AWS Cloud Practitioner Workshop

Hands-on AWS Cloud Practitioner
Journey Towards Cloud!

Chandra Lingam

Self Employed Consultant and Course Developer

Udemy Instructor Partner

7X AWS Certified

Four years on AWS Technologies

Fifteen years as Sr. Software Engineer at Intel

Part 1: AWS Certified Solutions Architect SAA C02

AWS Associate Exam - Master Foundations for Solutions Architect, Sysops Administrator, Developer

4.6 ★★★★★ (1,367 ratings) 8,858 students

Created by Chandra Lingam

ⓘ Last updated 9/2021 · English · ◉ English [Auto]

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$14.99 $89.99 83% off

⏱ **5 hours** left at this price!

AWS Certified Security – Specialty SCS-C01 [New]

Gain knowledge on how to protect your AWS environment

Bestseller · 4.6 ★★★★★ (779 ratings) 7,026 students

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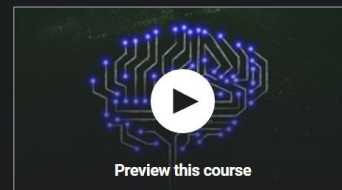
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AWS Certified Machine Learning Specialty (MLS-C01)

Hands on AWS SageMaker Course with Practice Test

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$22.99 $129.99 82% off

What are we going to cover

Global Infrastructure

S3

VPC

EC2

ELB

Auto Scaling

LightSail

AWS Global Infrastructure

AWS

Public Cloud	US Gov Cloud	China Cloud

https://aws.amazon.com

https://aws.amazon.com/govcloud-us/
Complies with US Government Security requirements

https://www.amazonaws.cn/
Complies with China's legal and regulatory requirements

Regions

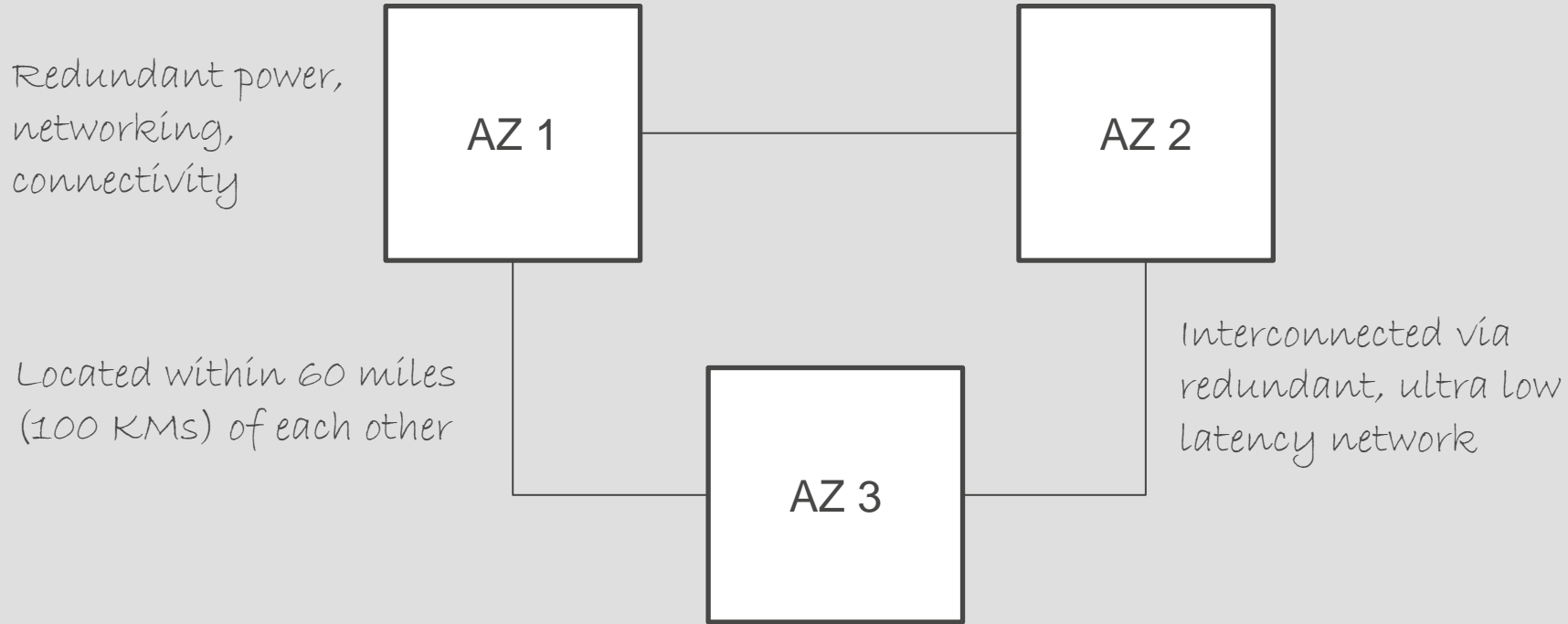/Stay Close to Customers/   /Better Response Time/   /Data Sovereignty/

○ Regions
○ Coming Soon

https://aws.amazon.com/about-aws/global-infrastructure

Availability Zones (AZ)

