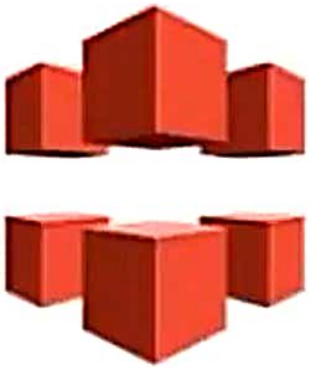
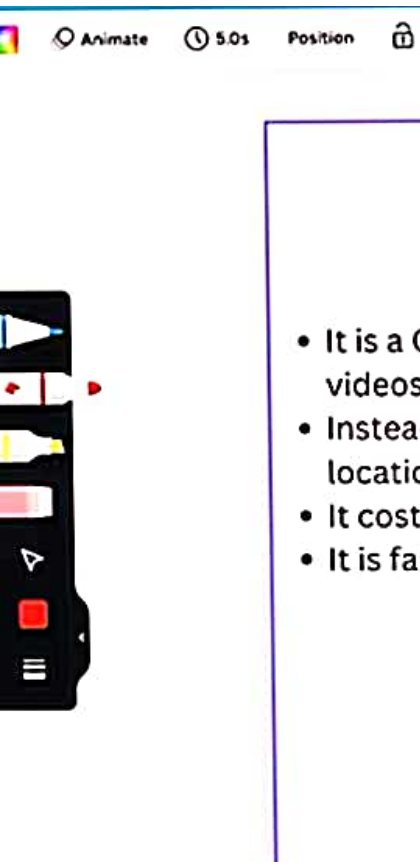
SESSION 8

AWS Cloud Front





AWS CloudFront

Solving latency issues(loading issues)

- It is a Cloud Delivery Network(CDN), which securely delivers data such as SDKs, videos, images etc, to the clients with high speed.
- Instead of pushing data from the original service AWS pushes it form the edge location and will cache it.
- It cost only for the data transfer.
- It is fast, Simple, can be used with other AWS services, cost effective, global

Animate 5.0s Position

How CloudFront Delivers Content

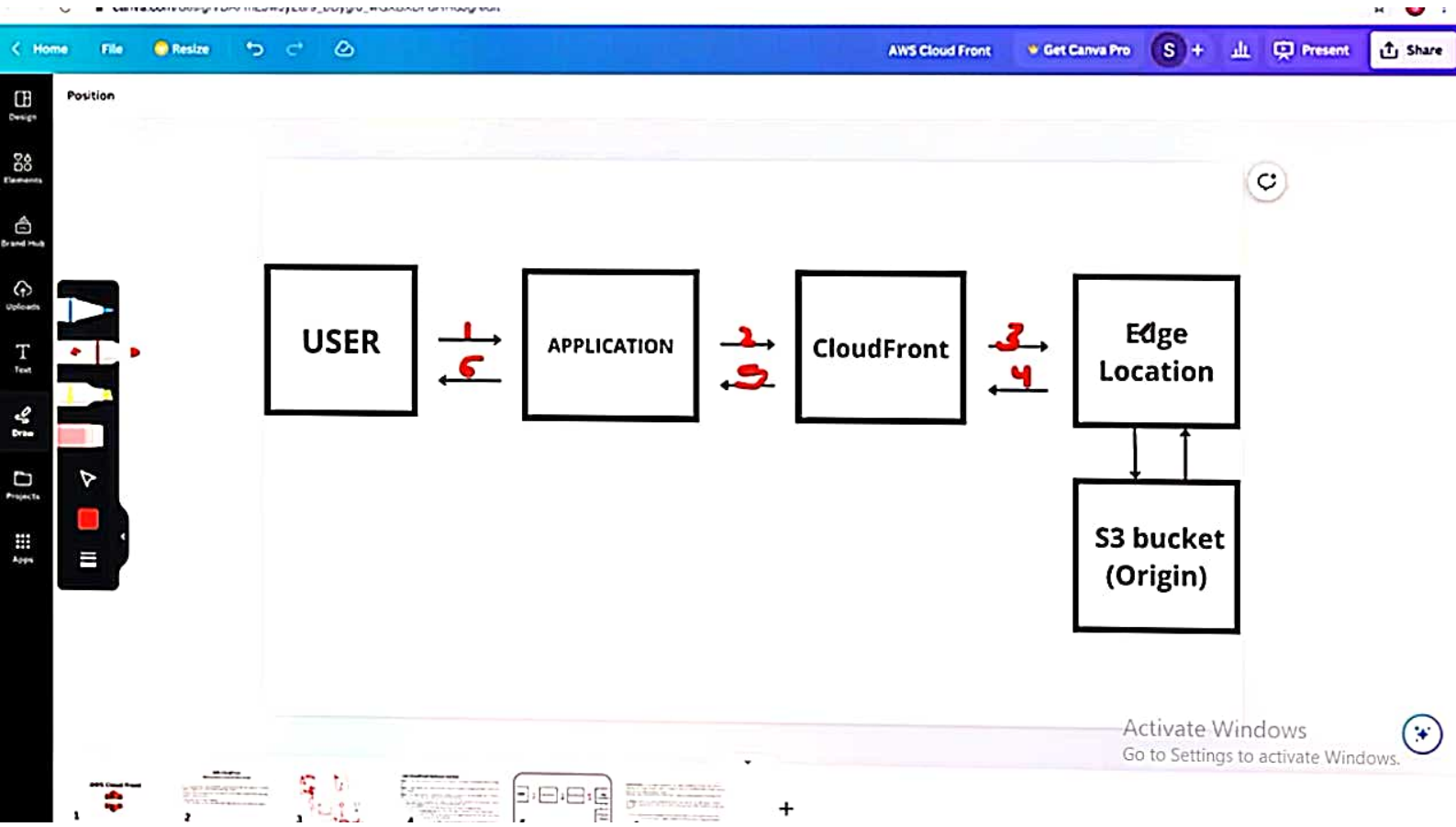
Step 1 – The user accesses a website and requests an object to download like an image file.

