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RFC 10008
The HTTP QUERY Method

Abstract

This specification defines the QUERY method for HTTP. A QUERY requests that the request target process the enclosed content in a safe and idempotent manner and then respond with the result of that processing. This is similar to POST requests, but QUERY requests can be automatically repeated or restarted without concern for partial state changes.

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 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at https://www.rfc-editor.org/info/rfc10008.

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1. Introduction

This specification defines the HTTP QUERY request method as a means of making a safe, idempotent request (Section 9.2 of [HTTP]) that encloses a representation describing how the request is to be processed by the target resource.

A common query pattern is:

```
GET /feed?q=foo&limit=10&sort=-published HTTP/1.1
Host: example.org
```

However, when the data conveyed is too voluminous to be encoded in the request's URI, this pattern becomes problematic:

- size limits often are not known ahead of time because a request can pass through many uncoordinated systems (but note that Section 4.1 of [HTTP] recommends senders and recipients to support at least 8000 octets),
- expressing certain kinds of data in the target URI is inefficient because of the overhead of encoding that data into a valid URI,
- request URIs are more likely to be logged than request content and may also turn up in bookmarks,
- encoding queries directly into the request URI effectively casts every possible combination of query inputs as distinct resources.

As an alternative to using GET, many implementations make use of the HTTP POST method to perform queries, as illustrated in the example below. In this case, the input to the query operation is passed as the request content as opposed to using the request URI's query component.

A typical use of HTTP POST for requesting a query is:

```
POST /feed HTTP/1.1
Host: example.org
Content-Type: application/x-www-form-urlencoded

q=foo&limit=10&sort=-published
```

In this variation, however, it is not readily apparent -- without specific knowledge of the resource and server to which the request is being sent -- that a safe, idempotent query is being performed.

The QUERY method provides a solution that spans the gap between the use of GET and POST, with the example above being expressed as:

```
QUERY /feed HTTP/1.1
Host: example.org
Content-Type: application/x-www-form-urlencoded

q=foo&limit=10&sort=-published
```

As with POST, the input to the query operation is passed as the content of the request rather than as part of the request URI. Unlike POST, however, the method is explicitly safe and idempotent, allowing functions like caching and automatic retries to operate.

Recognizing the design principle that any important resource ought to be identified by a URI, this specification describes how a server can assign URIs to both the query itself or to a specific query result, for later use in a GET request.

Summarizing:

	GET	QUERY	POST
Safe	yes	yes	potentially no
Idempotent	yes	yes	potentially no
URI for query itself	yes (by definition)	optional (Location response field)	no
URI for query result	optional (Content-Location response field)	optional (Content-Location response field)	optional (Content-Location response field)
Cacheable	yes	yes	yes, but only for future GET or HEAD requests
Content (body)	"no defined semantics"	expected (semantics per target resource)	expected (semantics per target resource)

Table 1: Summary of Relevant Method Properties

1.1. Terminology

This document uses terminology defined in Section 3 of [HTTP].

Furthermore, it uses the terms *URI query parameter* for parameters in the query component of a URI (Section 4.2.2 of [HTTP]) and *query content* for the request content (Section 6.4 of [HTTP]) of a QUERY request.

1.2. 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.

2. QUERY Method

The QUERY method is used to initiate a server-side query. Unlike the GET method, which requests a representation of the resource identified by the target URI (as defined by Section 7.1 of [HTTP]), the QUERY method is used to ask the target resource to perform a query operation within the scope of that target resource.

The content of the request and its media type define the query. The origin server determines the scope of the operation based on the target resource.

Servers **MUST** fail the request if the Content-Type request field ([HTTP], Section 8.3) is missing or is inconsistent with the request content.

As for all HTTP methods, the target URI's query part takes part in identifying the resource being queried. Whether and how it directly affects the result of the query is specific to the resource and is out of scope for this specification.

QUERY requests are safe with regard to the target resource ([HTTP], Section 9.2.1); that is, the client does not request or expect any change to the state of the target resource. This does not prevent the server from creating additional HTTP resources through which additional information can be retrieved (see Sections 2.3 and 2.4).

Furthermore, QUERY requests are idempotent ([HTTP], Section 9.2.2); they can be retried or repeated when needed, for instance, after a connection failure.

As per Section 15.3 of [HTTP], a 2xx (Successful) response code signals that the request was successfully received, understood, and accepted.