Availability Zone is a Collection of Datacenters
Three or more AZs Per Region

https://aws.amazon.com/about-aws/global-infrastructure

Region and Availability Zones

Redundant power, networking, connectivity

AZ 1

AZ 2

AZ 3

Located within 60 miles (100 KMs) of each other

Interconnected via redundant, ultra low latency network

Spread application infrastructure across two or more AZs

Data Redundancy (S3)

S3

AZ 1 Here

AZ 2 There

AZ 3 Everywhere

Multiple Web Servers

Elastic Load Balancing

Web Server	Web Server	Web Server
AZ 1	AZ 2	AZ 3
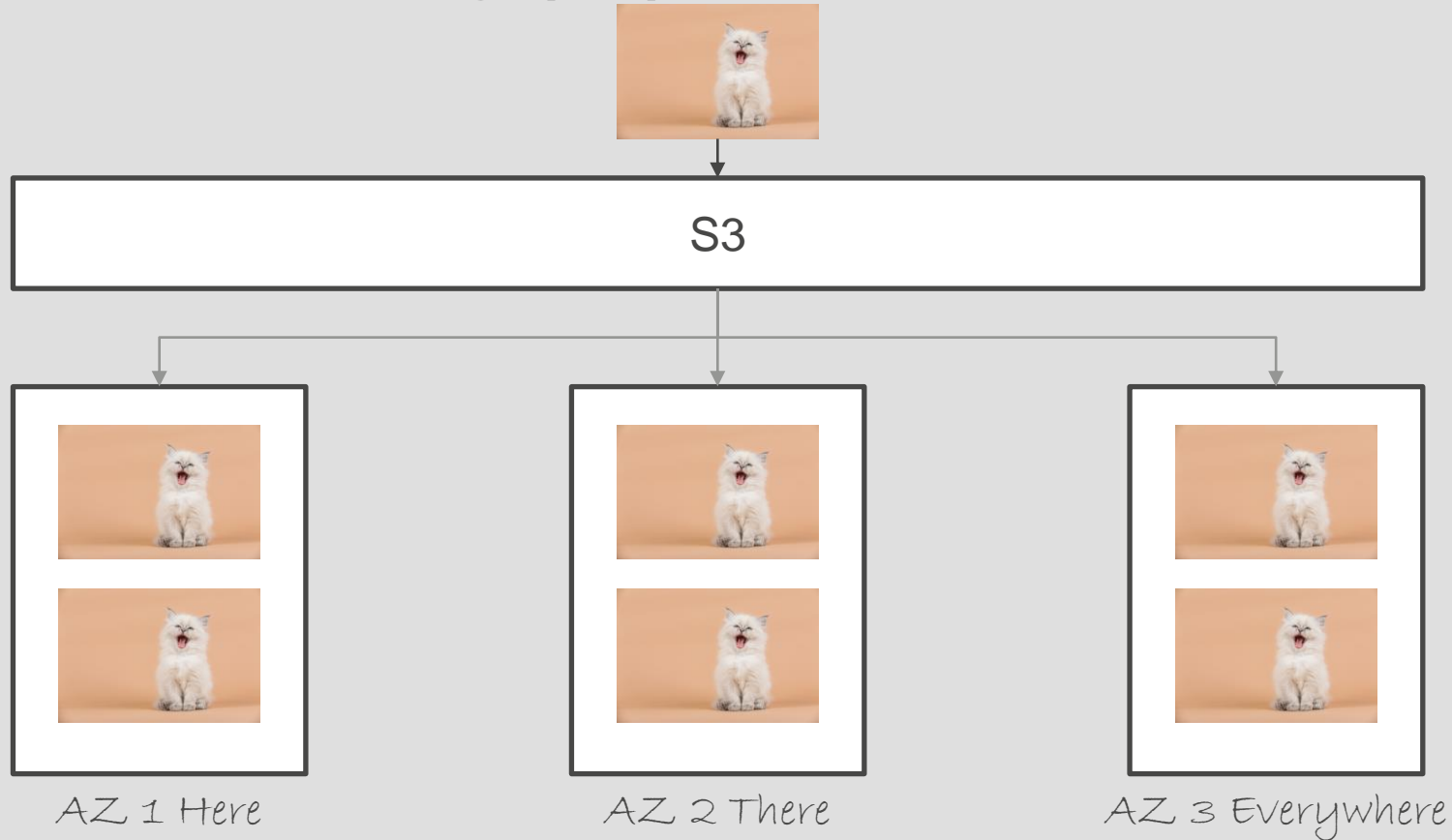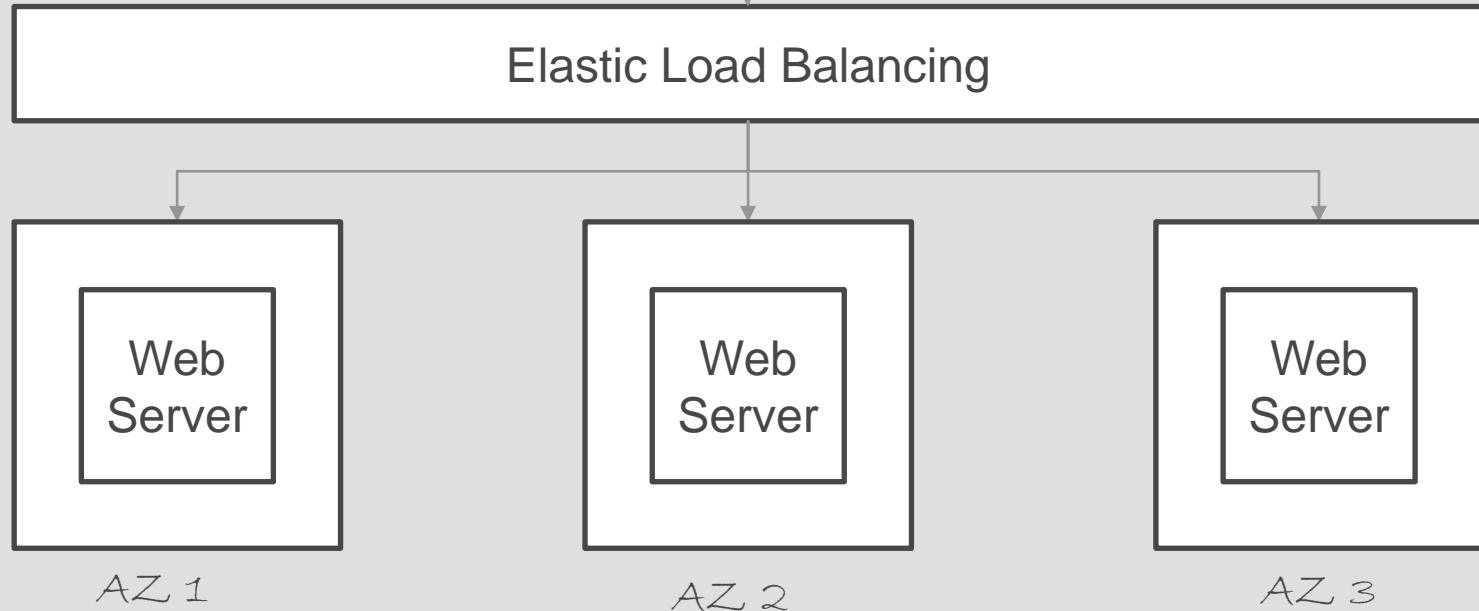
Primary - Standby Servers

