Load Balancer Introduction

Load Balancing

Health check

Clients

Load Balancer

Servers

- Speed
- High Availability

Round Robin LB Strategy

Load Balancer

LB

Virtual IP
172.24.0.254

Strategy
Defined

Client

172.24.0.51

request3
request2
request1

1
2
3

Apache Web
Server1
172.24.0.11

Apache Web
Server2
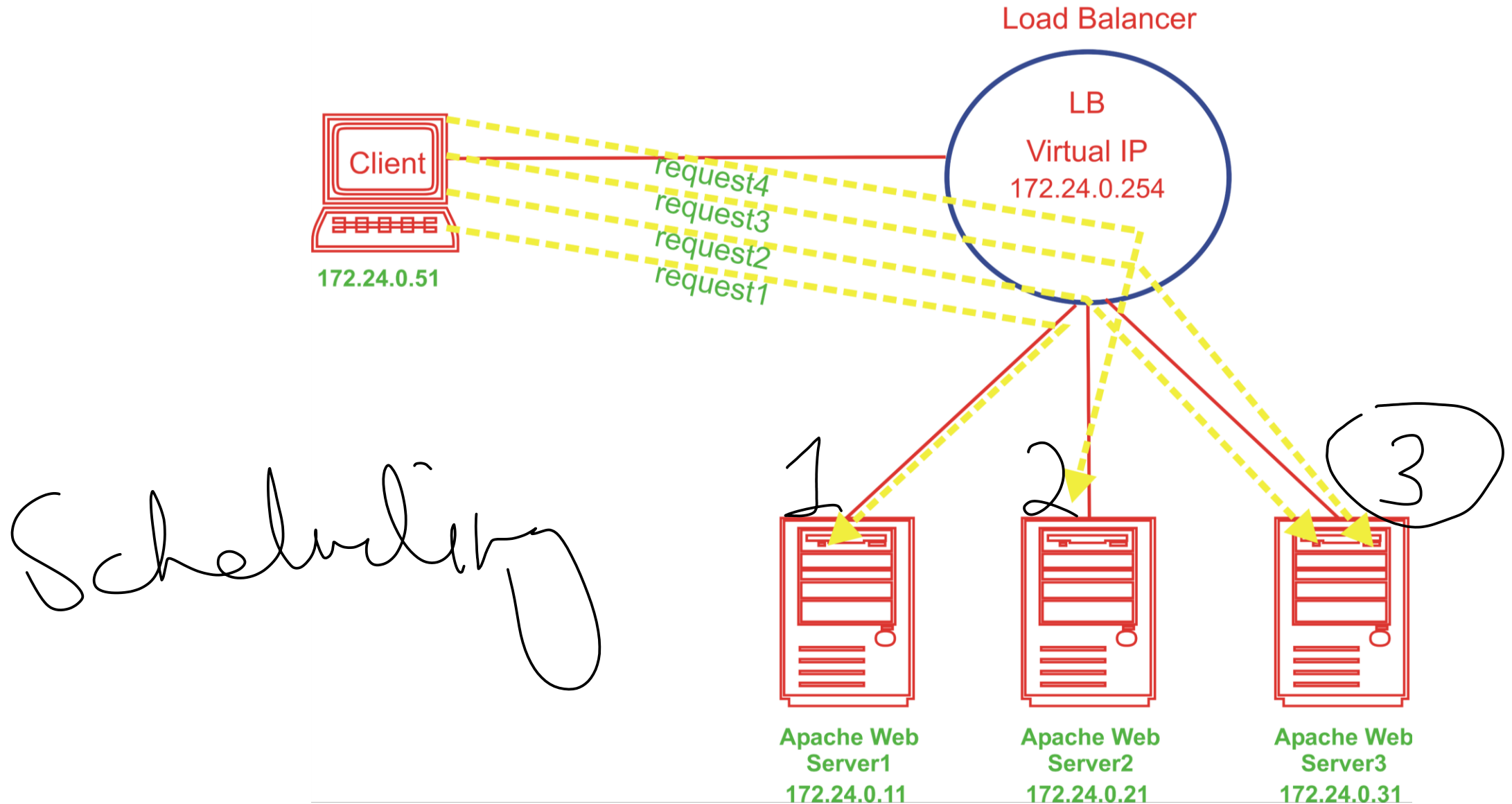172.24.0.21

