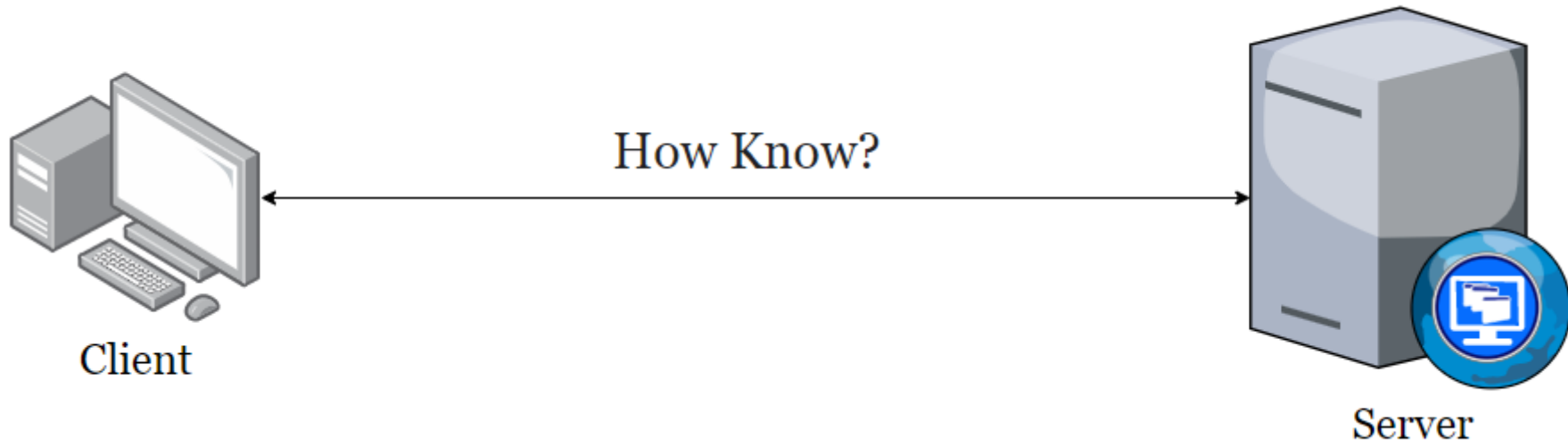


HTTP

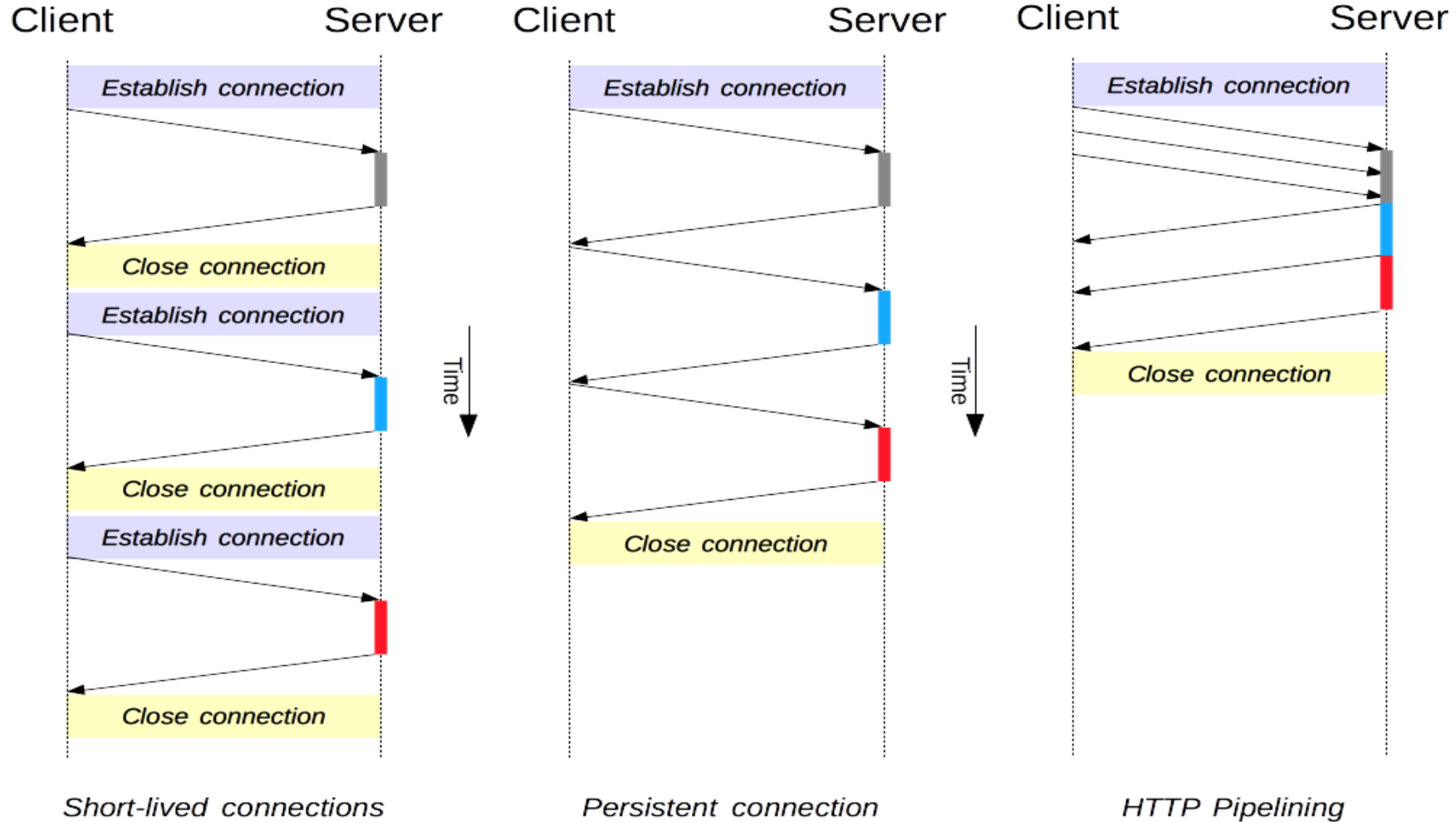
http에 대해 알아보자

what is HTTP?

