AWS CLOUDFRONT

- This will be a walkthrough of how I built an Amazon CloudFront, often known as a CDN.
- Duration: 1h 30m.
- AWS Region: US East (N. Virginia) us-east-1

Fun Facts about CDN.

CloudFront is a content delivery network (CDN) offered by AWS.

CDN provides a globally-distributed network of proxy servers which cache content. i.e., web videos or other media, more locally to consumers, thus improving speed for downloading the content.

CloudFront service works on pay-as-you-go basis.

When CloudFront is enabled, the content is stored on the main S3 server.

Copies of this content are created on a network of servers around the world called CDN.

Task Details

- Launch the AWS Console
- Create an S3 Bucket
- Upload a file to the S3 bucket.
- Create Custom Error pages.
- Make the objects public.
- Create a new Amazon CloudFront distribution.
- Accessing images through Cloudfront.
- Configuring custom Error Page
- Restricting the Geographic Distribution of your content.

Task 2 & 3

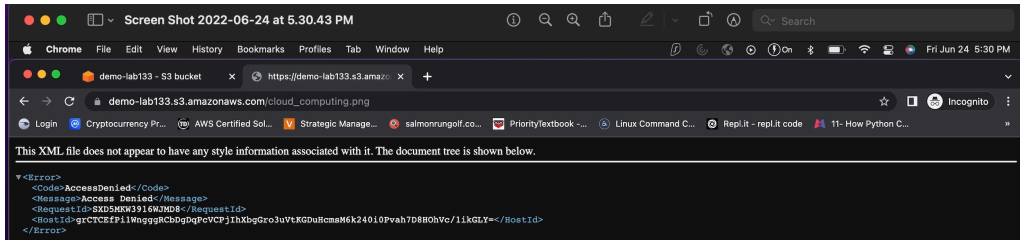
- In this task I will create an S3 Bucket, note the S3 name must be globally unique.
- Region: Select US East (N. Virginia) us-east-1
- Object Ownership: Selected ACLs enabled option and choose Object writer as Object owner; because it enables you to manage access to buckets and objects.
- Block Public Access settings for bucket and Uncheck the Block all Public Access and acknowledge the change.
- Task3; is mainly about uploading an image in the bucket and naming it, I've simply uploaded a Png image file into the bucket folder.

Task 4

- This step entails creating custom error pages in the bucket folder so that CloudFront may return them when the origin returns HTTP 4xx or 5xx errors.
- I've created an Error page.html using this simple .html file (<html><h1>This is Error Page</h1></html>) and then uploaded it to S3 bucket.
- The same goes to block.html page and then uploaded it to the CustomErrors folder.

Task 5:

- Making the objects public
- Click on the image to see the owner, size, link, etc.
- First, I tested the Object URL on a new browser tab, then you will see a denied access.