Apache Web
Server3
172.24.0.31
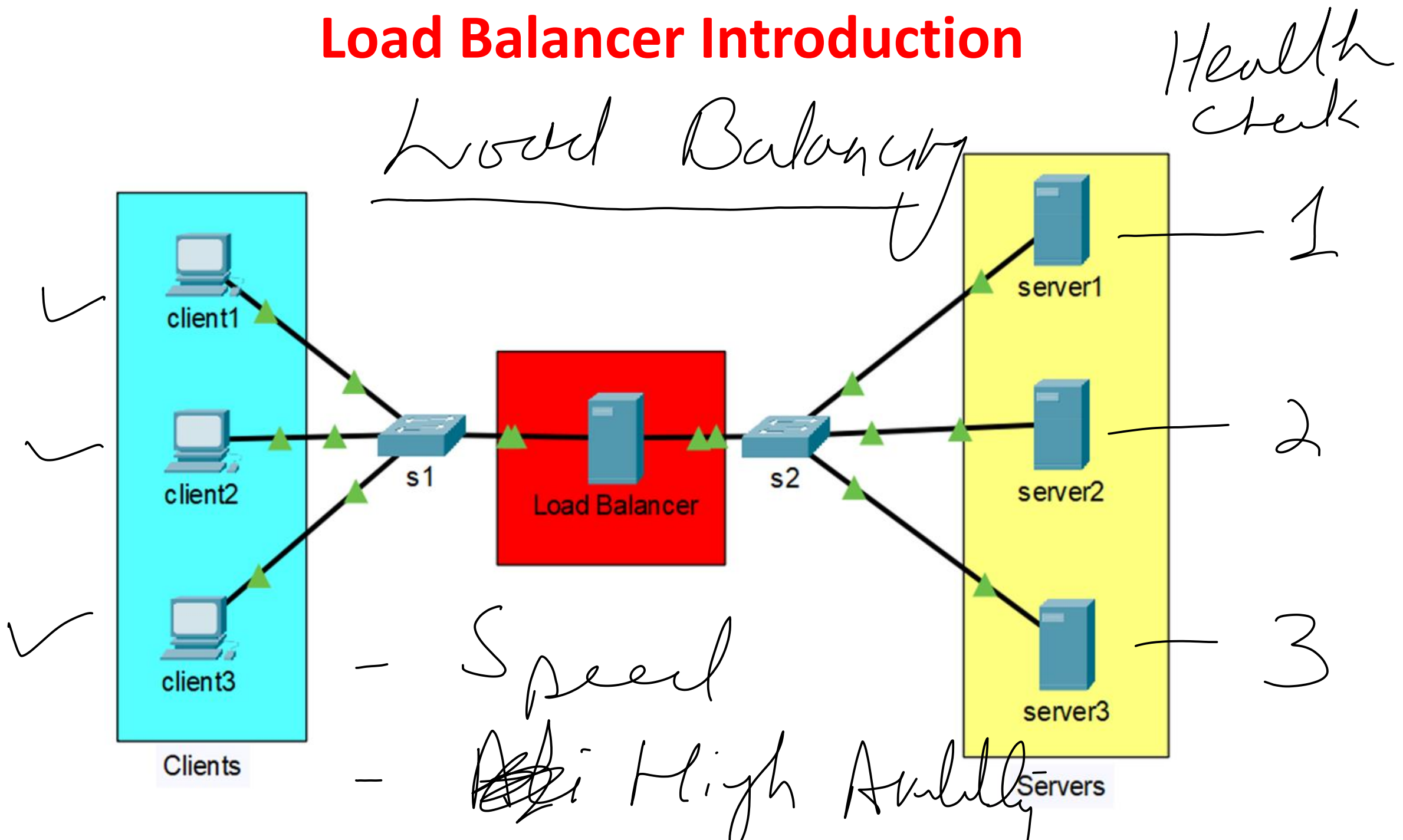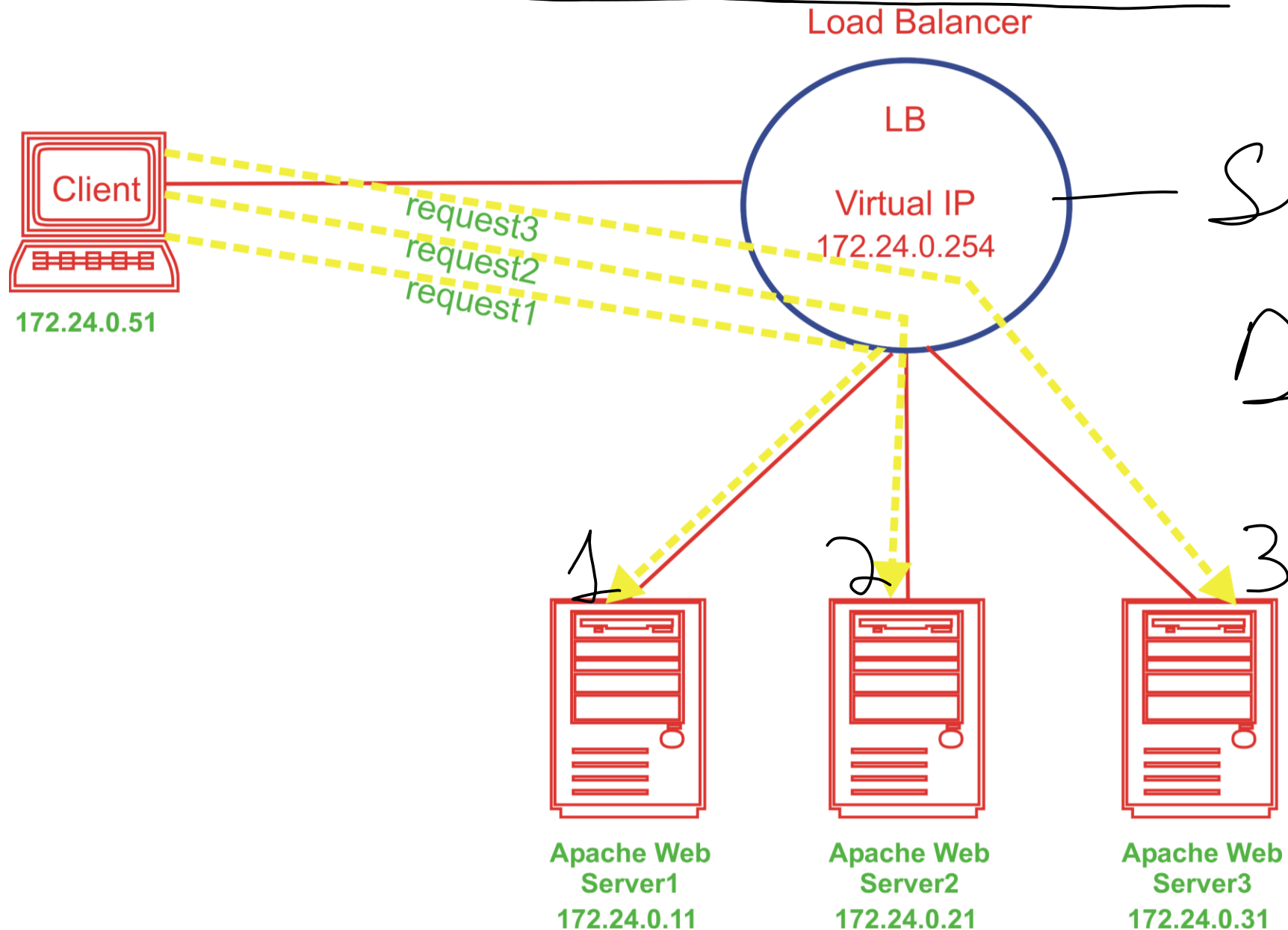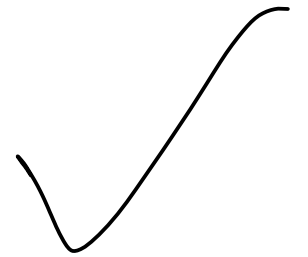
Random LB Strategy

