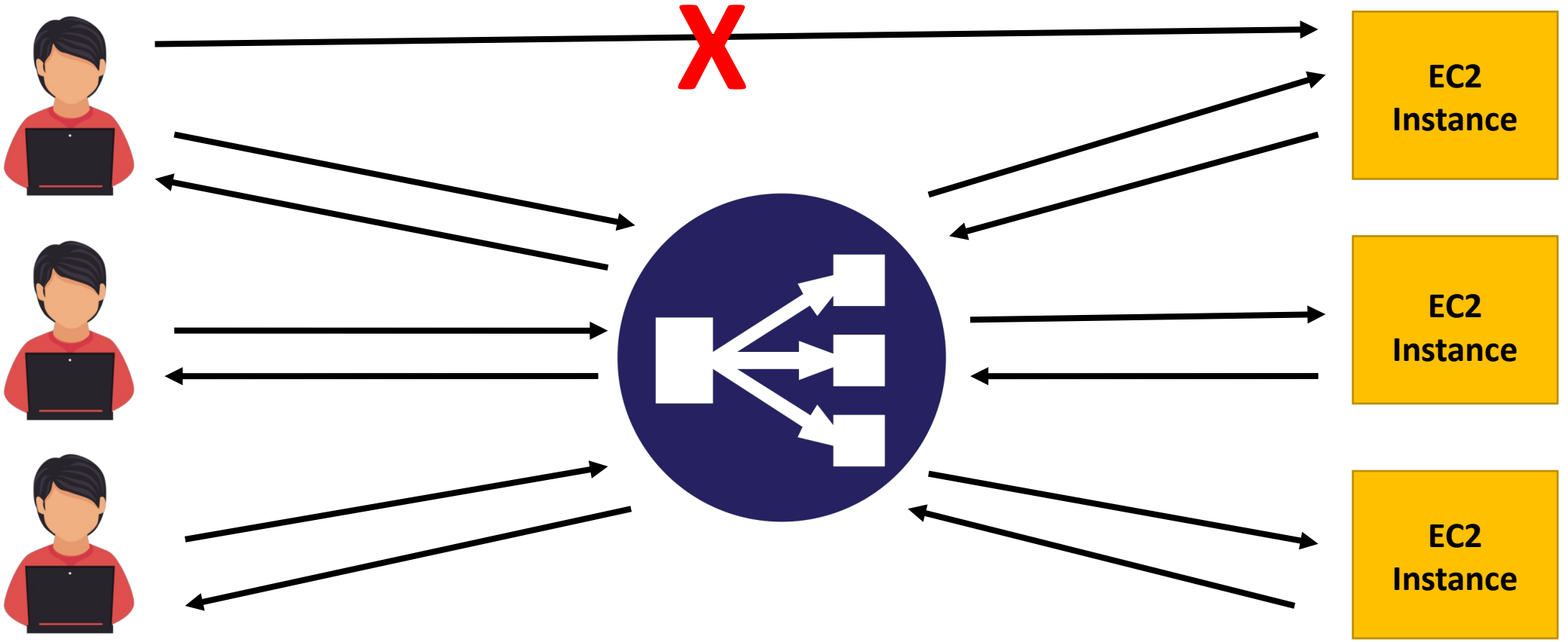
AWS Load Balancer

Elastic Load Balancer

- Elastic Load Balancing automatically distributes your incoming application traffic across multiple targets, such as EC2 instances
- Load Balancer are servers that forward internet traffic to multiple servers.
- It monitors the health of registered targets and routes traffic only to the healthy targets.

Elastic Load Balancer



Elastic Load Balancer

Benefits:

- Spreads load across multiple targets.
- Single point entry for DNS. So exposes only one Public IP.
- Provides High Availability (HA)
- Helps with Health Checks at particular time interval so it knows when not to send traffic to particular instances
- ELB is managed LB by AWS

Elastic Load Balancer

Health Checks:

- Health checks enable LB to know if instance it forwards traffic to are available for responding to user requests.
- If the response is not 200 (OK) then the instance is unhealthy.
- You can configure time intervals for perfoming health checks

Elastic Load Balancer

Types of load balancers:

- Classic Load Balancer (CLB) - 2009

  HTTP, HTTPS, TCP

- Application Load Balancer (ALB) - 2016

  HTTP, HTTPS, WebSocket

- Network Load Balancer (NLB) - 2017

  TCP, UDP, TLS

Classic Load Balancer (CLB)

- Classic Load Balancer functions at the 4th and 7th layer of the OSI model.
- Health checks can be applied at TCP or HTTP.
- Single hostname is available due to LB.