Relational Database Service

Primary Server

Standby Server

AZ 1

AZ 2

Edge Locations
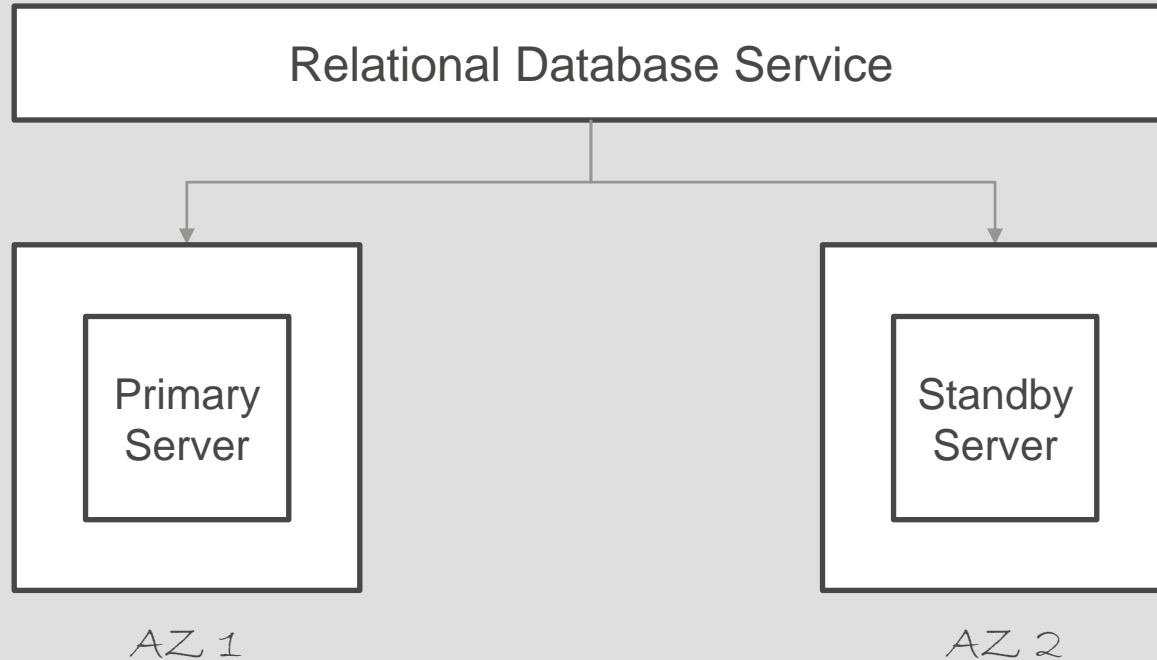
https://aws.amazon.com/cloudfront/features/

