WEBDAV Working Group J. Reschke, Ed.
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Including additional properties in WebDAV PROPFIND/allprop requests
draft-reschke-webdav-allprop-include-07

Abstract

Recent specifications extending the Web Distributed Authoring Protocol (WebDAV) restrict the set of properties returned automatically upon a PROPFIND/allprop request. This specification defines a method to add specific properties to the set of properties returned upon PROPFIND/allprop.

Editorial Note (to be removed by RFC Editor before publication)

Distribution of this document is unlimited. Please send comments to the WebDAV working group at <mailto:w3c-dist-auth@w3.org>, which may be joined by sending a message with subject "subscribe" to <mailto:w3c-dist-auth-request@w3.org>. Discussions of the WEBDAV working group are archived at <http://lists.w3.org/Archives/Public/w3c-dist-auth/>.

XML and HTML versions of this draft are available from <http://greenbytes.de/tech/webdav/#draft-reschke-webdav-allprop-include>.

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1. Notational Conventions

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 [RFC2119].

2. Introduction

Recent specifications extending the "Web Distributed Authoring Protocol" (WebDAV, [RFC2518]) like "Versioning Extensions to WebDAV" [RFC3253] and "WebDAV Access Control Protocol" [RFC3744] restrict the set of properties returned automatically upon a PROPFIND/allprop request in order to avoid the expensive computation of properties that the client in many cases isn't interested in.

However, this change from the behaviour defined in WebDAV can lead to situations where clients need to perform two requests to retrieve all properties they are interested in (one using PROPFIND/allprop, then PROPFIND/prop enumerating the new properties that weren't reported upon the first request). This specification defines a backward-compatible extension to add specific properties to the set of properties returned upon PROPFIND/allprop, thus saving at least one PROPFIND request.

This document defines an extension element that could ultimately become part of the core WebDAV protocol. Being just an individual submission, it currently defines it in the proprietary namespace

http://sapportals.com/xmlns/cm/webdav

instead of the "DAV:" namespace. It uses a prefix of "in:" for referring to elements in this namespace. However, WebDAV server and clients are free to use any prefix, provided that there is a namespace declaration that binds the prefix to the URI of the same namespace.

3. Extensions to PROPFIND/allprop

The "allprop" version of PROPFIND is extended to take an optional in: include element. When present, it contains a set of property names that shall be reported in addition to those properties that the server usually would return upon PROPFIND/allprop.

3.1 Example for PROPFIND/allprop/include with extended server

```
>>Request

PROPFIND  /container/front.html HTTP/1.1
Host: www.example.org
Depth: 1
Content-Type: text/xml; charset="utf-8"
Content-Length: xxxx

<?xml version="1.0" encoding="utf-8" ?>
<propfind xmlns="DAV:"
  xmlns:in="http://sapportals.com/xmlns/cm/webdav">
  <allprop/>
  <in:include>
    <checked-in/>
    <checked-out/>
  </in:include>
</propfind>

>>Response
```

```
HTTP/1.1 207 Multi-Status
Content-Type: text/xml; charset="utf-8"
Content-Length: xxxx

<?xml version="1.0" encoding="utf-8" ?>
<multistatus xmlns="DAV:">
  <response>
    <href>http://www.example.org/container/front.html</href>
    <propstat>
      <prop>
        <R:bigbox xmlns:R="http://www.example.org/boxschema/">
          <R:BoxType>Box type B</R:BoxType>
        </R:bigbox>
        <creationdate>1997-12-01T18:27:21-08:00</creationdate>
        <displayname>Example HTML resource</displayname>
        <getcontentlength>4525</getcontentlength>
        <getcontenttype>text/html</getcontenttype>
        <getetag>zzyzx</getetag>
        <getlastmodified
        >Monday, 12-Jan-98 09:25:56 GMT</getlastmodified>
        <resourcetype/>
        <supportedlock>
          <lockentry>
            <lockscope><exclusive/></lockscope>
            <locktype><write/></locktype>
          </lockentry>
          <lockentry>
            <lockscope><shared/></lockscope>
            <locktype><write/></locktype>
          </lockentry>
        </supportedlock>
        <checked-in>
          <href
          >http://www.example.org/vsn/container/front.html-1</href>
        </checked-in>
      </prop>
      <status>HTTP/1.1 200 OK</status>
    </propstat>
    <propstat>
      <prop>
        <checked-out/>
      </prop>
      <status>HTTP/1.1 404 NOT FOUND</status>
    </propstat>
  </response>
</multistatus>
```

In this example, the server has recognized the extension element in:

include and included the properties DAV:checked-in and DAV:checked-out (as defined in [RFC3253]).

