

- * **High availability & Scalability : ELB & ASG** —
- Running an application on an Auto Scaling Group that scales the number of EC2 instances in and out is called Horizontal scaling.
- Elastic Load Balancers provide a static DNS name.
- Only NLB provides both static DNS name and static IP.
- Application Load Balancer: Static DNS name.

ELB Sticky Session Feature ensures traffic for the same client is always redirected to the same target (eg EC2 instance). This helps that the client does not lose his session data.

"X-Forwarded-Port" used to get the client's requested Port.

When using an Application Load Balancer to distribute traffic to your EC2 instances, the IP address you'll receive requests from will be the ALB's private IP address.

To get the client's IP address, ALB adds an additional header called "X-forwarded-For" containing the client's IP address.

When you enable ELB Health checks, your ELB won't send traffic to unhealthy (crashed) EC2 instances.

Network Load Balancer provides the highest performance and lowest latency if your application needs it.

Application Load Balancers support HTTP, HTTPS, WebSocket.

ALBs can route traffic to different Target Groups based on URL path, Hostname, HTTP Headers, and Query Strings.

- Registered Targets in a Target group for an applⁿ Load Balancer can not be Network Load Balancer.
- You can't attach an elastic IP address to Application Load Balancers.
- NLBs have one static IP address per AZ and you can attach an Elastic IP address to it. ALBs and Classic Load Balancers have a static DNS name.
- The following cookie names are reserved by the ELB: AWSALB, AWSALBAPP, AWSALBTG.
- When cross-zone load balancing is enabled, ELB distributes traffic evenly across all registered EC2 instances in all AZs.
- Server Name Indication (SNI): Feature in both ALB and NLB allows you to load multiple SSL certificates on one listener.
- Server Name Indication (SNI) allows you to expose multiple HTTPs applications each with its own SSL certificate on the same listener.
- The ASG can't go over the maximum capacity (you configured) during scale-out events.
- You can configure the Auto Scaling Group to determine the EC2 instances' health based on ALB Health checks instead of EC2 status check (default). When an EC2 instance fails the ALB Health check, it is marked unhealthy and will be terminated while the ASG launches a new EC2 instance.

- CloudWatch custom Metric and then create a CloudWatch alarm.
- + NLB supports: HTTP, HTTPS, TCP health checks
- 84 large to 84. 4x large: Vertical Scalability