In particular, a 200 (OK) response indicates that the query was successfully processed and the results of that processing are enclosed as the response content.

2.1. Media Types and Content Negotiation

The semantics of a QUERY request depend both on the request content and the associated metadata, such as the media type ([HTTP], Section 8.3.1). In general, any problem with requests where content and metadata are inconsistent **MUST** be rejected with a 4xx (Client Error) response ([HTTP], Section 15.5).

The list below describes various cases of failures and recommends specific status codes:

- If a request lacks media type information, it is incorrect by definition and needs to fail with a 4xx status code such as 400 (Client Error).
- If a media type is specified but is not supported by the resource, a 415 (Unsupported Media Type) is appropriate. This specifically includes the case where the media type is known in principle, but it lacks semantics specific to a QUERY to the target resource. In both cases, the Accept-Query response field (Section 3) can be used to inform the client of the media types that are supported.
- If a media type is specified but is inconsistent with the actual request content, a 400 (Bad Request) can be returned. That is, a server is not allowed to infer a media type from the request content and then override a missing or "erroneous" value (i.e., "content sniffing").
- If the media type is specified and understood, and the content is indeed consistent with the type, but the query cannot be processed due to the actual contents of the query, the status 422 (Unprocessable Content) can be used. An example would be a syntactically correct SQL query that identifies a non-existent table.
- If the client requests a specific response media type using the Accept field ([HTTP], Section 12.5.1) that is not supported by the resource, a status code of 406 (Not Acceptable) is appropriate.

2.2. Equivalent Resource

The *equivalent resource* for any given QUERY request is a resource that responds to GET requests, represents that QUERY request and its target, and takes both message content and metadata into account (Section 6 of [HTTP]). In particular, this includes representation metadata (Section 8 of [HTTP]) such as the content's media type.

In other words, the equivalent resource is derived from the resource implementing QUERY by incorporating the request content.

The term *equivalent resource* is used as a means to define behavior for other HTTP aspects, such as selected representations. Servers can but do not have to assign URIs to these resources (see Section 1.1 of [URI]). If they do so, these resources will become accessible for GET requests.

2.3. Content-Location Response Field

A successful response (2xx, Section 15.3 of [HTTP]) can include a Content-Location header field containing an identifier for a resource corresponding to the results of the operation; see Section 8.7 of [HTTP] for details. This represents a claim from the server that a client can send a GET request for the indicated URI to retrieve the results of the query operation just performed. The indicated resource might be temporary.

See Appendix A.4.1 for an example.

2.4. Location Response Field

A server can assign a URI to the equivalent resource (Section 2.2) of a QUERY request. If the server does so, the URI of that resource can be included in the Location header field of the 2xx response (see Section 10.2.2 of [HTTP]). This represents a claim that a client can send a GET request to the indicated URI to repeat the query operation just performed without resending the query content. This resource's URI might be temporary; if a future request fails, the client can retry using the original QUERY request target and the previously submitted content.

See Appendix A.4.2 for an example.

2.5. Redirection

In some cases, the server may choose to respond indirectly to the QUERY request by redirecting the user agent to a different URI (see Section 15.4 of [HTTP]).

A response with either status codes 301 (Moved Permanently, [HTTP], Section 15.4.2) or 308 (Permanent Redirect, [HTTP], Section 15.4.9) indicates that the target resource has permanently moved to a different URI referenced by the Location response field ([HTTP], Section 10.2.2). Likewise, a response with either status codes 302 (Found, [HTTP], Section 15.4.3) or 307 (Temporary Redirect, [HTTP], Section 15.4.8) indicates that the target resource has temporarily moved. In all four cases, the server is suggesting that the user agent can accomplish its original QUERY request by sending a similar QUERY request to the new target URI referenced by the Location.

Note that the exceptions for redirecting a POST as a GET request after a 301 or 302 response do not apply to QUERY requests.

A response to QUERY with the status code 303 (See Other, Section 15.4.4 of [HTTP]) indicates that the original query can be accomplished via a normal retrieval request on the URI referenced by the Location response field ([HTTP], Section 10.2.2). For HTTP, this means sending a GET request to the new target URI, as illustrated by the example in Appendix A.4.3.

2.6. Conditional Requests

The selected representation (Section 3.2 of [HTTP]) of a QUERY request is the same as for a GET request to the equivalent resource (Section 2.2) of that QUERY request.

