**Homework 5: S3 and CloudFront CDN (Total Points: 100)**

Due: Sunday October 14 11:59PM

**Problem 1. Create an S3 Bucket (30 Points).**

* any region can be used, but remember in real-life scenarios it’s usually best to select the regions closest to your users.
* Bucket Name should contain your first and last name.
* Versioning should be enabled.
* Server logging should be enabled
  + all logs should be sent to a folder named “logs”

Paste the screenshot of the bucket’s Properties Tab with Versioning and Server Access Logging windows expanded:

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**Problem 2. S3 Website (30 Points).**

* Upload your typical bio html file, and supporting image
* Demonstrate that you can view your web page publicly (screenshots should clearly show the urls being used)

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Show the permissions tab for your uploaded html file:

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| Served through static website |

**Problem 3. CloudFront CDN (40 Points).**

* Create a CDN distribution for your S3 website.
* For “Viewer Protocol Policy” use “Redirect HTTP to HTTPS”
* Set a maximum time to live of two months
* For price class choose only US, Canada and Europe

Wait until the status of your CDN becomes “Deployed” and paste the screenshot of your distribution below (it make take some time, like 10-15 minutes):

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Provide the screenshot of your CDN’s General Tab:

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Provide the screenshot of your CDN’s Origins Tab:

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Please provide the CloudFront URL to your homepage - do not disable your S3 bucket until your HW is graded:

https://d1w3x7day4v4mq.cloudfront.net/index.html

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What was the value for Maximum TTL that you specified? Provide the value below:

5184000 seconds, assuming 30 day months as per google’s cache control example\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain why do you think CDN is useful:

CDNs are useful for delivering content to users far from the location of the main server. The collection of endpoints within the CDN rangle across many locations, and cache the content after the first request. From then on (depending on time to live restrictions) subsequent requests by other users or the same user will retrieve the cached data from the endpoint rather than the origin server, resulting in better performance.

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**Bonus (10 Points):**

Explain how you could limit the number of versions your S3 bucket maintains per file. For example: I want to set a limit of five versions per file, including the most recent. I upload a file named hello.txt seven times, but only the original plus four past versions are kept.

It is not an option to have someone manually delete excess versions, it must be handled **programmatically**. Also, limiting does not need to occur instantly - it can occur periodically.

You only need to describe a viable solution, you do not need to implement one.

It seems this is not fully doable through lifecycle management, Therefore we’d have a maintenance job running periodically, once a day, for example.

It would use the object API to first get the list of previous versions, and perform a multi-object delete request on any previous versions beyond the 4th. (1 current and 4 previous).

This would be used in conjuction with the ‘remove expired delete markers’ rule in the lifecycle configuration, to periodically remove the file. Until this is done, it’s not actually deleted.

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