

Certainly! Here are 20 interview questions related to Elastic Load Balancers (ELBs) in AWS, along with detailed answers in Markdown format:

## **## Elastic Load Balancers (ELBs) Interview Questions**

### **### 1. What is an Elastic Load Balancer (ELB)?**

An Elastic Load Balancer (ELB) is a managed AWS service that automatically distributes incoming application traffic across multiple targets, such as Amazon EC2 instances, containers, or IP addresses, to ensure high availability and fault tolerance.

### **### 2. What are the three types of Elastic Load Balancers available in AWS?**

There are three types of Elastic Load Balancers: Application Load Balancer (ALB), Network Load Balancer (NLB), and Gateway Load Balancer (GWLB).

### **### 3. What is the main difference between Application Load Balancer (ALB) and Network Load Balancer (NLB)?**

ALB operates at the application layer and supports advanced routing, including content-based routing and path-based routing. NLB operates at the transport layer and provides ultra-low latency and high throughput.

### **### 4. What are some key features of Application Load Balancer (ALB)?**

ALB supports features like dynamic port mapping, path-based routing, support for HTTP/2 and WebSocket protocols, and content-based routing using listeners and rules.

### **### 5. When should you use Network Load Balancer (NLB)?**

NLB is suitable for scenarios that require extreme performance, high throughput, and low latency, such as gaming applications and real-time streaming.

### **### 6. What is a target group in Elastic Load Balancing?**

A target group is a logical grouping of targets (such as EC2 instances) registered with a load balancer. ALB and NLB use target groups to route requests to registered targets.

#### ### 7. How does health checking work in Elastic Load Balancers?

Elastic Load Balancers perform health checks on registered targets to ensure they are available to receive traffic. Unhealthy targets are temporarily removed from rotation.

#### ### 8. How can you route requests to different target groups based on URL paths in Application Load Balancer (ALB)?

ALB supports path-based routing, where you define listeners and rules to route requests to different target groups based on specific URL paths.

#### ### 9. What is cross-zone load balancing?

Cross-zone load balancing is a feature that evenly distributes traffic across all registered targets in all availability zones, helping to achieve even distribution and better resource utilization.

#### ### 10. How can you enable SSL/TLS encryption for traffic between clients and the load balancer?

You can configure an SSL/TLS certificate on the load balancer, enabling it to terminate SSL/TLS connections and communicate with registered targets over HTTP.

#### ### 11. Can you use Elastic Load Balancer (ELB) with resources outside AWS?

Yes, ELB can be used with on-premises resources using Network Load Balancer with IP addresses as targets or with AWS Global Accelerator to route traffic to resources outside AWS.

#### ### 12. What is a sticky session, and how can you enable it in Elastic Load Balancers?

Sticky sessions ensure that a user's session is consistently directed to the same target. In ALB, you can enable sticky sessions using the `stickiness` option in the target group settings.

#### ### 13. What is the purpose of pre-warming in Elastic Load Balancers?

Pre-warming involves sending a low volume of traffic to a new load balancer to allow it to scale up its capacity and establish connections gradually.

#### ### 14. How does Elastic Load Balancer support IPv6?

Elastic Load Balancer (ALB and NLB) supports both IPv4 and IPv6 addresses, allowing applications to be accessed over the IPv6 protocol.

#### ### 15. What is connection draining, and when is it useful?

Connection draining is the process of gradually stopping traffic to an unhealthy target instance before removing it from the target group. It's useful to ensure active requests are completed before taking the instance out of rotation.

#### ### 16. How can you enable access logs for Elastic Load Balancers?

You can enable access logs for Elastic Load Balancers to capture detailed information about requests, responses, and client IP addresses. These logs can be stored in an Amazon S3 bucket.

#### ### 17. What is the purpose of an idle timeout setting in Elastic Load Balancers?

The idle timeout setting defines the maximum time an idle connection can remain open between the load balancer and a client. After this duration, the connection is closed.

#### ### 18. Can you associate Elastic IP addresses with Elastic Load Balancers?

No, Elastic Load Balancers do not have static IP addresses. They have DNS names that are used to route traffic to registered targets.

### ### 19. How can you configure health checks for targets in Elastic Load Balancers?

You can configure health checks by defining a health check path, interval, timeout, and thresholds. ELB sends periodic requests to targets to verify their health.

### ### 20. Can you use Elastic Load Balancers to distribute traffic across regions?

Elastic Load Balancers can distribute traffic only within the same region. For distributing traffic across regions, you can use AWS Global Accelerator.

Remember that while these answers provide depth, it's important to personalize your responses based on your experience and understanding of Elastic Load Balancers and AWS load balancing concepts.