



# MUC Mage UNCONFERENCE

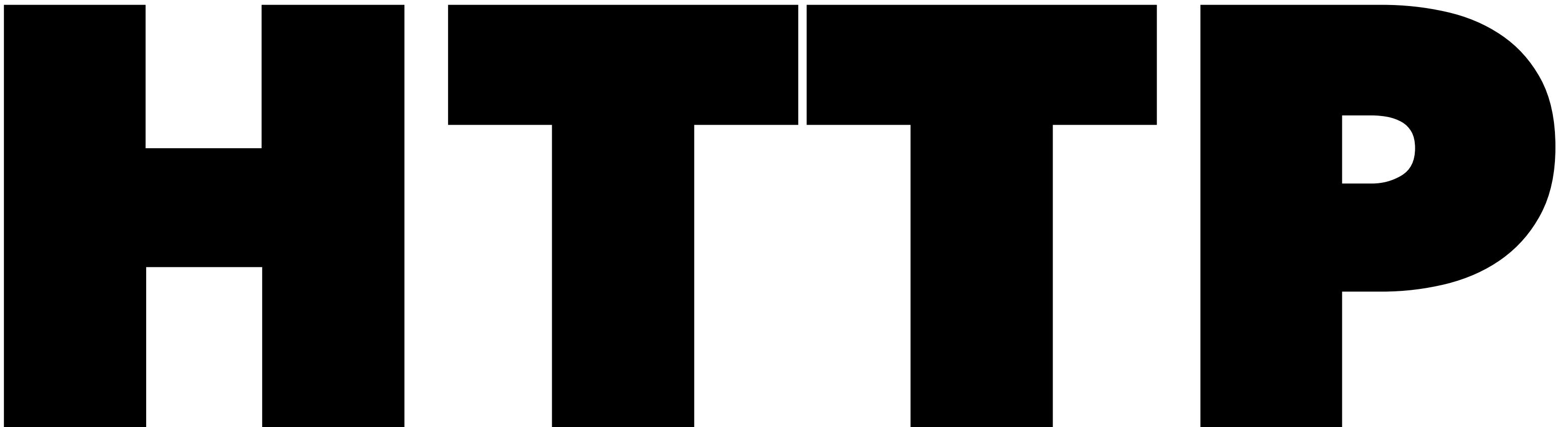
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MAGENTO PEOPLE  
A LOT OF TIME  
YOUR TOPICS  
YOUR TALKS

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#mageuc15  
[mageunconference.org](http://mageunconference.org)

BERLIN 2015



# Hypertext Transfer Protocol

*The Hypertext Transfer Protocol (HTTP) is an application-level protocol for distributed, collaborative, hypermedia information systems.*

## Hypertext Transfer Protocol -- HTTP/1.1 IETF. RFC 2616

# Why this talk?

- Know your tools

# Why this talk?

- Caching
- SEO

# About me

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- blechschmidt@fabian-blechschmidt.de
- Magento since 2011
  - Certified Magento Developer (Plus)

