Versioning

Overview

Within Fedora 4, snapshots of the current state of a resource may be saved into the version history. The RDF for historic version shapshots may be browsed and old non-RDF content may be downloaded. Furthermore, an object or subgraph may be reverted to the state that it existed in a historic version.

Creating versions

When you wish to save a snapshot of the current version of a node to the version history you can use the REST API. When saving these versions you must provide a label that both serves to easily differentiate a version from another and allow easy retrieval of that version.

- GET Get a list of the available versions of an object
- GET Get a previous version of an object
- POST Create a new version of an object
- PATCH Revert to a previous version of an object
- DELETE Remove a previous version of an object

Request URI: **/path/to/some/resource/fcr:versions**

Methods: GET, POST, PATCH

GET **Get a list of the available versions of an object**

Request Headers:

ACCEPT application/ld+json, application/n-triples, application/rdf+xml, application/x-turtle, application/xhtml+xml, application/xml, text/html, text/n3, text/plain, text/rdf+n3, text/turtle

Example:

```
curl -H "Accept: text/turtle" http://localhost:8080/rest/path/to/resource/fcr:versions
```

Response:

```
Status: 200 OK

Headers:
Content-Type: text/turtle

Body:
<http://localhost:8080/rest/path/to/resource> fedora:hasVersion <http://localhost:8080/rest/path/to/resource
/fcr:versions/87a0a8c317f1e749515d33-cb73-4fd7-9d1d-c715eb6947e0> .
<http://localhost:8080/rest/path/to/resource/fcr:versions/87a0a8c317f1e749515d33-cb73-4fd7-9d1d-c715eb6947e0>
fedora:hasVersionLabel "v0"^^<http://www.w3.org/2001/XMLSchema#string> ;
        fedora:created "2014-12-03T23:55:38.47Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> .

<http://localhost:8080/rest/path/to/resource> fedora:hasVersion <http://localhost:8080/rest/path/to/resource
/fcr:versions/87a0a8c317f1e7dae533ec-b1b6-4da1-8bb9-f1964e253572> .
<http://localhost:8080/rest/path/to/resource/fcr:versions/87a0a8c317f1e7dae533ec-b1b6-4da1-8bb9-f1964e253572>
fedora:hasVersionLabel "v1"^^<http://www.w3.org/2001/XMLSchema#string> ;
        fedora:created "2014-12-03T23:56:12.863Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> .
```

Status:

200 OK

404 Not Found: This resource is not versioned or this resource is not exist.

Response: The requested resource is not available.

GET Get a previous version of an object

Request Headers:

ACCEPT application/ld+json, application/n-triples, application/rdf+xml, application/x-turtle, application/xhtml+xml, application/xml, text/html, text/n3, text/plain, text/rdf+n3, text/turtle

Example:

```
curl http://localhost:8080/rest/resource/fcr:versions/<version-label>
```

Response:

```
Status: 200 OK

Response Headers:
ETag: "39f0d8a01a066771e56f70be892a39a7b505843c"
Last-Modified: Tue, 20 May 2014 19:29:10 GMT
Content-Type: text/turtle

Body:

<http://localhost:8080/rest/resource/fcr:versions/87a0a8c317f1e72c658170-624d-40f9-96cb-21ede3392155>
<http://fedora.info/definitions/v4/repository#primaryType> "nt:frozenNode"^^<http://www.w3.org/2001
/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#frozenPrimaryType> "nt:folder"^^<http://www.w3.org/2001
/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#created> "2014-05-20T19:29:00.192Z"^^<http://www.w3.org/2001
/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#frozenMixinTypes> "fedora:resource"^^<http://www.w3.org/2001
/XMLSchema#string> , "mix:versionable"^^<http://www.w3.org/2001/XMLSchema#string> , "fedora:object"
^^<http://www.w3.org/2001/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#lastModified> "2014-05-20T19:29:10.555Z"^^<http://www.w3.org
/2001/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#frozenUuid> "fed529c6-2121-4b1d-83fc-cc4274563612"
^^<http://www.w3.org/2001/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#lastModifiedBy> "bypassAdmin"^^<http://www.w3.org/2001
/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#uuid> "87a0a8c317f1e72c658170-624d-40f9-96cb-21ede3392155"
^^<http://www.w3.org/2001/XMLSchema#string> ;
    <http://fedora.info/definitions/v4/repository#createdBy> "bypassAdmin"^^<http://www.w3.org/2001
/XMLSchema#string> ;
    a <http://www.jcp.org/jcr/nt/1.0frozenNode> , <http://www.jcp.org/jcr/nt/1.0base> , <http://www.jcp.org/jcr
/mix/1.0referenceable> .
```