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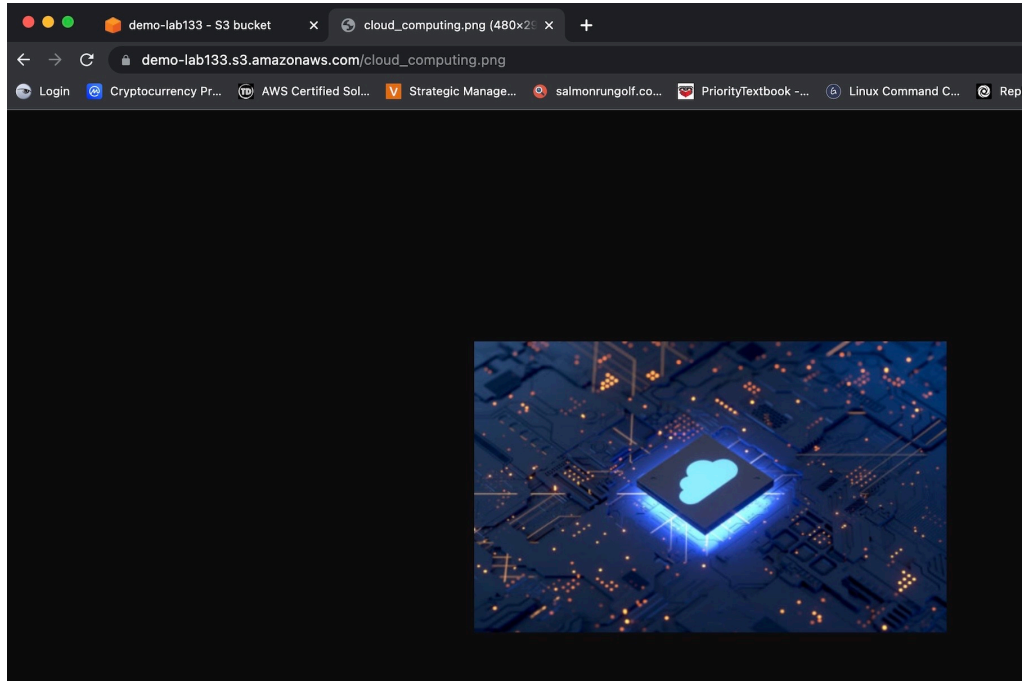
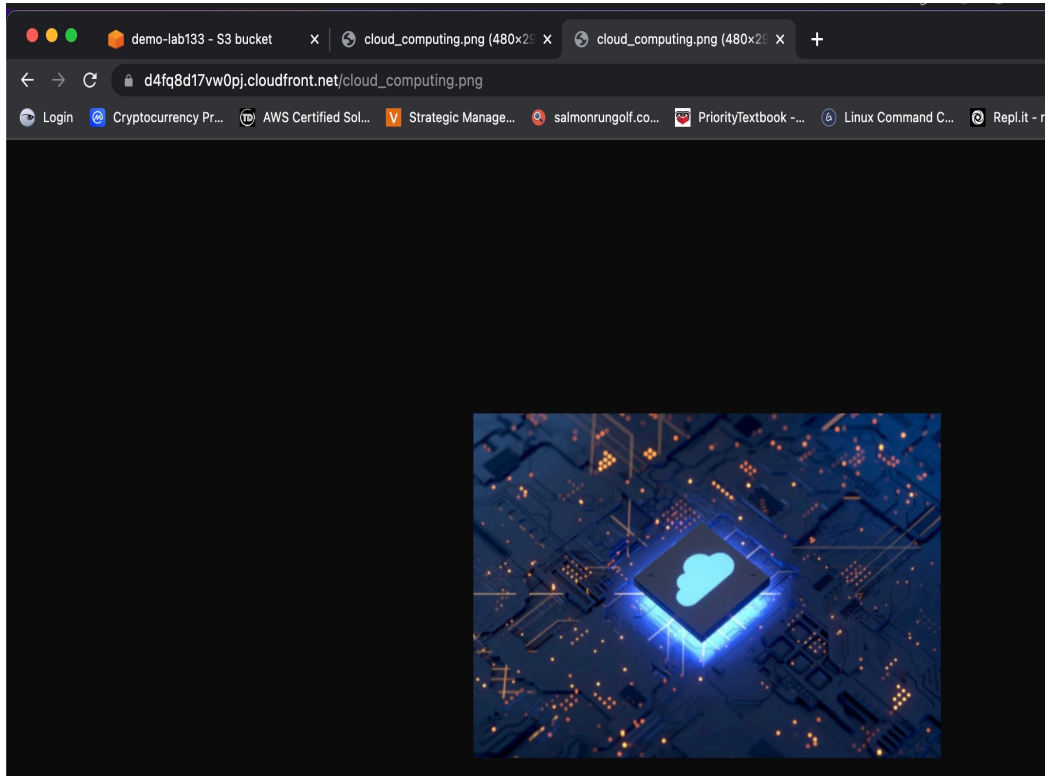
- To access the bucket, I've edited the bucket policy under the bucket name and copy and pasted it with a JSON policy and saved the policy.
- I make sure to change the name of the bucket ARN with your bucket ARN in both the Resource option in the code.
- Refresh the page to access the bucket image.