Step 2 – DNS routes your request to the nearest CloudFront edge location to serve the user request.

Step 3 – At edge location, CloudFront checks its cache for the requested files. If found, then returns it to the user otherwise does the following –

- First CloudFront compares the request with the specifications and forwards it to the applicable origin server for the corresponding file type.
- The origin servers send the files back to the CloudFront edge location.
- As soon as the first byte arrives from the origin, CloudFront starts forwarding it to the user and adds the files to the cache in the edge location for the next time when someone again requests for the same file.

Step 4 – The object is now in an edge cache for 24 hours or for the provided duration in file headers


Home
File
Resize
AWS Cloud Front
Get Canva Pro
Present
Share
Position
USER
1
6
APPLICATION
2
5
CloudFront
3
4
Edge Location
S3 bucket (Origin)
Activate Windows
Go to Settings to activate Windows.

canva.com/design/DAFmEJwJyE8/9_bDygi0_wGXBXDFdHHdJg/edit

Home File Resize AWS Cloud Front Get Canva Pro Present Share

Position

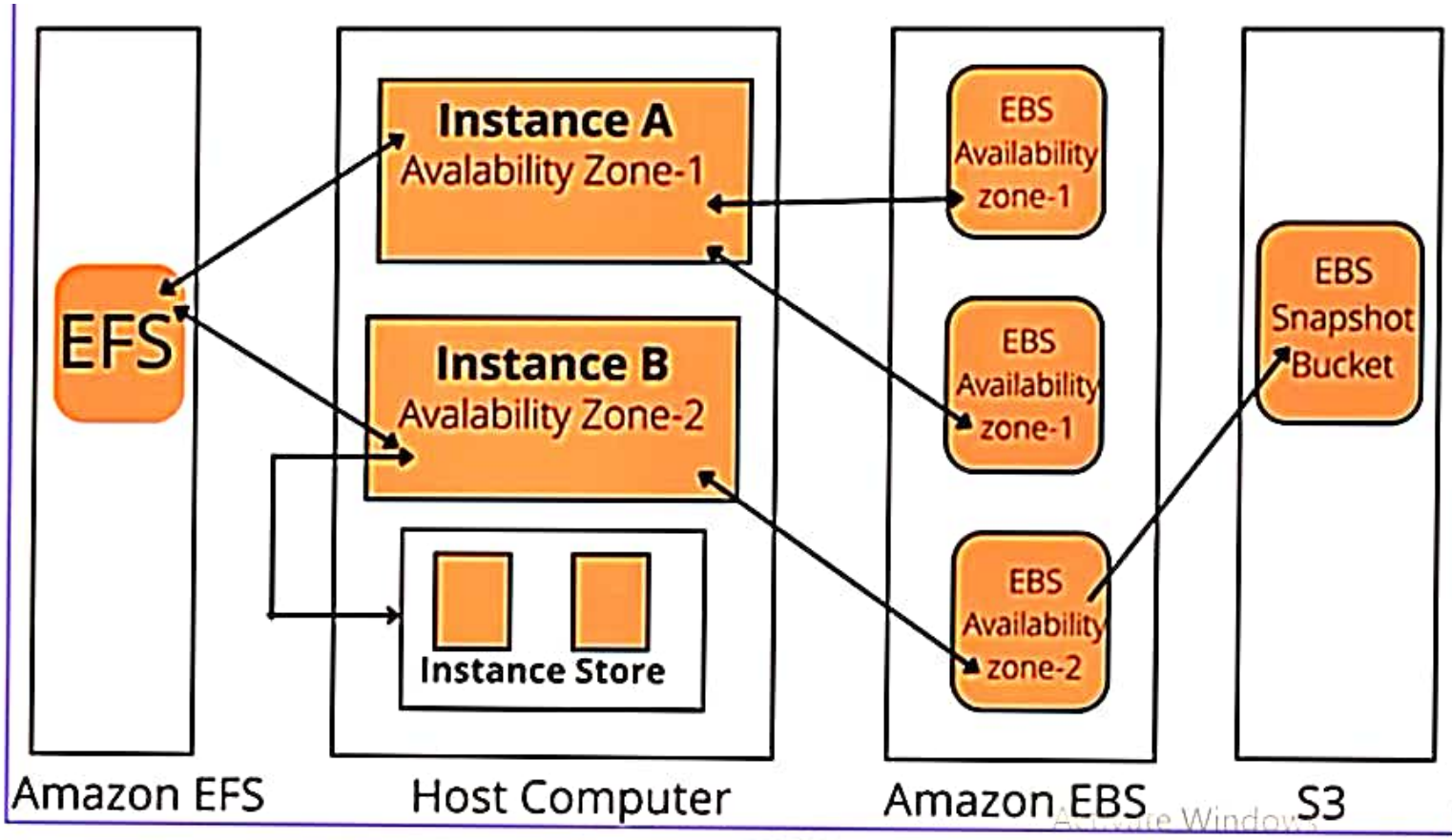
1.Distributions: To use AWS CLoudFront, you start by creating a distribution which is identified by a DNS domain name. To access it you use the distribution domain name in place of your website domain name.
example: www.helloworld.com/index.html -> www.cludfrontexample.com/index.html