A conditional QUERY requests that the selected representation (i.e., the query results after any content negotiation) be returned in the response only under the circumstances described by the conditional header field(s), as defined in Section 13 of [HTTP].

See Appendix A.5 for examples.

2.7. Caching

The response to a QUERY method is cacheable; a cache **MAY** use it to satisfy subsequent QUERY requests as per Section 4 of [HTTP-CACHING].

The cache key for a QUERY request (Section 2 of [HTTP-CACHING]) **MUST** incorporate the request content (Section 6 of [HTTP-CACHING]) and related metadata (Section 8 of [HTTP]).

To improve cache efficiency, caches **MAY** remove semantically insignificant differences from request content and related metadata first. For instance, by:

- removing content encoding(s) (Section 8.4 of [HTTP]).
- normalizing based upon knowledge of format conventions, as indicated by any media subtype suffix in the request's Content-Type field (e.g., "+json"; see Section 4.2.8 of [RFC6838]).
- normalizing based upon knowledge of the semantics of the content itself, as indicated by the request's Content-Type field.

Note that any such transformation is performed solely for the purpose of generating a cache key; it does not change the request itself.

Clients can indicate, using the "no-transform" cache directive (Section 5.2.1.6 of [HTTP-CACHING]) that they wish that no such transformation happens (but note that this directive is just advisory).

Note that caching QUERY method responses is inherently more complex than caching responses to GET, as complete reading of the request's content is needed in order to determine the cache key. If a QUERY response supplies a Location response field (Section 2.4) to indicate a URI for an equivalent resource (Section 2.2), clients can switch to GET for subsequent requests, thereby simplifying processing.

2.8. Range Requests

The semantics of Range Requests for QUERY are identical to those for GET, as defined in Section 14 of [HTTP]. Byte Range Requests (the only range unit defined at the time of writing), however, offer little value for the results of a QUERY request.

Query formats often define their own way of limiting or paging through result sets, such as with "FETCH FIRST ... ROWS ONLY" in SQL. It is expected that these built-in features will be used instead of HTTP Range Requests.

3. The Accept-Query Header Field

The "Accept-Query" response header field can be used by a resource to directly signal support for the QUERY method while identifying the specific query format media type(s) that may be used.

Accept-Query contains a list of media ranges (Section 12.5.1 of [HTTP]) using "Structured Fields" syntax [STRUCTURED-FIELDS]. Media ranges are represented by a List Structured Header Field of either Tokens or Strings, containing the media range value without parameters.

Media type parameters, if any, are mapped to Structured Field Parameters with the String or Token type. The choice of Token versus String is semantically insignificant. That is, recipients **MAY** convert Tokens to Strings, but **MUST NOT** process them differently based on the received type.

Media types do not exactly map to Tokens; for instance, they allow a leading digit. In cases like these, the String format needs to be used.

The only supported uses of wildcards are "*/*", which matches any type, or "xxxx/*", which matches any subtype of the indicated type.

The order of types listed in the field value is not significant.

The value of the Accept-Query field applies to every URI on the server that shares the same path; in other words, the query component is ignored. If requests to the same resource return different Accept-Query values, the most recently received fresh value (per Section 4.2 of [HTTP-CACHING]) is used.

For example:

```
Accept-Query: "application/jsonpath", application/sql;charset="UTF-8"
```

Although the syntax for this field appears to be similar to other fields, such as "Accept" (Section 12.5.1 of [HTTP]), it is a Structured Field and thus **MUST** be processed as specified in Section 4 of [STRUCTURED-FIELDS].

4. Security Considerations

The QUERY method is subject to the same general security considerations as all HTTP methods as described in [HTTP].

It can be used as an alternative to passing request information in the URI (e.g., in the query component). This is preferred in some cases, as the URI is more likely to be logged or otherwise processed by intermediaries than the request content. In other cases, where the query contains sensitive information, the potential for logging of the URI might motivate the use of QUERY over GET.

If a server creates a temporary resource to represent the results of a QUERY request (e.g., for use in the Location or Content-Location field), assigns a URI to that resource, and the request contains sensitive information that cannot be logged, then that URI **SHOULD** be chosen such that it does not include any sensitive portions of the original request content.

Caches that normalize QUERY content incorrectly or in ways that are significantly different from how the resource processes the content can return an incorrect response if normalization results in a false positive.

A QUERY request from user agents implementing Cross-Origin Resource Sharing (CORS) will require a "preflight" request, as QUERY does not belong to the set of CORS-safelisted methods (see [FETCH]).