HTTP is Protocol



HTTP/1.x

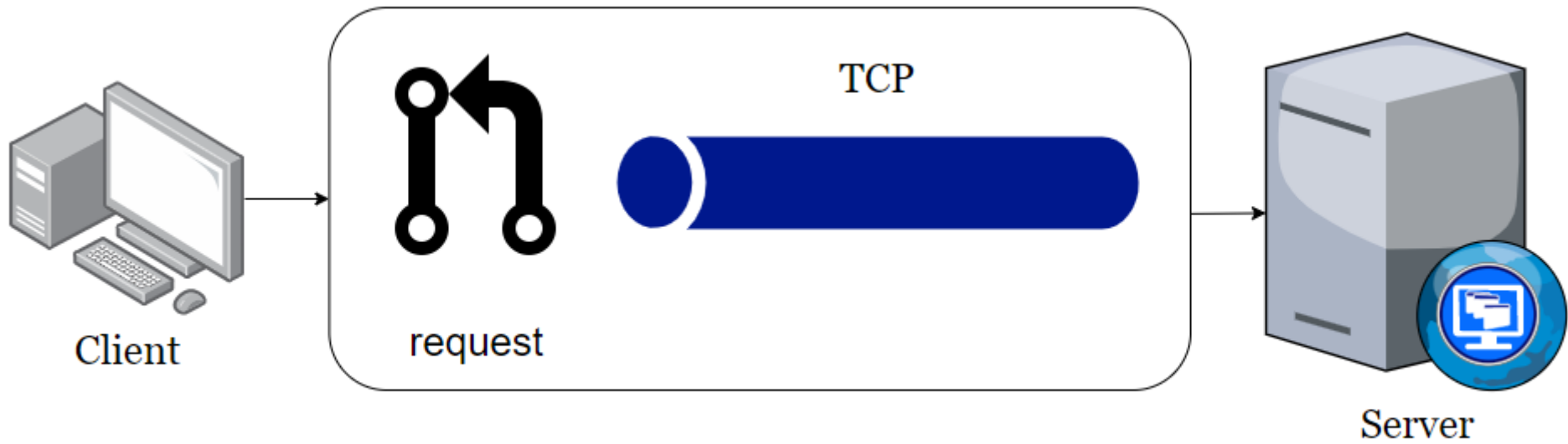


HTTP 개요

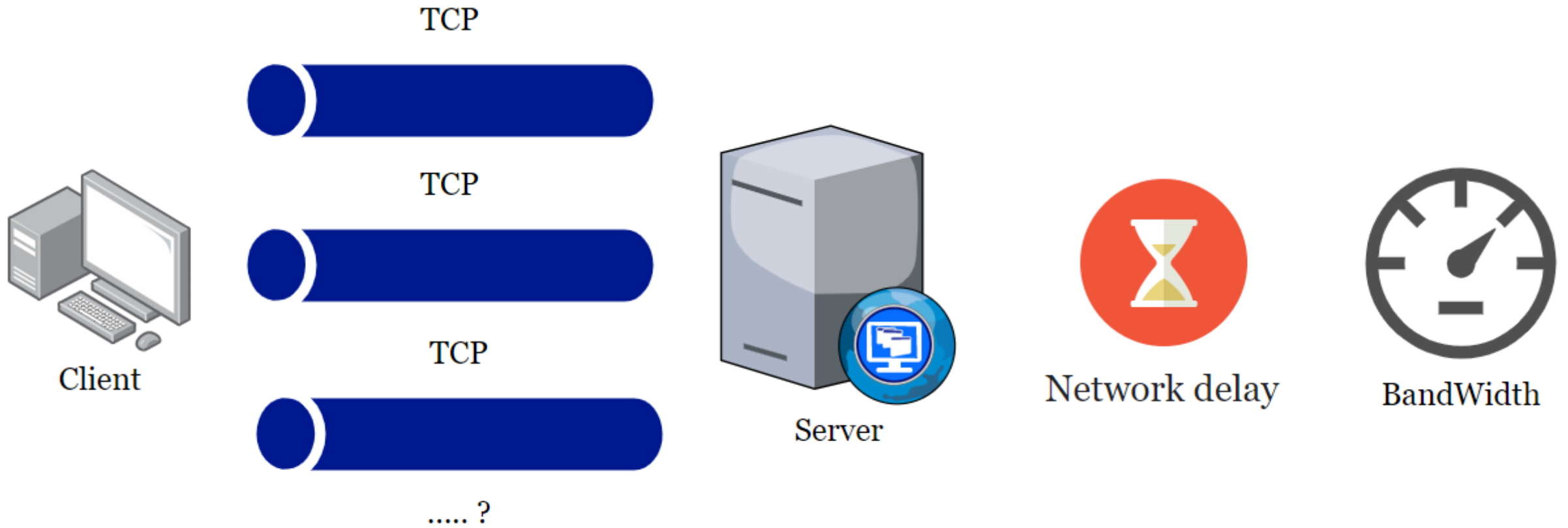


uses