Application Load Balancer (ALB)

- An Application Load Balancer functions at the application layer, the 7th layer of the OSI model.
- It allows you to route to multiple HTTP applications across machines (i.e. Target Groups).
- It also allows to load balance multiple applications on the same machine (i.e. Containers)
- Each target group is used to route requests to one or more registered targets.

Application Load Balancer (ALB)

Routing to ALB is based on Target Groups:

- Routing based on the 'Path' in URL

  abc.com/test, abc.com/ users etc.

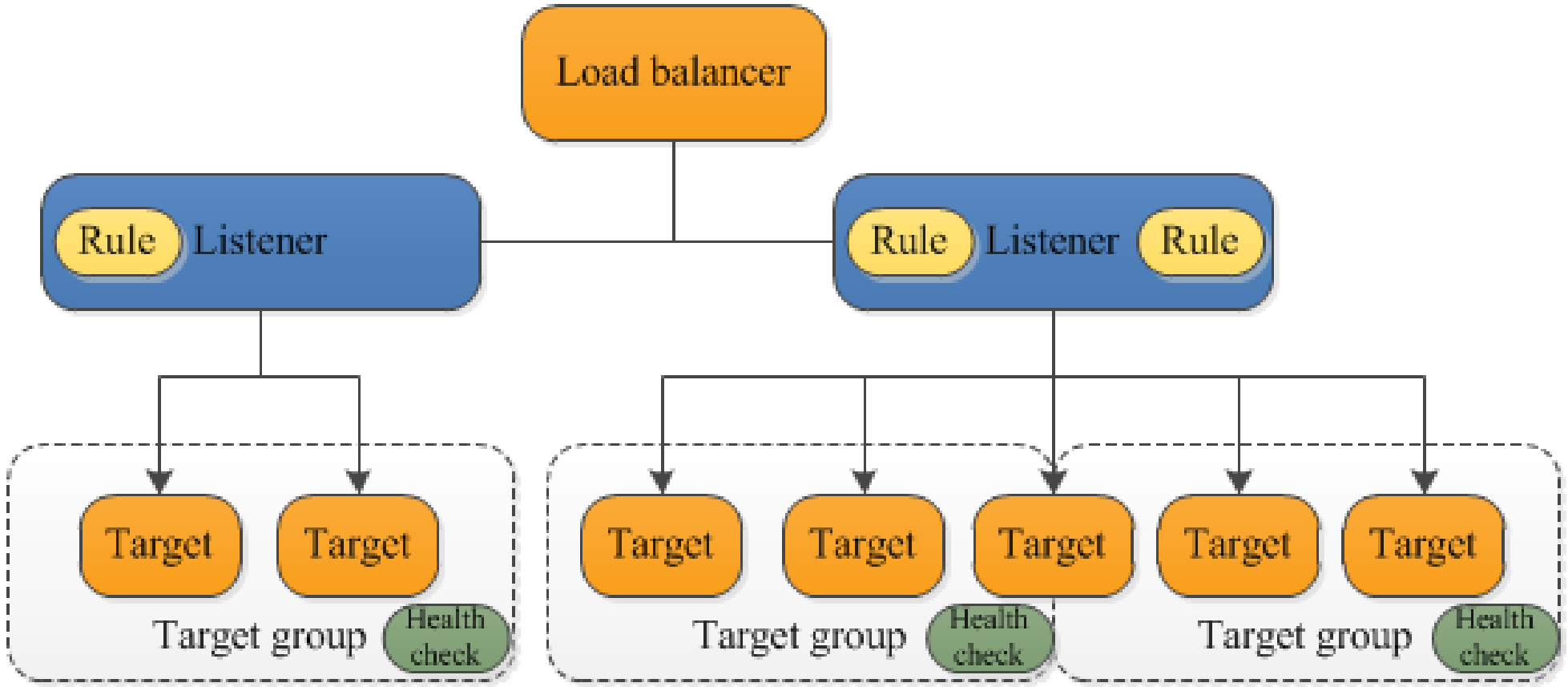
- Routing based on 'Hostname' in URL

  one.abc.com, two.abc.com etc.

- Routing based on 'Query strings' (For dynamic websites using DB at backend).

As compared to CLB, we need to configure multiple CLB for multiple applications. But on ALB we can use one LB to multiple applications.

Application Load Balancer (ALB)



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