### Global Infrastructure for app.

A screenshot of a computer

Description automatically generated

What is ELB? Elastic load balancer

Accept connection from customers and distribute to backend services.

Has 2 versions {v1, v2}

Has 3 types

1. CLB (Classic load balancer)
2. ALB (Application Load balancer)
3. NLB (Network load balancer)
4. Gateway

CLB -🡪Classic load balancer

V1 that supports http && https.

One ssl per CLB

Not scale

Require CLB per https.

A diagram of a person with a diagram

Description automatically generated

V2 load balancer is faster ,cheaper, supports host rule and target group.

2) ALB (Application Load Balancer)

Support Host rules && Target Group

V2 that supports http, https , web sockets

L7 load balancer

A diagram of a group

Description automatically generated

Must have ssl certs if https is used.

Connection from customer is terminated on ALB then new connection from ALB

to backend services.

Health check of ALB is check app state. A close-up of a logo

Description automatically generated

A diagram of a group

Description automatically generated

3) NLB(Network load balancer )

V2 that supports TCP,UDB,SSL

L4 Load Balancer

Faster && more performance that ALB

#SMTP,SSh.

Health check of NLB is check ICMP && TCP handshake.

NLB has static ip’s for whitelisting.

NLB private link to provide service to other VPC.

Unbroken encryption (Between client && services.)

A diagram of a group

Description automatically generated

Load Balancer is configured to work in 2+ (2 or more) AZ and 1+ (1 or more nodes)

On subnets in each AZ.

ELB is DNS A record that points to ELB Nodes.

ELB is (Internal{private} or public{Internet facing})

A diagram of a public address

Description automatically generated

Each ELB Node gets n on connections.

n = 100% / total number of ELB nodes

Each ELB node has Listener {that listens on protocol && port}.

ELB needs 8+ or more free ip address and /27 subnet.

Rules process connection comes on listener to Target Group.

Rules can has condition :

1. Host-header
2. Path-pattern
3. Query-string&&source-ip
4. Http-header
5. Http-method

Rules has actions {Forward, Redirect ,fixed index, authenticate}

Route Based on Path && Host

Launch Configuration &7 Launch Template ---🡪 used for define ec2 configuration in advance.

* AMI
* Security Group
* Key pair
* IAM Role
* Network
* User data

Both LT && LC not editable && defined once.

LT support versioning.

LC not support Versining.

LT -🡪

* Unlimited T2 && T3
* Elastic Graphics

LC && LT for ASG(Auto scaling group)

LT can launch ec2 from console UI or CLI.