Server Connections LB Strategy

Load Balancer

Client

172.24.0.51

request1

LB

Virtual IP
172.24.0.254

Server1:10
Server2:15
Server3:20

1

2

3

Apache Web
Server1
172.24.0.11
connections:10

Apache Web
Server2
172.24.0.21
connections:15

Apache Web
Server3
172.24.0.31
connections:20
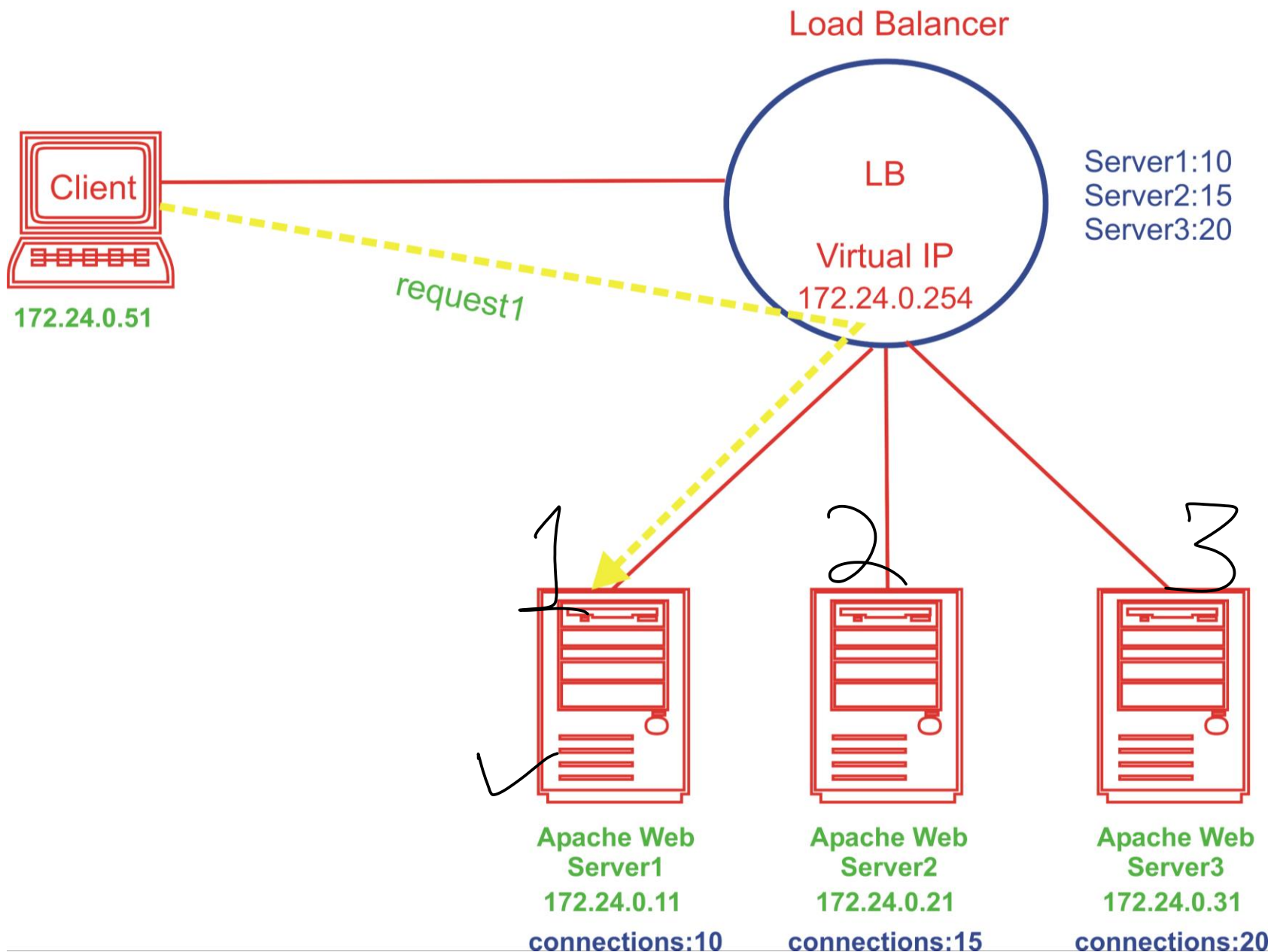
Server Load LB Strategy