5. IANA Considerations

5.1. Registration of the QUERY Method

IANA has added the QUERY method to the "Hypertext Transfer Protocol (HTTP) Method Registry" at <http://www.iana.org/assignments/http-methods> (see Section 16.3.1 of [HTTP]).

Method Name	Safe	Idempotent	Specification
QUERY	yes	yes	Section 2 of RFC 10008

Table 2: QUERY Method Definition

5.2. Registration of the Accept-Query Field

IANA has added the Accept-Query field to the "Hypertext Transfer Protocol (HTTP) Field Name Registry" at <https://www.iana.org/assignments/http-fields> (see Section 16.1.1 of [HTTP]).

Field Name	Status	Structured Type	Reference	Comments
Accept-Query	permanent	List	Section 3 of RFC 10008	

Table 3: Accept-Query Field Definition

6. References

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Appendix A. Examples

The examples below are for illustrative purposes only; if one needs to send queries that are actually this short, it is likely better to use GET.

The media type used in most examples is "application/x-www-form-urlencoded" (as used in POST requests from browser user clients, defined in "application/x-www-form-urlencoded" in [URL]). The Content-Length fields have been omitted for brevity.

A.1. Simple Query

Below is a simple query with a direct response:

```
QUERY /contacts HTTP/1.1
Host: example.org
Content-Type: application/x-www-form-urlencoded
Accept: application/json

select=surname,givenname,email&limit=10&match=%22email=*@example.*%22
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json

[
  { "surname": "Smith",
    "givenname": "John",
    "email": "smith@example.org" },
  { "surname": "Jones",
    "givenname": "Sally",
    "email": "sally.jones@example.com" },
  { "surname": "Dubois",
    "givenname": "Camille",
    "email": "camille.dubois@example.net" }
]
```

A.2. Discovery of QUERY Support

A simple way to discover support for QUERY is provided by the OPTIONS (Section 9.3.7 of [HTTP]) method:

```
OPTIONS /contacts HTTP/1.1
Host: example.org
```

Response:

```
HTTP/1.1 200 OK
Allow: GET, QUERY, OPTIONS, HEAD
```

The Allow response field (Section 10.2.1 of [HTTP]) denotes the set of supported methods on the specified resource.

There are alternatives to the use of OPTIONS. For instance, a QUERY request can be tried without prior knowledge of server support. The server would then either process the request, or it could respond with a 4xx status such as 405 (Method Not Allowed, Section 15.5.6 of [HTTP]), including the Allow response field.

A.3. Discovery of QUERY Formats

The discovery of supported media types for QUERY is possible via the Accept-Query response field (Section 3):

```
HEAD /contacts HTTP/1.1
Host: example.org
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/xhtml
Accept-Query: application/x-www-form-urlencoded, application/sql
```

Responses to which request methods will contain Accept-Query will depend on the resource being accessed.

An alternative to checking Accept-Query would be to make a QUERY request, and then -- in case of a 4xx status such as a 415 response (Unsupported Media Type, Section 15.5.16 of [HTTP]) -- to inspect the Accept response field (Section 12.5.1 of [HTTP]):

```
HTTP/1.1 415 Unsupported Media Type
Content-Type: application/xhtml
Accept: application/x-www-form-urlencoded, application/sql
```

A.4. Content-Location, Location, and Indirect Responses

As described in Sections 2.3 and 2.4, the Content-Location and Location response fields in success responses (2xx, Section 15.3 of [HTTP]) provide a way to identify alternate resources that will respond to GET requests, either for the received result of the request or for future requests to perform the same operation. Going back to the example from Appendix A.1:

```
QUERY /contacts HTTP/1.1
Host: example.org
Content-Type: application/x-www-form-urlencoded
Accept: application/json

select=surname,givenname,email&limit=10&match=%22email=*@example.*%22
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Location: /contacts/stored-results/17
Location: /contacts/stored-queries/42
Last-Modified: Sat, 25 Aug 2012 23:34:45 GMT
Date: Sun, 17 Nov 2024, 16:10:24 GMT

[
  { "surname": "Smith",
    "givenname": "John",
    "email": "smith@example.org" },
  { "surname": "Jones",
    "givenname": "Sally",
    "email": "sally.jones@example.com" },
  { "surname": "Dubois",
    "givenname": "Camille",
    "email": "camille.dubois@example.net" }
]
```

