

# RESTful HTTP API - Containers

- GET Retrieve the content of the resource
- POST Create new resources within a LDP container
- PUT Create a resource with a specified path, or replace the triples associated with a resource with the triples provided in the request body.
- PATCH Modify the triples associated with a resource with SPARQL-Update
- DELETE Delete a resource
- HEAD Retrieve the resource headers
- OPTIONS Outputs information about the supported HTTP methods, etc.
- MOVE Move a resource (and its subtree) to a new location
- COPY Copy a resource (and its subtree) to a new location

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

Methods: GET, POST, PUT, PATCH, HEAD, OPTIONS, DELETE, MOVE, COPY

GET

**Retrieve the content of the resource**

## Request Headers:

RANGE

Byte range of content to retrieve, of the form: "Range: bytes=500-999"

ACCEPT

RDF sources support content negotiation with these formats: 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

IF-NONE-MATCH

IF-MODIFIED-SINCE

PREFER

return=minimal

return=representation  
return=representation; include=" **URIs** "  
return=representation; omit=" **URIs** "

where minimal indicates that only triples directly related to a resource should be returned, and representation indicates that links to other resources and their properties should also be included. **URIs** is a space-separate list of LDP defined preferences, and also:

URI	Description
http://fedora.info/definitions/v4/repository#EmbedResources	Embed "child" resources in the returned representation
http://fedora.info/definitions/v4/repository#InboundReferences	Include assertions from other Fedora resources to this node (excluded from representation by default)
http://fedora.info/definitions/v4/repository#ServerManaged	Embed server managed properties in the representation (enabled by default)

## Example (1): Turtle

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

## Response:

Status: 200 OK

Headers:

ETag: "0ed38fe211c2663ace5322e970e7b7d606196e00"  
Last-Modified: Mon, 19 May 2014 19:44:59 GMT  
Preference-Applied: return=representation; include="http://www.w3.org/ns/ldp#PreferMembership http://www.w3.org/ns/ldp#PreferContainment"  
Vary: Prefer  
Accept-Patch: application/sparql-update  
Allow: MOVE,COPY,DELETE,POST,HEAD,GET,PUT,PATCH,OPTIONS  
Accept-Post: text/turtle,text/rdf+n3,application/n3,text/n3,application/rdf+xml,application/n-triples,multipart/form-data,application/sparql-update  
Link: <http://www.w3.org/ns/ldp#Resource>;rel="type"  
Link: <http://www.w3.org/ns/ldp#DirectContainer>;rel="type"  
Content-Type: text/turtle

Body:

```
<http://localhost:8080/rest/path/to/resource> <http://fedora.info/definitions/v4/rest-api#hasAccessRoles>
<http://localhost:8080/rest/path/to/resource/fcr:accessroles> ;
  <http://fedora.info/definitions/v4/rest-api#exportsAs> <http://localhost:8080/rest/path/to/resource/fcr:
export?format=jcr/xml> ;
  <http://fedora.info/definitions/v4/repository#hasParent> <http://localhost:8080/rest/path/to> ;
  a <http://www.w3.org/ns/ldp#Container> , <http://www.w3.org/ns/ldp#DirectContainer> ;
  <http://www.w3.org/ns/ldp#membershipResource> <http://localhost:8080/rest/path/to/resource> ;
  <http://www.w3.org/ns/ldp#hasMemberRelation> <http://fedora.info/definitions/v4/repository#hasChild> ;
  a <http://www.jcp.org/jcr/nt/1.0folder> , <http://www.jcp.org/jcr/nt/1.0hierarchyNode> , <http://www.jcp.org
/jcr/nt/1.0base> , <http://www.jcp.org/jcr/mix/1.0created> , <http://fedora.info/definitions/v4/rest-
api#resource> , <http://fedora.info/definitions/v4/rest-api#object> , <http://fedora.info/definitions/v4/rest-
api#relations> , <http://www.jcp.org/jcr/mix/1.0created> , <http://www.jcp.org/jcr/mix/1.0lastModified> ,
<http://www.jcp.org/jcr/mix/1.0referenceable> , <http://purl.org/dc/elements/1.1/describable> , <http://fedora.
info/definitions/v4/rest-api#resource> ;
  <http://fedora.info/definitions/v4/repository#primaryType> "nt:folder"^^<http://www.w3.org/2001
/XMLSchema#string> ;
  <http://fedora.info/definitions/v4/repository#created> "2014-05-19T19:44:59.647Z"^^<http://www.w3.org/2001
/XMLSchema#string> ;
  <http://fedora.info/definitions/v4/repository#lastModified> "2014-05-19T19:44:59.645Z"^^<http://www.w3.org
/2001/XMLSchema#string> ;
  <http://fedora.info/definitions/v4/repository#mixinTypes> "fedora:resource"^^<http://www.w3.org/2001
/XMLSchema#string> , "fedora:object"^^<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> "2b655d37-e88a-44c5-86c1-3b3935cdea49"^^<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/1.0folder> , <http://www.jcp.org/jcr/nt/1.0hierarchyNode> , <http://www.jcp.org
/jcr/nt/1.0base> , <http://www.jcp.org/jcr/mix/1.0created> , <http://fedora.info/definitions/v4/rest-
api#resource> , <http://fedora.info/definitions/v4/rest-api#object> , <http://fedora.info/definitions/v4/rest-
api#relations> , <http://www.jcp.org/jcr/mix/1.0created> , <http://www.jcp.org/jcr/mix/1.0lastModified> ,
<http://www.jcp.org/jcr/mix/1.0referenceable> , <http://purl.org/dc/elements/1.1/describable> , <http://fedora.
info/definitions/v4/rest-api#resource> .
```

