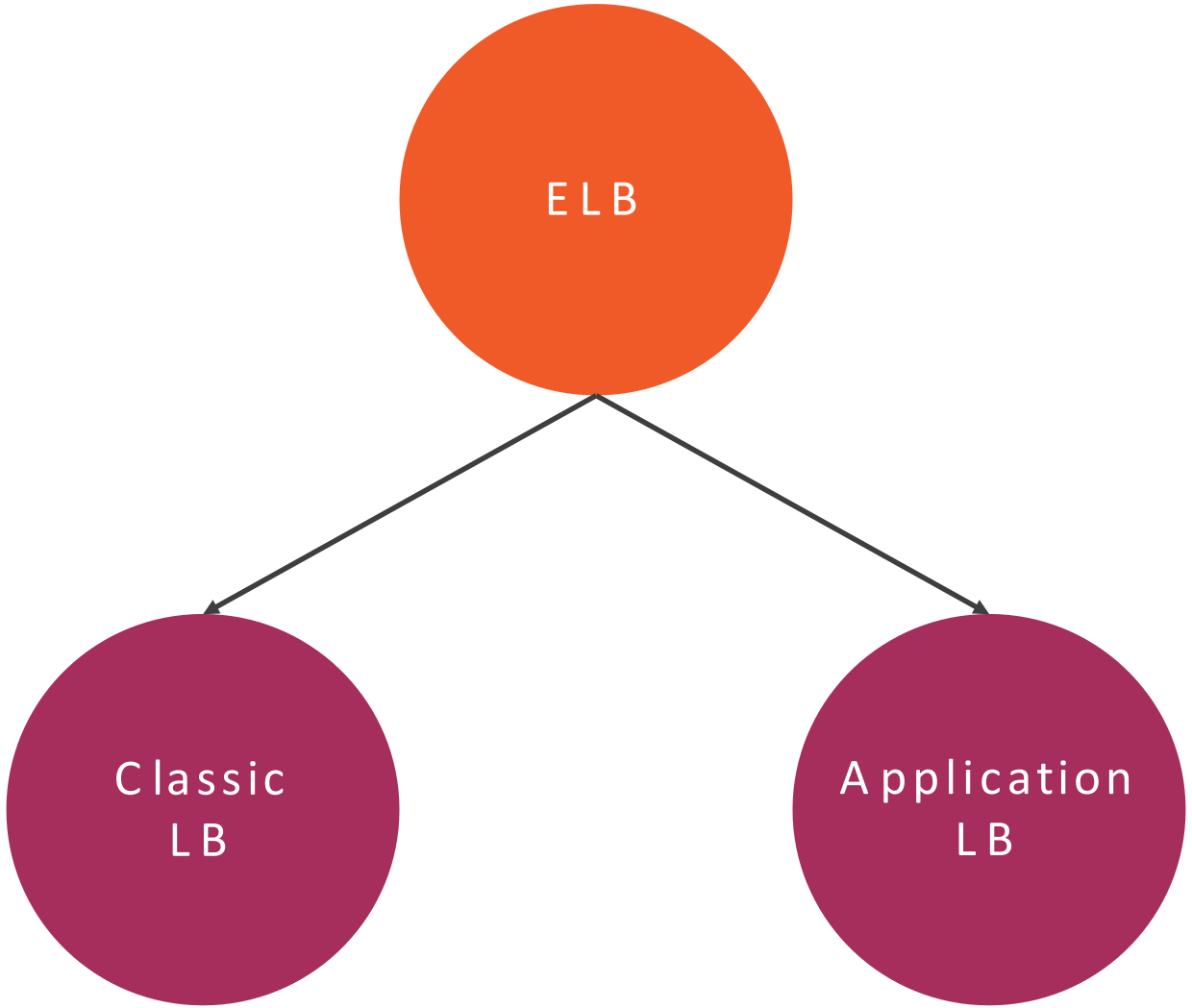
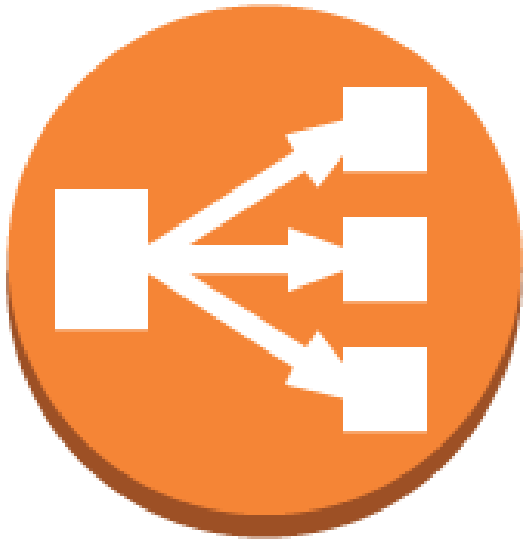
Understanding and Configuring Load Balancers