Cache and Reuse Content

Boston

Edge

Seattle

Edge

Ohio

Regional Edge

Mumbai

Origin

Low-Latency AWS Global Network

Responsive

Global Infrastructure

Region → Global Network → Availability Zone → Handling Failures → Edge Location
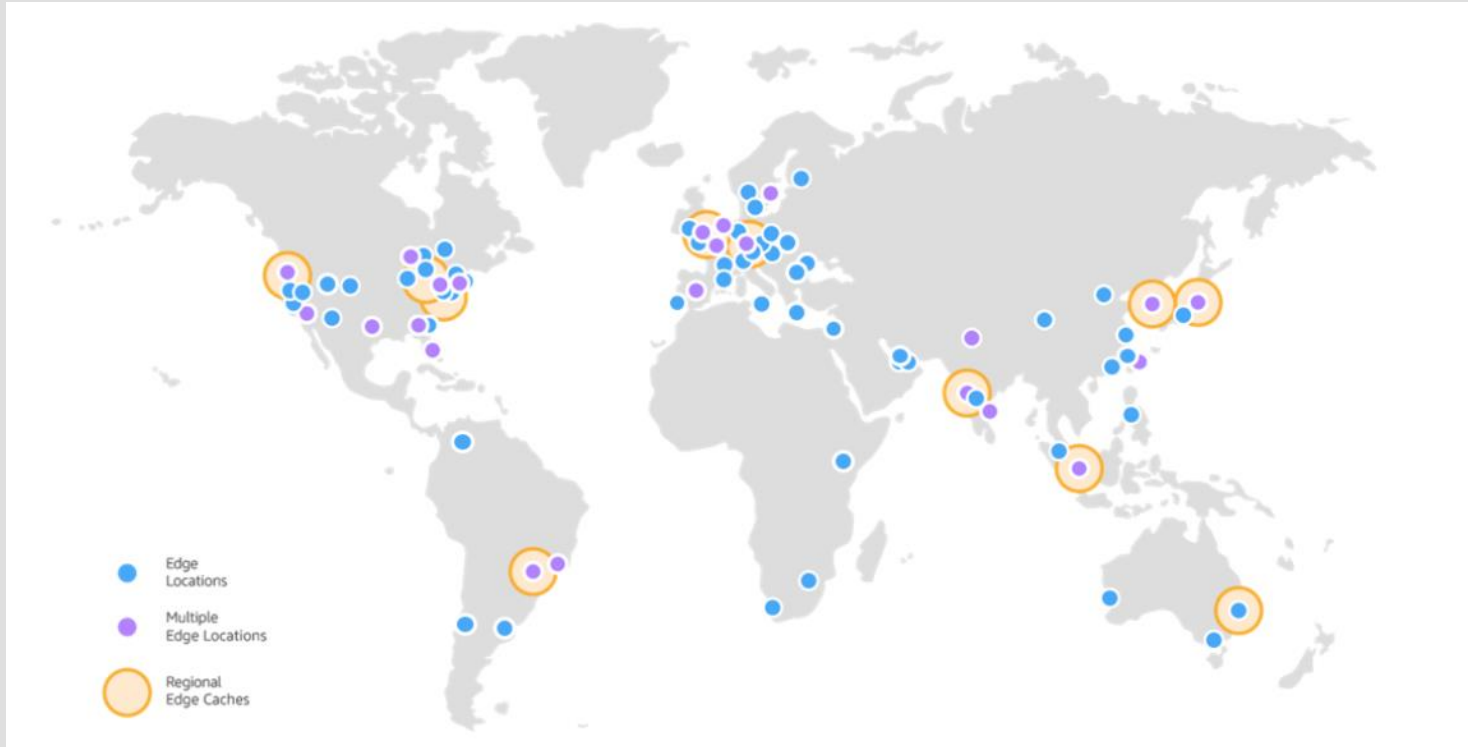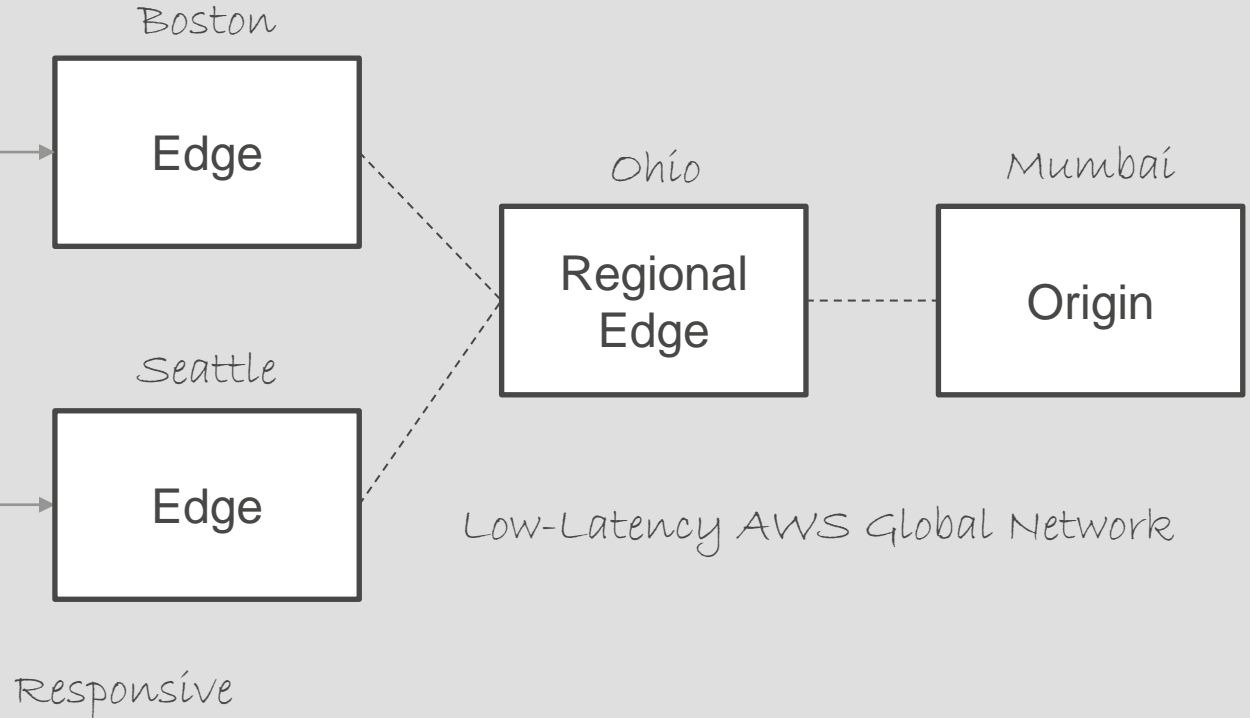
Quiz