playing a lot around, at the moment: TDD, BDD, DDD

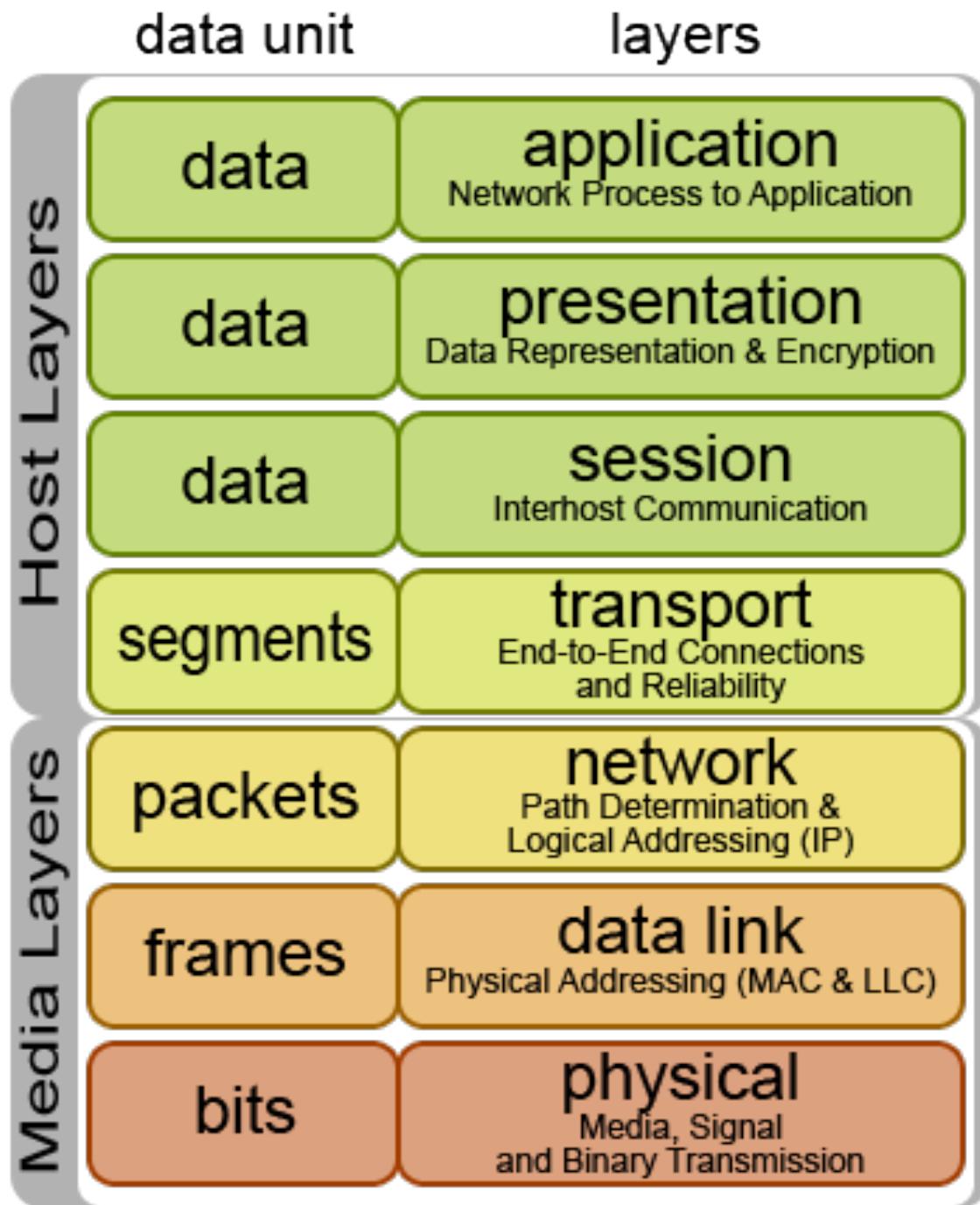
# Outline

- History
- Request and Response
- Methods
- Status codes
- Caching
- (Future)

# History

- First idea:  
Vannevar Bush's vision (1930's) of the microfilm-based information retrieval and management **memex**  
As We May Think (1945)
- Ted Nelson in 1965 in the Xanadu Project
- First version: 1991 HTTP 0.9

