CLOUDFRONT

* It is a web service that speeds up your static and dynamic web content like .html, .css and images files etc. It delivers your content through a worldwide network data centers called edge locations. Aws has 60 edge locations all over the world.
* When an user request the content that are using cloudfront, the user request is routed to nearest edge location for high performance, low latency and high availability.
* If the content is not serving with cloud front, cloud front retrieves it from s3 (or) http request that you have configured with cloud front.
* For ex: your server is in us and an request came from india, if you haven’t configured cloudfront, the web server will take sometime to serve the content because the request is routed through different networks to reach there. But, if you have configured cloud front in the edge locations, it will give the content with low latency and high performance than normal.
* We have to create a cloudfront distribution to tell cloudfront from which server you have to get files to server an user request. At the same time, you can specify whether cloudfront to logs all your requests.
* After creating a cloud front distribution, it gives you an domain name which shows in cloudfront console. You have to use this domain name (or) you can also configure your custom domain name with route 53.
* Cloudfront sends your distribution’s configuration (not the content) to all edge locations by cahing your objects.
* By default, each object stays in edge locations for **24** hours (default). The maximum time is **8760** hours. After the maximum time is finished, the object expires from the edge locations.

**REPORTS**

* Most are these reports are based on cloud front access logs, which contains information about every request that cloud front receives.
* **Cloudfront cache statistics reports** = this contains the following information.

**Total requests**

**Percentage of viewer requests by result type.**

**Bytes transferred to viewers.**

**http status codes**

**percentage of get requests that didn’t finished downloading.**

* To display cache statistics,

**Go to cloudfront console.**

**In navigation pane, click cache statistics.**

**In statistics page, select start and end date to show statistics.**

**Select hourly (or) daily to show data charts.**

**Select location to show data from where the user is originated(or) select all locations.**

**Select the distribution to show data (or) select all distributions.**

**Click update.**

**You can download the statistics report.**

**Click on csv, while viewing the cache statistics report and save the file.**

* **Cloudfront popular objects report** = It displays list of most 50 popular objects within the time period of last 60 days.

**Go to cloudfront console.**

**In navigation pane, click popular objects.**

**Select start and end date.**

**Select distribution to display list of popular objects.**

**Click update.**

**Click on csv and save the file to download the report.**

* **Cloudfront usage reports** = displays you the cloudfront usage.

**Go to cloudfront console.**

**In navigation pane, click usage reports.**

**Select start and end date.**

**Select billing region to display bill.**

**Select distribution (or) all distributions.**

**Click update.**

**Click on csv and save the file to download the report.**

* **Cloudfront viewers reports** = display four reports about the devices and browsers which viewers are using to access cloudfront.
* **Devices, browsers, operating systems and locations.**

**Go to cloudfront console.**

**On navigation page, click viewers.**

**Select start and end date.**

**For grouping, select browsers (or) os.**

**For granularity, select data points to show per 1 hr (or) 1 day.**

**Select distribution (s).**

**Click update.**

**Click on csv, choose devices (or) devices trends to download the report.**

**CREATING CLOUD FRONT DISTRIBUTION**

* Create an S3 bucket, upload sample images to s3 for the practice.
* To create a cloudfront distribution,

**Go to cloudfront console.**

**Click distribution.**

**Select web .**

**Click create distribution.**

**Origin Settings,**

**Origin domain name =** select the s3 bucket name**.**

**Origin Path =** give path to your object, if it is inside a folder**.**

**Restrict Bucket Access =** Yes (or) No (should be yes).

**Yes** = restricts s3 bucket url accces to users and only allows bucket content urls.

**No** = allows users to access bucket url and bucket content urls.

**Origin Access Identity** = create new (or) select an existing one.

**Cache Behavior Settings,**

**Viewer protocol policy =** how users should access cloudfront content (http, https).

**Allow HTTP methods** = list of http methods to allow (get, put, delete, post etc)

**Minimum TTL** = min no of time the cloudfront stores object caches(**0 sec**).

**Maximum TTL** = max no of time the cloudfront stores object cache (**8760 hrs**).

**Default TTL** = default time the cloudfront stores object cache (**24 hrs**).

**Distribution settings,**

**Price** **Class** = select edge location (or) select all locations.

**Alternative domain names =** specify domain to use as you wish.

**Ssl** = accept the default certificate (or) upload the custom one.

**Logging** = enabled.

**Select s3 bucket to store logs.**

**Cookie logging =** enable if you are using http. S3 won’t provide cookies.

**Click create distribution.**

* Yo can restrict and allow only specific countries from accessing your content blocking them in cloudfront.
* First, you have to enable geolocation and select the countries to allow and block from accessing your cloudfront content.

**Go to your cloudfront distribution.**

**Go to restrictions tab.**

**Click EDIT.**

**Choose Enable Geolocation = Yes (to enable).**

**Whitelist = allow**

**Blacklist = block**

* To restrict specific countries.

**Go to restrictions tab.**

**Click edit.**

**Enable geolocation.**

**Restrict type = blacklist ( to block some countries)**

**Select countries to restrtict**

**Click add to block.**

**Click yes edit to save the settings.**

* To allow specific countries.

**Go to restrictions tab.**

**Click edit.**

**Enable geolocation.**

**Restrict type = whitelist ( to allow only some countries)**

**Select countries to allow**

**Click add to allow.**

**Click yes edit to save the settings.**