AWS global infrastructure consists of: [choose one]

A. Multiple Availability zones. Each Availability Zone has three or more regions
B. Multiple Edge Locations. Each Availability Zone has many edge locations
C. Multiple Regions. Each region has three or more Availability Zones

S3 (Simple Storage Service)

Internet Cloud Storage Service

Lab Instructions

https://github.com/ChandraLingam/CloudPractitioner

S3 Lab

	Hot	**Warm**	**Cold**
	Standard	**Infrequent Access**	**Glacier**
Cost - 500GB per month	USD 11.50	USD 6.25	USD 2.00
Retrieval Fee	-	Per GB	Per GB
Suitable for	Frequently Accessed	Rarely Accessed	Rarely accessed
First byte latency	Immediate	Immediate	Restore can take minutes to hours

Data Redundancy (S3)

S3

AZ 1 Here

AZ 2 There

AZ 3 Everywhere
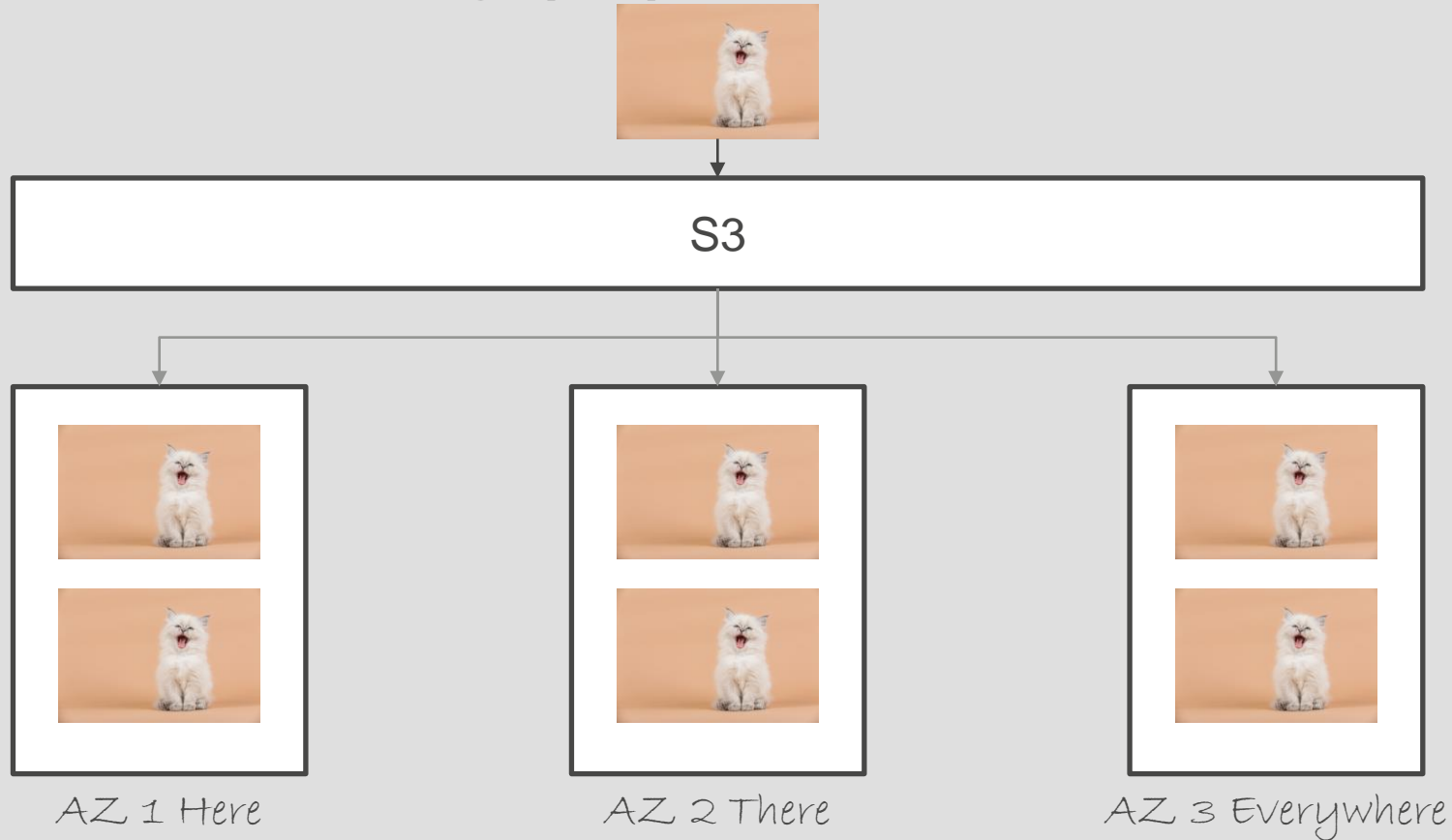
Storage Class	Standard	IA	One Zone IA	Glacier	Glacier Deep Archive
Usage	Frequently Accessed	Less frequently accessed		Long term archival	
First byte latency	Immediate	Immediate		Minutes to hours	Several hours
Retrieval Fee		Per GB		Per GB	
Monthly Cost USD 500 GB	11.50	6.25	5.00	2.00	0.50
Minimum		30 days, 128 KB		90 days, 40 KB	180 days, 40 KB
Durability	99.999999999% (11 9's). Average annual expected loss of 0.000000001% of objects.				