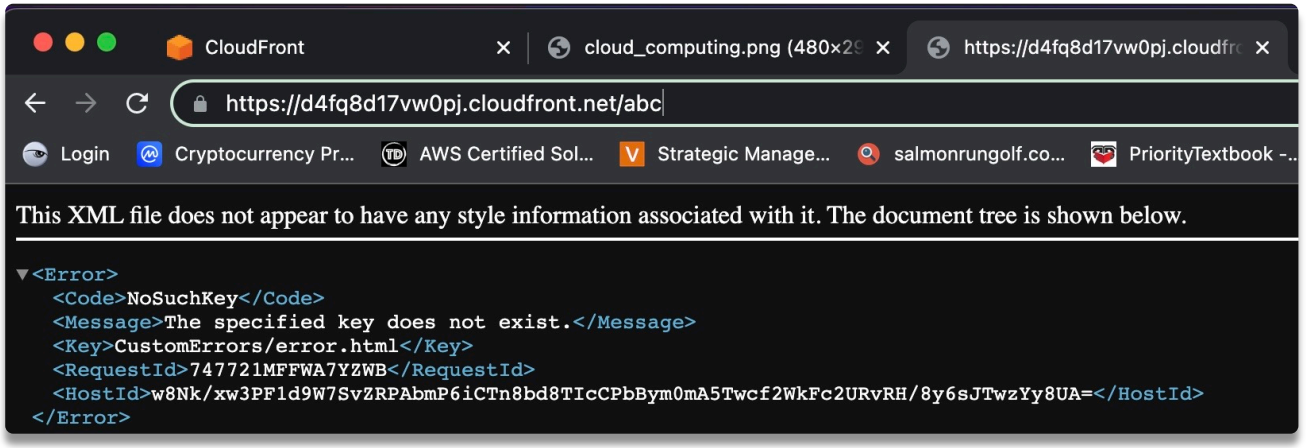
Task 6 & 7

- Creating CloudFront Distribution
- Once I created the CDN, the domain name should look something like this, (https://d4fq8d17vw0pj.cloudfront.net)
- Task 7: is about testing the image through CloudFront.
- For testing the distribution, I copied the domain name and append my bucket image name after the domain name.
- Then I opened the CloudFront URL in a new tab to access the image.



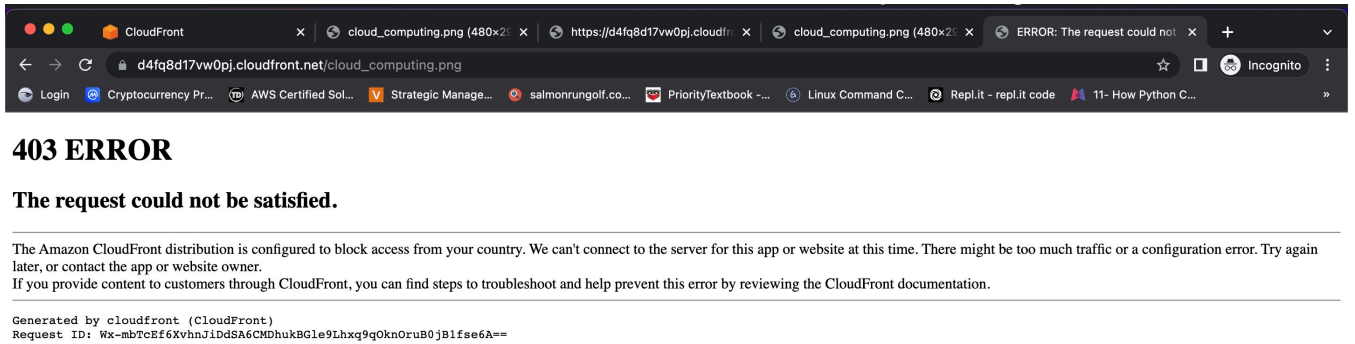
Task 8

- Configuring Custom Error Page
- Select the Error pages tab in the Distribution, then I set up the custom error page.
- Http Error Code : Select 404: Not Found
- Error Caching Minimum TTL: Enter 10
- Customize Error Response : Select Yes
- Response Page Path : Enter /CustomErrors/error.html
- HTTP Response Code : Select 404: Not Found
- I waited for the distribution state to change to deployed to test the error page
- Then I entered a URL of image which does not exist in my S3 bucket with CloudFront domain name.



Task 9

- Restricting the Geographic Distribution of Your Content.
- This task is when I need to prevent users from accessing my content in specific countries by setting either a whitelist (countries where they can access my content) or a blacklist (countries where they cannot) using restrictions.
- On the distribution settings page, I selected Geographic restriction & then edit.
- Restriction Type : Select Block list
- I've selected United States for restricting my content.
- Waited for 5-10 minutes for the state to change to deployed, then I can test the block list restriction page.



Task 9 Step3:

- It's time to configure custom error page:
- Navigate back to CloudFront Dashboard and selected the distribution .
- On the settings, select Error pages tab.
- Now we need to set up our custom error page:
  - Http Error Code : Select 403: Forbidden
  - Error Caching Minimum TTL: Enter 10
  - Customize Error Response : Select Yes
  - Response Page Path : Enter /CustomErrors/block.html
  - HTTP Response Code : Select 403: Forbidden

Navigated back to the distribution to test restriction through CloudFront in the browser.

Next page for the result screenshot..

Testing result

- If I see the error, this means I successfully configured custom error page and restricted image access from your country.