## Example (2): RDF/XML

```
curl -H "Accept: application/rdf+xml" "http://localhost:8080/rest/path/to/resource"
```

## Response:

Status: 200 OK

Headers:

ETag: "0ed38fe211c2663ace5322e970e7b7d606196e00"  
Last-Modified: Mon, 19 May 2014 19:44:59 GMT  
Preference-Applied: return=representation; include="http://www.w3.org/ns/ldp#PreferMembership http://www.w3.org

```

/ns/ldp#PreferContainment"
Vary: Prefer
Accept-Patch: application/sparql-update
Allow: MOVE,COPY,DELETE,POST,HEAD,GET,PUT,PATCH,OPTIONS
Accept-Post: text/turtle,text/rdf+n3,application/n3,text/n3,application/rdf+xml,application/n-triples,multipart
/form-data,application/sparql-update
Link: <http://www.w3.org/ns/ldp#Resource>;rel="type"
Link: <http://www.w3.org/ns/ldp#DirectContainer>;rel="type"
Content-Type: application/rdf+xml

Body:

<rdf:RDF
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#">

  <rdf:Description rdf:about="http://localhost:8080/rest/path/to/resource">
    <hasAccessRoles xmlns="http://fedora.info/definitions/v4/rest-api#" rdf:resource="http://localhost:8080/rest
/path/to/resource/fcr:accessroles"/>
    <exportsAs xmlns="http://fedora.info/definitions/v4/rest-api#" rdf:resource="http://localhost:8080/rest/path
/to/resource/fcr:export?format=jcr/xml"/>
    <hasParent xmlns="http://fedora.info/definitions/v4/repository#" rdf:resource="http://localhost:8080/rest
/path/to"/>
    <rdf:type rdf:resource="http://www.w3.org/ns/ldp#Container"/>
    <rdf:type rdf:resource="http://www.w3.org/ns/ldp#DirectContainer"/>
    <membershipResource xmlns="http://www.w3.org/ns/ldp#" rdf:resource="http://localhost:8080/rest/path/to
/resource"/>
    <hasMemberRelation xmlns="http://www.w3.org/ns/ldp#" rdf:resource="http://fedora.info/definitions/v4
/repository#hasChild"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/nt/1.0folder"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/nt/1.0hierarchyNode"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/nt/1.0base"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0created"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#resource"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#object"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#relations"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0created"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0lastModified"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0referenceable"/>
    <rdf:type rdf:resource="http://purl.org/dc/elements/1.1/describable"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#resource"/>
    <primaryType xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">nt:folder</primaryType>
    <created xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">2014-05-19T19:44:59.647Z</created>
    <lastModified xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">2014-05-19T19:44:59.645Z</lastModified>
    <mixinTypes xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">fedora:resource</mixinTypes>
    <mixinTypes xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">fedora:object</mixinTypes>
    <lastModifiedBy xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">bypassAdmin</lastModifiedBy>
    <uuid xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">2b655d37-e88a-44c5-86c1-3b3935cdea49</uuid>
    <createdBy xmlns="http://fedora.info/definitions/v4/repository#" rdf:datatype="http://www.w3.org/2001
/XMLSchema#string">bypassAdmin</createdBy>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/nt/1.0folder"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/nt/1.0hierarchyNode"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/nt/1.0base"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0created"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#resource"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#object"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#relations"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0created"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0lastModified"/>
    <rdf:type rdf:resource="http://www.jcp.org/jcr/mix/1.0referenceable"/>
    <rdf:type rdf:resource="http://purl.org/dc/elements/1.1/describable"/>
    <rdf:type rdf:resource="http://fedora.info/definitions/v4/rest-api#resource"/>
  </rdf:Description>