# OSI Model



# OSI

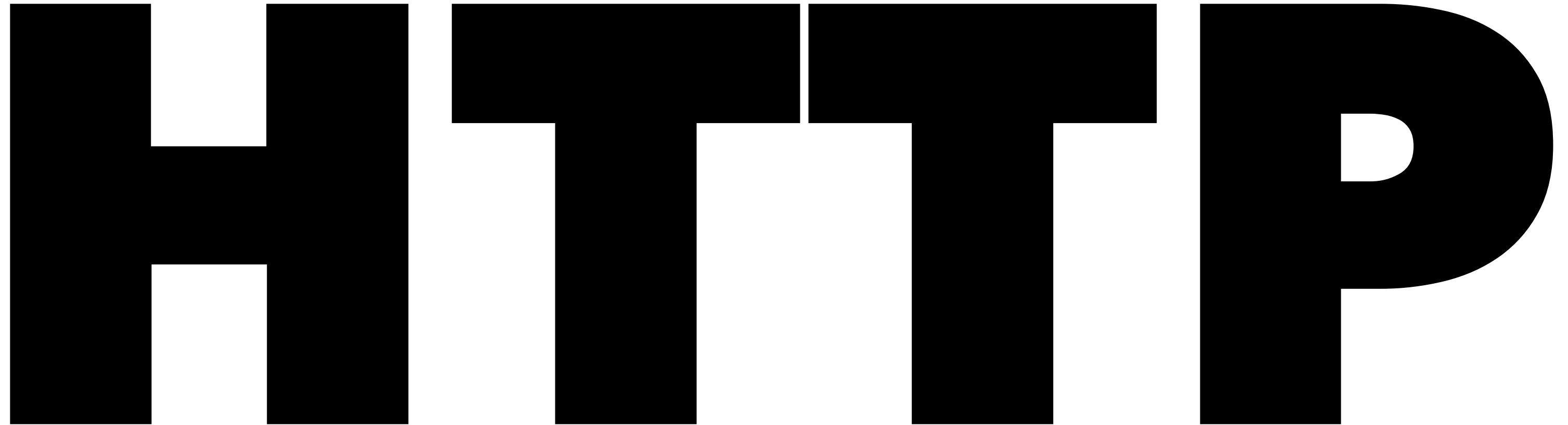
## Application Protocol - Layer 7

- HTTP
- TCP
- IP
- Ethernet

# Basics

HTTP is

- stateless
- plaintext (readable)
- request/response pattern



# request & response

# HTTP Request

GET /my-cool-path/filename HTTP/1.1

Host: www.example.com

User-Agent: Mozilla/5.0 (X11; Linux x86\_64; rv:12.0) Gecko/20100101 Firefox/21.0

Referer: http://en.wikipedia.org/wiki/Main\_Page

Range: bytes=500-999

Accept-Encoding:gzip,deflate,sdch

Accept-Language:de-DE,de;q=0.8,en-US;q=0.6,en;q=0.4

Cache-Control:max-age=0

Cookie: \$Version=1; Skin=new;

Connection: keep-alive

If-Modified-Since:Tue, 25 Nov 2014 03:08:54 GMT

Accept:text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,\*/\*;q=0.8

# HTTP Response

HTTP/1.1 200 OK

Date: Mon, 23 May 2005 22:38:34 GMT

Server: Apache/1.3.3.7 (Unix) (Red-Hat/Linux)

Last-Modified: Wed, 08 Jan 2003 23:11:55 GMT

ETag: "3f80f-1b6-3e1cb03b"

Content-Type: text/html; charset=UTF-8

Content-Length: 131

Accept-Ranges: bytes

Connection: close

```
<html>
<head>
  <title>An Example Page</title>
</head>
<body>
  Hello World, this is a very simple HTML document.
</body>
</html>
```

OPERATION	SQL	HTTP
Create	INSERT	PUT/POST
Read	SELECT	GET
Update	UPDATE	PUT/PATCH
Delete	DELETE	DELETE