Elastic Load Balancer

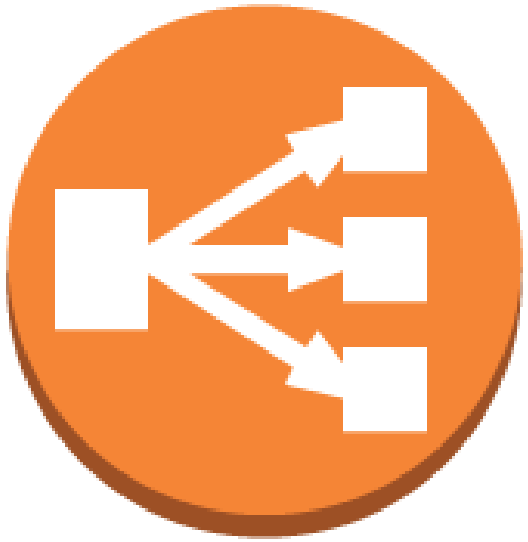


Classic LB Characteristics



- Region wide load balancer
- Can be used internally or externally
- Layer 4 and Layer 7
- SSL termination and processing
- Cookie-based sticky session
- Integrates with Auto Scaling
- ELB EC2 health checks / CloudWatch
- Integrates with Route 53

Classic LB Characteristics



Supported ports:

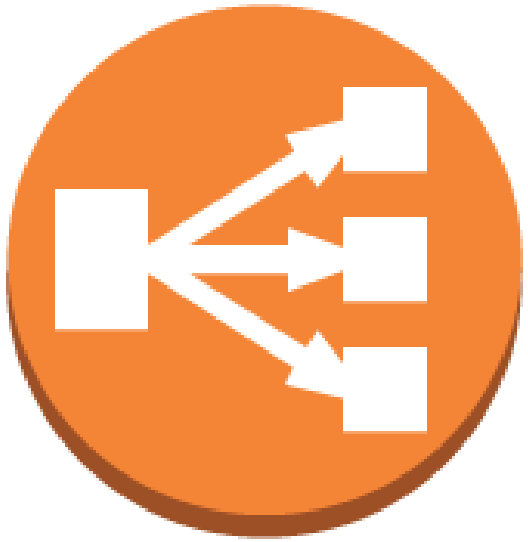
- 25 (SMTP)
- 80/443 (HTTP/HTTPS)
- 1024-65535

