

Early Hints

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103 Early Hints

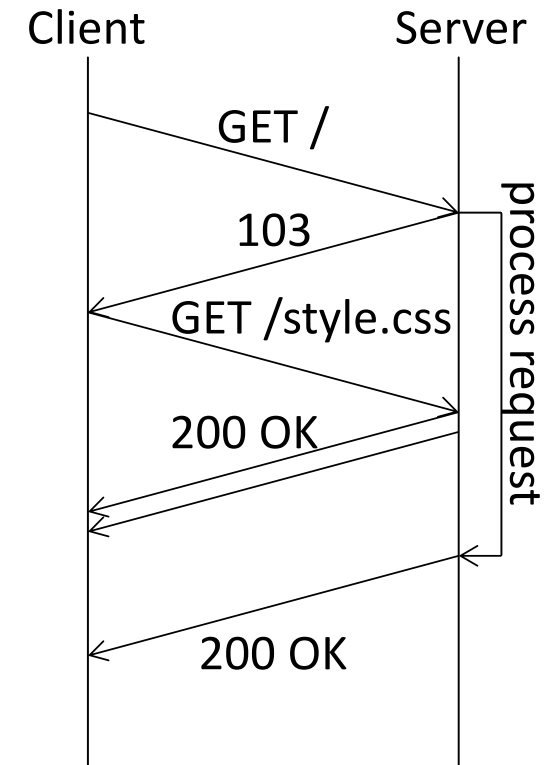
- notifies headers that are *likely* to appear in the final response

```
GET / HTTP/1.1
Host: example.com

HTTP/1.1 103 Early Hints
Link: </style.css>; rel=preload

HTTP/1.1 200 OK
Content-Type: text/html
Link: </style.css>; rel=preload

<!DOCTYPE HTML>
...
```



Changes since Seoul

- became WG draft
 - intended track: experimental
- reminder of cross-origin information leak
 - in security considerations
- forbid processing the header as part of the informational response itself

Cross-origin information leak

- a broken client may misinterpret a response as belonging to a different origin
 - if it doesn't recognize 1xx response
 - and if it connects through a forward proxy

```
GET / HTTP/1.1
Host: example.com
```

```
GET / HTTP/1.1
Host: example.jp
```

```
HTTP/1.1 103 Early Hints
Link: </style.css>; rel=preload
```

```
HTTP/1.1 200 OK
Content-type: text/plain
```

This response is for the first request, but...

```
HTTP/1.1 200 OK
```

```
...
```

Cross-origin information leak

- non-issue for HTTPS
 - since no intermediaries exist
- non-issue for HTTP/2
 - since request-response relationship is retained by a stream ID

When to apply 103 headers

- Q. should the headers of 103 response processes as part of the informational response itself, as well as (speculatively) processing them as part of the final response?
 - asked by Vasiliy Faronov on the mailing list, using Warning header as an example

When to apply 103 headers

- RFC 7231:
 - (MUST) treat an unrecognized status code as being equivalent to the x00 status code of that class / the client can simply discard this interim response (for 100 continue)
 - a user agent MAY ignore unexpected 1xx responses
- RFC 6265:
 - MAY ignore Set-Cookie headers contained in responses with 100-level status codes

When to apply 103 headers

- available options:
 - leave it a MAY or be explicit in either way
- approach in -01: be explicit
 - “client MUST NOT process the headers included in the (103) response as if they belonged to the informational response.”
 - reasoning:
 - well-defined behavior will benefit us in the long-term
 - that’s what most clients do today (am I correct?)