Storage in AWS

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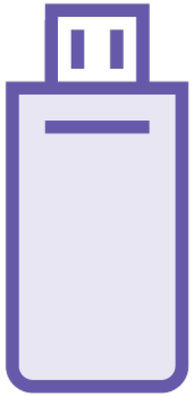
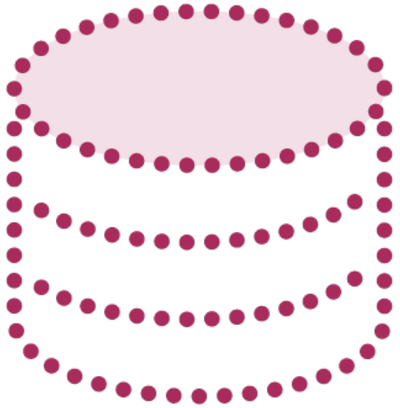




Storage Evolves

Overview

EBS, EFS, instance, I'll take them all!

Sharing EBS volumes is caring

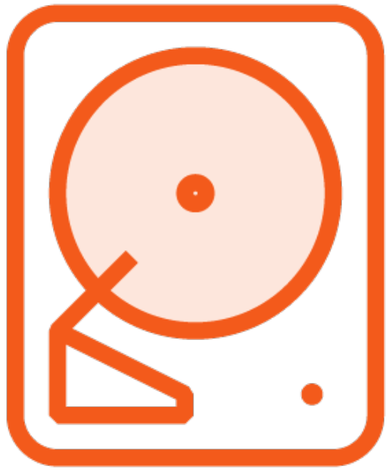
Buckets of hamsters

Static assets love S3 buckets

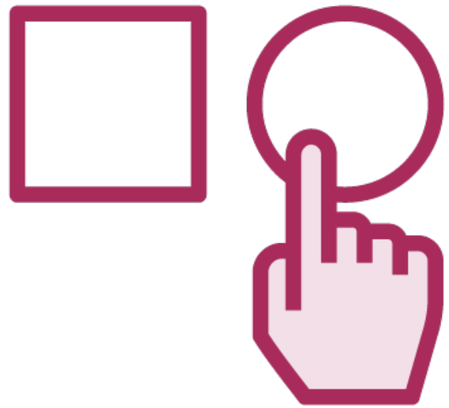
EBS attachment is picky

Considerations with EBS, EFS, and Instance Volumes

EC2 Instance Store Volumes



Physically connected hard drives

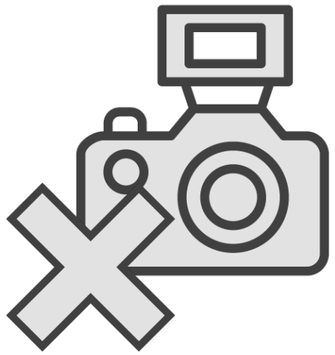


Previous default storage option

Why Not Instance Store?