TCP

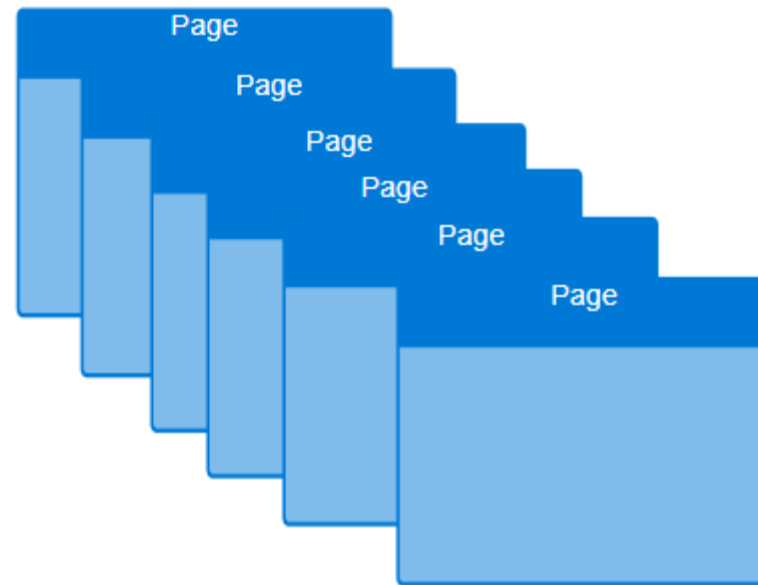


HTTP 개요



HTTP 개요

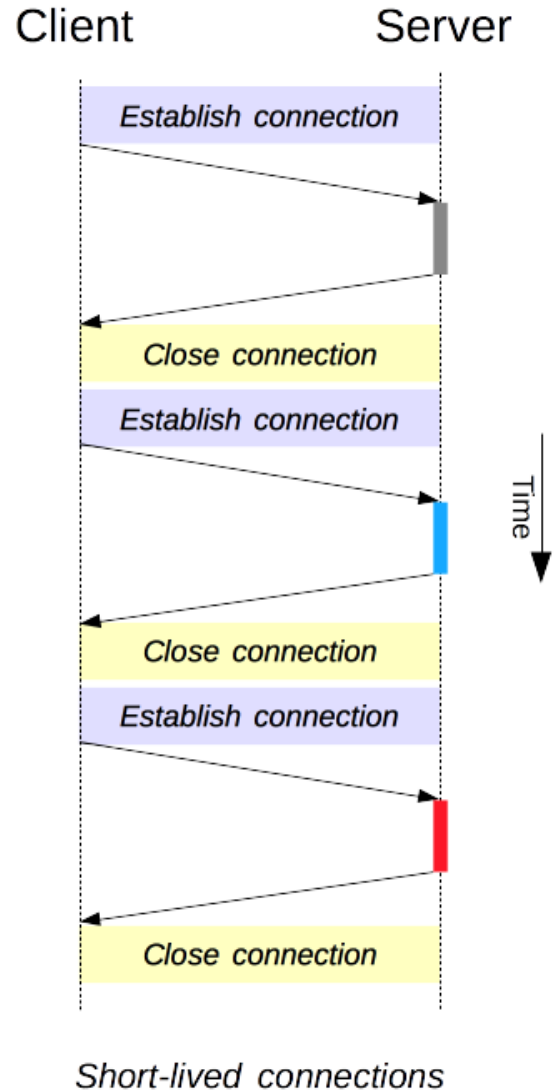
Modern
Pages



.....

