

# 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 snapshots 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 resource

**Response:** The requested resource is not available.

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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.

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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 subgraph 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 [RESTful HTTP API - Versioning](#), 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 label starting with "auto-snapshot-before-".
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