Data is gone if EC2 instance is stopped or terminated

Can’t move data off instance store volume easily



Can’t create a data snapshot from instance store

Elastic Block Store Volumes

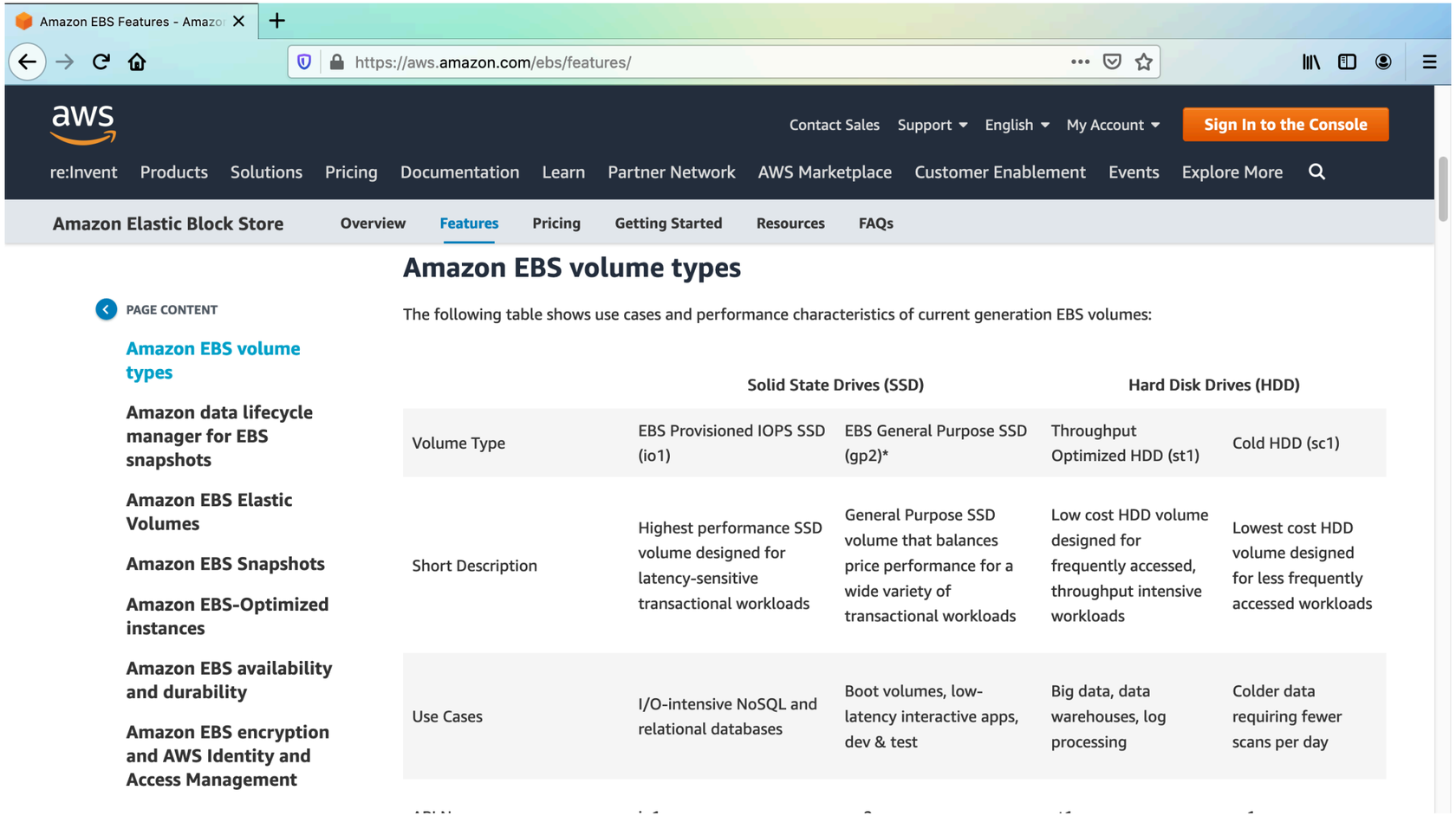
Can back up with snapshot

Can detach and reuse

EC2 instance can be stopped

Independent from EC2 instance

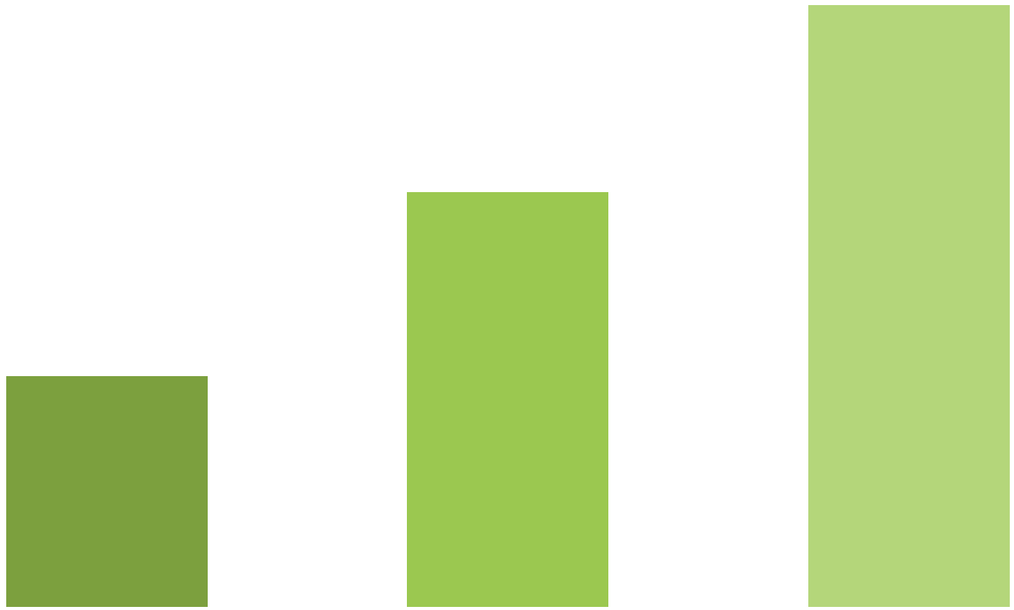
EBS Volume Types



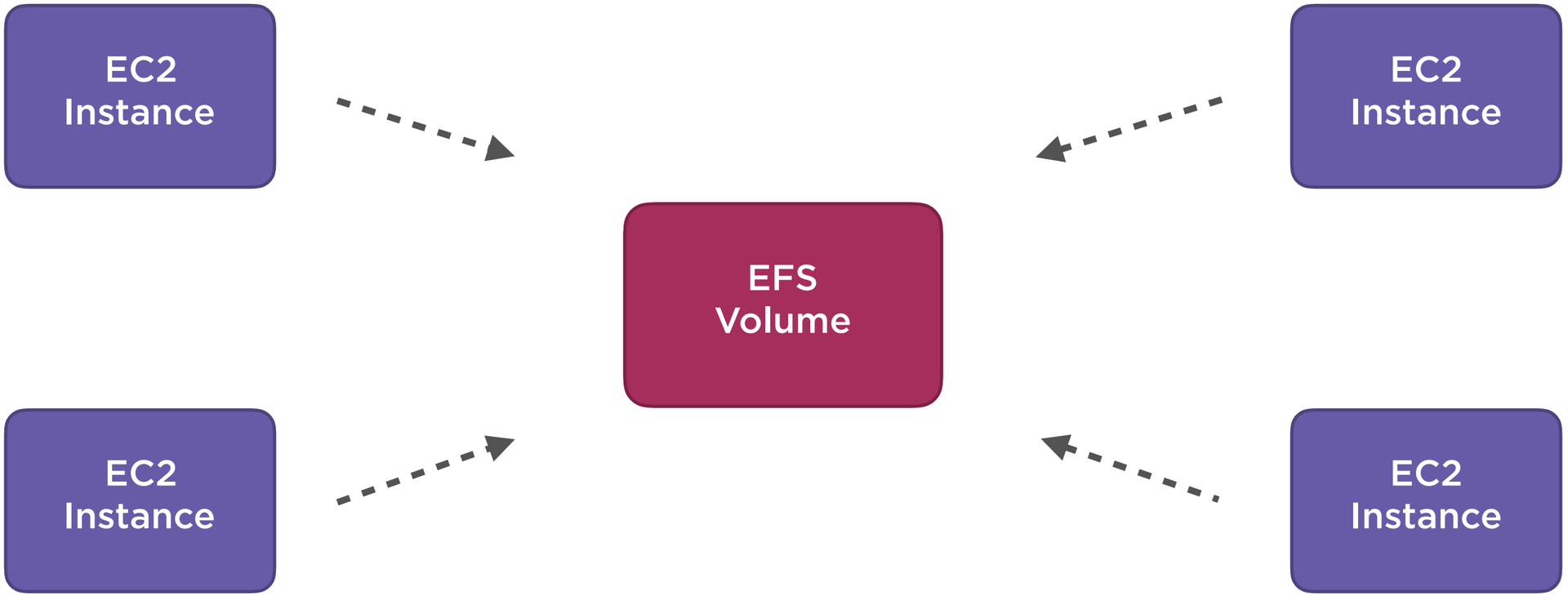
https://aws.amazon.com/ebs/details/

EBS volumes are replicated across Availability Zones for maximum data durability

Evolution of EC2 Storage