3.2 Example for PROPFIND/allprop/include with non-extended server

```
>>Request

PROPFIND  /container/front.html HTTP/1.1
Host: www.example.org
Depth: 1
Content-Type: text/xml; charset="utf-8"
Content-Length: xxxx

<?xml version="1.0" encoding="utf-8" ?>
<propfind xmlns="DAV:"
  xmlns:in="http://sapportals.com/xmlns/cm/webdav">
  <allprop/>
  <in:include>
    <checked-in/>
    <checked-out/>
  </in:include>
</propfind>
```

```
>>Response

HTTP/1.1 207 Multi-Status
Content-Type: text/xml; charset="utf-8"
Content-Length: xxxx

<?xml version="1.0" encoding="utf-8" ?>
<multistatus xmlns="DAV:">
  <response>
    <href>http://www.example.org/container/front.html</href>
    <propstat>
      <prop>
        <R:bigbox xmlns:R="http://www.example.org/boxschema/">
          <R:BoxType>Box type B</R:BoxType>
        </R:bigbox>
        <creationdate>1997-12-01T18:27:21-08:00</creationdate>
        <displayname>Example HTML resource</displayname>
        <getcontentlength>4525</getcontentlength>
        <getcontenttype>text/html</getcontenttype>
        <getetag>zzyzx</getetag>
        <getlastmodified
        >Monday, 12-Jan-98 09:25:56 GMT</getlastmodified>
        <resourcetype/>
        <supportedlock>
          <lockentry>
            <lockscope><exclusive/></lockscope>
            <locktype><write/></locktype>
          </lockentry>
          <lockentry>
            <lockscope><shared/></lockscope>
            <locktype><write/></locktype>
           </lockentry>
         </supportedlock>
      </prop>
      <status>HTTP/1.1 200 OK</status>
    </propstat>
  </response>
</multistatus>
```

In this case the in:include element was simply ignored. The client can detect this situation by checking for the presence of the requested properties and will have to issue an additional PROPFIND/prop request (to retrieve the missing properties).

4. Changes to WebDAV DTD

```
<!ELEMENT propfind ((allprop, in:include+) | propname | prop) >
<!ELEMENT in:include ANY >
```

Note that the WebDAV DTD is informal only and cannot be used to validate request or response bodies (due to the inability to properly work with XML namespaces).

5. Compatibility Considerations

This specification introduces a new child element for the DAV: propfind element, defined in Section 4. Old servers will ignore this element (see [RFC2518], chapter 14). Clients can detect this situation as outlined in Section 3.2.

Clients not aware of this specification will not be affected at all, because they will never use the new in:include element in PROPFIND requests.

6. Internationalization Considerations

This proposal builds on [RFC2518], and inherits its internationalizability.

7. IANA Considerations

This proposal does not introduce any new IANA considerations, since it does not specify any new namespaces (in the general sense), but merely uses existing ones.

8. References

8.1 Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[RFC2518] Goland, Y., Whitehead, E., Faizi, A., Carter, S., and D. Jensen, "HTTP Extensions for Distributed Authoring -- WEBDAV", RFC 2518, February 1999.

[RFC3253] Clemm, G., Amsden, J., Ellison, T., Kaler, C., and J. Whitehead, "Versioning Extensions to WebDAV", RFC 3253, March 2002.

8.2 Informative References

[RFC3744] Clemm, G., Reschke, J., Sedlar, E., and J. Whitehead, "Web Distributed Authoring and Versioning (WebDAV) Access Control Protocol", RFC 3744, May 2004.

[draft-ietf-webdav-rfc2518bis]

Dusseault, L. and J. Crawford, "HTTP Extensions for Distributed Authoring - WebDAV RFC2518 bis", draft-ietf-webdav-rfc2518bis-08 (work in progress), November 2005, <http://greenbytes.de/tech/webdav/draft-ietf-webdav-rfc2518bis-08.html>.