A.4.1. Using Content-Location

The Content-Location response field received above identifies a resource holding the result for the QUERY response it appeared on:

```
GET /contacts/stored-results/17 HTTP/1.1
Host: example.org
Accept: application/json
```

Response:

```
HTTP/1.1 200 OK
Last-Modified: Sat, 25 Aug 2012 23:34:45 GMT
Date: Sun, 17 Nov 2024, 16:10:25 GMT

[
  { "surname": "Smith",
    "givenname": "John",
    "email": "smith@example.org" },
  { "surname": "Jones",
    "givenname": "Sally",
    "email": "sally.jones@example.com" },
  { "surname": "Dubois",
    "givenname": "Camille",
    "email": "camille.dubois@example.net" }
]
```

Note that there is no guarantee that the server will implement this resource indefinitely, so, after an error response, the client would need to redo the original QUERY request in order to obtain a new alternative location.

A.4.2. Using Location

The Location response field identifies a resource that will respond to GET with a current result for the same process and parameters as the original QUERY request.

```
GET /contacts/stored-queries/42 HTTP/1.1
Host: example.org
Accept: application/json
```

In this example, one entry was removed at 2024-11-17T16:12:01Z (as indicated in the Last-Modified field), so the response only contains two entries:

```
HTTP/1.1 200 OK
Content-Type: application/json
Last-Modified: Sun, 17 November 2024, 16:12:01 GMT
ETag: "42-1"
Date: Sun, 17 Nov 2024, 16:13:17 GMT

[
  { "surname": "Smith",
    "givenname": "John",
    "email": "smith@example.org" },
  { "surname": "Dubois",
    "givenname": "Camille",
    "email": "camille.dubois@example.net" }
]
```

Assuming that the server still exposes the resource and that there was no change in the query result, a subsequent conditional GET request with the following:

```
If-None-Match: "42-1"
```

would result in a 304 (Not Modified) response (Section 15.4.5 of [HTTP]).

A.4.3. Indirect Responses

Servers can send "indirect" responses (Section 2.5) using the status code 303 (See Other, Section 15.4.4 of [HTTP]).

Given the request at the beginning of Appendix A.4, a server might respond with:

```
HTTP/1.1 303 See Other
Content-Type: text/plain
Date: Sun, 17 Nov 2024, 16:13:17 GMT
Location: /contacts/stored-queries/42

See stored query at "/contacts/stored-queries/42".
```

This is similar to including Location on a direct response, except that no result for the query is returned. This allows the server to only generate or reuse an alternative resource. This resource could then be used as shown in Appendix A.4.2.

A.5. Conditional Requests

Consider a resource implementing QUERY that supports "application/sql" and "application/xslt+xml" [XSLT] as request media types, and which can generate responses as "text/csv". The data set being queried contains RFC document information, and the query returns information grouped by decade:

```
QUERY /rfc-index.xml HTTP/1.1
Host: example.org
Date: Sun, 7 Sep 2025, 00:00:00 GMT
Content-Type: application/xslt+xml
Accept: text/csv

...Query content using XSLT...
```

Response:

```
HTTP/1.1 200 OK
Date: Sun, 7 Sep 2025, 00:00:00 GMT
Location: /stored-queries/4815162342
Content-Type: text/csv
Accept-Query: "application/sql", "application/xslt+xml"
Last-Modified: Sun, 31 Aug 2025, 08:44:00 GMT
Vary: Accept-Query, Content-Encoding, Content-Type

decade, total, with errata, % with errata, average page count
1960, 26, 5, 19.2, 5.3
1970, 666, 18, 2.7, 6.1
1980, 376, 44, 11.7, 23.4
1990, 1593, 269, 16.9, 25.5
2000, 2888, 1048, 36.3, 27.3
2010, 2954, 895, 30.3, 26.1
2020, 1133, 230, 20.3, 26.2
```

Here, the server has assigned the path "/stored-queries/4815162342" to the equivalent resource (Section 2.4) for subsequent use with GET.