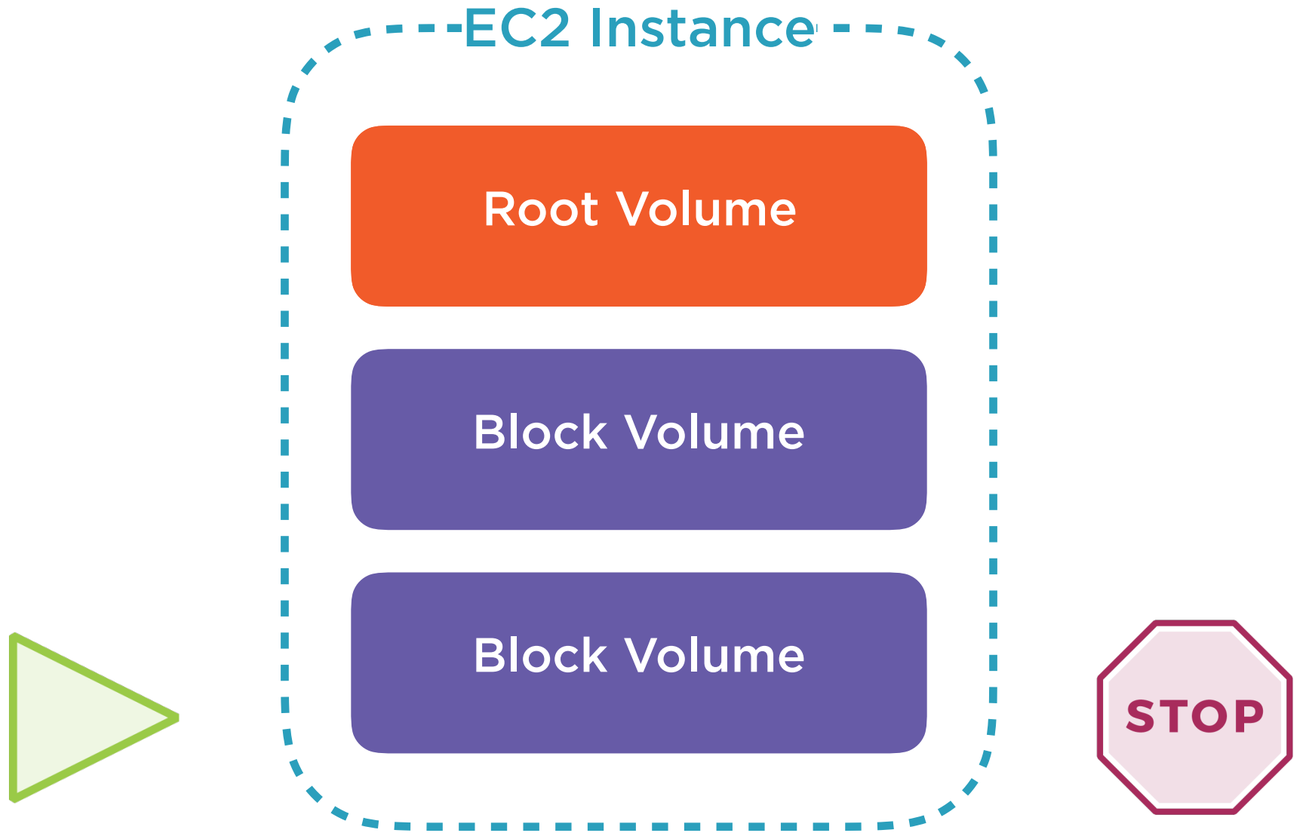
Elastic File System Volumes



Use EFS to solve Big Data storage problems

Reusing EBS Volumes with EC2

When to Stop an EC2 Instance

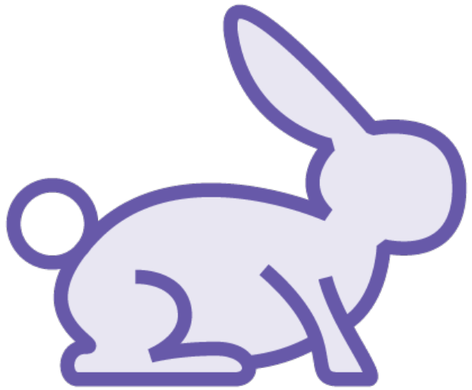


EBS volumes with product codes can only be attached to stopped instances

Versioning and Lifecycle Events in S3

The Secrets to S3's Success

Reliable



Fast

Easy to use

S3 Advanced Features

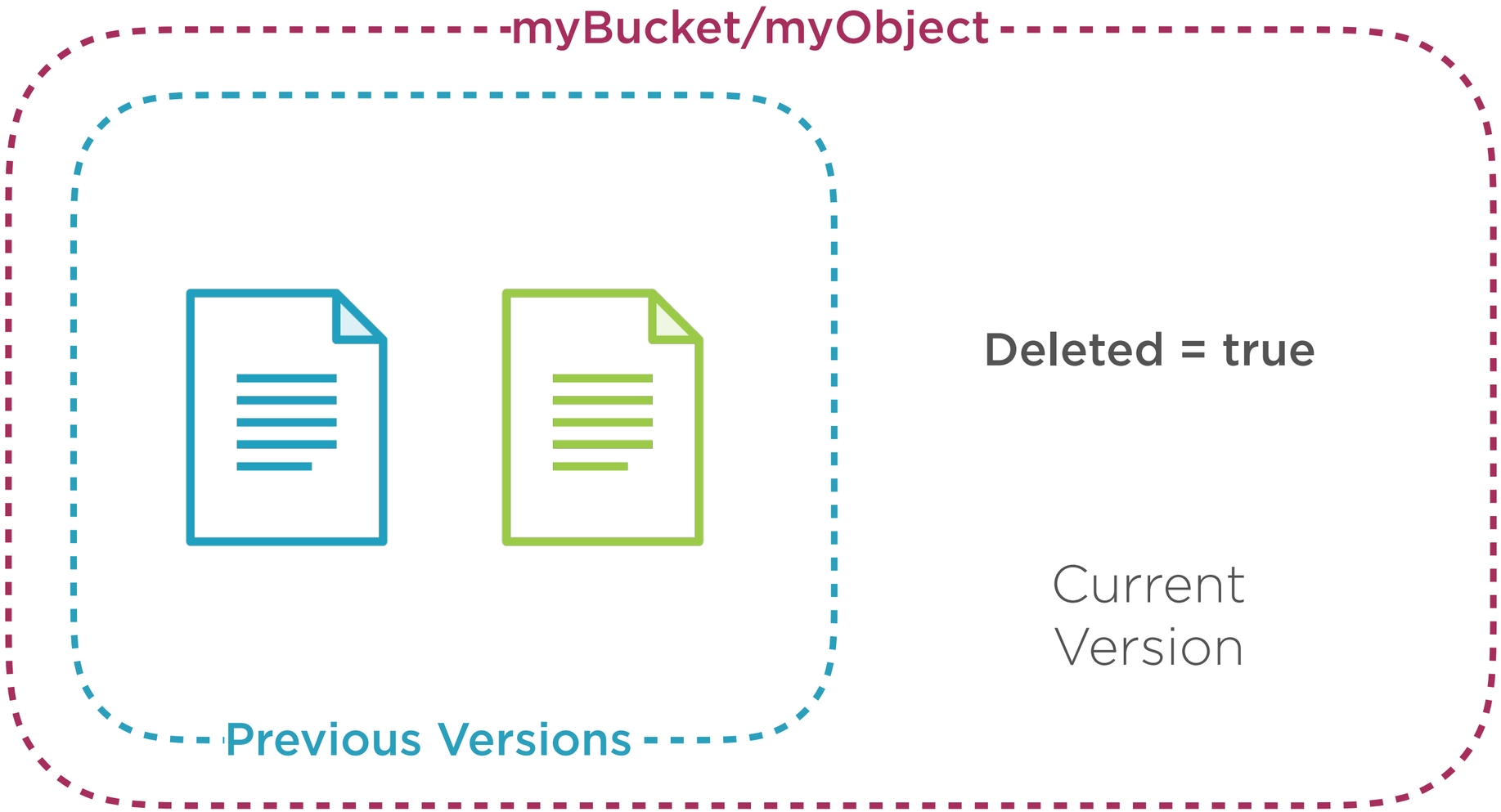
Versioning

Lifecycle Events

S3 Versioning

Store previous versions of an object any time it’s modified in any way.

S3 Versioning Example



The True Cost of S3 Versioning

Current Version

Previous Versions

S3 Lifecycle Events

Define rules for objects according to how long since an object's creation.

Lifecycle Event

Moving S3 Objects to Cheaper Storage

Can be triggered a certain amount of time after an object has been created

Move to S3 Infrequent Access or Glacier

Can be triggered only for previous versions of objects

Lifecycle Event

Object Expiration

Delete files a certain amount of time after they were created

Can be applied to previous versions only

Creating an S3 Bucket

Uploading Objects to S3

Limits with EBS and S3

Elastic Block Store Limit

EC2 instance must be stopped before removing root EBS volume

Elastic Block Store Limit

EBS volumes with product codes can only attached to stopped instances

Elastic Block Store Limit

EBS volumes can only attach to EC2 instances in the same region

Simple Storage Service Limit

Soft limit of 100 buckets per account

Simple Storage Service Limit

S3 bucket names must be globally unique

Conclusion

Summary

Where to put all those EC2 files

Detach, reattach, redetach, rereattach

Sample sticker staples

Uploading a bucket full of assets

Limited S3 exposure

Up Next

Persistence in AWS