Health
Monitor

Monitoring

SNS
Cloud Watch
CPU Utilization ≥ 5%

Load Balancer

Client
172.24.0.51

request1

LB

Virtual IP
172.24.0.254

Server1:35%
Server2:25%
Server3:15%

Apache Web
Server1
172.24.0.11
load:35%

Apache Web
Server2
172.24.0.21
load:25%

Apache Web
Server3
172.24.0.31
load:15%

Path Based Routing

Load Balancer

LB

Virtual IP
172.24.0.254

target group 1: /
target group 2: /demo

Client

http://172.24.0.254/demo

http://172.24.0.254

http://172.24.0.254

172.24.0.51

Group-1 /

Group 2 /demo/

target group 1

target group 2

Apache Web
Server1
172.24.0.11

Apache Web
Server2
172.24.0.21

Apache Web
Server3
172.24.0.31

Week - 7 - a

Load Balancers

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                    |
          ┌─────────┴─────────┐
         (1)                 (2)
```
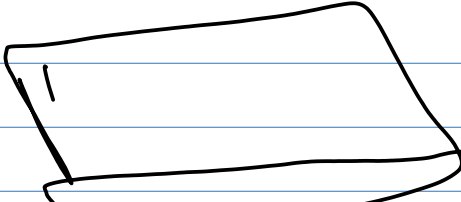
(1) ALB
Application
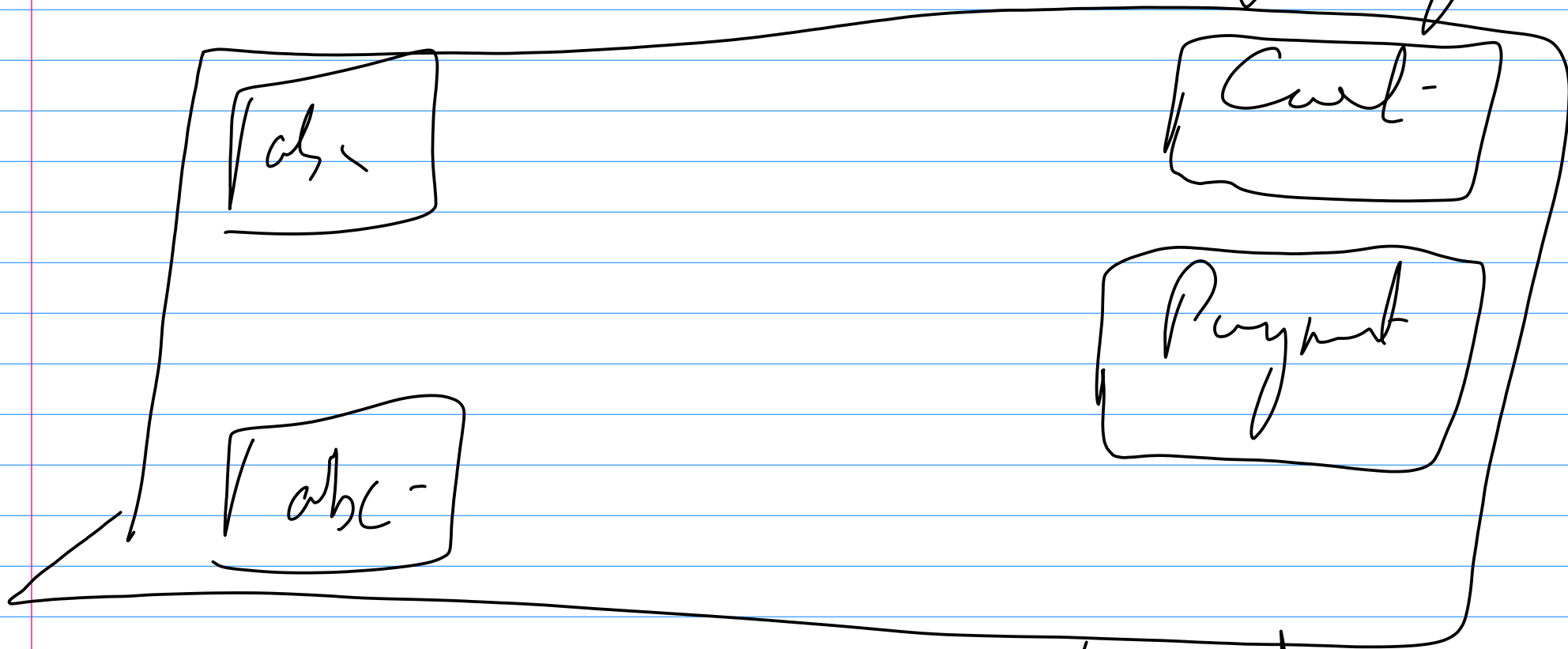Load Balancer

(2) NLB
Network Load
Balancer

OSI Model

Application
ALB
Layer # 7

HTTP / HTTPS

www.abc.com

N L B

Layer # 4

Transport

TCP, UDP

- High Performance
- Low Latency

Online Shopping System

abc

Cart

abc

Payment

nnn - abc com / cart

nnn - abc com / payments

Week - 7 - b

Previous Class $\longrightarrow$ Local Balancer Eq Lyyel

Today Class

$\quad\quad\quad\quad\hookrightarrow$ ALB , NLB

Path-Based Routing

Health Check

ping

ping

LB

S1 — Health

S2 Un-healthy

S3

a

c2

c3

c4