Does not support EIP

Supports domain Zone Apex

Supports IPv4 and IPv6

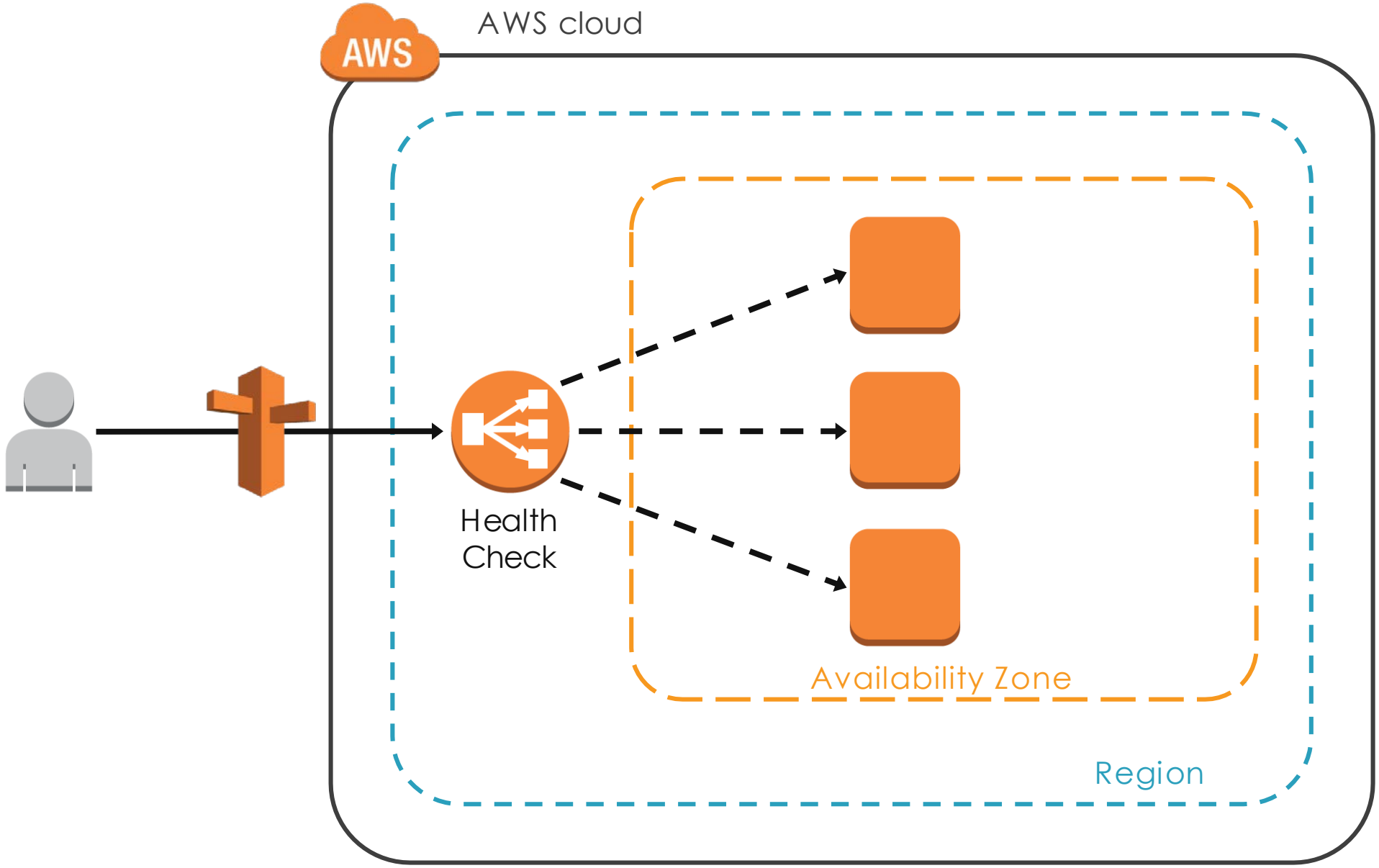
Classic LB Characteristics