Status:

200 OK

404 Not Found: if the version or the resource does not exist

Response: The requested resource is not available.

POST Create a new version of an object

Request Headers

SLUG (Required) A suggested name for the new child resource, which the repository may ignore.

Example:

```
curl -X POST -H "Slug: newVersionName" http://localhost:8080/rest/path/to/resource/fcr:versions
```

Response:

```
Status: 201 Created
```

Status:

201 Created: if a new version is created successfully

404 Not Found: if the resource does not exist

409 Conflict: if the version label is already in use for another version of this rexource

Response: The requested resource is not available.

PATCH Revert to a previous version of an object

Example:

```
curl -X PATCH http://localhost:8080/rest/path/to/resource/fcr:versions/existingVersionName
```

Response:

```
Status: 204 No Content
```

Status:

204 No Content: if the version is reverted successfully

404 Not Found: if the version does not exist

Response: The requested resource is not available.

Request URI: **/path/to/some/resource/fcr:versions/versionName**

Methods: DELETE

DELETE Remove a previous version of an object

Example:

```
curl -X DELETE http://localhost:8080/rest/path/to/resource/fcr:versions/versionName
```

Response:

```
Status: 204 No Content
```

Trying to delete the current version of a resource will result in an error. To revert to an old version of a resource, first revert to the old version using the PATCH method, and then delete the newer version.

Status:

204 No Content: if the version is reverted successfully

400 Bad Request: if trying to delete the most recent version

Response: Cannot remove current version

404 Not Found: if the version does not exist

Response: The requested resource is not available.

Duplicate Version Labels

If a resource has a version with a given label, you may not create another version with that label. If you later delete a labeled version, you may then create a new version with that label.
Version creation is a relatively costly operation. With the ability to create versions whenever you wish, you can develop workflows that maximize the utility of this feature.

Possible strategies include:

- For batch operations, only create version checkpoints once nodes have been ingested, verified and tested.
- For small (but high-level) data such as the descriptive metadata created by subject experts, set a versioning policy to store every modification, thereby capturing the entirety of the curatorial endeavor.
- Create snapshot versions that correspond to released versions of content (i.e., version X of a shared dataset, controlled vocabulary or collection)

Viewing old Versions

From the HTML view (or by issuing HTTP GET methods via an HTTP client program) you can get the version history of a node by appending "/fcr:versions" to it's base URL. Each version will be listed, with the version label as the title.

Previewing historic properties

By clicking on the box for a version you can expand and collapse a view of the version properties.

Navigating to the full view of an historic version

By clicking on the label of a version in the version listing you will be taken to the stored version of that resource. Because it's part of the historic record, you cannot edit it, but you can view it, download non RDF-content or revert the resource or subraph to that version.

Reverting to a previous version

If you wish to restore an object to a previous version, you may do so using the REST API, or even the HTML view. In the HTML view of a historic version, a button "Revert to this Version" exists, that when clicked restores the object (and possibly the sub-graph) to the version viewed.

When restoring an old version, two operations occur:

1. Immediately before restoring the old version, a version snapshot is made to reflect the current state of the object. This version will not have a version label.
2. The current state of the resource will be updated to match the version being restored – but a new version will not be created. You can create a version explicitly if you want to create a version that records the revert.

Deleting a previous version

If you wish to remove historic version snapshots you may do so either using the REST API or the HTML view of the historic version. You may not, however, delete the most recent version snapshot