Quiz

A company's corporate policy mandates the storage of critical documents for five years. The average size of the files is 2 MB. When needed, the requester can wait for several hours for a file to be available. What storage would you choose for this requirement that lowers the cost? [Choose One]

A. Standard

B. Glacier

D. Standard Infrequent Access

Virtual Private Cloud (VPC)

AWS Cloud
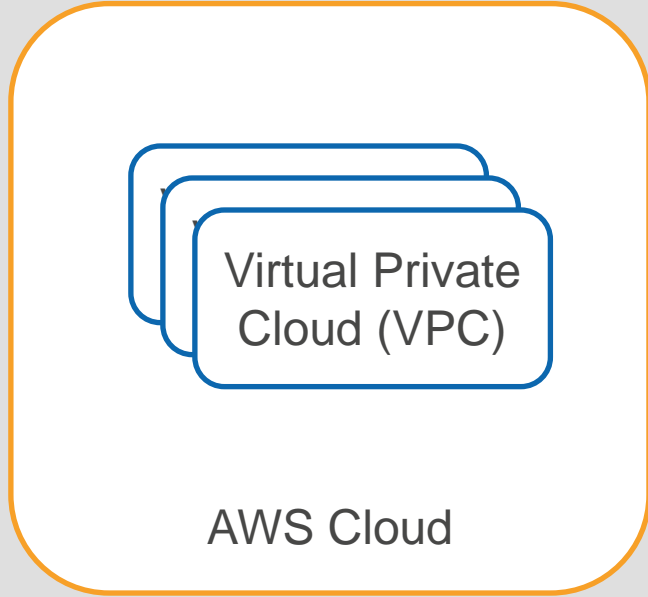
Build your own private cloud in AWS

EC2 Instance Family (Virtual Servers)

Instance Family	Strength/Uses
General Purpose	Balanced performance suitable for many business applications
Compute Optimized	CPU intensive workload
Storage Optimized	Very high random I/O and sequential I/O with local storage
Memory Optimized	In-memory databases, cache and analytics
Accelerated Computing	Graphics Acceleration, Graphics Compute, Fractional GPUs, Custom Hardware Acceleration
Bare metal	Direct access to underlying hardware. Full access to all AWS services

EC2 Lab

Elastic Load Balancing

Distribute Traffic to Healthy Instances

Elastic Load Balancing Motivation
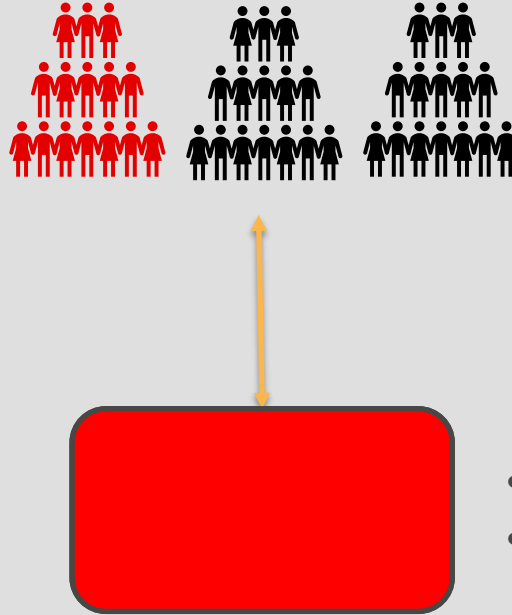
- Scalability Challenges
- Single point of failure

