

Search Web Services - searchRetrieve Operation - Binding for SRU 1.2: Auxiliary Binding for HTTP GET- Version 1.0

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Related work:

This specification is related to:

- [Search Retrieve via URL \(SRU\)](#)

Abstract:

This is a binding for HTTP GET. It describes the construction of an http URL to encode parameter values of the form '*key=value*'. Support for Unicode characters is described.

Status:

This document was last revised or approved by the [OASIS Search Web Services \(SWS\) TC](#) on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document.

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1 Introduction

2 This is one of a suite of specifications for the OASIS SWS (Search Web Services) Standard. It is an
3 auxiliary binding, for use by other bindings within the suite.

4 **This binding is for HTTP GET. It describes the construction of an http URL to encode parameter**
5 **values of the form 'key=value'. Support for Unicode characters is described.**

6 1.1 Terminology

7 The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD
8 NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be
9 interpreted as described in [RFC2119]. When these words are not capitalized in this document, they are
10 meant in their natural language sense.

11 1.2 Normative References

12 [RFC2119] S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*,
13 <http://www.ietf.org/rfc/rfc2119.txt>, IETF RFC 2119, March 1997.

14 2 Syntax

15 The client sends a request via the HTTP GET method. The request is a URI as described in [RFC 3986](#).
16 Specifically it is an HTTP URL of the form:

17 `<base URL>?<searchpart>`

18 using the standard &-separated *key=value* encoding for parameters in <searchpart>.

19 *Example*

20 Assume:

- 21 - The base URL is 'z3950.loc.gov:7090'.
- 22 - The value of parameter 'version' is "1.2".
- 23 - The value of parameter 'operation' is "searchRetrieve".
- 24 - The value of parameter 'query' is "dinosaur".

25 Then the URL would be:

26 **http://z3950.loc.gov:7090/voyager?version=1.2&operation=searchRetrieve**
27 **&query=dinosaur**

28 And over the wire goes:

29 **GET /voyager?version=1.2&operation=searchRetrieve&query=dinosaur HTTP/1.1**
30 **Host: z3950.loc.gov:7090**

33 **3 Encoding (Client Procedure)**

34 The following encoding procedure is recommended, in particular, to accommodate Unicode characters
35 (characters from the Universal Character Set, ISO 10646) beyond U+007F, which are not valid in a URI.

- 36 1. Convert the value to UTF-8.
37 2. Percent-encode characters as necessary within the value. See [rfc 3986](#) section 2.1.
38 3. Construct a URI from the parameter names and encoded values.

39 Note: In step 2, it is recommended to percent-encode every character in a value that is not in the URI
40 unreserved set, that is, all except alphabetic characters, decimal digits, and the following four special
41 characters: dash (-), period (.), underscore (_), tilde (~). By this procedure some characters may be
42 percent-encoded that do not need to be -- For example '?' occurring in a value does not need to be
43 percent encoded, but it is safe to do so.

44 **4 Decoding (Server Procedure)**

- 45 1. Parse received request based on '?', '&', and '=' into component parts: the base URL, and
46 parameter names and values.
- 47 2. For each parameter:
- 48 a. Decode all %-escapes.
- 49 b. Treat the result as a UTF-8 string.

50 **5 Example**

51 Consider the following parameter:

52 `query=dc.title =/word kirkegård`

53 The name of the parameter is "query" and the value is "dc.title =/word kirkegård"

54 Note that the first '=' (following "query") *must not* be percent encoded as it is used as a URI delimiter; it is
55 not part of a parameter name or value. The second '=' (preceding the '/') *must* be percent encoded as it is
56 part of a value.

57 The following characters must be percent encoded:

- 58 • the second '=', percent encoded as %3D
- 59 • the '/', percent encoded as %2F
- 60 • the spaces, percent encoded as %20
- 61 • the 'å'. Its UTF-8 representation is C3A5, two octets, and correspondingly it is represented in a
62 URI as two characters percent encoded as %C3%A5.

63 The resulting parameter to be sent to the server would then be:

64 `query=dc.title%20%3D%2Fword%20kirkeg%C3%A5rd`

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