      The Hypertext Transfer Protocol Status Code 308 (Permanent Redirect)

Abstract

   This document specifies the additional Hypertext Transfer Protocol
   (HTTP) status code 308 (Permanent Redirect).

Status of This Memo

   This is an Internet Standards Track document.

   This document is a product of the Internet Engineering Task Force
   (IETF). It represents the consensus of the IETF community. It has
   received public review and has been approved for publication by the
   Internet Engineering Steering Group (IESG). Further information on
   Internet Standards is available in Section 2 of RFC 5741.

   Information about the current status of this document, any errata,
   and how to provide feedback on it may be obtained at
   http://www.rfc-editor.org/info/rfc7538.

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1. Introduction

HTTP defines a set of status codes for the purpose of redirecting a
request to a different URI ([RFC3986]). The history of these status
codes is summarized in Section 6.4 of [RFC7231], which also
classifies the existing status codes into four categories.

The first of these categories contains the status codes 301 (Moved
Permanently), 302 (Found), and 307 (Temporary Redirect), which can be
classified as below:

	Permanent	Temporary
Allows changing the request method from POST to GET	301	302
Does not allow changing the request method from POST to GET	-	307

Section 6.4.7 of [RFC7231] states that it does not define a permanent
variant of status code 307; this specification adds the status code
308, defining this missing variant (Section 3).

This specification contains no technical changes from the
Experimental RFC 7238, which it obsoletes.

2. Notational Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
"SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
document are to be interpreted as described in [RFC2119].

3. 308 Permanent Redirect

   The 308 (Permanent Redirect) status code indicates that the target
   resource has been assigned a new permanent URI and any future
   references to this resource ought to use one of the enclosed URIs.
   Clients with link editing capabilities ought to automatically re-link
   references to the effective request URI (Section 5.5 of [RFC7230]) to
   one or more of the new references sent by the server, where possible.

   The server SHOULD generate a Location header field ([RFC7231],
   Section 7.1.2) in the response containing a preferred URI reference
   for the new permanent URI. The user agent MAY use the Location field
   value for automatic redirection. The server's response payload
   usually contains a short hypertext note with a hyperlink to the new
   URI(s).

   A 308 response is cacheable by default; i.e., unless otherwise
   indicated by the method definition or explicit cache controls (see
   [RFC7234], Section 4.2.2).

      Note: This status code is similar to 301 (Moved Permanently)
      ([RFC7231], Section 6.4.2), except that it does not allow changing
      the request method from POST to GET.

4. Deployment Considerations

   Section 6 of [RFC7231] requires recipients to treat unknown 3xx
   status codes the same way as status code 300 (Multiple Choices)
   ([RFC7231], Section 6.4.1). Thus, servers will not be able to rely
   on automatic redirection happening similar to status codes 301, 302,
   or 307.

   Therefore, the use of status code 308 is restricted to cases where
   the server has sufficient confidence in the client's understanding
   the new code or when a fallback to the semantics of status code 300
   is not problematic. Server implementers are advised not to vary the
   status code based on characteristics of the request, such as the
   User-Agent header field ("User-Agent Sniffing") -- doing so usually
   results in code that is both hard to maintain and hard to debug and
   would also require special attention to caching (i.e., setting a
   "Vary" response header field, as defined in Section 7.1.4 of
   [RFC7231]).

Note that many existing HTML-based user agents will emulate a refresh
when encountering an HTML <meta> refresh directive ([HTML],
Section 4.2.5.3). This can be used as another fallback. For
example:

Client request:

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

Server response:

```
HTTP/1.1 308 Permanent Redirect
Content-Type: text/html; charset=UTF-8
Location: http://example.com/new
Content-Length: 356

<!DOCTYPE HTML>
<html>
   <head>
      <title>Permanent Redirect</title>
      <meta http-equiv="refresh"
            content="0; url=http://example.com/new">
   </head>
   <body>
      <p>
         The document has been moved to
         <a href="http://example.com/new"
         >http://example.com/new</a>.
      </p>
   </body>
</html>
```

5. Security Considerations

All security considerations that apply to HTTP redirects apply to the
308 status code as well (see Section 9 of [RFC7231]).

Unsecured communication over the Internet is subject to man-in-the-
middle modification of messages, including changing status codes or
redirect targets. Use of Transport Layer Security (TLS) is one way
to mitigate those attacks. See Section 9 of [RFC7230] for related
attacks on authority and message integrity.

6. IANA Considerations

The "Hypertext Transfer Protocol (HTTP) Status Code Registry"
(defined in Section 8.2 of [RFC7231] and located at
<http://www.iana.org/assignments/http-status-codes>) has been updated
to reference this specification.

```
+-------+--------------------+----------------------------------+
| Value | Description        | Reference                        |
+-------+--------------------+----------------------------------+
| 308   | Permanent Redirect | Section 3 of this specification  |
+-------+--------------------+----------------------------------+
```

7. References

7.1. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate
           Requirement Levels", BCP 14, RFC 2119, March 1997,
           <http://www.rfc-editor.org/info/rfc2119>.

[RFC3986] Berners-Lee, T., Fielding, R., and L. Masinter, "Uniform
           Resource Identifier (URI): Generic Syntax", STD 66, RFC
           3986, January 2005,
           <http://www.rfc-editor.org/info/rfc3986>.

[RFC7230] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer
           Protocol (HTTP/1.1): Message Syntax and Routing", RFC
           7230, June 2014, <http://www.rfc-editor.org/info/rfc7230>.

[RFC7231] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer
           Protocol (HTTP/1.1): Semantics and Content", RFC 7231,
           June 2014, <http://www.rfc-editor.org/info/rfc7231>.

[RFC7234] Fielding, R., Ed., Nottingham, M., Ed., and J. Reschke,
           Ed., "Hypertext Transfer Protocol (HTTP/1.1): Caching",
           RFC 7234, June 2014,
           <http://www.rfc-editor.org/info/rfc7234>.

7.2. Informative References

[HTML]   Hickson, I., Berjon, R., Faulkner, S., Leithead, T., Doyle
           Navara, E., O'Connor, E., and S. Pfeiffer, "HTML5", W3C
           Recommendation REC-html5-20141028, October 2014,
           <http://www.w3.org/TR/2014/REC-html5-20141028/>.

           Latest version available at <http://www.w3.org/TR/html5/>.

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Author's Address

Julian F. Reschke
greenbytes GmbH
Hafenweg 16
Muenster, NW 48155
Germany

EMail: julian.reschke@greenbytes.de
URI: http://greenbytes.de/tech/webdav/