Elastic Load Balancing

Elastic Load Balancer

- Scalable Infrastructure
- Fault Tolerant

EC2   EC2   ▮   EC2

Target Pool
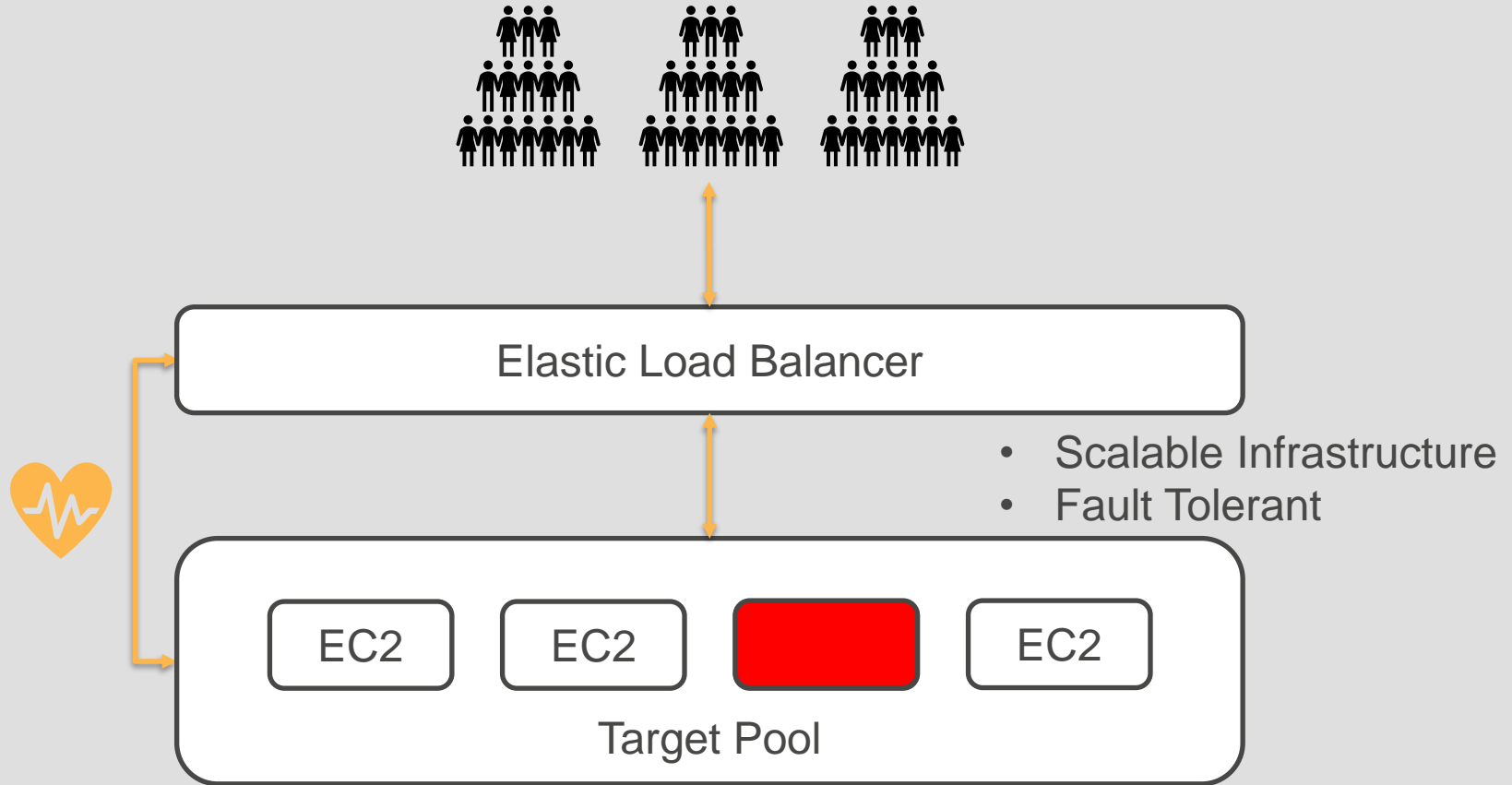
ELB Demo

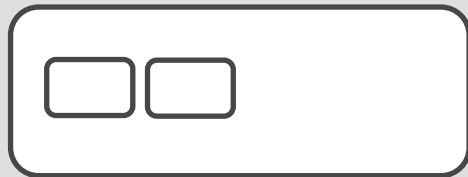# Auto Scaling

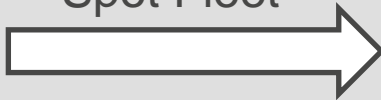Maintain Right Compute Capacity

Auto Scaling
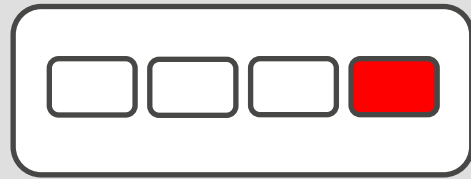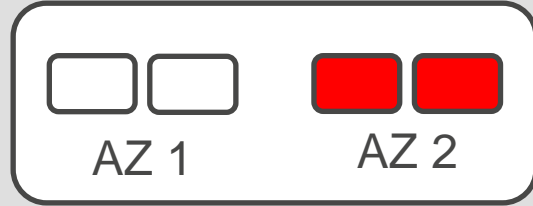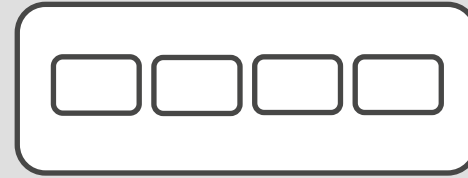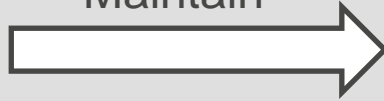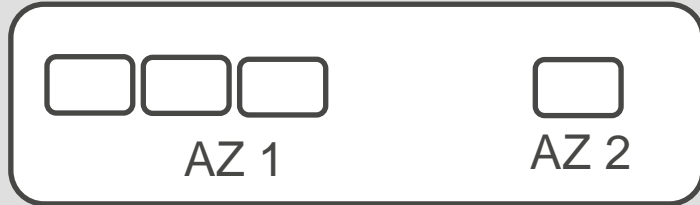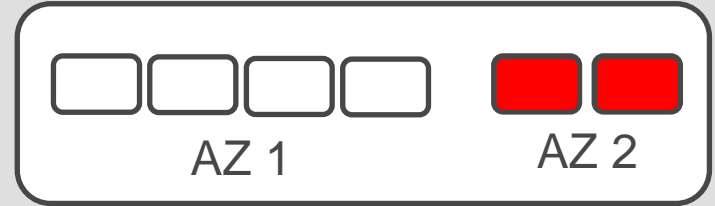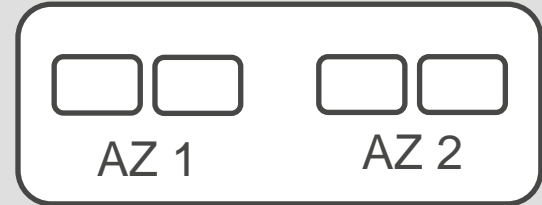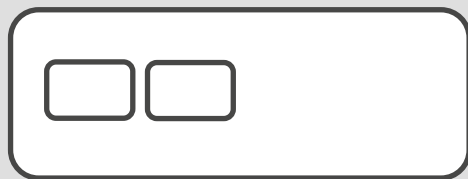
Auto Scaling

Increase
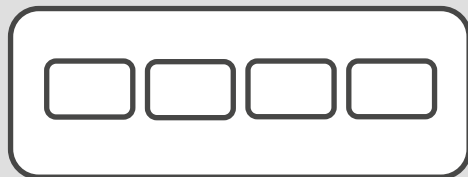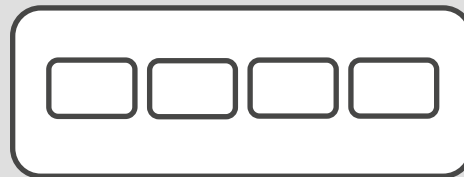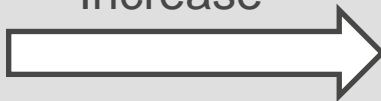
Decrease
