

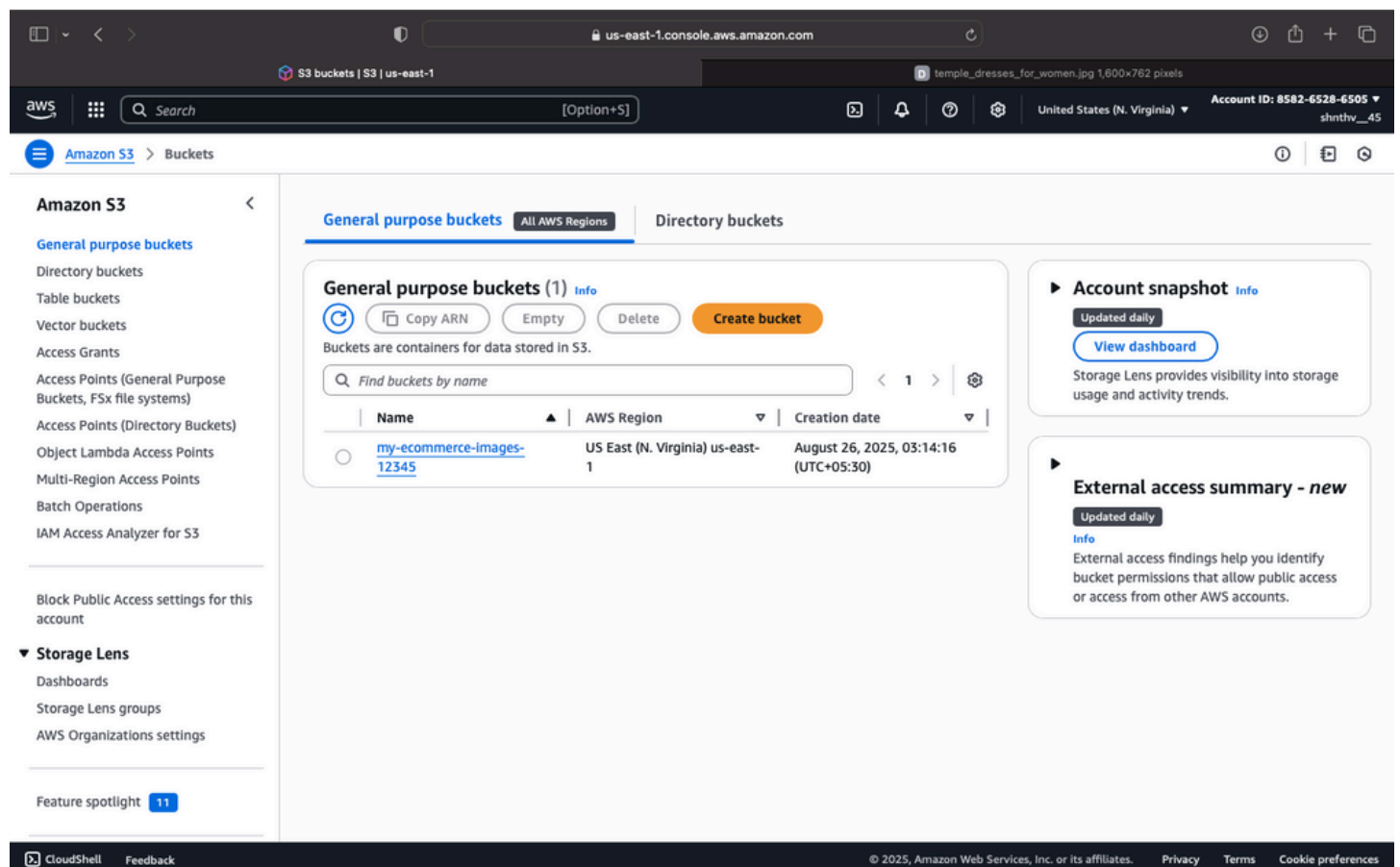
### 3. Integrate CloudFront with S3 for Faster Content Delivery Configure a CloudFront distribution to serve static assets from S3. Restrict direct S3 access and enforce traffic via CloudFront. Test performance improvements by comparing direct S3 vs. CloudFront load times.

This guide explains how to set up an Amazon S3 bucket for product images, configure a CloudFront distribution to deliver them globally, and enforce secure access through bucket policies.