```

```
</rdf:RDF>
```

#### Example (3): Prefer headers

```
curl -H "Prefer: return=representation; include=\"http://fedora.info/definitions/v4/repository#InboundReferences\"; omit=\"http://www.w3.org/ns/ldp#PreferMembership http://www.w3.org/ns/ldp#PreferContainment\"" http://localhost:8080/rest/parent
```

#### Response:

Status: 200 OK

Headers:

ETag: "25fb5cb1d24983d57b10cb0b4656de113d5b8257"

Last-Modified: Mon, 19 May 2014 19:24:40 GMT

Preference-Applied: return=representation; include="http://fedora.info/definitions/v4/repository#InboundReferences"

Vary: Prefer

Accept-Patch: application/sparql-update

Allow: MOVE,COPY,DELETE,POST,HEAD,GET,PUT,PATCH,OPTIONS

Accept-Post: text/turtle,text/rdf+n3,application/n3,text/n3,application/rdf+xml,application/n-triples,multipart/form-data,application/sparql-update

Link: <http://www.w3.org/ns/ldp#Resource>;rel="type"

Link: <http://www.w3.org/ns/ldp#DirectContainer>;rel="type"

Content-Type: text/turtle

Body:

```
<http://localhost:8080/rest/parent> <http://fedora.info/definitions/v4/rest-api#hasAccessRoles>
<http://localhost:8080/rest/parent/fcr:accessroles> ;
  <http://fedora.info/definitions/v4/rest-api#exportsAs> <http://localhost:8080/rest/parent/fcr:export?
format=jcr/xml> ;
  <http://fedora.info/definitions/v4/repository#hasParent> <http://localhost:8080/rest/> ;
  a <http://www.w3.org/ns/ldp#Container> , <http://www.w3.org/ns/ldp#DirectContainer> ;
  <http://www.w3.org/ns/ldp#membershipResource> <http://localhost:8080/rest/parent> ;
  <http://www.w3.org/ns/ldp#hasMemberRelation> <http://fedora.info/definitions/v4/repository#hasChild> ;
  a <http://www.jcp.org/jcr/nt/1.0folder> , <http://www.jcp.org/jcr/nt/1.0hierarchyNode> , <http://www.jcp.org
/jcr/nt/1.0base> , <http://www.jcp.org/jcr/mix/1.0created> , <http://fedora.info/definitions/v4/rest-
api#resource> , <http://fedora.info/definitions/v4/rest-api#object> , <http://fedora.info/definitions/v4/rest-
api#relations> , <http://www.jcp.org/jcr/mix/1.0created> , <http://www.jcp.org/jcr/mix/1.0lastModified> ,
<http://www.jcp.org/jcr/mix/1.0referenceable> , <http://purl.org/dc/elements/1.1/describable> , <http://fedora.
info/definitions/v4/rest-api#resource> .

<http://localhost:8080/rest/collection> <http://fedora.info/definitions/v4/rels-ext#hasCollectionMember>
<http://localhost:8080/rest/parent> .

<http://localhost:8080/rest/parent> <http://fedora.info/definitions/v4/repository#primaryType> "nt:folder"
^^<http://www.w3.org/2001/XMLSchema#string> ;
  <http://fedora.info/definitions/v4/repository#created> "2014-05-19T19:21:37.182Z"^^<http://www.w3.org/2001
/XMLSchema#string> ;
  <http://fedora.info/definitions/v4/repository#lastModified> "2014-05-19T19:24:40.662Z"^^<http://www.w3.org
/2001/XMLSchema#string> ;
  <http://fedora.info/definitions/v4/repository#mixinTypes> "fedora:resource"^^<http://www.w3.org/2001
/XMLSchema#string> , "fedora:object"^^<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> "c21706cd-ccl1a-4d77-b637-d940e0dc7888"^^<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/1.0folder> , <http://www.jcp.org/jcr/nt/1.0hierarchyNode> , <http://www.jcp.org
/jcr/nt/1.0base> , <http://www.jcp.org/jcr/mix/1.0created> , <http://fedora.info/definitions/v4/rest-
api#resource> , <http://fedora.info/definitions/v4/rest-api#object> , <http://fedora.info/definitions/v4/rest-
api#relations> , <http://www.jcp.org/jcr/mix/1.0created> , <http://www.jcp.org/jcr/mix/1.0lastModified> ,
<http://www.jcp.org/jcr/mix/1.0referenceable> , <http://purl.org/dc/elements/1.1/describable> , <http://fedora.
info/definitions/v4/rest-api#resource> .
```

