Speeding up with CloudFront and ElastiCache:

CloudFront Overview:

Steps to Improve Latency

❌ Improve application performance

❌ Use larger EC2 instances
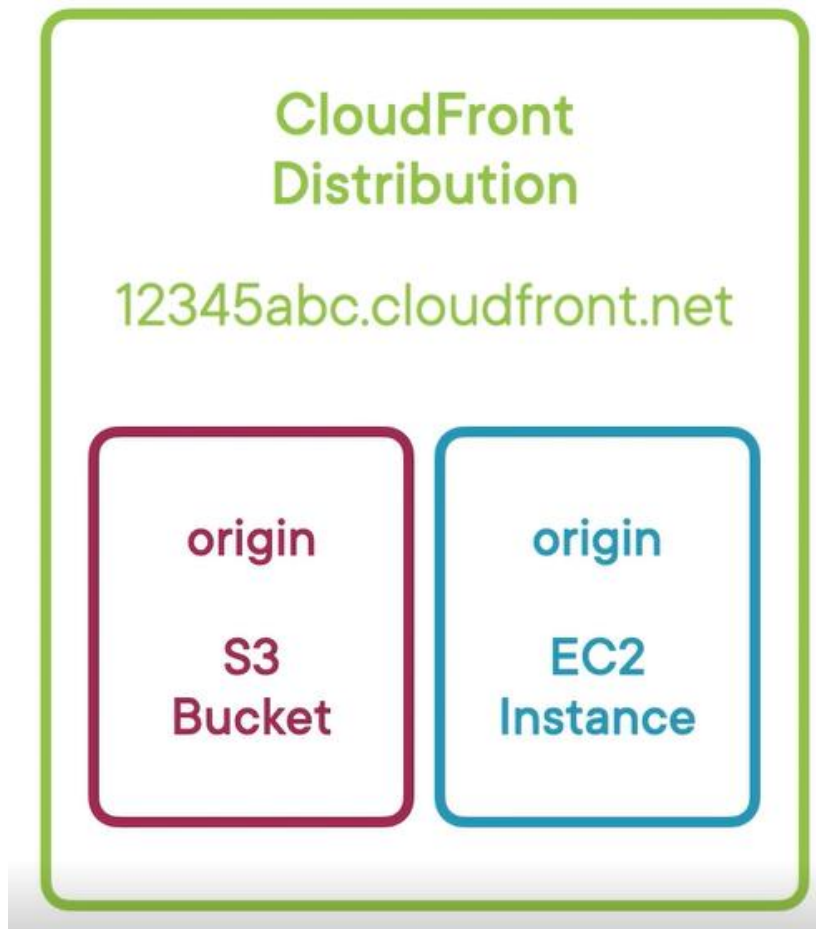
✅ Reduce distance between user and app

- Global content delivery network designed to reduce latency and reduce application load

CloudFront | Integrates with S3, EC2, and load balancers
Edges "Objects" and serves them directly
Proxies dynamic content to origin source

CloudFront Distribution
12345abc.cloudfront.net

origin
S3 Bucket

origin
EC2 Instance

CloudFront Distribution Behaviors

Determines cache behavior based on path

Set time-to-live for specific content

Fine-tuned control over caching behavior

Demo: Create a CloudFront Distribution

aws Services | Search for services, features, blogs, docs, and more [Alt+S] | Global ▼ | Shrutika ▼

CloudFront > Distributions > create

Create distribution

Origin

Origin domain
Choose an AWS origin, or enter your origin's domain name.

pizza-luvers-2407.s3.us-east-2.amazonaws.com

Origin path - *optional*   Info
Enter a URL path to append to the origin domain name for origin requests.

Enter the origin path

Name
Enter a name for this origin.

pizza-luvers-2407.s3.us-east-2.amazonaws.com

S3 bucket access   Info
Use a CloudFront origin access identity (OAI) to access the S3 bucket.