## Step 1: Create an S3 Bucket

1. Log in to the AWS Management Console.
2. Go to S3 → Create Bucket.
3. Configure the bucket:
  - **Bucket Name:** my-product-images-12345 (must be globally unique).
  - **Region:** Closest to your location (e.g., *US East – N. Virginia*).
  - **Bucket Type:** General Purpose.
  - **Object Ownership:** Bucket owner enforced.
  - **Block Public Access:** Keep all ON (CloudFront will handle access).
  - **Default Encryption:** SSE-S3 (Amazon-managed).
4. Click Create Bucket.

**Outcome:** A secure S3 bucket ready to store product images.

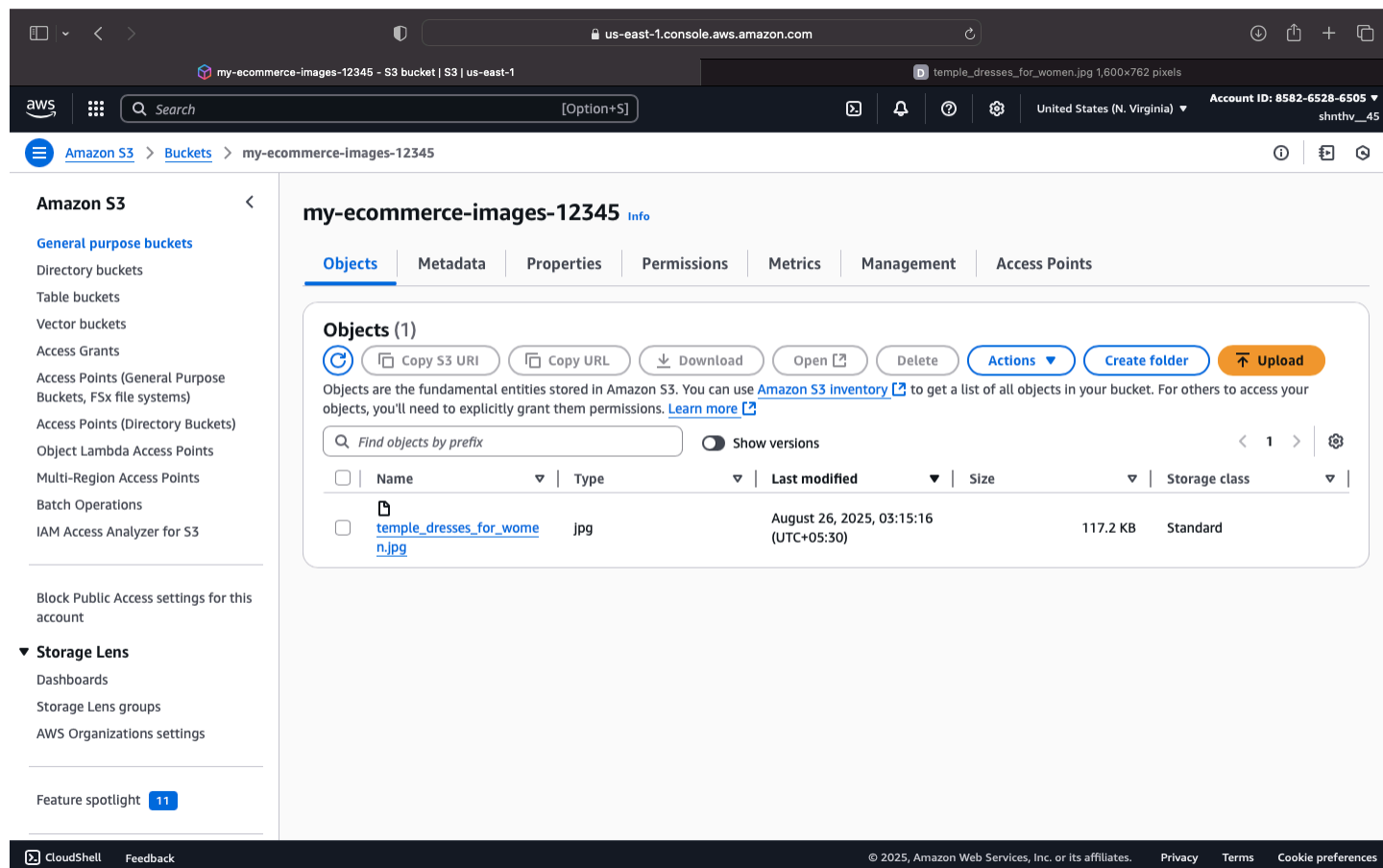


## Step 2: Upload Product Images to S3

1. **Open your bucket (my-product-images-12345).**
2. **Click Upload → Add files.**
3. **Select product images (e.g., temple\_dresses\_for\_women.jpg, shirt.jpg).**
4. **Click Upload.**