# Methods

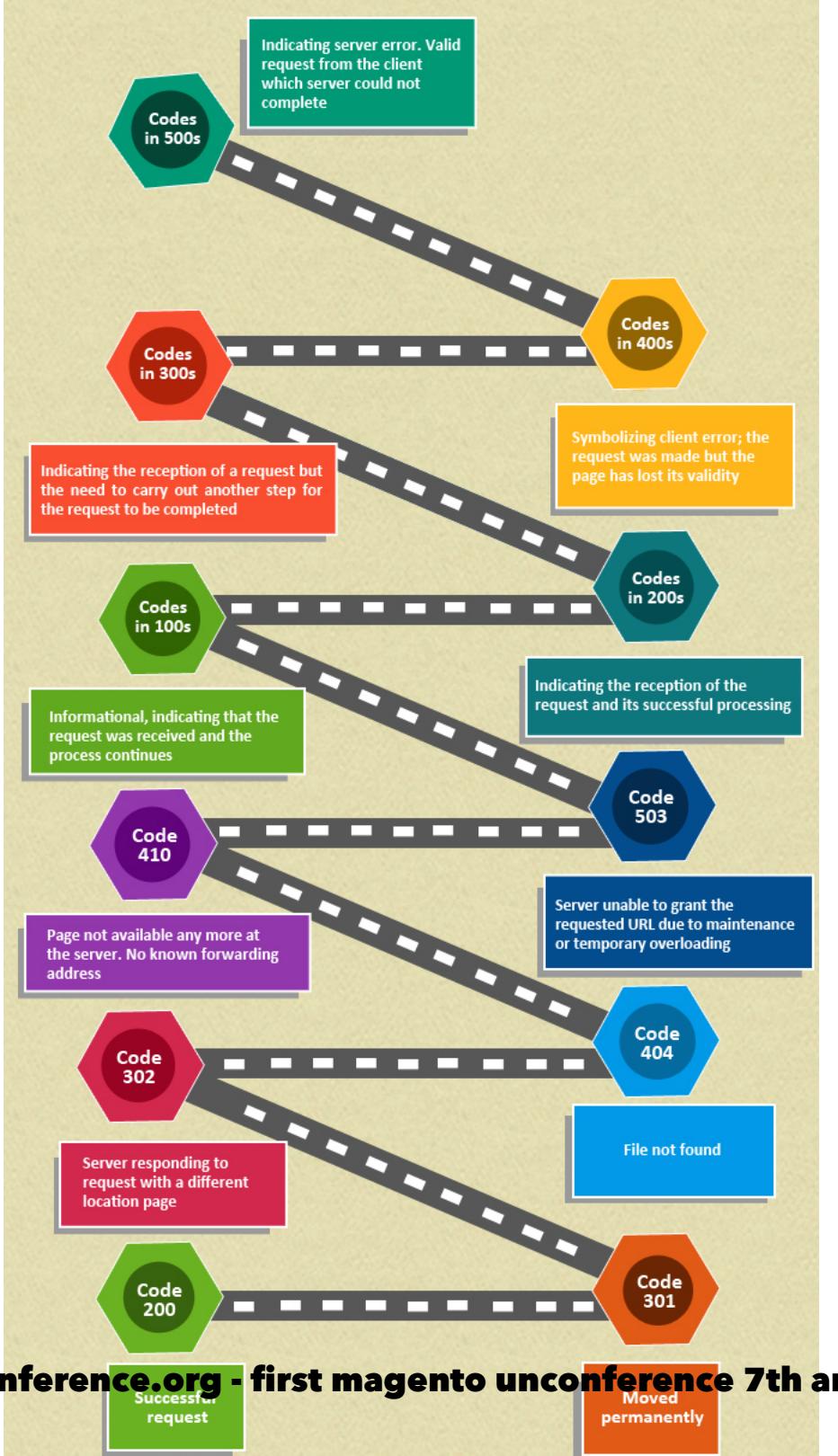
# Methods

- GET
- POST
- PUT
- DELETE

# more Methods

- HEAD
- TRACE
- OPTIONS
- PATCH

## Understanding HTTP Status Codes



# Status codes



100

Continue

## 1xx: Informational Messages

100: Continue

101: Switching Protocols

## 2xx: Successful

*Everything is ok!*

200 OK

202 Accepted

204 No Content

205 Reset Content

206 Partial Content

# The Perfect Guy



(Always Delivers.)



304

Not Modified

## 3xx: Redirection

*Try it somewhere else!*

- 300 Multiple Choices
- 301 Moved Permanently
- 302 Found
- 303 See Other
- 304 Not Modified
- 305 Use Proxy
- 307 Temporary Redirect

