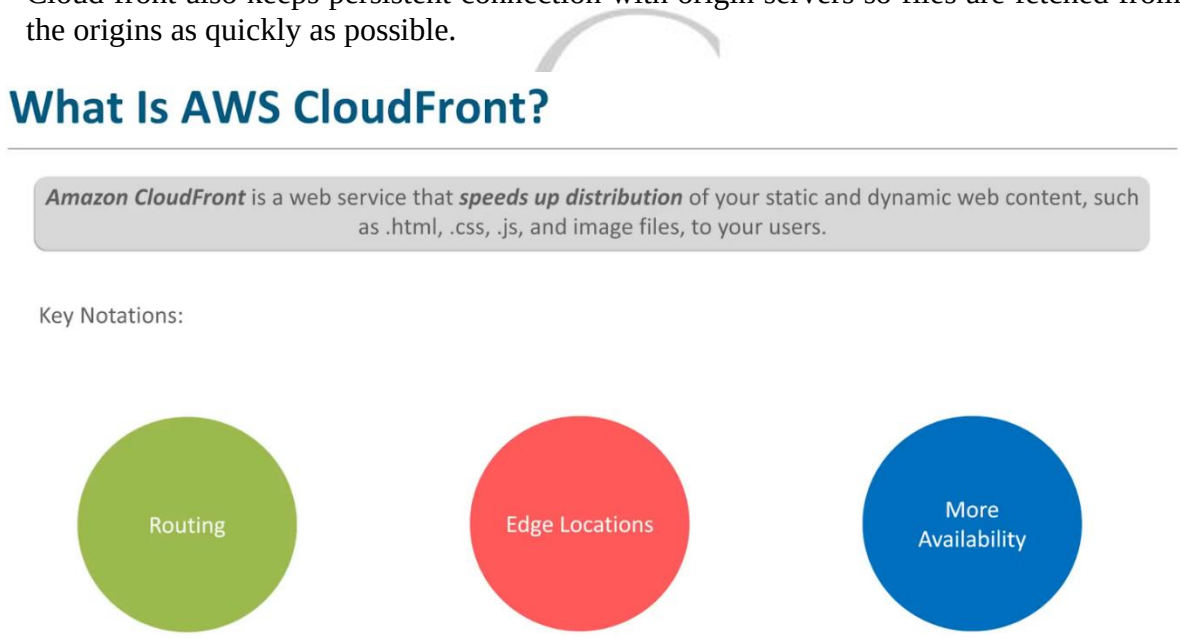
Cloud Front

- Amazon cloud front is a web service that gives business and web application developers aneasy and cost-effective way to distribute content with low latency and high data transfer speed.

- Cloud front is a global service.
- Amazon cloud front is a web service that speeds up distribution of your static and dynamic web contents such as .html, .css, .js and image files to your users.
- Cloud front delivers your content through a worldwide network of data centres called Edge Locations.
- When a user request content that you are serving with cloud front, the user is routed (via DNS resolution) to the edge location that provides the lowest latency, so that content is delivered with the best possible performance.
- If the content is already in the edge location with the low latency, cloud front delivers it immediately.
- This dramatically reduces the numbers of networks that your user's request must pass through which improves performance.
- If not, cloud front retrieves it from an Amazon S3 bucket or an HTTP/ web server that you have identifies as the source for the definitive version of your content (origin server).
- Cloud front also keeps persistent connection with origin servers so files are fetched from the origins as quickly as possible.



❖ You can access Amazon cloud front in the following ways:

a. AWS management console
b. AWS SDKs
c. Cloud front API
d. AWS CLI

❖ Cloud front Edge Locations:

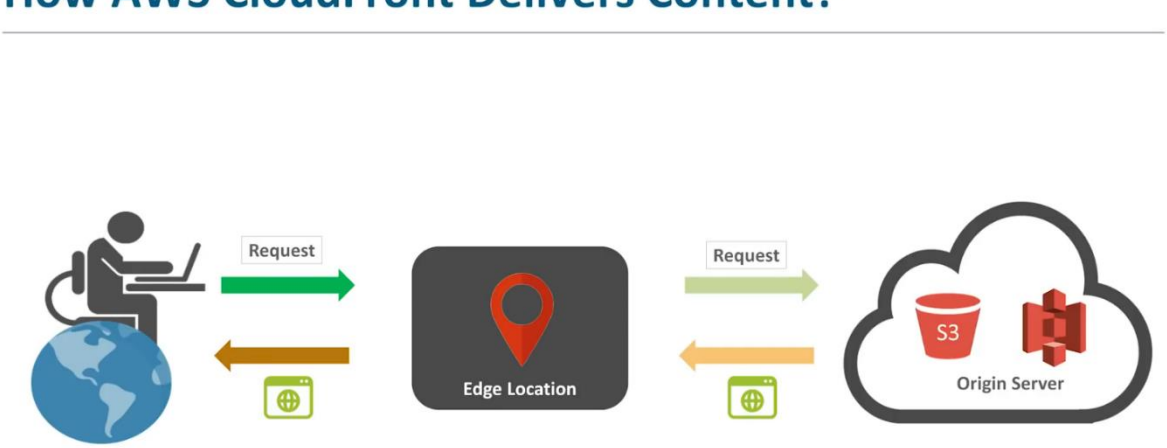
- Edge locations are not tied to availability zones or regions.
- Amazon cloud front has 216 points of presence (205 edge locations and 11 regional edge caches in 84 cities across 42 countries)

❖ Cloud front Regional Edge Cache:

- Amazon cloud front has added several regional edge cache locations globally at close proximity to your viewers.
- They are located between your origin web server and the global edge locations that serve content directly to your viewers.
- As objects become less popular, individual edge locations may remove those objects to make room for more popular content.
- Regional edge cache working as an alternative of origin to reduce the burden of origin.
- Regional edge cache has a large cache width than any individual edge location, so object remain in the cache longer at the nearest regional edge caches.

❖ Cloud front Regional Edge Cache- working:

- Whenever a viewer makes a request on your website or through your application, DNS routes the request to the cloud front edge location that can best serve the user's request.
- This location is typically the nearest cloud front edge location in terms of latency.
- In the edge location, cloud front checks its cache for the requested files.
- If the files are in the cache, cloud front returns then to the user.
- If the files are nor in the cache, the edge servers go to the nearest regional edge cache to fetch the object.
- Regional edge caches have features parity with edge locations. For e.g: a cache invalidation request removes an object form both edge cache and regional edge caches before it expires.
- The next time a viewer requests the object, cloud front returns to the origin to fetch the latest version of the object.
- Proxy method PUT/ POST/ PATCH/ OPTIONS/ DELETE go directly to the origin from the edge locations and do not proxy through the regional edge caches.
- Dynamic content as determined at request time, doesn't flow through regional edge cache but goes directly to the origin.



Applications