2. Origins: When you create a distribution you must specify the DNS domain name of the origin- Amazon S3 or HTTP Server from which you want AWS CloudFront to get your objects.

3. Cache Control: Once requested and served on edge location, objects stay in the cache until they expire or are invalid to make the room for more frequently request content.

AWS Storage Services

- EBS
- EFS



AWS S3

- AWS S3 provides object storage which is built for storing and recovering any amoun of data from anywhere over the internet
- Amazon S3 have **unlimited storage,** you can store the data as much you want.;
- **Durability:** S3 provides 99.999999999 percent durability.durability refers to how safe data is from being lost
- **Low cost**: S3 lets you store data in a range of "storage classes." These classes are based on the frequency and immediacy you require in accessing files.
- **Scalability:** S3 charges you only for what resources you actually use, and there are no hidden fees or overage charges. You can scale your storage resources to easily meet your organisation's ever-changing demands.
- **Availability:** S3 offers 99.99 percent availability of objects
- **Security:** data encryption when data is being transmitted and when in rest.
- **Simple data transfer**: You don't have to be an IT genius to execute data transfers on S3. The service revolves around simplicity and ease of use.

S3 Use Cases

- Backup and Storage
- Disaster Recovery
- Archive
- Hybrid cloud storage
- Application hosting
- Media hosting
- Software delivery
- Big data analytics

Amazon S3 - Bucket

Data Storage

- Objects(file) are stored in buckets. Can be thought of as a parent folder of data.
- Bucket name is globally unique, and must be given based on naming convention.
- Bucket contains a DNS address. Therefore, the bucket must contain a unique name to generate a unique DNS address.
- They are defined at a region level.
- S3 looks like a global service but buckets are created in a region.
- Each bucket will have its own set of policies and configuration. This enables users to have more control over their data.

Animate 5.0s Position

Amazon S3: Object

Fundamental entity type stored in AWS S3.

Amazon S3 is an object store that uses unique key-values to store as many objects as you want.

You store these objects in one or more buckets, and each object, the content of the object, can be up to 5 TB(5000 GB) in size. If using more than 5GB, use "multi-part upload" An object consists of the following:

- **Key:** is the Full path **s3://my-bucket/my_folder/another_folder/my_file.txt**
  prefix+object name
- **Version ID:** Within a bucket, a key and version ID uniquely identify an object. The version ID is a string that Amazon S3 generates when you add an object to a bucket, if you have enabled it.
- **Value:** The content that you are storing.
- **Metadata:** key-value pairs with which you can store information regarding the object.
- **Tags:** Useful for security/lifecycle