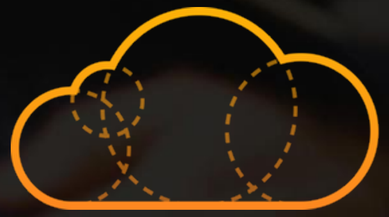
Elastic Load Balancers 101



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Types Of Load Balancers

- Application Load Balancer
- Network Load Balancer
- Classic Load Balancer

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.

Network Load Balancer

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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 Balancer are capable of handling millions of requests per second, while maintaining ultra-low latencies.

Use for extreme performance!

Classic Load Balancers

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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.

Pre-Warming Your Load Balancers

Imagine you are running a busy e-commerce website, and your marketing team is planning to announce a huge Black Friday sale.

Your sales director estimates that this will increase the traffic to your website by up to 10x once the sale is announced next week.

Pre-Warming Your Load Balancers

There is a chance that a sudden increase of traffic of this scale may cause your ELB to become overloaded and be unable to handle all the requests.

In order to avoid overloading your ELB, you can contact AWS and request them Pre-Warm your ELB.

Pre-Warming Your Load Balancers

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Pre-Warming will configure the ELB to the appropriate level of capacity, based on the traffic that you expect.

AWS will need to know:

1. Start and end dates
2. Expected request rate per second
3. Total size of a typical request.

Load Balancers and Static IP Addresses

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Application Load Balancers scale automatically to adapt to your workload.

However, this has the effect of changing the IP address which your clients connect to as new ALBs are brought into service.

Network Load Balancers solve this by creating a static IP address in each subnet you enable so that keeps firewall rules really simple — clients only need to enable access to a single IP address per subnet.

You don’t have to choose one or the other, you can get the benefit of both, by putting an ALB behind a NLB.

ELB Exam Tips

- 3 Types of Load Balancers:
  - Application Load Balancers
  - Network Load Balancers
  - Classic Load Balancers
- Pre-Warm Your Elastic load Balancer if you expect a sudden and significant increase in traffic to your application.

- Static IP addresses can be provided by a Network Load Balancer, 1 per subnet.

- You can place your ALB behind an ELB to get the benefit of both.