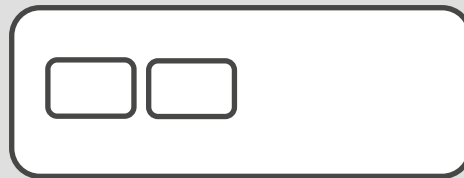
Spot Fleet
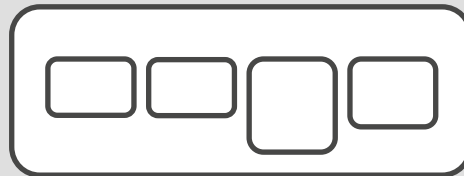
Auto Scaling Demo

Quiz

Your application has five web servers. How do you distribute the requests to these web servers? [Choose one]

A. Use Auto scaling

B. Deploy instances in multiple availability zones

C. Use Elastic Load Balancing

D. Use CloudWatch

Amazon LightSail

Lab

Get Started on AWS

Part 1: AWS Certified Solutions Architect SAA C02

Data Lake in AWS - Udemy

Additional Resources

[YouTube: Cloud Concepts By Chandra](#)

[AWS Cloud Practitioner Essentials](#)

[AWS Certified Cloud Practitioner [Exam Guide, Sample Questions]](#)

Connect with Me

LinkedIn: ChandraLingam

Web: CloudWaveTraining

YouTube: Cloud Concepts By Chandra

What we discussed Today

Global Infrastructure	S3	VPC	EC2
ELB	Auto Scaling	LightSail	