Authors' Addresses

Julian F. Reschke (editor)
greenbytes GmbH
Hafenweg 16
Muenster, NW 48155
Germany

Phone: +49 251 2807760
Fax: +49 251 2807761
Email: julian.reschke@greenbytes.de
URI: http://greenbytes.de/tech/webdav/

Stefan Eissing
greenbytes GmbH
Hafenweg 16
Muenster, NW 48155
Germany

Phone: +49 251 2807760
Fax: +49 251 2807761
Email: stefan.eissing@greenbytes.de
URI: http://greenbytes.de/tech/webdav/

Appendix A. Alternate syntax proposal from interim WebDAV working group meeting

This section briefly describes an alternate approach to the problem covered by this draft. It was discussed during the interim WebDAV working group meeting in January 2003 and was supported by all meeting attendees. It was also added to the draft for the revision of [RFC2518], [draft-ietf-webdav-rfc2518bis].

A.1 PROPFIND/prop extension to include dead properties

Additional PROPFIND marshalling:

```
<!ELEMENT propfind (allprop | propname | (prop, dead-props?)) >
<!ELEMENT dead-props EMPTY >
```

The DAV:dead-props element can be added to PROPFIND requests that retrieve named properties using DAV:prop. When present, the server MUST include all dead properties defined on the resource.

A.2 Example

This example shows the alternate syntax applied to the example from Section 3.1.

```
>>Request

PROPFIND  /container/front.html HTTP/1.1
Host: www.example.org
Depth: 1
Content-Type: text/xml; charset="utf-8"
Content-Length: xxxx

<?xml version="1.0" encoding="utf-8" ?>
<propfind xmlns="DAV:">
  <prop>
    <checked-in />
    <checked-out />
  </prop>
  <dead-props />
</propfind>
```

```
>>Response

HTTP/1.1 207 Multi-Status
Content-Type: text/xml; charset="utf-8"
Content-Length: xxxx

<?xml version="1.0" encoding="utf-8" ?>
<multistatus xmlns="DAV:">
  <response>
    <href>http://www.example.org/container/front.html</href>
    <propstat>
      <prop>
        <R:bigbox xmlns:R="http://www.example.org/boxschema/">
          <R:BoxType>Box type B</R:BoxType>
        </R:bigbox>
        <checked-in>
          <href
          >http://www.example.org/vsn/container/front.html-1</href>
        </checked-in>
      </prop>
      <status>HTTP/1.1 200 OK</status>
    </propstat>
    <propstat>
      <prop>
        <checked-out/>
      </prop>
      <status>HTTP/1.1 404 NOT FOUND</status>
    </propstat>
  </response>
</multistatus>
```

A.3 Analysis

At first glance, this extension seems to have equivalent semantics. On closer inspection, it doesn't provide the client any means to actually find out whether the remote server understood the extension (it can't distinguish between "server does not now about "dead-props", and "there are no dead properties on the resource").

Appendix B. Change Log (to be removed by RFC Editor before publication)

B.1 Since 'draft-reschke-webdav-allprop-include-00'

Moved <include> element out of "DAV:" namespace.
Updated reference to deltaV (now RFC3253).
Changed examples to explicitly use utf-8 encoding for HTTP content type and XML encoding.

Updated WebDAV ACL reference to draft 07.
Made sure figures fit in 72 columns.
Split references into "Normative" and "Informative".

B.2 Since 'draft-reschke-webdav-allprop-include-01'

Updated WebDAV ACL reference to draft 09.

B.3 Since 'draft-reschke-webdav-allprop-include-02'

Fixed XML errors in examples (wrong closing href tags).
Replaced domain names in examples according to RFC2606:
"www.foo.bar"
by "www.example.org".
Shortened checked-in URI to fit into 72 characters in example.

B.4 Since 'draft-reschke-webdav-allprop-include-03'

Added short description of alternate syntax discussed during interim WebDAV WG meeting (January 2003).

B.5 Since 'draft-reschke-webdav-allprop-include-04'

DTD fix for dead-props variant. Remove superfluous IP and copyright sections. Added reference to RFC2518bis. Updated reference to ACL draft.

B.6 Since 'draft-reschke-webdav-allprop-include-05'

Updated various references. Update abstract.

B.7 Since 'draft-reschke-webdav-allprop-include-06'

Updated RFC2518bis reference. Author's address updated. Added analysis of shortcomings of the RFC2518bis approach.

Appendix C. Open issues (to be removed by RFC Editor prior to publication)

C.1 edit

Type: edit

julian.reschke@greenbytes.de (2005-01-01): Umbrella issue for editorial fixes/enhancements.

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