



WordCamp
Belgrade

18-19 April 2015

Unlearn your optimization skills:

HTTP/2 is here



HTTP/2 doesn't change everything

HTTP/2 is just a little different

1991: HTTP V0.9

1996: HTTP V1.0

199*: HTTP/1.1

2012: SPDY

2015: HTTP/2

The HTTP Restaurant

Browser is you

Server is the kitchen

Connection is the waiter

Assets are the food

The Restaurant: HTTP 1.0

A sandwich

1. Call for the waiter
2. Order bread
3. Waiter brings bread and leaves
4. Call for the waiter
5. Order cheese
6. Waiter brings cheese and leaves
7. Call for the waiter
8. Order ham
9. [...]

The Restaurant: HTTP/1.1

A sandwich

1. Call for 2-6 waiters
2. Order 1 item from each waiter
3. When a waiter brings an item,
he'll stay at your table waiting for you to order more items

The Restaurant: HTTP/2

A sandwich

1. Call for a waiter
2. Order a sandwich
3. Get the sandwich and a coffee,
with recommendations for other things you might like

Setting up a connection

1. TCP handshake
2. TLS handshake
3. TCP slow start

HTTP/2 basics:

Encrypt everything (HTTPS)

HTTP/2 basics:

Header compression

HTTP/2 basics:

1 connection

HTTP/2 basics:

Multiplexing

HTTP/2 basics:

Server Hints

HTTP/2 basics:

Server Push

Optimizing

Domain sharding Nope

Sprites Nope

Minify

Server Hint: Prefetching

```
<link rel="prefetch" href="/assets/app.js">
```

Cache-Control: "max-age=86400, public"

Content-Encoding: "gzip"

Content-Type: "text/html"

Date: "Sat, 18 Apr 2015 06:19:24 GMT"

Etag: "W/"552716da-4c7""

Last-Modified: "Fri, 10 Apr 2015 00:18:34 GMT"

Link: "</assets/app.js>; rel=prefetch"


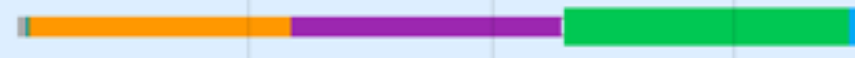



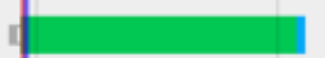











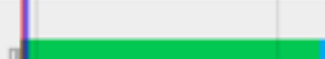


Server: "h2o/1.1.2-alpha1"

Strict-Transport-Security: "max-age=31536000"

Vary: "Accept-Encoding, Accept-Encoding"

X-Firefox-Spdy: "h2-16"



Name Path	Method	Status Text	Type	Initiator	Size Content	Time Latency	Timeline	100 ms	150 ms	200 ms	250 ms
 wordhou.se	GET	200 OK	text/html	Other	621 B 1.2 KB	177 ms 175 ms					
 styles.css?f=1 /static	GET	200 OK	text/css	wordhou.se/:12 Parser	102 B 34 B	62 ms 59 ms					
 styles.css?f=2 /static	GET	200 OK	text/css	wordhou.se/:13 Parser	60 B 34 B	62 ms 61 ms					
 styles.css?f=3 /static	GET	200 OK	text/css	wordhou.se/:14 Parser	60 B 34 B	67 ms 62 ms					
 styles.css?f=4 /static	GET	200 OK	text/css	wordhou.se/:15 Parser	60 B 34 B	67 ms 63 ms					
 styles.css?f=5 /static	GET	200 OK	text/css	wordhou.se/:16 Parser	60 B 34 B	67 ms 63 ms					
 styles.css?f=6 /static	GET	200 OK	text/css	wordhou.se/:17 Parser	60 B 34 B	67 ms 63 ms					
 styles.css?f=7 /static	GET	200 OK	text/css	wordhou.se/:18 Parser	60 B 34 B	67 ms 64 ms					
 styles.css?f=8 /static	GET	200 OK	text/css	wordhou.se/:19 Parser	60 B 34 B	67 ms 64 ms					
 styles.css?f=9 /static	GET	200 OK	text/css	wordhou.se/:20 Parser	60 B 34 B	67 ms 66 ms					

Server Push

Get what you want,
before you know it exists

Browser Support:

Chrome: Yup

Firefox: Yup

Opera: Yup

IE: v11 on Win 10

Safari: Nope

Server Support:

Nginx: By end of 2015

Apache: No

Others: h2o, nghttp2

Thank You! Questions?

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Slides and resources

<https://bjornjohansen.no/wcbg15>



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