# SEO

301 - Permanent redirect

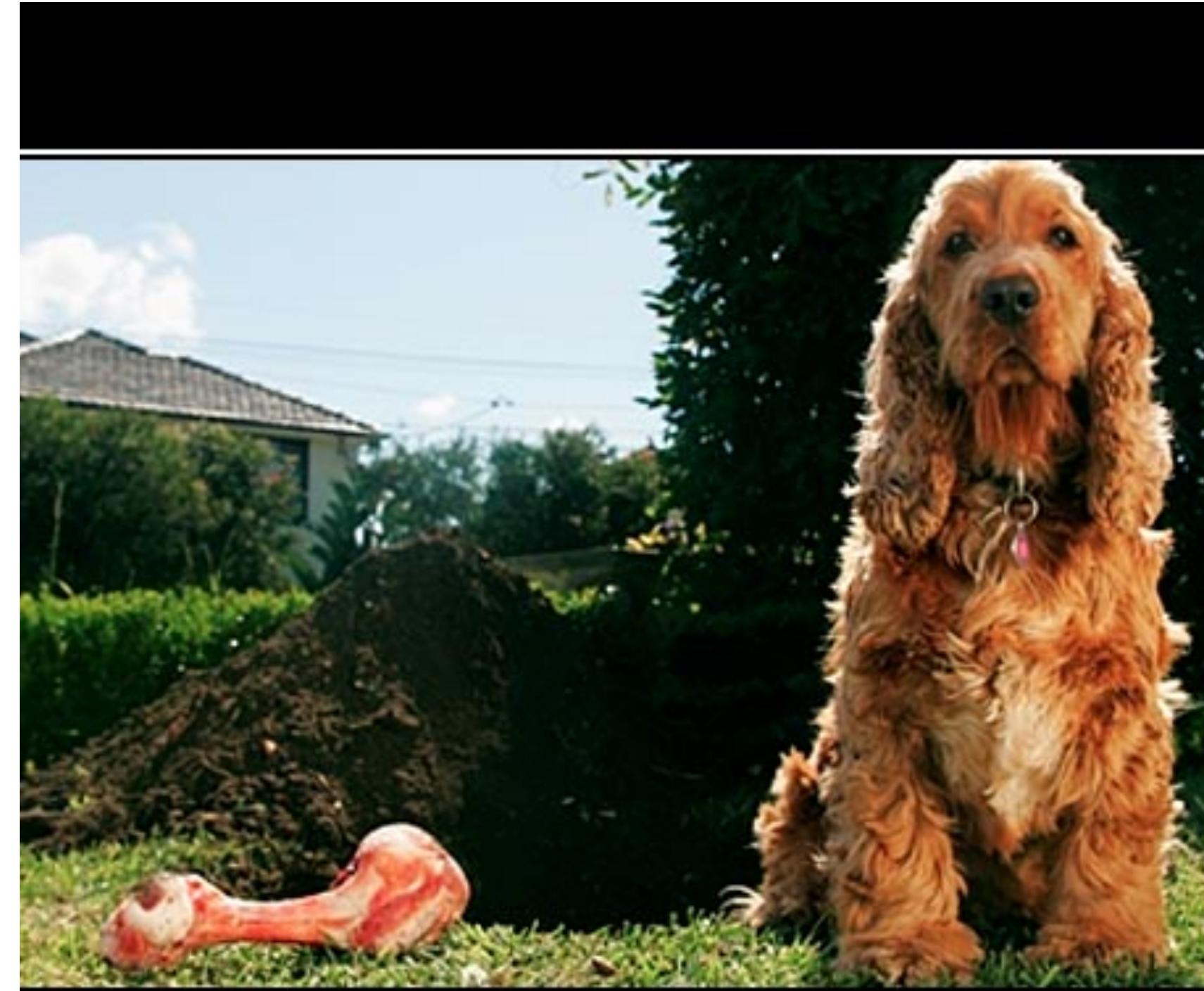
302 - Temporary redirect

# **302 Found**

Learned through reading RFCs:

- should follow Location header  
WITHOUT changing method!

**All browsers do this wrong.**



**302**  
**Found**



# Client Error 4xx

You made something wrong.

- 400 Bad Request
- 401 Unauthorized
- 402 Payment Required
- 403 Forbidden
- 404 Not Found
- 405 Method Not Allowed
- 406 Not Acceptable
- 407 Proxy Authentication Required
- 408 Request Timeout
- 409 Conflict
- 410 Gone

# SEO

- 404 should include options where to go now
- should be 301 whenever possible

# Server Error 5xx

We made something wrong.

500 Internal Server Error

501 Not Implemented

502 Bad Gateway

503 Service Unavailable

504 Gateway Timeout

505 HTTP Version Not Supported



# Caching<sup>1</sup>

- etag
- Cache-Control header

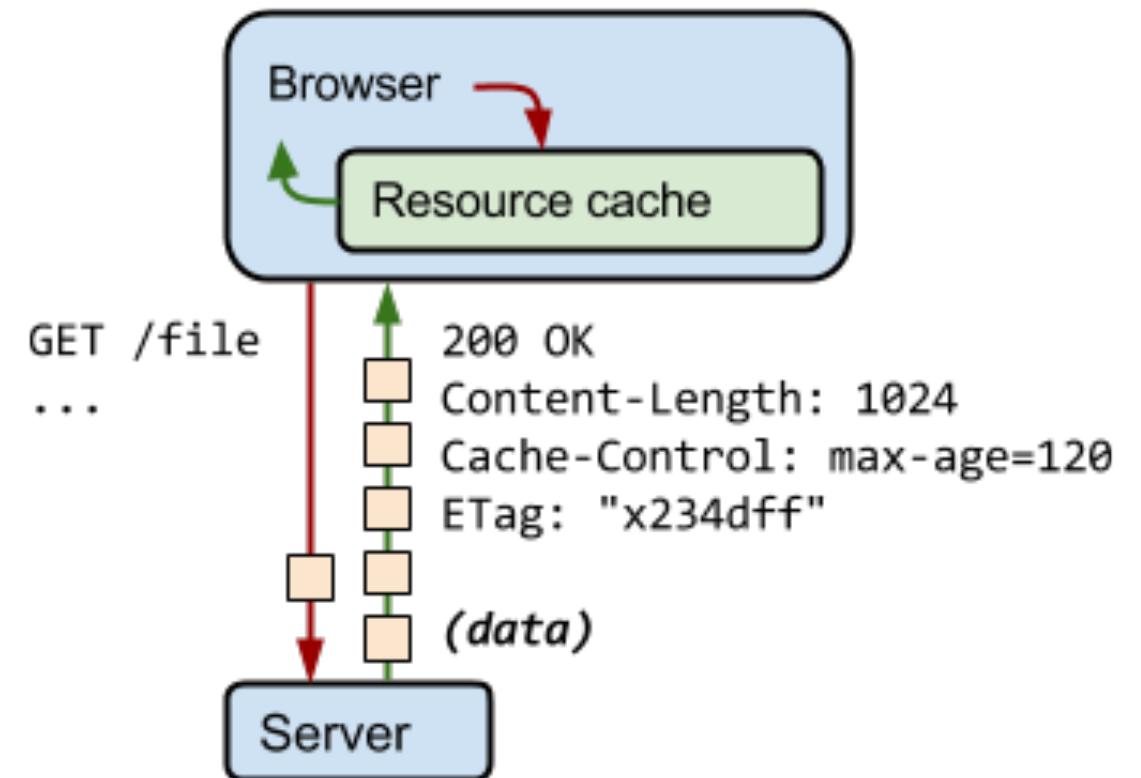
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<sup>1</sup> <https://tools.ietf.org/html/rfc7234>



