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Retry-Scope header field
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Abstract

This document defines the Retry-Scope header field for HTTP thus allowing a server to communicate the scope of the returned Retry-After header field.

Note to Readers

RFC EDITOR: please remove this section before publication

Discussion of this draft takes place on the HTTP working group mailing list (ietf-http-wg@w3.org), which is archived at <https://lists.w3.org/Archives/Public/ietf-http-wg/> (<https://lists.w3.org/Archives/Public/ietf-http-wg/>).

The source code and issues list for this draft can be found at <https://github.com/ioggstream/draft-polli-Retry-Scope> (<https://github.com/ioggstream/draft-polli-Retry-Scope>).

Status of This Memo

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[1.](#) Introduction

The Retry-After header defined in Section 7.1.3 of [[SEMANTICS](#)] allows a server to indicate how long the user agent ought to wait before making a follow-up request.

While Retry-After applies to the issued request, it may be useful for the server to communicate to the user agent that the conditions that lead to returning Retry-After are broader in scope than a single request.

This proposal allows a server to convey that scope in the Retry-Scope response header field, and ask the client to temporarily refrain from

making other requests to the same resource, or even to all resources on the same server.

[1.1.](#) Notational Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [BCP 14](#) [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here. These words may also appear in this document in lower case as plain English words, absent their normative meanings.

This document uses the Augmented BNF defined in [[RFC5234](#)] and updated by [[RFC7405](#)] along with the "#rule" extension defined in Section 7 of [[MESSAGING](#)] and the URI-reference rule defined in [Section 2.7](#) of [[MESSAGING](#)].

The terms "intermediaries" and "target URI" are to be interpreted as described in [[MESSAGING](#)].

[2.](#) Header Specifications

The following header is defined

[2.1.](#) Retry-Scope

The Retry-Scope response header field indicates that the conditions that lead to returning Retry-After are broader in scope than a single request.

Retry-Scope = URI-reference

Two examples of Retry-Scope:

Retry-Scope: /books

Retry-Scope: <https://api.example/>

A user agent receiving the Retry-Scope header field in conjunction

with a Retry-After header field ought to wait before making further request to the resource identified by the Retry-Scope field value.

This header MUST NOT be repeated; if a user agent receives multiple Retry-Scope header fields, then it SHOULD ignore them.

Intermediaries aware of the Retry-Scope semantics (eg. reverse proxies) MAY modify the Retry-Scope in order to help the user agent to correctly identify the scope and ensure that the field value matches the target URI, like they would have done for the Location header field defined in Section 7.1.2 of [[SEMANTICS](#)].

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[3.](#) Security Considerations

[3.1.](#) Role of intermediaries

An intermediary, by chance or purpose, might alter the scope of the Retry-Scope thus causing the user agent to refrain contacting other server resource.

When the server originating the Retry-Scope is behind one or more intermediaries it is possible that the field value is not consistent with the target URI.

[4.](#) IANA Considerations

[4.1.](#) Retry-Scope Header Field Registration

This section registers the "Retry-Scope" header field in the "Permanent Message Header Field Names" registry ([[RFC3864](#)]).

Header field name: "Retry-Scope"

Applicable protocol: http

Status: standard

Author/Change controller: IETF

Specification document(s): [Section 2.1](#) of this document

5. Normative References

[MESSAGING]

Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing", [RFC 7230](#), DOI 10.17487/RFC7230, June 2014, <<https://www.rfc-editor.org/info/rfc7230>>.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), DOI 10.17487/RFC2119, March 1997, <<https://www.rfc-editor.org/info/rfc2119>>.

[RFC3864] Klyne, G., Nottingham, M., and J. Mogul, "Registration Procedures for Message Header Fields", [BCP 90](#), [RFC 3864](#), DOI 10.17487/RFC3864, September 2004, <<https://www.rfc-editor.org/info/rfc3864>>.

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[RFC7405] Kyzivat, P., "Case-Sensitive String Support in ABNF", [RFC 7405](#), DOI 10.17487/RFC7405, December 2014, <<https://www.rfc-editor.org/info/rfc7405>>.

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in [RFC 2119](#) Key Words", [BCP 14](#), [RFC 8174](#), DOI 10.17487/RFC8174, May 2017, <<https://www.rfc-editor.org/info/rfc8174>>.

[SEMANTICS]

Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content", [RFC 7231](#), DOI 10.17487/RFC7231, June 2014, <<https://www.rfc-editor.org/info/rfc7231>>.

Appendix A. Acknowledgements

This specification was born from a thread created by Martin Thomson,

and the subsequent discussion.

FAQ

Q: Why not using link relations? This solution is simpler and was previously discussed here (<https://github.com/httpwg/http-core/pull/317#issuecomment-585868767>).

Change Log

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