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**Hypertext Transfer Protocol (HTTP/1.1): Activity Identifiers
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Abstract

It is very common that implementers of HTTP servers require the ability to associate an identifier to an HTTP request and or response, this can be for a number of reasons which could include checking for duplicate requests, allowing the caller of an API to maintain a record of their interaction with the server or to track client/server requests through a disparate system of services. In any case, the implementer will quite often use a custom HTTP header and either assign a value itself or require the caller to supply the value. This document outlines a consistent storage mechanism for this identifier by way of a standard HTTP header and a new status code for when a mandated identifier is omitted. The purpose is to create better consistency for clients of third-party HTTP servers and HTTP based APIs by introducing this standard request and response header.

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1. Introduction

Implementers of HTTP clients and servers often encounter the need to track unique requests through the system and identify potential duplicate requests to enable an idempotent behavior. This document defines HTTP/1.1 activity identifiers to address these requirements in a consistent manner.

Activity identifiers are an OPTIONAL feature of HTTP and as such either the sender or receiver of a request can include it without adversely impacting the request should the opposite party not be expecting it.

This document also describes the scenario whereby a server implementer deems the header REQUIRED and is omitted by the caller.

1.1. Conventions used in this document

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 [RFC 2119](#) [[RFC2119](#)].

2. Activity Identifiers

2.1. Activity-Id Message Header

The header MAY be included as a HTTP message header in requests and responses. The format of the header is as follows:

Activity-Id: <identifier>

The value of <identifier> being any value that conforms to the header format values as defined in Message syntax and routing [7230 [Section 3.2.6](#)]

2.2. Response Header

In the case where a sender included an activity id value, the receiver SHOULD include a duplicate value in the Activity-Id header of the response message.

In the case where the sender omitted an activity id value, the receiver MAY include a server generated identifier instead.

2.3. Value Considerations

It is RECOMMENDED that the originator of an activity id ensure that the value conforms to the UUID standard [see 4122] so as to minimize false duplicates.

3. Status Code Definitions

3.1. 435 Missing Activity Id

Although the Activity-Id header is OPTIONAL, some HTTP server implementers MAY deem it necessary to enforce that the sending party include the header and a valid value. In the case where its inclusion has been deemed mandatory AND the sender has omitted the header or its value, then the server SHOULD present the sender with a 435 response code.

4. Security Considerations

As with other HTTP message headers, the protection of the value defined for this header is outside the scope of this document and no recommendation is made for encoding any form of sensitive information.

5. IANA Considerations

5.1. Header Field Registration

HTTP header fields are registered within the "Message Headers" registry maintained at <http://www.iana.org/assignments/message-headers/>

This document defines the following HTTP header fields:

Header Field Name	Protocol	Status	Reference
Activity-Id	http	standard	Section 2.1.

5.2. Status Code Registration

Value	Description	Reference
435	Missing Activity Id	Section 3.1.

[6.](#) **Conclusions**

[7.](#) **References**

[7.1.](#) **Normative References**

[7.2.](#) **Informative References**

[8.](#) **Acknowledgments**

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