HTTP/2

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"HTTP/2 enables a more **efficient** use of network resources and a reduced perception of latency by introducing **header field compression** and allowing **multiple concurrent messages** on the same connection. It also introduces **unsolicited push** of representations from **servers to clients.**"

— http://http2.github.io/http2-spec/

- **Wildfly successful … but …**
  - ○ **Allows only one request to be outstanding at a time on a given connection**
  - ○ **HTTP/1.1 pipelining only partially addressed request concurrency**
  - ○ **Header fields are often repetitive and verbose**

HTTP/2 to rescue

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- **Allows prioritization of requests**
- **Fewer TCP connections**
- **Binary message framing**

Essence of HTTP/2:

HTTP/2 supports all of the core features of HTTP/1.1, but aims to be more **efficient** in several ways.

- **Frame**

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- **Streams**

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- **Flow control and prioritization**

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- **Server push**

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- **Compressed HTTP header fields**

- **"http" and "https" URI schemes from HTTP/1.1**
- **Uses standard HTTP Upgrade**

```
GET /default.htm HTTP/1.1
Host: server.example.com
Connection: Upgrade, HTTP2-Settings
Upgrade: h2
HTTP2-Settings: <base64url encoding of HTTP/2 SETTINGS payload>
```

HTTP/2 Handshake Response

Does not support HTTP/2

```
HTTP/1.1 200 OK
Content-Length: 243
Content-Type: text/html

...
```

Support HTTP/2

```
HTTP/1.1 101 Switching Protocols
Connection: Upgrade
Upgrade: h2

[ HTTP/2 connection ...
```

- ## When ?

References

- Source: https://github.com/arun-gupta/decks/http2

- HTTPBIS WG list: http://lists.w3.org/Archives/Public/ietf-http-wg/

- Spec: http://http2.github.io/

- Slides generated with Asciidoctor and DZSlides backend

- Original slide template - Dan Allen & Sarah White

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