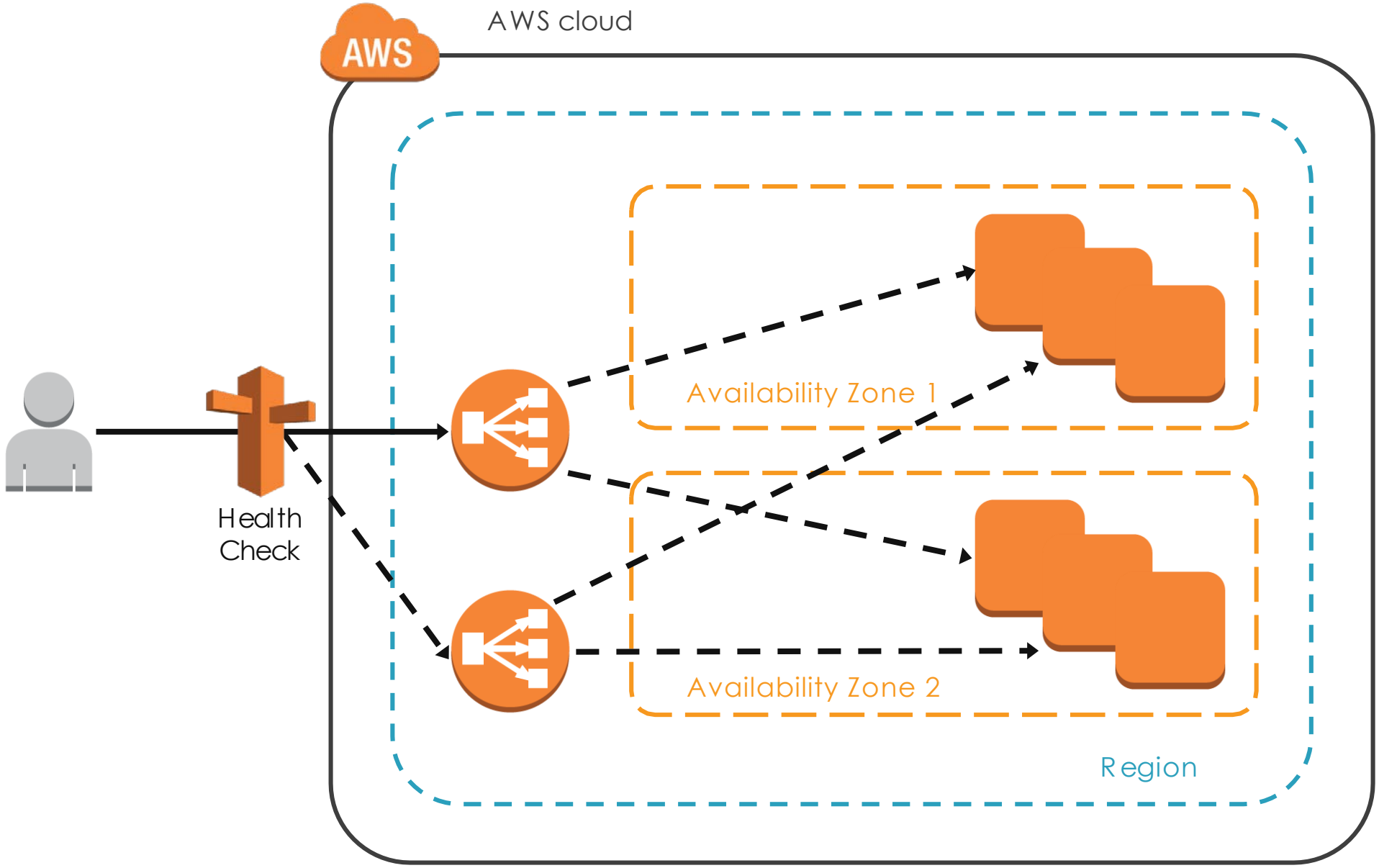


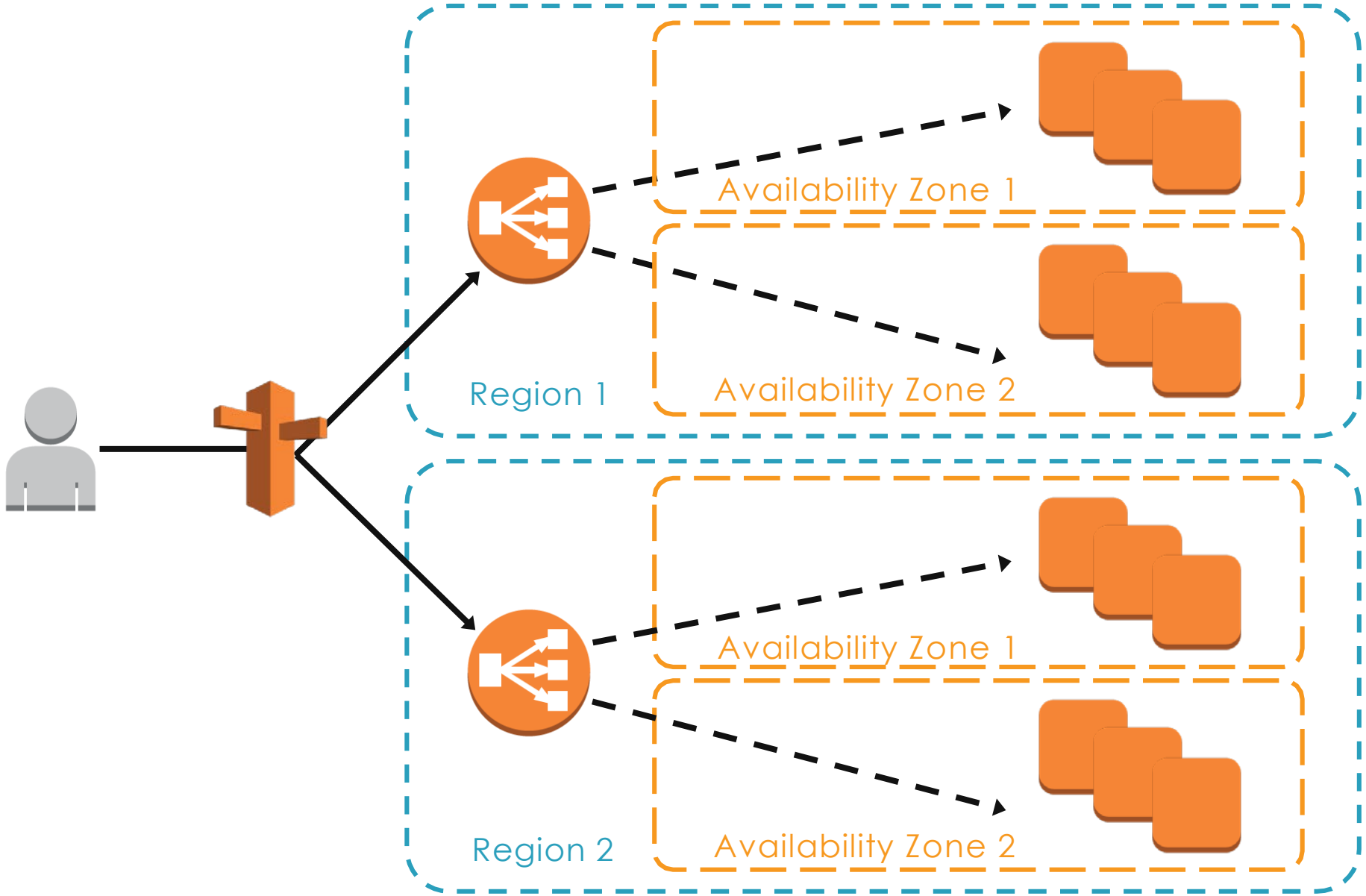
Integrates with CloudTrail for log security analysis

