Sticky Sessions and Idle Timeouts
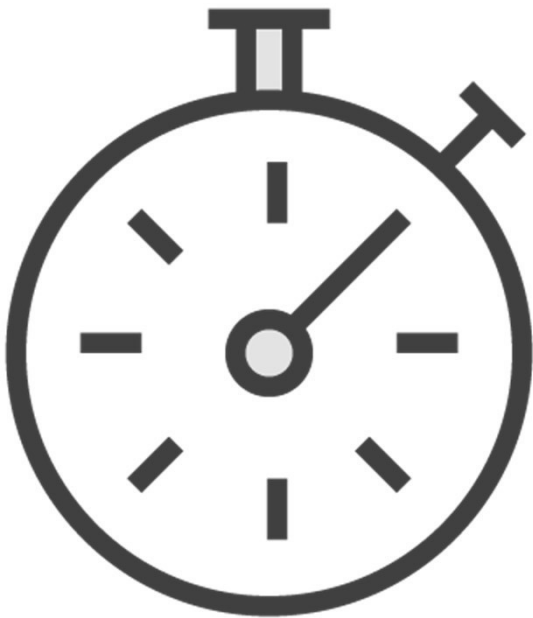
Sticky Sessions

Ensure a unique client's request always gets forwarded to the same target

Idle Timeouts

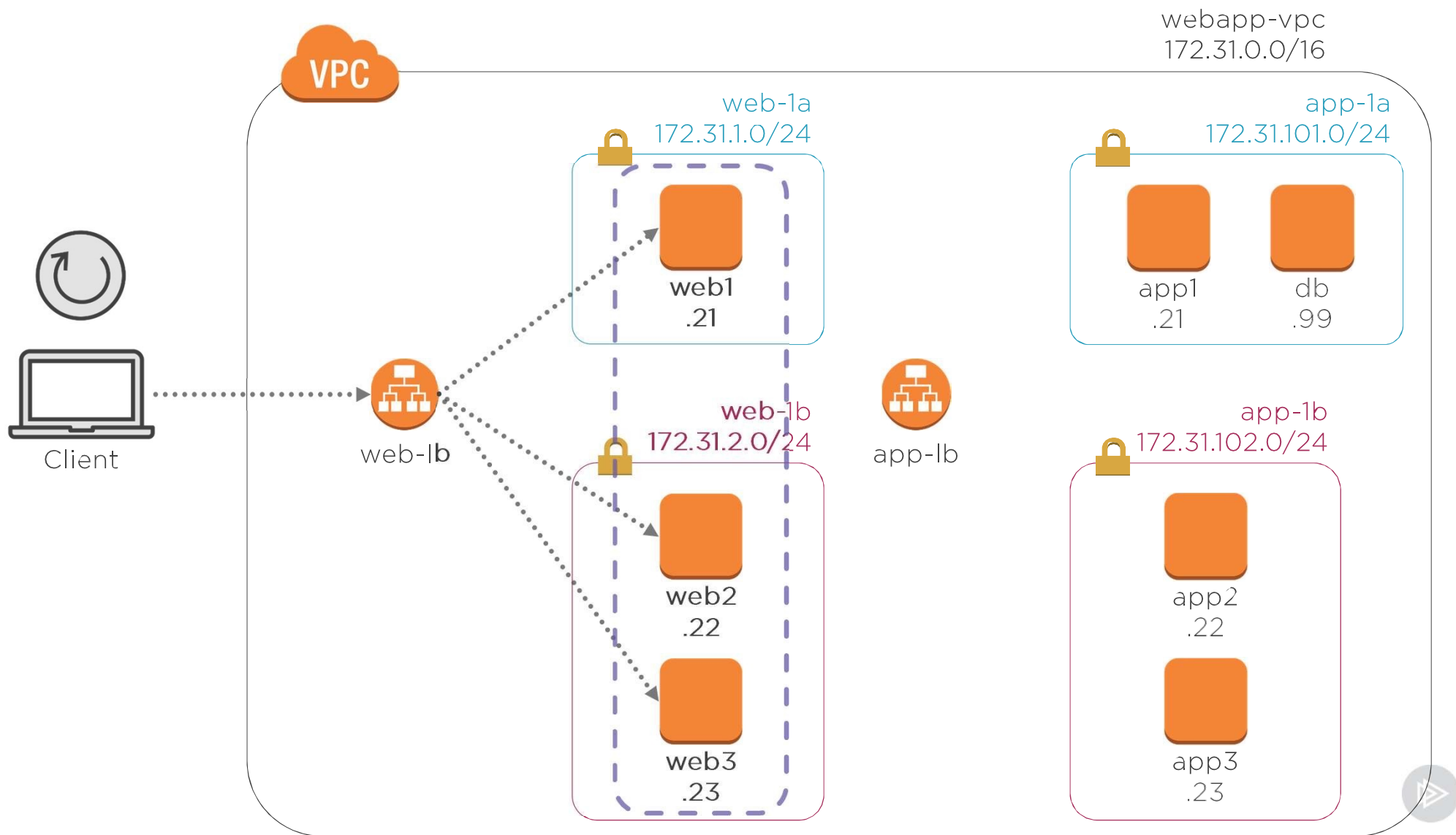Client and load balancer establish a TCP connection