- Persistent Connection Model
- HTTP Pipelining

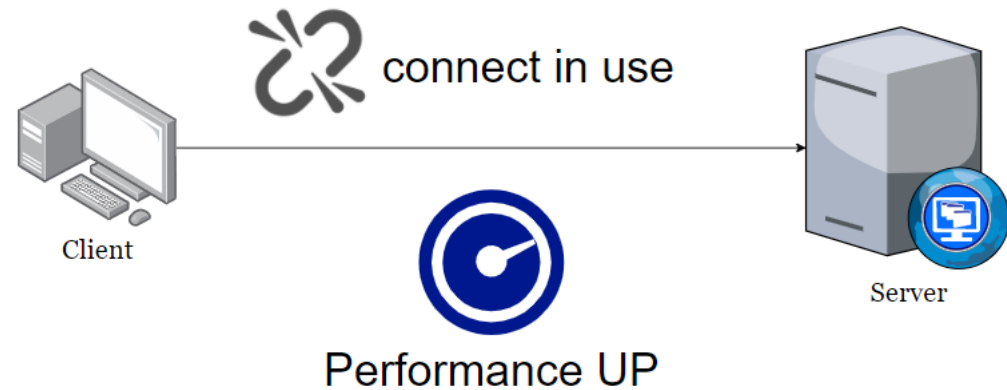
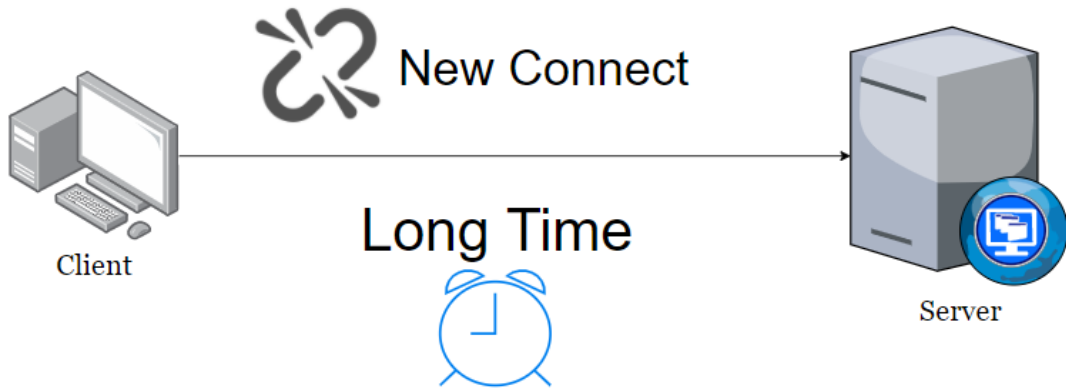
HTTP 개요