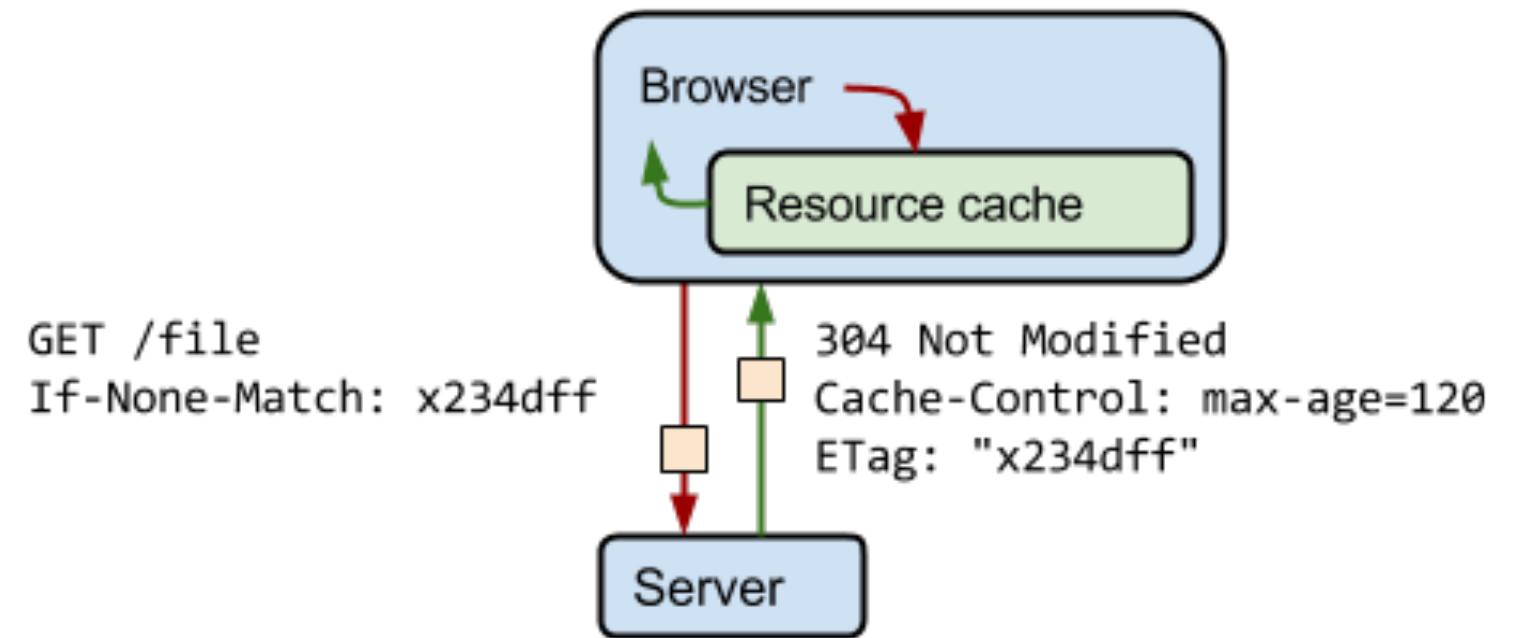
# Etags

First request without cached version



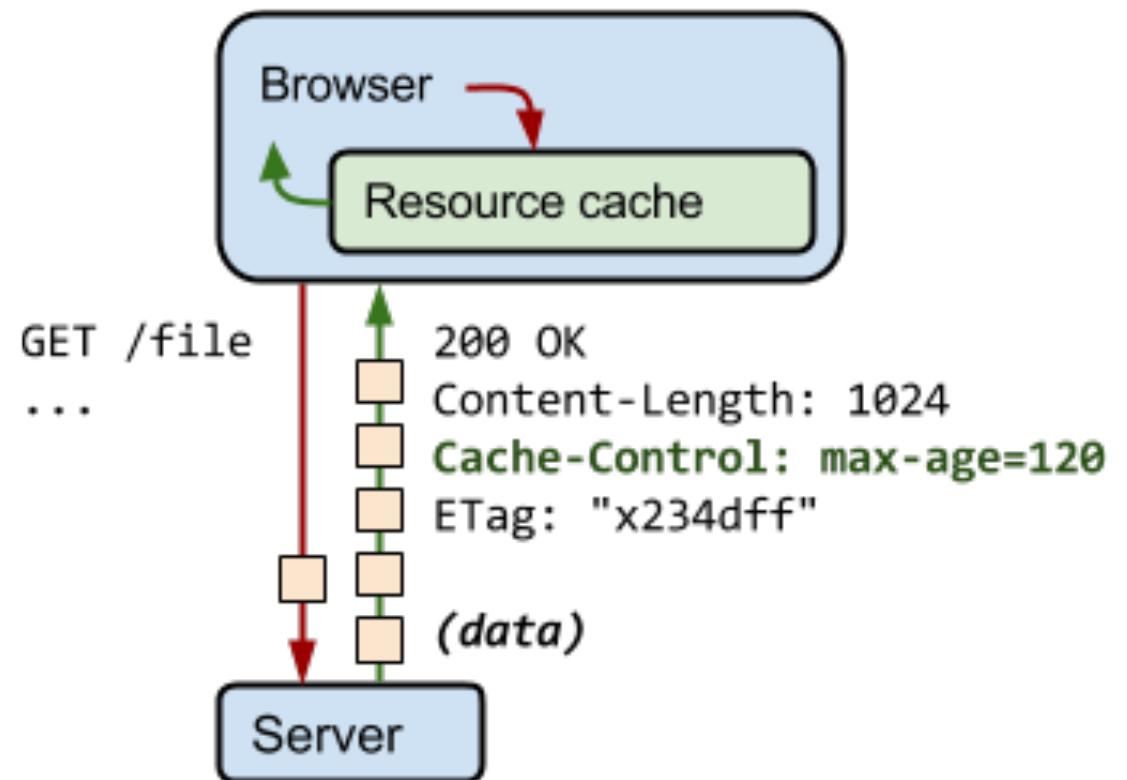
# Etags

Validating cached responses with  
ETags

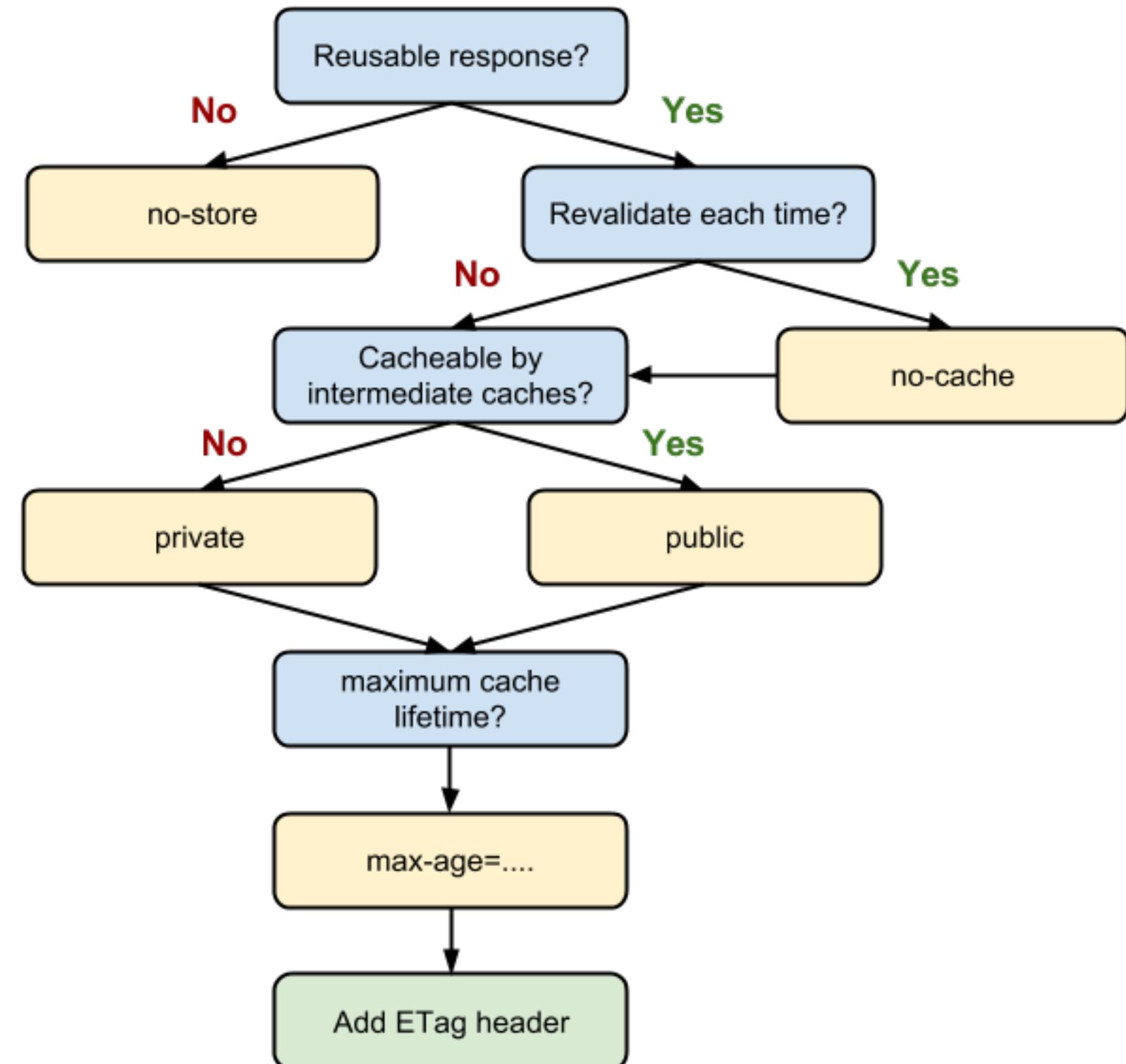


# Cache-Control header

Send Cache-Control header



# How to cache



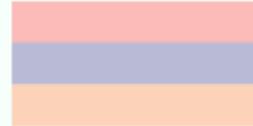
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the free encyclopedia that anyone can edit.

2,303,441 articles in English

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## Today's featured article



The Flag of Armenia consists of three horizontal bands of equal width, red on the top, blue in the middle, and orange on the bottom.

The Armenian Supreme Council adopted the current flag on August 24, 1990. On June 15, 2006, the Law on the National Flag of Armenia was passed by the Armenian Parliament. Throughout history, there were many variations of the Armenian flag. In ancient times, Armenian dynasties were