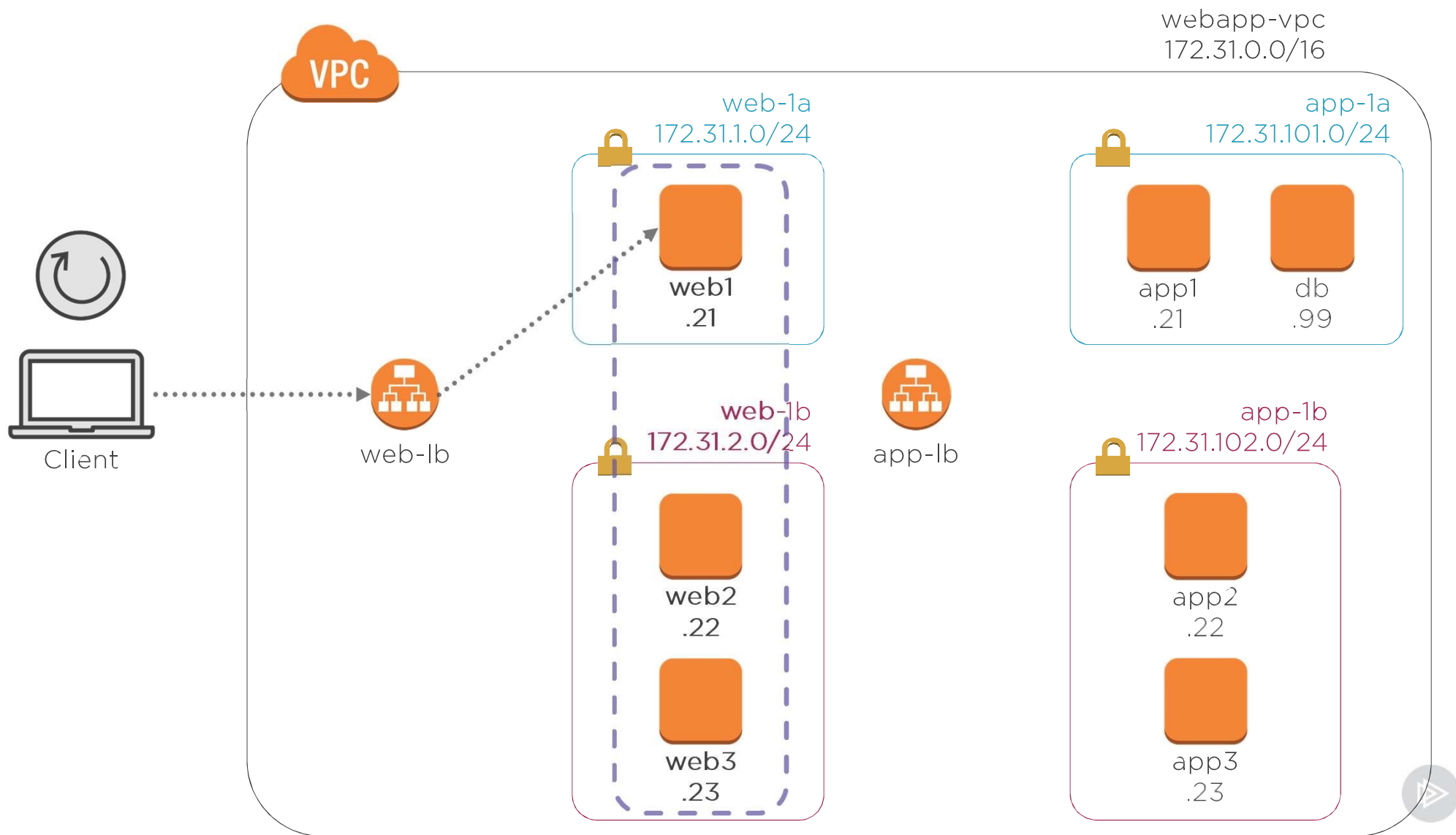HTTP(S) requests and responses traverse this connection