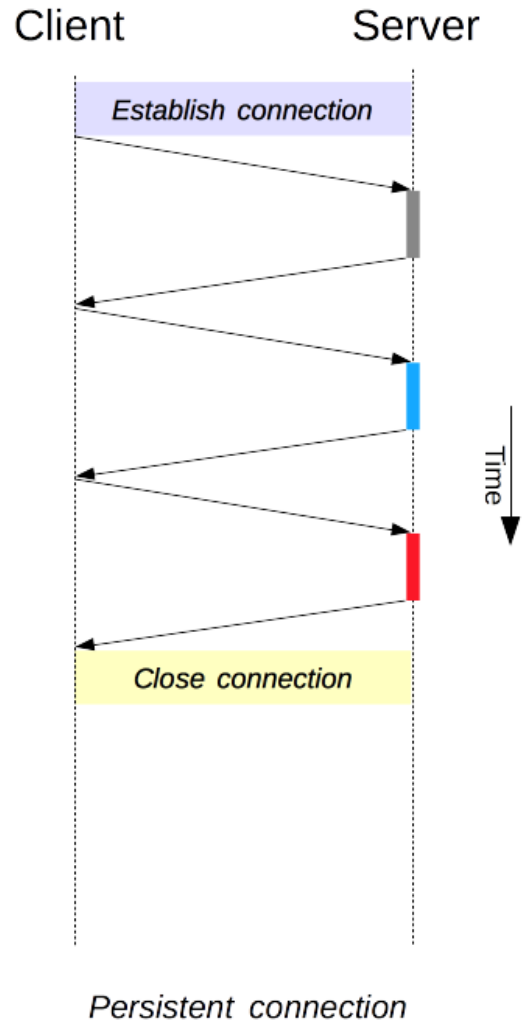
Short-lived connections

HTTP/1.0 default

HTTP - TCP 기반 connection 단점



HTTP 개요

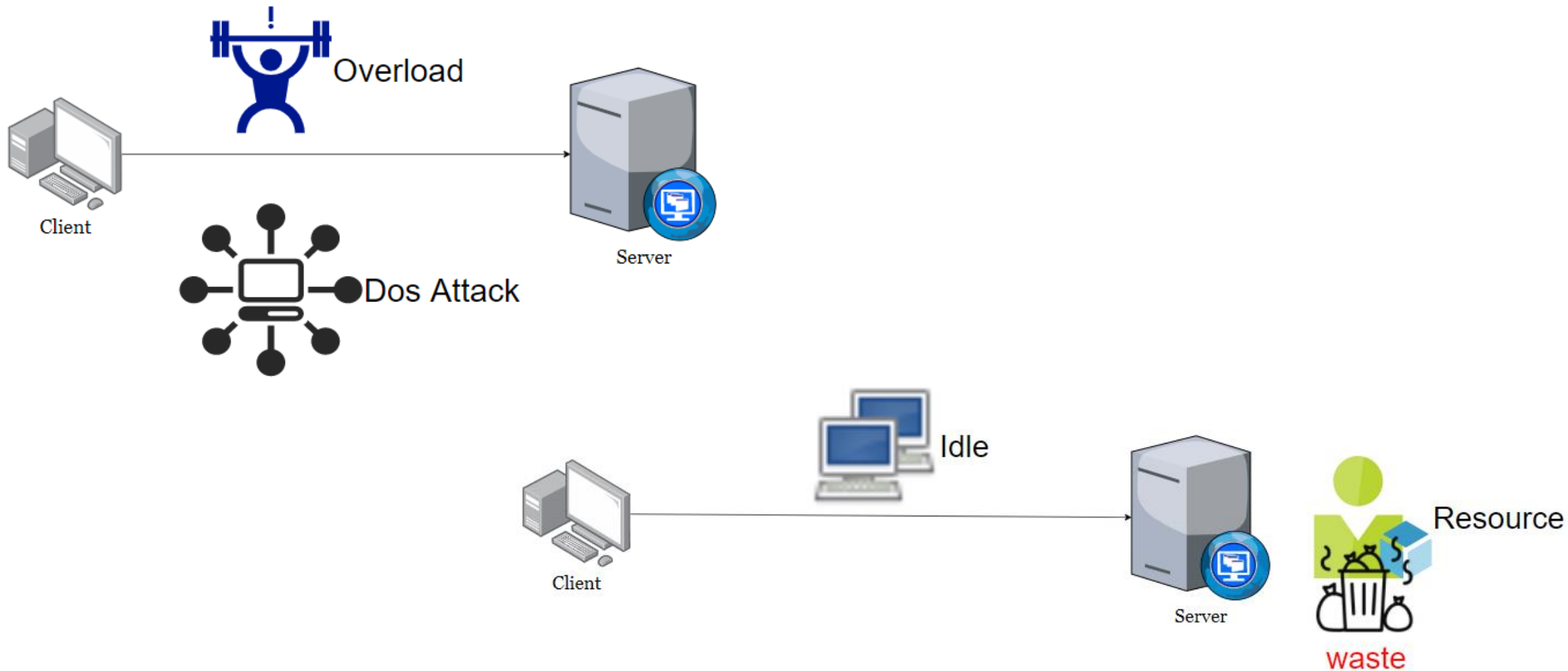


Persistent Connection Model



Keep-alive 장점



Keep-alive 단점



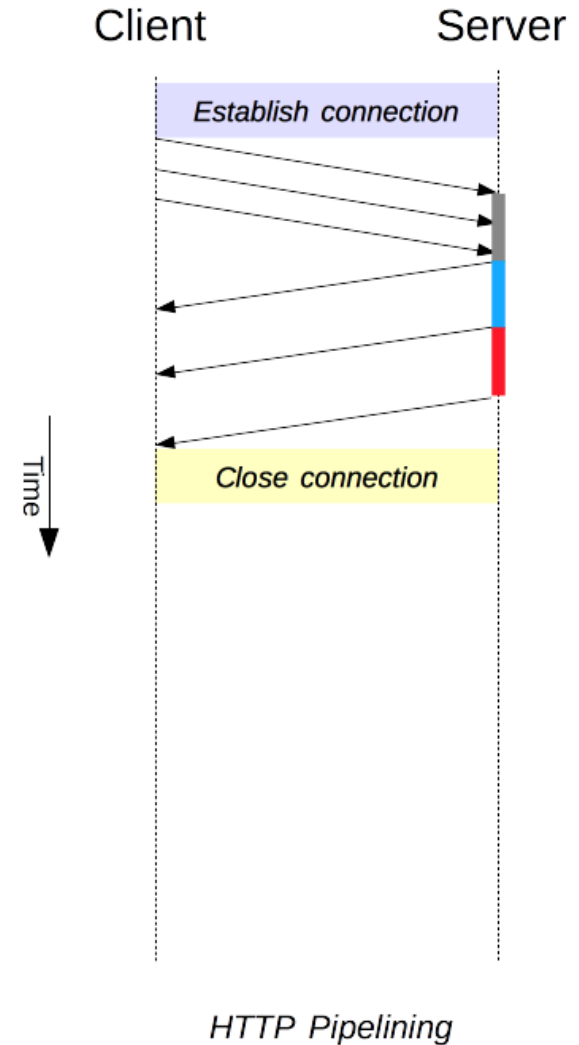
Keep-alive Header

Name	X Headers Preview Response Initiator Timing
 draft-thomson-hybi-http-time...	Remote Address: 64.170.98.42:443
 favicon.ico	Referrer Policy: origin
	<div>▼ Response Headers View source</div> <div>Accept-Ranges: bytes</div> <div>Connection: Keep-Alive</div> <div>Content-Encoding: gzip</div> <div>Content-Length: 9038</div> <div>Content-Type: text/html; charset=utf-8</div> <div>Date: Fri, 04 Mar 2022 08:28:51 GMT</div> <div>ETag: "b1ac57-83c0-4ccba1bc94040"</div> <div>Keep-Alive: timeout=5, max=100</div> <div>Last-Modified: Tue, 23 Oct 2012 13:40:09 GMT</div> <div>Server: Apache/2.2.22 (Debian)</div>