Multiple SSL certificates require multiple ELBs

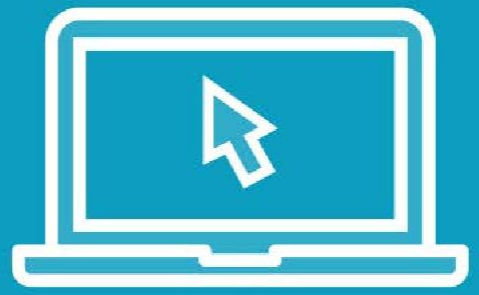
Wildcard certificates are supported


AWS
AWS cloud
Health
Check
Availability Zone
Region


AWS cloud
AWS
Availability Zone 1
Availability Zone 2
Region
Health
Check


Availability Zone 1
Availability Zone 2
Region 1
Availability Zone 1
Availability Zone 2
Region 2

Demo



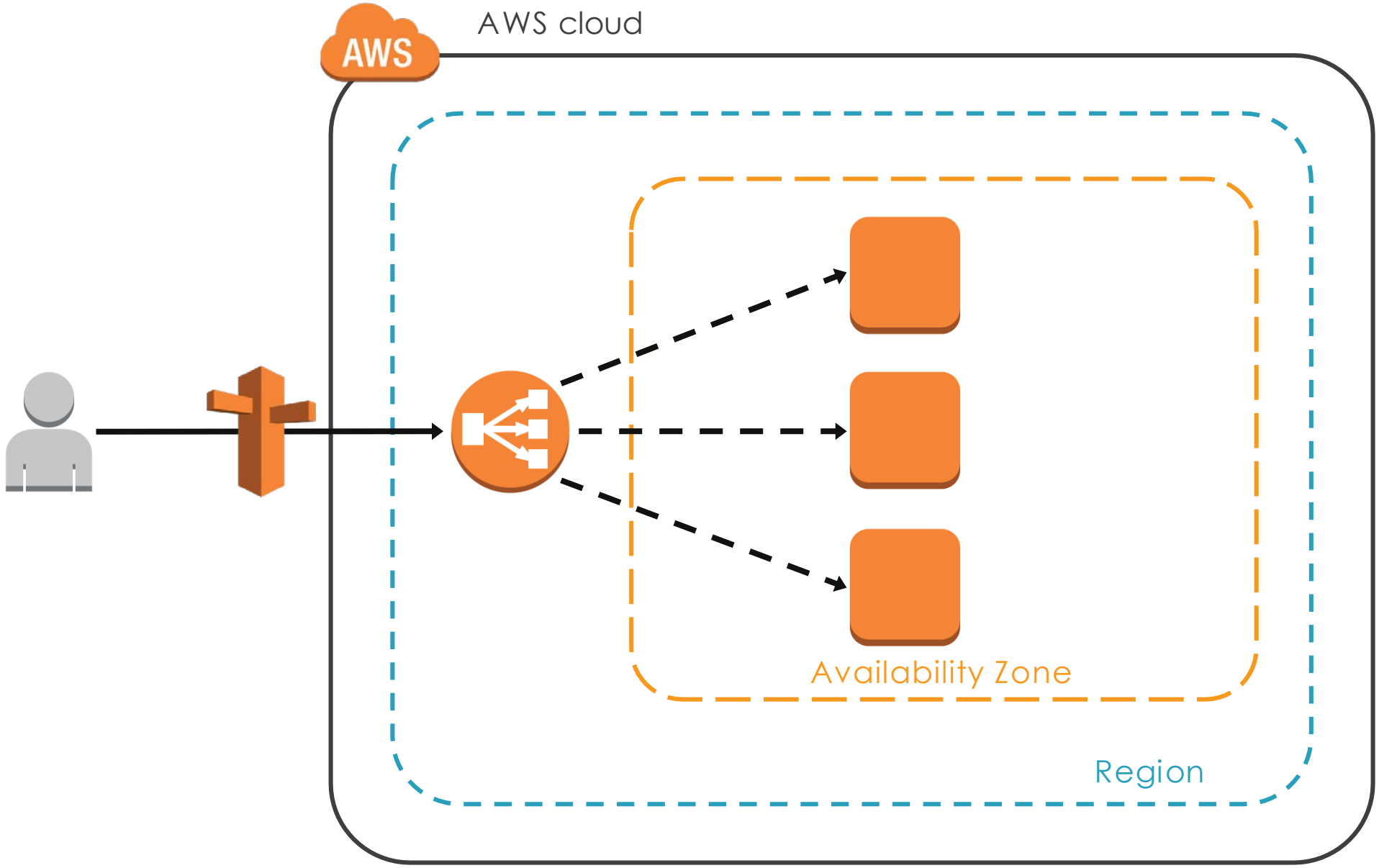
Configuring the classic load balancer

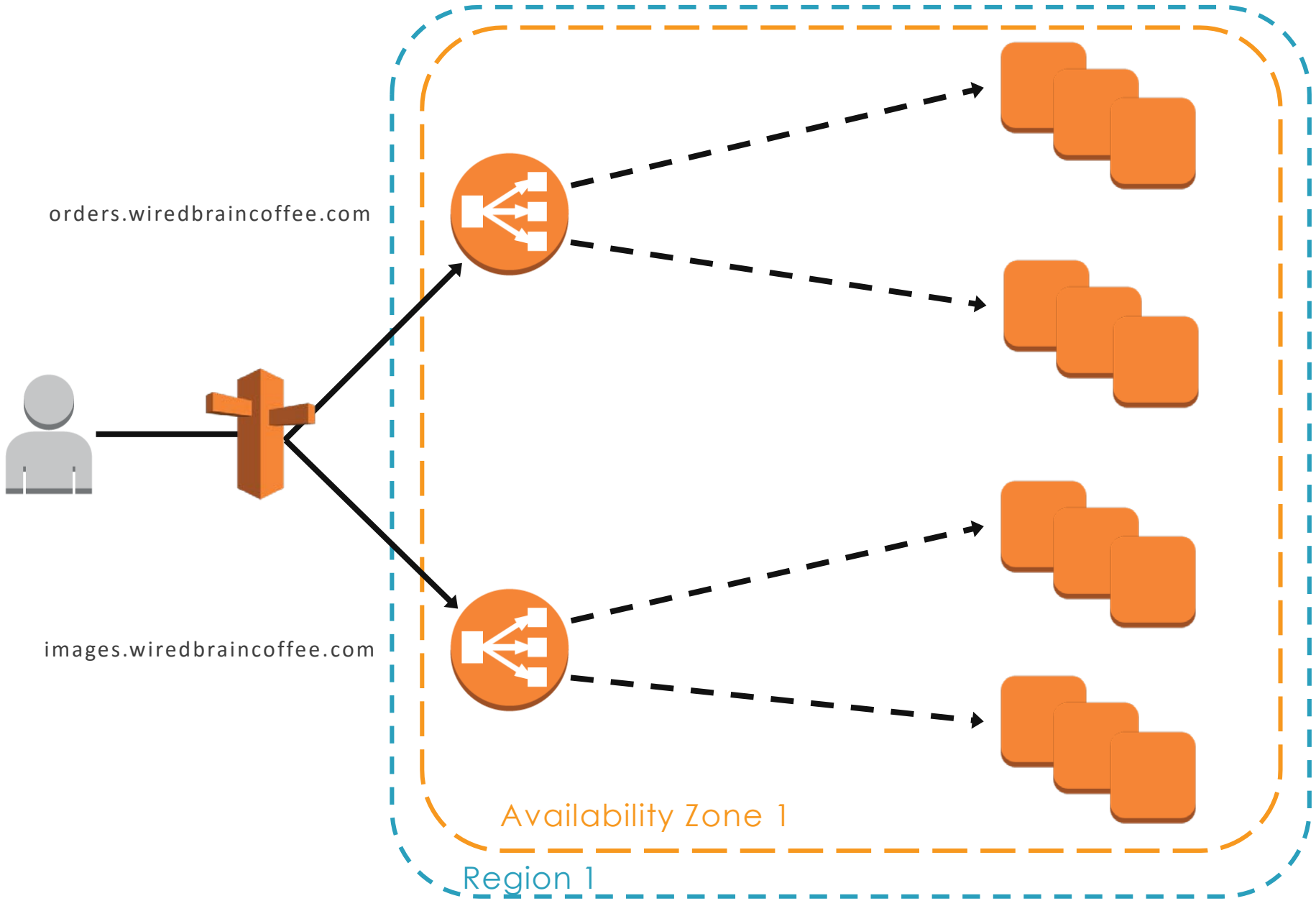
ALB Characteristics