Control how long the TCP connection with a client can remain idle before closing it

Sticky Sessions

VPC

Client

web-lb

webapp-vpc
172.31.0.0/16

web-1a
172.31.1.0/24

web1
.21

web-1b
172.31.2.0/24

web2
.22

web3
.23

app-lb

app-1a
172.31.101.0/24

app1
.21

db
.99

app-1b
172.31.102.0/24

app2
.22

app3
.23

webapp-vpc
172.31.0.0/16

web-1a
172.31.1.0/24

web1
.21

app-1a
172.31.101.0/24

app1
.21

db
.99

Client

web-lb

web-1b
172.31.2.0/24

app-lb

web2
.22

web3
.23

app-1b
172.31.102.0/24

app2
.22

app3
.23

VPC

Stickiness Duration

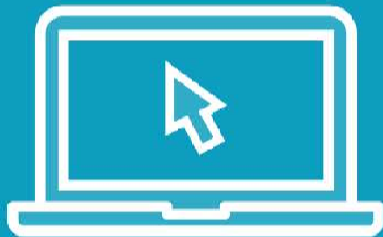How long load balancer will maintain sticky session between client and target

Load balancer sets a browser cookie with a unique, encrypted value

Client sends back the cookie with each subsequent request

Between 1 second and 7 days

Demo

Enable sticky sessions for the web tier

Idle Timeouts

Idle Timeout

How long the load balancer will maintain an idle TCP connection before closing it

Default is 60 seconds
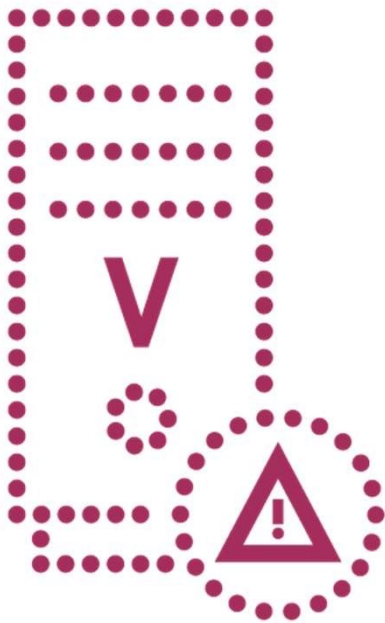
Can be between 1 and 4000 seconds

No Outstanding HTTP Requests

TCP connection remains open

Load balancer closes idle connection

Target Doesn't Respond to HTTP Request

Load balancer responds with a `504 Gateway Timeout`

This response resets the idle timer

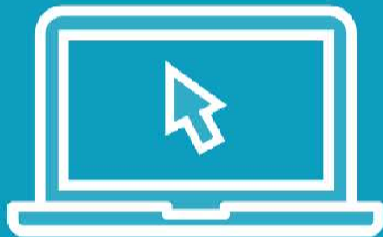**Load balancer closes idle connection**

504 Gateway Timeout

The server, while acting as a gateway or proxy, did not receive a timely response from an upstream server it needed to access in order to complete the request. (RFC 7231)

Demo

Simulate a long-running request

Configure idle timeout

Keep-alive

Summary

Stickiness duration can be between 1 second and 7 days

Idle timeout can be between 1 and 4000 seconds

Keep-alive setting controls how long web server will maintain idle TCP connection with load balancer

Coming Up Next

Securing Web Applications with HTTPS