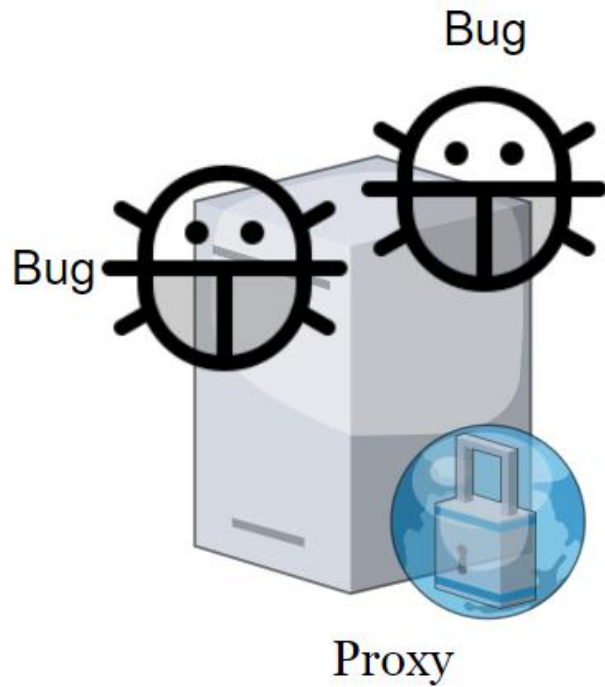
Keep-Alive Header : 연결이 최소한 얼마나 열려있어야 할 지를 설정

HTTP Pipelining

HTTP Pipelining



HTTP Pipelining



HARD
implement hard

Head Of Line

HTTP Pipelining => Multiplexing으로 대체 (HTTP/2에서 사용)

