

Load balancers?  
Elastic load balancers?

With aws Types of load balancers –

1. Application load balancers
  - application layer of osi (osi layer 7)
  - routing based decisions / information – clever decisions
1. Network load balancers
  - osi layer 4
  - super fast speed, performance
1. Classic load balancers (questions from this will come)
  - legacy purpose

ELASTIC LOAD BALANCERS

## Application Load Balancers



**Application Load Balancers** are best suited for load balancing of HTTP and HTTPS traffic. They operate at Layer 7 and are application-aware. They are intelligent, and you can create advanced request routing, sending specified requests to specific web servers.



ELASTIC LOAD BALANCERS

## Network Load Balancer



**Network Load Balancers** are best suited for load balancing of TCP traffic where extreme performance is required. Operating at the connection level (Layer 4), Network Load Balancers are capable of handling millions of requests per second, while maintaining ultra-low latencies.

Use for extreme performance!



ELASTIC LOAD BALANCERS

## Classic Load Balancers



**Classic Load Balancers** are the legacy Elastic Load Balancers. You can load balance HTTP/HTTPS applications and use Layer 7-specific features, such as X-Forwarded and sticky sessions. You can also use strict Layer 4 load balancing for applications that rely purely on the TCP protocol.



## Load Balancer Errors

**Classic Load Balancers** - if your application stops responding, the ELB (Classic Load Balancer) responds with a 504 error.

This means that the application is having issues. This could be either at the Web Server layer or at the Database Layer.

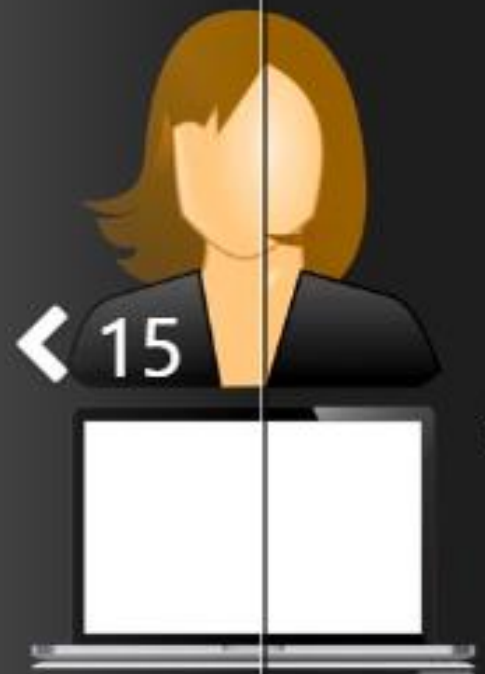
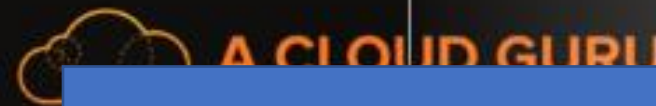
Identify where the application is failing, and scale it up or out where possible.



### 504

- Gate way time out error
- Need to check the application / database layer or service
- Scale up or down accordingly
- Gateway time out error

# X-Forwarded-For Header



124.12.3.231

Public IP

DNS request



10.0.0.23

Private IP



10.0.0.23

X-Forwarded-For

124.12.3.231

EC2 instance  
Sees only private IP  
How to get public ip4 ip  
address? - look in X-  
forwarded-For header

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## ELB Exam Tips

- 3 Types of Load Balancers;
  - Application Load Balancers
  - Network Load Balancers
  - Classic Load Balancers
- 504 Error means the gateway has timed out. This means that the application not responding within the idle timeout period.
- Troubleshoot the application. Is it the Web Server or Database Server?
- If you need the IPv4 address of your end user, look for the X-Forwarded-For header.