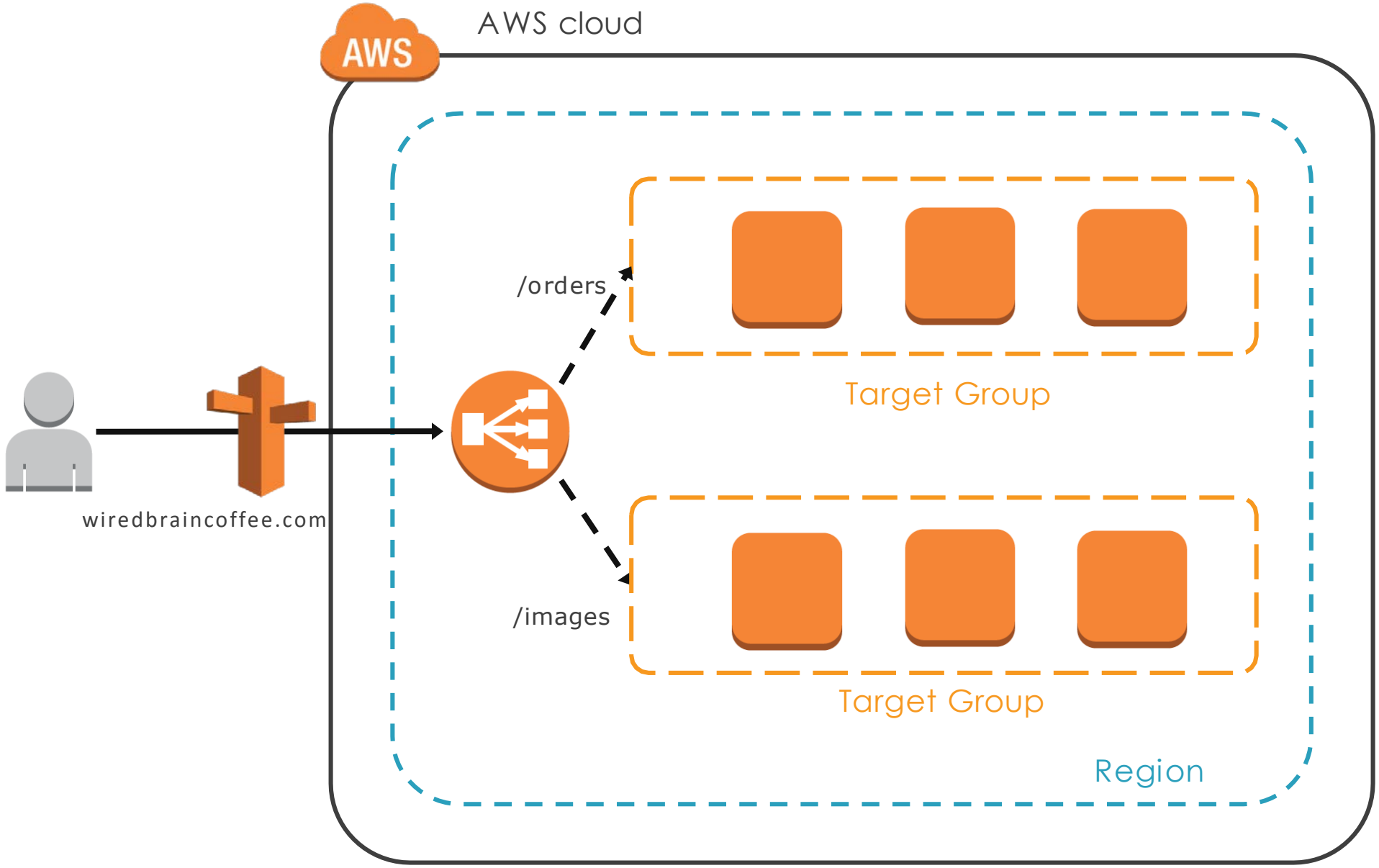
- Layer 7 only
- Content-based routing
- Support for microservices and containers
- Integrates with ECS
- Better performance for real-time streaming
- Reduced hourly cost
- Deletion protection
- Better health checks and CloudWatch metrics