**Note:** Images remain private; CloudFront will handle secure delivery.

**Outcome:** Product images are now stored in S3.



## Step 3: Create a CloudFront Distribution

1. **Go to CloudFront → Create Distribution.**
2. **Configure the distribution:**
  - **Distribution Name:** product-images-cf.
  - **Origin Type:** Amazon S3 → select your bucket my-product-images-123.
  - **Grant CloudFront access to origin:** Yes (creates an Origin Access Control, OAC).
  - **Viewer Protocol Policy:** Redirect HTTP → HTTPS (recommended).
  - **Cache Settings:** Use recommended defaults.
3. **Click Create Distribution.**
4. **Wait 10–15 minutes for deployment.**
5. **Copy the CloudFront domain name (example):**

https://d2lql293hw7uns.cloudfront.net

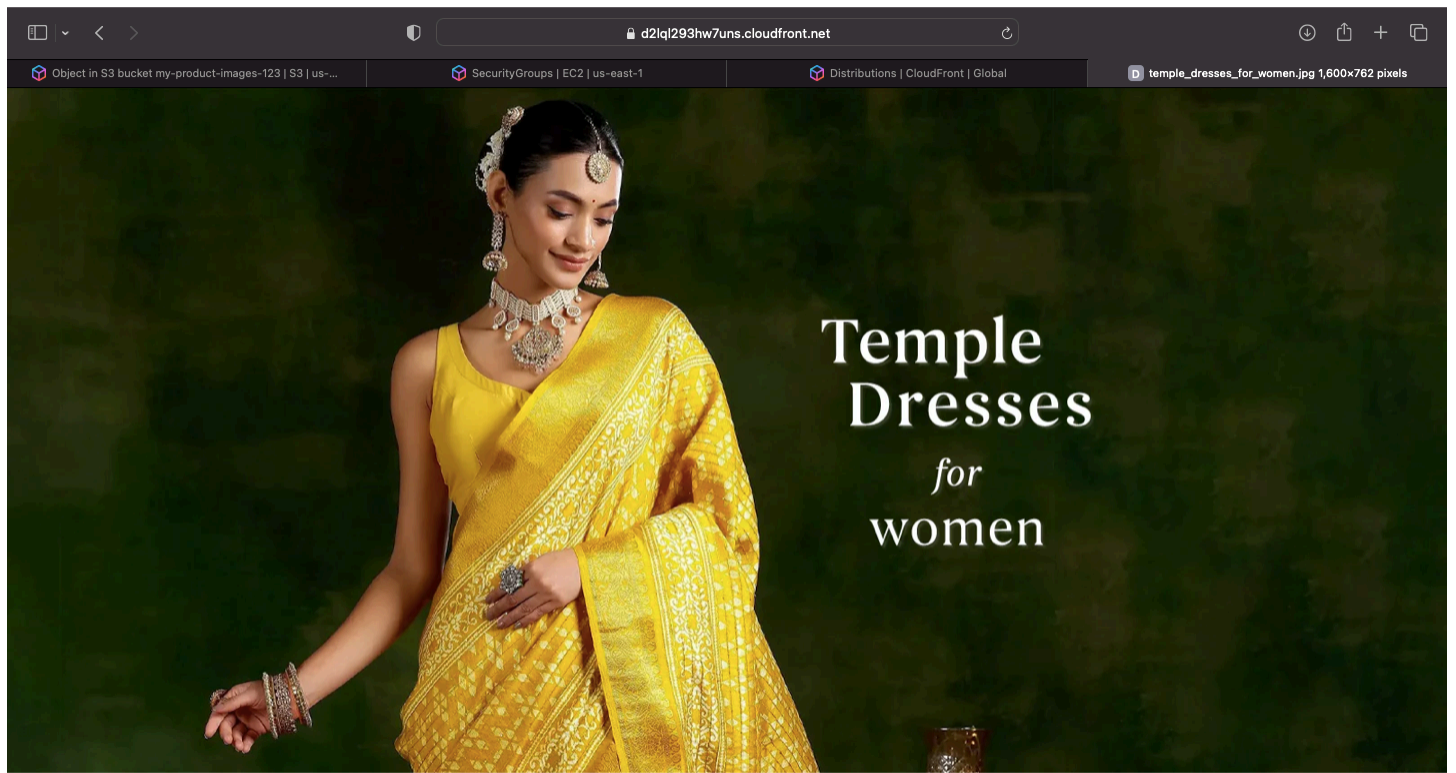
**Outcome:** CloudFront is ready to deliver your images globally, faster than direct S3 access.

