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

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

This binding is 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.

1.1 Terminology
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 [RFC2119]. When these words are not capitalized in this document, they are meant in their natural language sense.

1.2 Normative References

2 Syntax

The client sends a request via the HTTP GET method. The request is a URI as described in RFC 3986. Specifically it is an HTTP URL of the form:

\[
<\text{base URL}>?<\text{searchpart}>
\]

using the standard \&-separated \texttt{key=value} encoding for parameters in \texttt{<searchpart>}

Example

Assume:
- The base URL is \'z3950.loc.gov:7090\'.
- The value of parameter \texttt{version} is \"1.2\".
- The value of parameter \texttt{operation} is \"searchRetrieve\".
- The value of parameter \texttt{query} is \"dinosaur\".

Then the URL would be:

\texttt{http://z3950.loc.gov:7090/voyager?version=1.2\&operation=searchRetrieve\&query=dinosaur}

And over the wire goes:

\texttt{GET /voyager?version=1.2\&operation=searchRetrieve\&query=dinosaur HTTP/1.1}

\texttt{Host: z3950.loc.gov:7090}
3 Encoding (Client Procedure)

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

1. Convert the value to UTF-8.
2. Percent-encode characters as necessary within the value. See rfc 3986 section 2.1.
3. Construct a URI from the parameter names and encoded values.

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

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

Consider the following parameter:

query=dc.title =/word kirkegård

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

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

The following characters must be percent encoded:

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

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

query=dc.title%20%3D%2Fword%20kirkeg%C3%A5rd
The following individuals have participated in the creation of this specification and are gratefully acknowledged:

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