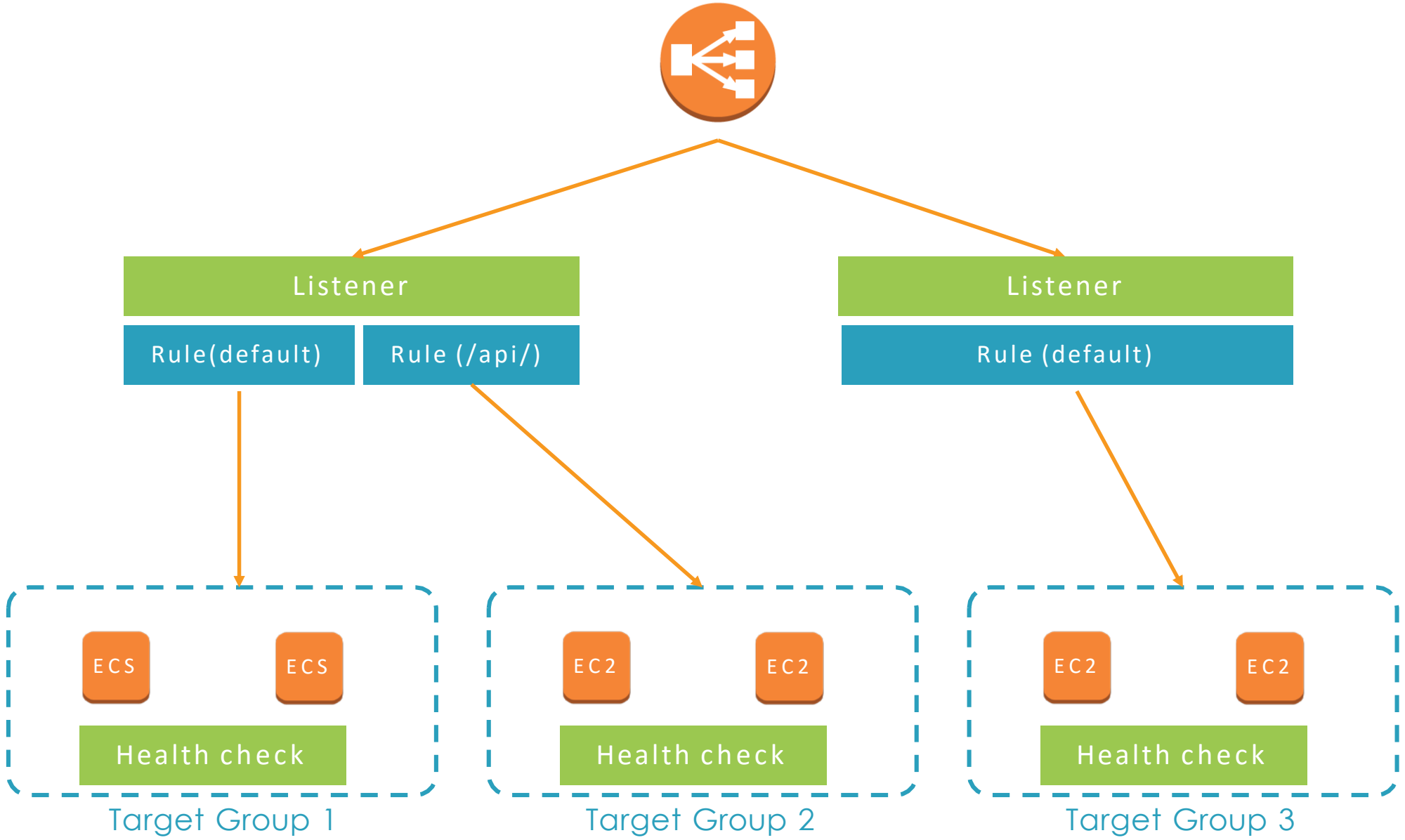
Comparing ELB and ALB

	Classic LB (ELB)	Application Load Balancer
Protocol	TCP, SSL, HTTP, HTTPS	HTTP, HTTPS
Health checks	√	Improved
CloudWatch	√	Improved
Path-based routing		√
Container support		√
WebSockets		√
HTTP/2		√


AWS
AWS cloud
Availability Zone
Region


orders.wiredbraincoffee.com
images.wiredbraincoffee.com
Availability Zone 1
Region 1


AWS
AWS cloud
/orders
Target Group
/images
Target Group
Region
wiredbraincoffee.com


Listener
Rule(default)
Rule (/api/)
Listener
Rule (default)
ECS
ECS
Health check
Target Group 1
EC2
EC2
Health check
Target Group 2
EC2
EC2
Health check
Target Group 3

Listeners

Define the port and protocol

Each ALB needs at least one listener

Up to 10 listeners

Routing rules are defined on listeners

Target Groups

Logical grouping of targets

Made up of EC2 instances or containers

Can exist independently from the ALB

Region-based but can be associated with an auto scaling group

Rules

Improved Health Checks

Custom Response codes (200-399)

Detailed health check failures displayed in the API and management console

Detailed access log information

Saved to an S3 bucket every 5 or 60 minutes

Cost

10%
cheaper

Summary

Classic LB

Application Load Balancer