represented by different symbolic animals displayed on their flags. In the twentieth century, various Soviet flags represented the Armenian nation. ([more...](#))

Recently featured: Technology of the Song Dynasty – Sea otter – Freedom Monument

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## Did you know...

From Wikipedia's newest articles:

**MageUnconference.org - first magento unconference 7th and 8th May in Berlin, Germany**

curl -I http://blog.joshnotes.co  
OK  
Nov 2012 02:16:09 GMT  
http://blog.joshnotes.co  
W3 Total Cache/0.9.2.4  
Sat, 17 Nov 2012 02:  
none  
User-Agent: IE=Edge,chrome=1  
text/html; charset=UTF-8

# User Agents

- web browser
- crawler
- search bots -> robots.txt
- screen reader
- HTTP proxy

# Future

- SPDY
- HTTP 2.0

# **Thank you Questions?**

<http://theslidesareonline.de/http>

# Resources

- <https://developers.google.com/web/fundamentals/performance/optimizing-content-efficiency/http-caching?hl=en>
- <http://code.tutsplus.com/tutorials/http-the-protocol-every-web-developer-must-know-part-1--net-31177>
- <https://en.wikipedia.org/wiki/HypertextTransferProtocol>
- <http://zacstewart.com/2012/04/14/http-options->

# Resources

- <https://stackoverflow.com/questions/2068418/whats-the-difference-between-a-302-and-a-307-redirect>
- <http://www.chromium.org/spdy/spdy-whitepaper>
- <https://tools.ietf.org/html/draft-ietf-httpbis-http2-15>

# Images

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- <https://en.wikipedia.org/wiki/File:Netscape9.png>
- <http://www.navigatecorp.com/wp-content/uploads/back-to-the-future-delorean1.jpg>
- <http://httpstatusdogs.com/>
- <http://www.viralseoservices.com/resources/http-status-codes-explained.html>
- [http://curriculum.railsbridge.org/job-board/crud\\_and\\_resourceful\\_routing](http://curriculum.railsbridge.org/job-board/crud_and_resourceful_routing)
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