#### Example (4): Non-RDF Source

```
curl "http://localhost:8080/rest/path/to/binary/resource"
```

#### Response:

```
Status: 200 OK
```

Headers:

```
ETag: "0ed38fe211c2663ace5322e970e7b7d606196e00"
```

```
Last-Modified: Mon, 19 May 2014 19:44:59 GMT
```

```
Vary: Prefer
```

```
Link: <http://localhost:8080/rest/path/to/binary/resource/fcr:metadata">;rel="describedby"
```

```
Content-Type: image/jpg
```

Body:

```
{binary content}
```

Status:

200

OK

304

Not Modified

404

Not Found

POST

## Create new resources within a LDP container

Query Parameters:

CHECKSUM

(Optional) Provide a SHA-1 checksum which will be checked against the uploaded content to ensure error-free transfer.

Request Headers:

CONTENT-DISPOSITION

(Optional) The filename provided in the content disposition header will be stored in a `ebucore:filename` property.

CONTENT-TYPE

(Optional) MIME type of the uploaded binary or RDF content.

CONTENT-LOCATION

(Optional) A URI to a resource to use instead of the request body

If the MIME type corresponds to a supported RDF format or SPARQL-Update, the uploaded content will be parsed as RDF and used to populate the child node properties. RDF will be interpreted using the current resource as the base URI (e.g. `<>` will be expanded to the current URI). Namespaces must be declared in full.

For other MIME types, the uploaded content will be used to create a binary resource.

SLUG

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

The slug you provide does not guarantee the location of the created resource. Clients must check the Location header for the path to the created resource.

### Example (1): Create a new child node

```
curl -X POST "http://localhost:8080/rest/"
```

Response:

```
Status: 201 Created
```

Headers:

```
ETag: "3ac31b09de1536a332d9c6ee8453669947721840"
```

```
Location: http://localhost:8080/rest/some/path/to/a/new/resource
```

Body:

```
http://localhost:8080/rest/some/path/to/a/new/resource
```

#### Example (2): Create a new child binary resource with empty content

```
curl -i -X POST -H "Content-Type:text/plain" "http://localhost:8080/rest"
```

#### Response:

```
Status: 201 Created
ETag: "487f188240d2be3ae32d49958c0eeeea18224be0a"
Last-Modified: Thu, 29 May 2014 15:46:13 GMT
Link: <http://localhost:8080/rest/b8/fc/32/be/b8fc32be-34be-428e-bf7c-81be97e5f2e3/fcr:metadata>; rel="describedby"; anchor="http://localhost:8080/rest/b8/fc/32/be/b8fc32be-34be-428e-bf7c-81be97e5f2e3"
Location: http://localhost:8080/rest/b8/fc/32/be/b8fc32be-34be-428e-bf7c-81be97e5f2e3
Content-Type: text/plain
Transfer-Encoding: chunked

Body:
http://localhost:8080/rest/b8/fc/32/be/b8fc32be-34be-428e-bf7c-81be97e5f2e3
```

#### Example (3): Create a new container with RDF properties

```
curl -i -X POST -H "Content-Type: text/turtle" --data-binary "@body.rdf" "http://localhost:8080/rest/"

Request Body:
PREFIX dc: <http://purl.org/dc/elements/1.1/>
<> dc:title "some-resource-title"
```