HTTP - Connection 관리

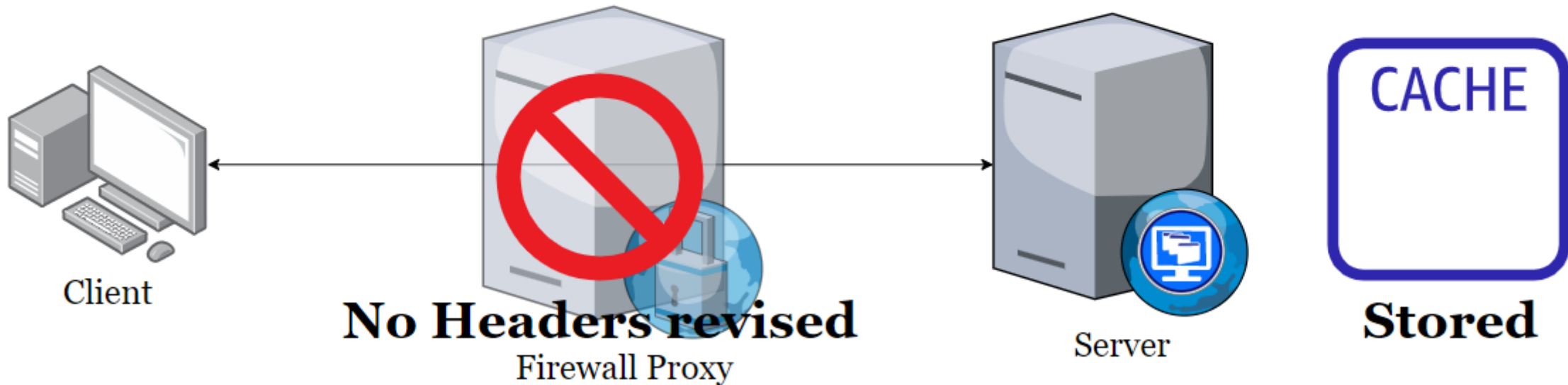
End to End Header

VS

Hop by Hop Header

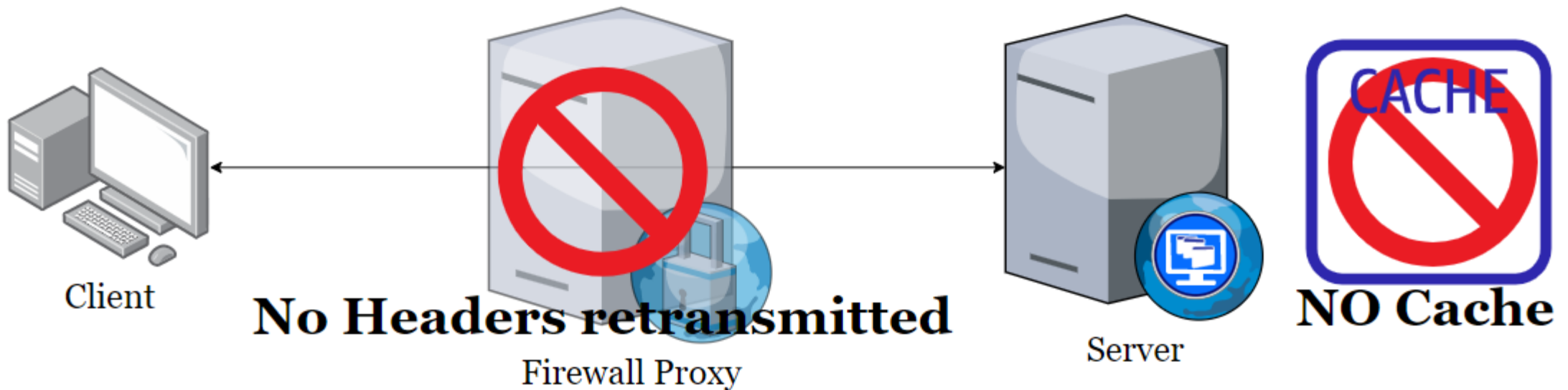
HTTP 개요 - Connection 관리

End to End Header

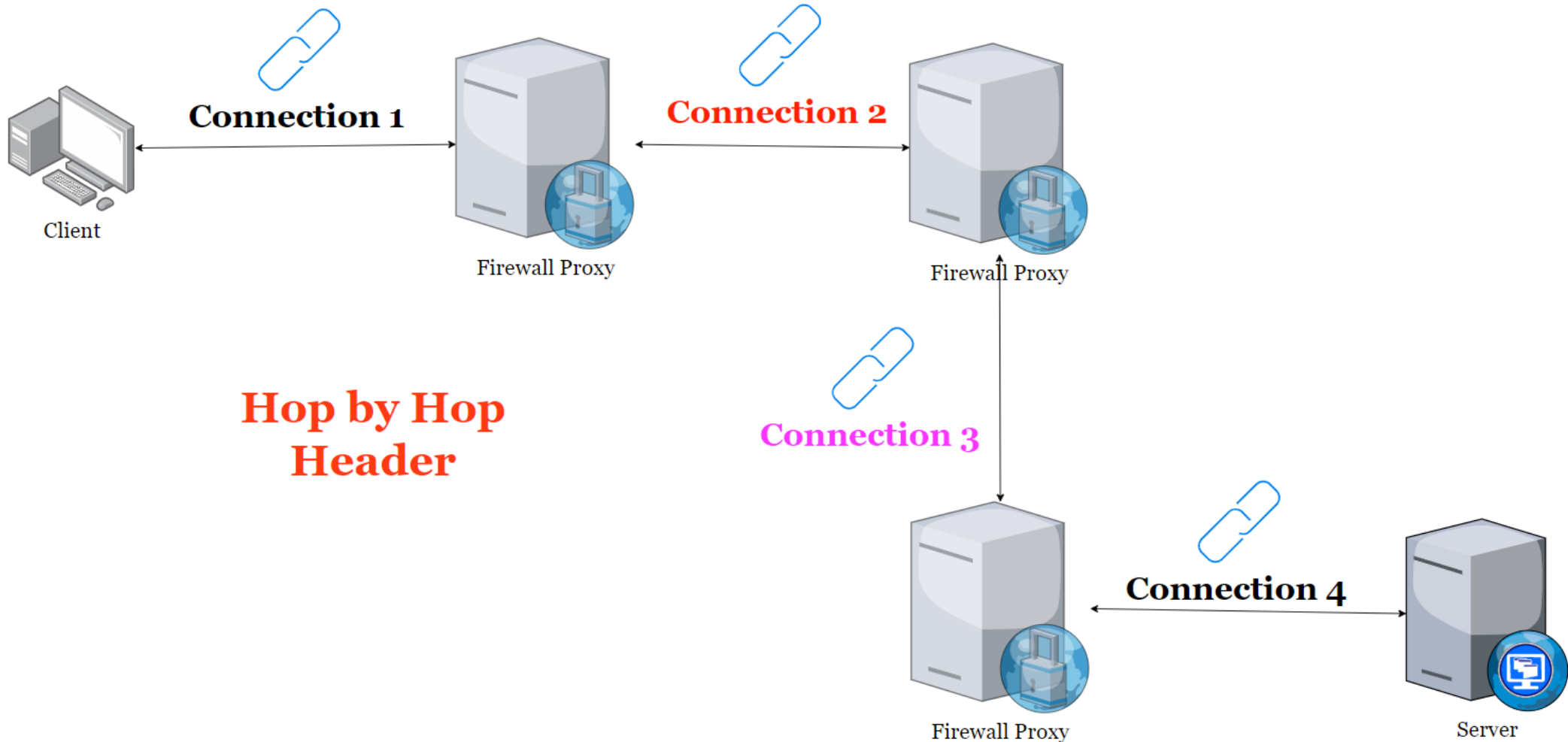


HTTP 개요 - Connection 관리

Hop by Hop Header



HTTP 개요 - Connection 관리



HTTP connection

TLS/1.0

WebSocket

HTTP/2

HTTP/1.0 vs HTTP/1.1

HTTP/1.0

Persistence