Later on, the client repeats the query, but specifies that results should only be returned when changed:

```
QUERY /rfc-index.xml HTTP/1.1
Host: example.org
Date: Mon, 8, Sep 2025, 11:00:00 GMT
Content-Type: application/sql
Accept: text/csv
If-Modified-Since: Sun, 31 Aug 2025, 08:44:00 GMT
Vary: Accept-Query, Content-Type

...Same query, but using SQL...
```

The data being queried did not change, therefore the server responds with:

```
HTTP/1.1 304 Not Modified
Date: Mon, 8 Sep 2025, 11:00:00 GMT
Content-Type: text/csv
Location: /stored-queries/4815162342
Accept-Query: "application/sql", "application/xslt+xml"
Last-Modified: Sun, 31 Aug 2025, 08:44:00 GMT
Vary: Accept-Query, Content-Type
```

As the server identified a URI for the equivalent resource, that resource can be accessed with GET. In particular, this avoids resending the query request's content:

```
GET /stored-queries/4815162342 HTTP/1.1
Host: example.org
Date: Sun, 21, Sep 2025, 12:08:00 GMT
Accept: text/csv
If-Modified-Since: Sun, 31 Aug 2025, 00:00:00 GMT
```

Here, the state of the data set indeed changed, so new content is returned:

```
HTTP/1.1 200 OK
Date: Sun, 21, Sep 2025, 12:08:00 GMT
Content-Type: text/csv
Last-Modified: Thu, 18 Sep 2025, 19:56:00 GMT
Vary: Accept-Query, Content-Encoding, Content-Type

decade, total, with errata, % with errata, average page count
1960, 26, 5, 19.2, 5.3
1970, 666, 18, 2.7, 6.1
1980, 376, 44, 11.7, 23.4
1990, 1593, 269, 16.9, 25.5
2000, 2888, 1048, 36.3, 27.3
2010, 2954, 895, 30.3, 26.1
2020, 1133, 230, 20.3, 26.2
```

(Note the change in the row for this decade.)

The diagrams below illustrate the use of conditional requests and how they can differ when a URI is assigned to the equivalent resource (and when the client is taking advantage of it). The fictitious field name "Validator" is used for demonstration purposes.