The screenshot shows the AWS CloudFront console interface. The left sidebar contains navigation links for CloudFront, Distributions, Policies, Functions, Static IPs, VPC origins, What's new, SaaS, Telemetry, Reports & analytics, and Security. The main content area displays the configuration for a distribution named 'product-images-cf' (Standard). The 'General' tab is selected, showing details such as the distribution domain name (d2lql293hw7uns.cloudfront.net), ARN (arn:aws:cloudfront::858265286505:distribution/E3KOPYWT65SRAE), and last modified date (August 25, 2025 at 8:01:25 PM UTC). The 'Settings' section includes a description, price class (Use all edge locations (best performance)), supported HTTP versions (HTTP/2, HTTP/1.1, HTTP/1.0), alternate domain names (with an 'Add domain' button), standard logging (Off), cookie logging (Off), and default root object (-). The 'Continuous deployment' section has a 'Create staging distribution' button. The bottom of the console shows the CloudShell, Feedback, and footer information.

## Step 4: Test Images via CloudFront

1. Open a browser.
2. Enter a CloudFront image URL:  
[https://d2lql293hw7uns.cloudfront.net/temple\\_dresses\\_for\\_women.jpg](https://d2lql293hw7uns.cloudfront.net/temple_dresses_for_women.jpg)
3. The image should load successfully.

**Outcome:** CloudFront fetches and serves images securely from S3.



## Step 5: Use CloudFront Images in Your App

Replace local image paths with CloudFront URLs.

### Example:

```

```

### Benefits:

- Images load faster worldwide.
- Reduces storage/load on your app server.
- Images are served securely with CloudFront access policies.

## Step 6: Apply an S3 Bucket Policy

To ensure only CloudFront can access your bucket, attach the following **bucket policy** (OAC-based example):

```
{  
  
  "Version": "2012-10-17",  
  
  "Id": "PolicyForCloudFrontPrivateContent",  
  
  "Statement": [  

```

```
{
  "Sid": "AllowCloudFrontServicePrincipal",
  "Effect": "Allow",
  "Principal": {
    "Service": "cloudfront.amazonaws.com"
  },
  "Action": "s3:GetObject",
  "Resource": "arn:aws:s3:::my-ecommerce-images-12345/*",
  "Condition": {
    "StringEquals": {
      "AWS:SourceArn": "arn:aws:cloudfront::858265286505:distribution/E3KOPYWT65SRAE"
    }
  }
}
```

Replace values:

- **my-product-images-12345**: Your S3 bucket name.
- **858265286505**: Your AWS account ID.
- **E3KOPYWT65SRAE**: Your CloudFront distribution ID.

**Outcome:** Direct public access to S3 is blocked, and only CloudFront can fetch objects.

us-east-1.console.aws.amazon.com

my-ecommerce-images-12345 - S3 bucket | S3 | us-east-1

template\_dresses\_for\_women.jpg 1,600x762 pixels

Search

[Option+S]

United States (N. Virginia)

Account ID: 8582-6528-6505

Amazon S3

Buckets

my-ecommerce-images-12345

Amazon S3

General purpose buckets

Directory buckets

Table buckets

Vector buckets

Access Grants

Access Points (General Purpose Buckets, FSx file systems)

Access Points (Directory Buckets)

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

Bucket policy

Edit

Delete

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](#)

```
{  "Version": "2012-10-17",  "Id": "PolicyForCloudFrontPrivateContent",  "Statement": [    {      "Sid": "AllowCloudFrontServicePrincipal",      "Effect": "Allow",      "Principal": {        "Service": "cloudfront.amazonaws.com"      },      "Action": "s3:GetObject",      "Resource": "arn:aws:s3:::my-ecommerce-images-12345/*",      "Condition": {        "StringEquals": {          "AWS:SourceArn": "arn:aws:cloudfront::858265286505:distribution/E3KOPYWT65SRAE"        }      }    }  ]}
```

Copy

Object Ownership

Info

Edit

CloudShell

Feedback

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