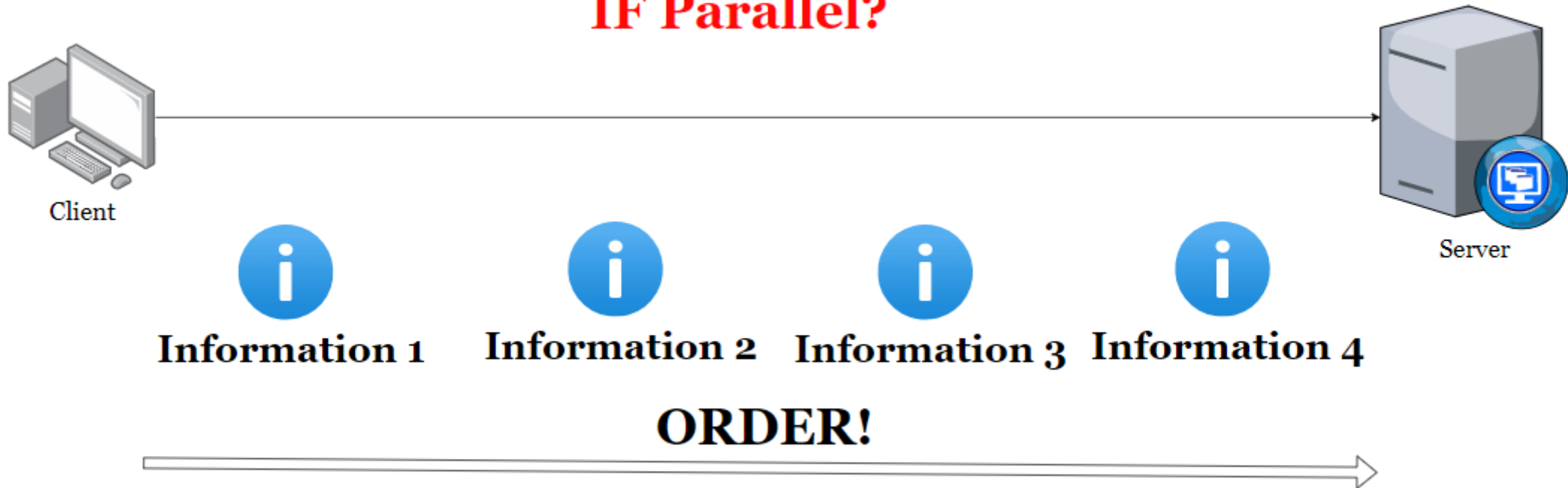


HTTP/1.1

Persistence

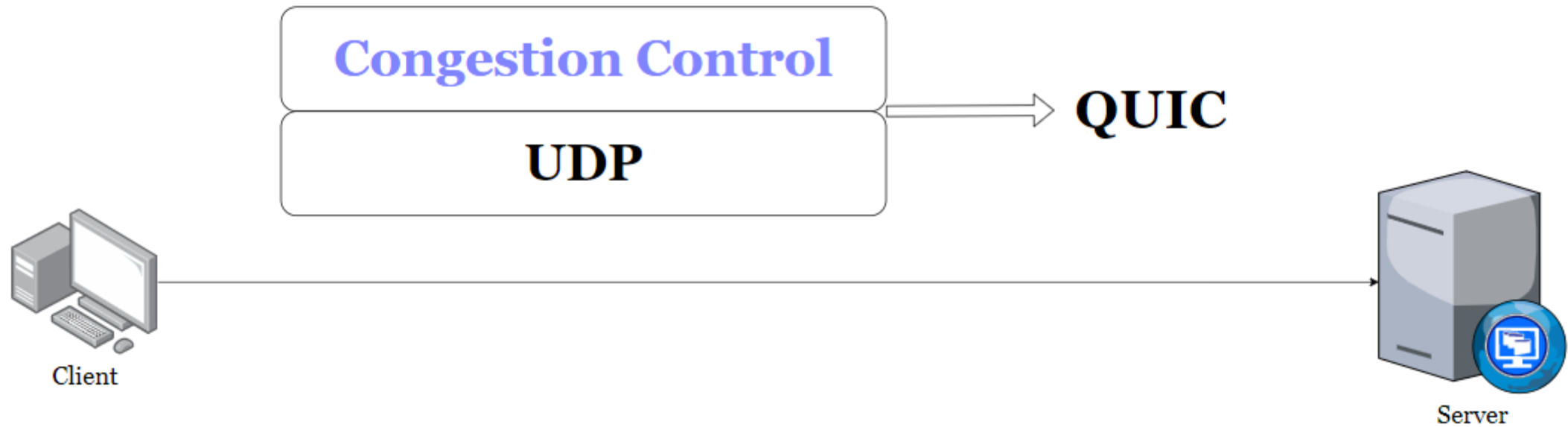
HTTP/2

IF Parallel?



1. Binary Framing 2. Multiplexing 3. Header Compression 4. Server Push

HTTP/3



TCP => QUIC Protocol (UDP)

참고

- https://developer.mozilla.org/ko/docs/web/HTTP/Connection_management_in_HTTP_1.x
- <https://developer.mozilla.org/en-US/docs/web/HTTP/Headers#hbh>