○ Don't use OAI (bucket must allow public access)

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Default (*)

Compress objects automatically   Info
○ No
● Yes

Viewer

Viewer protocol policy
● HTTP and HTTPS
○ Redirect HTTP to HTTPS
○ HTTPS only

Allowed HTTP methods
● GET, HEAD
○ GET, HEAD, OPTIONS
○ GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE

Restrict viewer access
If you restrict viewer access, viewers must use CloudFront signed URLs or signed cookies to access your content.
● No
○ Yes

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✓ Successfully created new distribution.   ✕

CloudFront > Distributions > E1YXSQ1LNLC7BU

E1YXSQ1LNLC7BU

General | Origins | Behaviors | Error pages | Geographic restrictions | Invalidations | Tags

Details

Distribution domain name	ARN	Last modified
d138qlyp99kajr.cloudfront.net	arn:aws:cloudfront::095372635374:distribution/E1YXSQ1LNLC7BU	⊖ Deploying

Settings   Edit

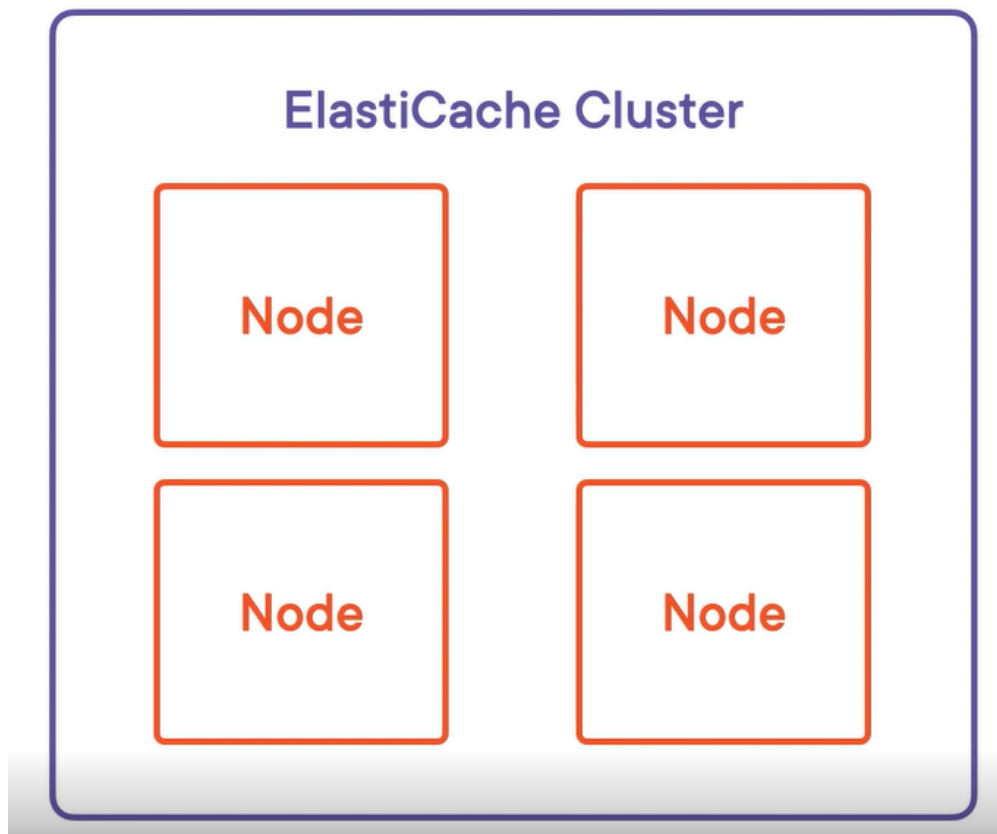| Description	Alternate domain names	Standard logging
-	-	Off

ElastiCache Overview:

