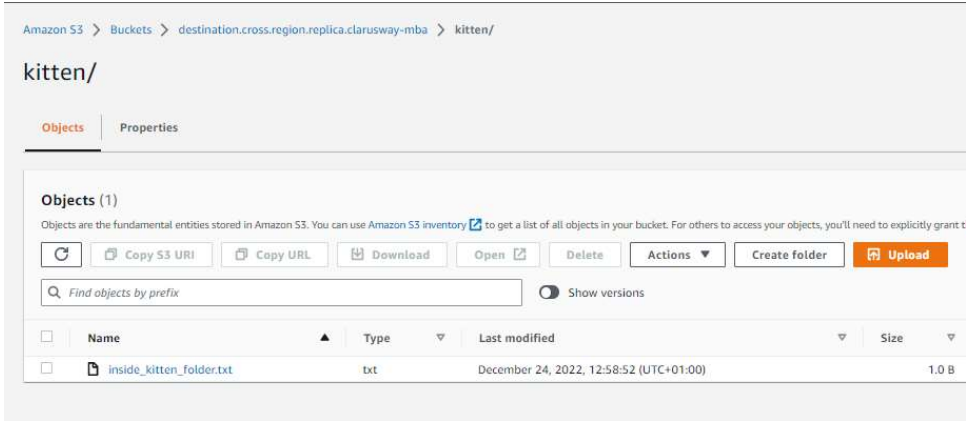
Objects (1)
Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 Inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Copy S3 URICopy URLDownloadOpenDeleteActions▼Create folderUpload

Find objects by prefixShow versions

Name	Type	Version ID	Last modified
inside_kitten_folder.txt	txt	gHXIBhHt6n3q9vuy0.s2Kge3Ls5vLj	December 24, 2022, 12:58:52 (UTC+01:00)

Destination bucket a gidelim ve refresh edelim:



Kitten içine eklediğimiz dosyayı görüyoruz.

Tag için de kural oluşturalım:

Source bucket ta managements a giderek create replication rule diyoruz. İsim veriyoruz. Alt kısımda tag ekliyoruz:

Source Region
US East (N. Virginia) us-east-1

Choose a rule scope
☒ Limit the scope of this rule using one or more filters
☐ Apply to all objects in the bucket

Filter type
You can filter objects by prefix, object tags, or a combination of both.

Prefix
Add a filter to limit the scope of this rule to a single prefix.

Don't include the bucket name in the prefix. Using certain characters in key names can cause problems with some applications and protocols.

Tags
You can limit the scope of this rule to the key value pairs added below.

Key	Value	
Name	cat	Remove

Tag isimleri value leri case sensitive dir.

Daha sonra Browse S3 sekmesinden destination u seçip save ediyoruz.

Source içine tag file 1 tag lemeden tag-file2 yi de tag leyrek ekliyoruz:

Upload ederek properties kısmından tag eklemeye ulaşıyoruz ve Add Tag diyoruz:

Files and folders (1 Total, 1.0 B)

RemoveAdd filesAdd folder

All files and folders in this table will be uploaded.

☐

Name

▲

Folder

▼

Type

▼

Size

▼

☐

tag_file 2.txt

-

text/plain

1.0 B

Destination

Destination

s3://source.replica.clarusway-mba

► Destination details

Bucket settings that impact new objects stored in the specified destination.

► Permissions

Grant public access and access to other AWS accounts.

▼ Properties

Specify storage class, encryption settings, tags, and more.

Case sensitive olduğunu unutmayalım. Rules ta verdiğimiz şekilde tag ekliyoruz:

Tags - optional

You can use object tags to analyze, manage, and specify permissions for objects. [Learn more](#)

Key

Value - optional

Remove

Add tag

Upload ettik ve destination bucket ımız gidiyoruz:

Amazon S3 > Buckets > destination.cross.region.replica.clarusway-mba

destination.cross.region.replica.clarusway-mba [Info](#)

Publicly accessible

Objects

Properties

Permissions

Metrics

Management

Access Points

Objects (4)

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](#)

☐ Show versions

< 1 >

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	cat.jpg	jpg	December 24, 2022, 12:49:07 (UTC+01:00)	25.9 KB	Standard
<input type="checkbox"/>	index.html	html	December 24, 2022, 12:49:06 (UTC+01:00)	223.0 B	Standard
<input type="checkbox"/>	kitten/	Folder	-	-	-
<input type="checkbox"/>	tag_file 2.txt	txt	December 24, 2022, 13:06:26 (UTC+01:00)	1.0 B	Standard

Tag_file görünmüyorken tag ile eklediğimiz tag_file_2 yi görebiliyoruz.