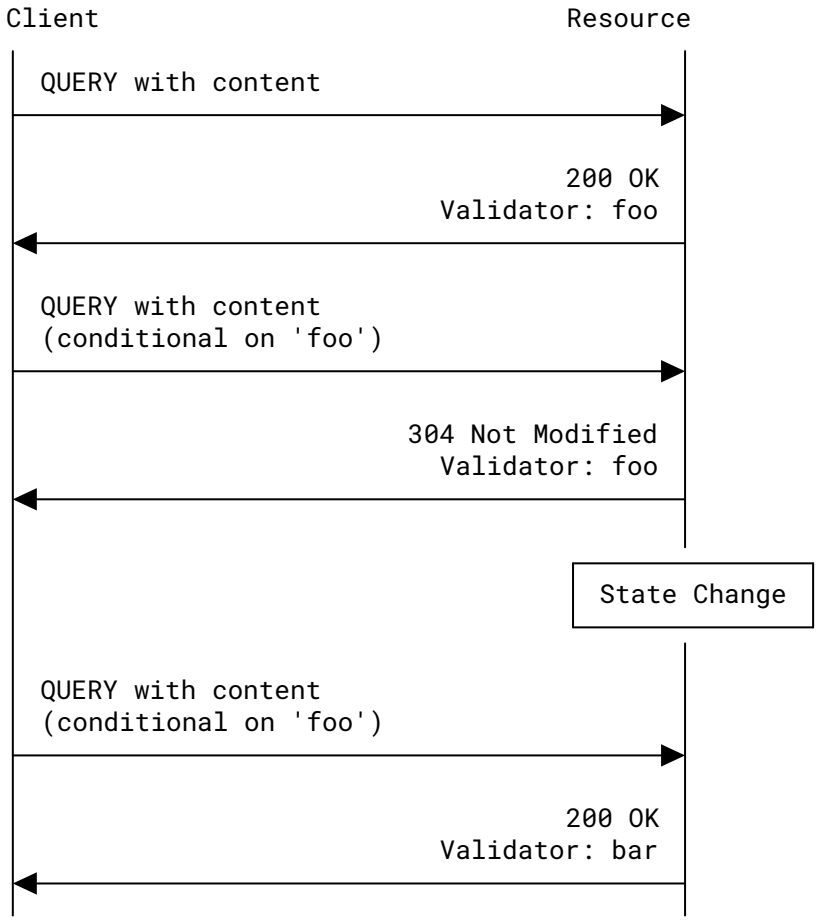

Figure 1: Data Flow with QUERY Only

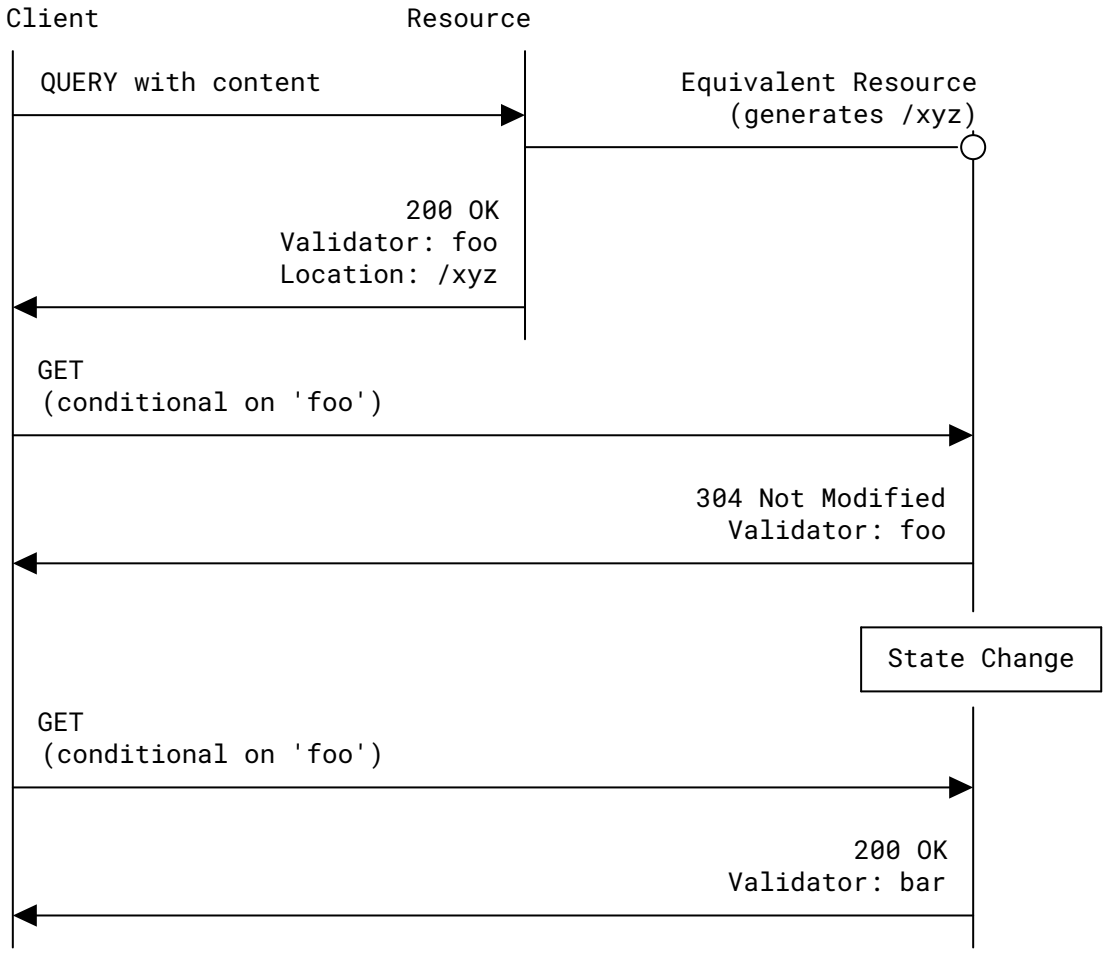

Figure 2: Data Flow with GET to Equivalent Resource

A.6. More Query Formats

The following examples show requests on a JSON-shaped [RFC8259] database of RFC errata.

The request below uses eXtensible Stylesheet Language Transformations (XSLT) to extract errata information summarized per year and the defined errata types.

```
QUERY /errata.json HTTP/1.1
Host: example.org
Content-Type: application/xslt+xml
Accept: application/xml, text/csv

<transform xmlns="http://www.w3.org/1999/XSL/Transform"
  xmlns:j="http://www.w3.org/2005/xpath-functions"
  version="3.0">

  <output method="text"/>

  <param name="input"/>

  <variable name="json"
    select="json-to-xml(unparsed-text($input))"/>

  <variable name="sc">errata_status_code</variable>
  <variable name="sd">submit_date</variable>

  <template match="/">
    <text>year, total, rejected, verified, hdu, reported</text>
    <text>&#10;</text>
    <variable name="en" select="$json//j:map"/>
    <for-each-group select="$en"
      group-by="substring-before(j:string[@key=$sd],'-')">
      <sort select="current-grouping-key()"/>
      <variable name="year" select="current-grouping-key()"/>
      <variable name="errata" select=
        "$en[$year=substring-before(j:string[@key=$sd],'-')]"/>
      <value-of select="concat(
        $year,
        ',',
        count($errata),
        ',',
        count($errata['Rejected'=j:string[@key=$sc]]),
        ',',
        count($errata['Verified'=j:string[@key=$sc]]),
        ',',
        count(
          $errata['Held for Document Update'=j:string[@key=$sc]]),
        ',',
        count($errata['Reported'=j:string[@key=$sc]]),
        '&#10;')"/>
    </for-each-group>
  </template>

</transform>
```