- Managed service for in-memory cache datastore

ElastiCache
Features

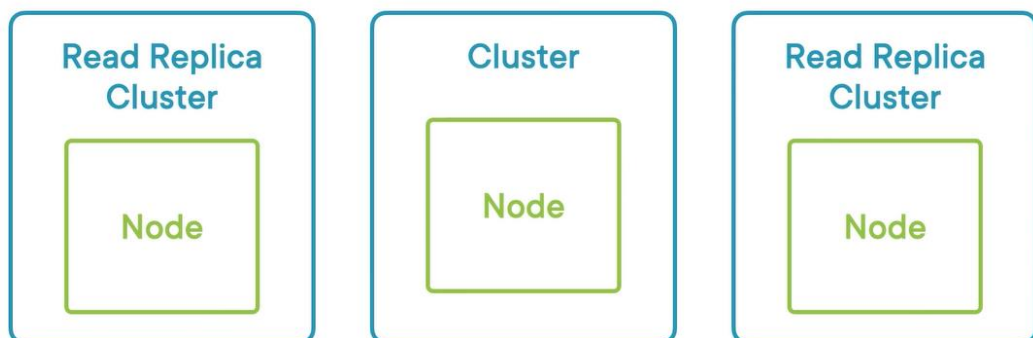Managed maintenance, upgrades, etc.

Automatic read replicas

Simple node management

ElastiCache Cluster

Node

Node

Node

Node

Memcached

Cluster

Node	Node	Node	Node	Node
Node	Node	Node	Node	Node

Redis

Read Replica Cluster	Cluster	Read Replica Cluster
Node	Node	Node
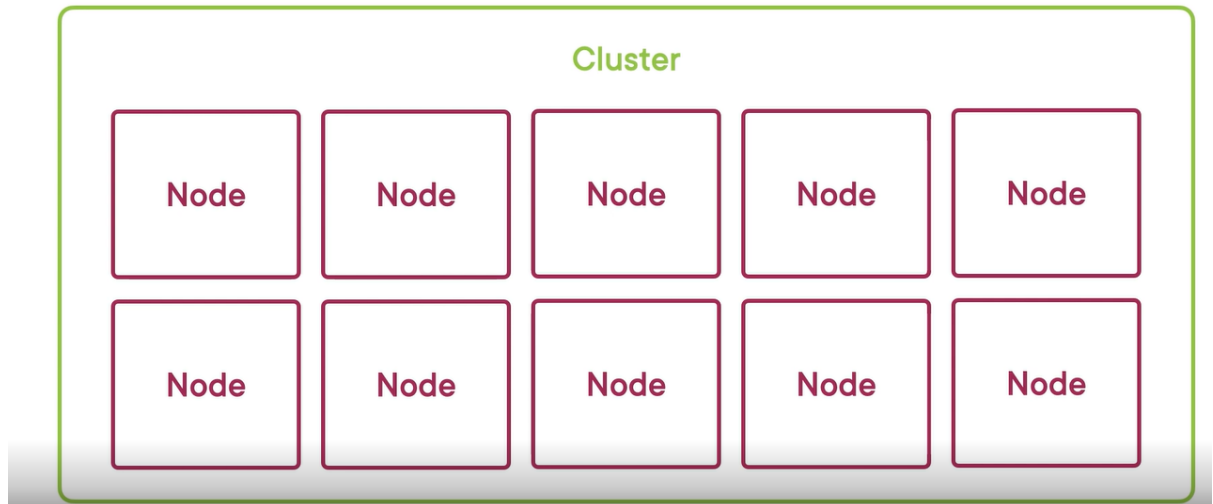
AWS Resources to Remove

ElastiCache: Redis Cluster*
ElastiCache: Cluster Backups
ElastiCache: Subnet Group
Elastic Beanstalk: Application
DynamoDB: Tables (x2)
RDS: DB Instance*
S3: Bucket (empty or delete)
EC2: Load Balancer
EC2: Auto Scaling Group
EC2: Launch Template
EC2: Instances

EC2: Elastic IP Address
EC2: AMIs (x2)
EC2: Keypair
EC2: EBS Snapshots
EC2: Security Groups
VPC: VPC

* These resources will take awhile to delete