Response:

```
HTTP/1.1 200 OK
Content-Type: text/csv
Accept-Query: "application/jsonpath", "application/xslt+xml"
Date: Wed, 19 Feb 2025, 17:10:01 GMT

year, total, rejected, verified, hdu, reported
2000, 14, 0, 14, 0, 0
2001, 72, 1, 70, 1, 0
2002, 124, 8, 104, 12, 0
2003, 63, 0, 61, 2, 0
2004, 89, 1, 83, 5, 0
2005, 156, 10, 96, 50, 0
2006, 444, 54, 176, 214, 0
2007, 429, 48, 188, 193, 0
2008, 423, 52, 165, 206, 0
2009, 331, 39, 148, 144, 0
2010, 538, 80, 232, 222, 4
2011, 367, 47, 170, 150, 0
2012, 348, 54, 149, 145, 0
2013, 341, 61, 169, 106, 5
2014, 342, 73, 180, 72, 17
2015, 343, 79, 145, 89, 30
2016, 295, 46, 122, 82, 45
2017, 303, 46, 120, 84, 53
2018, 350, 61, 118, 98, 73
2019, 335, 47, 131, 94, 63
2020, 387, 68, 117, 123, 79
2021, 321, 44, 148, 63, 66
2022, 358, 37, 198, 40, 83
2023, 262, 38, 121, 33, 70
2024, 322, 33, 125, 23, 141
9999, 1, 0, 0, 1, 0
```

Note the Accept-Query response field indicating that another query format, JSONPath [RFC9535], is supported as well. The request below would report the identifiers of all rejected errata submitted since 2024:

```
QUERY /errata.json HTTP/1.1
Host: example.org
Content-Type: application/jsonpath
Accept: application/json

$..[
     ?@.errata_status_code=="Rejected"
     && @.submit_date>"2024"
   ]
   ["doc-id"]
```

Response:

```
HTTP/1.1 200 OK
Content-Type: application/json
Accept-Query: "application/jsonpath", "application/xslt+xml"
Date: Thu, 20 Feb 2025, 09:55:42 GMT
Last-Modified: Thu, 20 Feb 2025 06:10:01 GMT

[
  "RFC1185","RFC8407","RFC6350","RFC8467","RFC1157","RFC9543",
  "RFC9076","RFC7656","RFC2822","RFC9460","RFC2104","RFC6797",
  "RFC9499","RFC9557","RFC2131","RFC2328","RFC9001","RFC3325",
  "RFC9438","RFC2526","RFC2985","RFC7643","RFC9132","RFC6376",
  "RFC9110","RFC9460","RFC7748","RFC9497","RFC8463","RFC4035",
  "RFC7239","RFC9083","RFC9537","RFC9537","RFC9420","RFC9000",
  "RFC9656","RFC9110","RFC2324","RFC2549","RFC6797","RFC2549",
  "RFC8894"
]
```

Appendix B. Selection of the Method Name 'QUERY'

The "Hypertext Transfer Protocol (HTTP) Method Registry" (<http://www.iana.org/assignments/http-methods>) already contains three other methods with the properties "safe" and "idempotent": "PROPFIND" [RFC4918], "REPORT" [RFC3253], and "SEARCH" [RFC5323].

It would have been possible to reuse any of these, updating it in a way that it matches what this specification defines as the new method "QUERY". Indeed, the early stages of this specification used "SEARCH".

The method name "QUERY" ultimately was chosen because:

- The alternatives use a generic media type for the request content ("application/xml"); the semantics of the request depend solely on the request content.
- Furthermore, they all originate from the WebDAV activity, about which many have mixed feelings.
- "QUERY" captures the relation with the URI's query component well.

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