#### Response:

```
Status: 201 Created

Headers:
ETag: "a66937ca13bc29c63f7b1a55d447a76cd8f1d573"
Location: http://localhost:8080/rest/new/node/uri

Body:
http://localhost:8080/rest/new/node/uri
```

#### Example (4): Uploaded file with checksum

```
curl -i -X POST --data-binary "@picture.jpg" "http://localhost:8080/rest/parent/container?checksum=urn:sha1:cb1a576f22e8e3e110611b616e3e2f5ce9bdb941"
```

#### Response:

```
Status: 201 Created

Headers:
ETag: "fe4e2bf389fe05dab6390564e40012d8d36eca19"
Location: http://localhost:8080/rest/parent/object/auto/generated/ds/id

Body:
http://localhost:8080/rest/parent/object/auto/generated/ds/id
```

#### Example (5): Uploaded file with checksum mismatch

```
curl -X POST --data-binary "@picture.jpg" "http://localhost:8080/rest/parent/object?checksum=urn:sha1:checksumdoesntmatch"
```

#### Response:

Status: 409 Conflict

Body:

Checksum Mismatch of cb1a576f22e8e3e110611b616e3e2f5ce9bdb941 and urn:sha1:checksumdoesntmatch

#### Example (6): Uploaded file with filename

```
curl -i -X POST --data-binary "@picture.jpg" -H "Content-Disposition: attachment; filename=\"picture.jpg\"" "http://localhost:8080/rest/parent/container"
```

#### Response:

Status: 201 Created

Headers:

ETag: "fe4e2bf389fe05dab6390564e40012d8d36eca19"

Location: http://localhost:8080/rest/parent/object/auto/generated/ds/id

Body:

http://localhost:8080/rest/parent/object/auto/generated/ds/id

#### Status:

201

Created

404

Not Found (resource does not exist – use PUT to specify a new resource name)

409

Conflict (checksum mismatch)

PUT

#### Create a resource with a specified path, or replace the triples associated with a resource with the triples provided in the request body.

Some resource properties are repository managed and cannot be removed or modified. Any attempt to do so may result in a 4xx error. RDF will be interpreted using the current resource as the base URI (e.g. <> will be expanded to the current URI)

#### Request Headers:

CONTENT-TYPE

text/turtle, text/rdf+n3, application/n3, text/n3, application/rdf+xml, application/n-triples, text/html, text/plain, application/ld+json, message/external-body

IF-MATCH

IF-UNMODIFIED-SINCE

CONTENT-LOCATION

(Optional) A URI to a resource to use instead of the request body

#### Query Parameters:

CHECKSUM

Checksum of the binary content (in the form urn:sha1:<sha1-hash>). If the checksum doesn't match, a 409 Conflict will be returned.



## Example (1): Updating properties with RDF content

### 1.1 Perform a GET to the current container's RDF content

```
curl -X GET -H "Accept: text/turtle" "http://localhost:8080/rest/node/to/update"

Body:
@prefix dc: <http://purl.org/dc/elements/1.1/>
...
@prefix ldp: <http://www.w3.org/ns/ldp#>
<http://localhost:8080/rest/node/to/update> a ldp:RDFSSource , ldp:Container , <http://www.jcp.org/jcr/nt/1.0folder> , <http://www.jcp.org/jcr/nt/1.0hierarchyNode> , <http://www.jcp.org/jcr/nt/1.0base> , <http://www.jcp.org/jcr/mix/1.0created> , fedora:Container , fedora:Resource , fedora:Resource , <http://www.jcp.org/jcr/mix/1.0created> , <http://www.jcp.org/jcr/mix/1.0lastModified> , <http://www.jcp.org/jcr/mix/1.0referenceable> ;
    fedora:primaryType "nt:folder"^^<http://www.w3.org/2001/XMLSchema#string> ;
    fedora:created "2014-11-20T16:23:31.684Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
    fedora:lastModified "2014-11-20T16:23:31.684Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
    fedora:mixinTypes "fedora:Container"^^<http://www.w3.org/2001/XMLSchema#string> , "fedora:Resource"
^^<http://www.w3.org/2001/XMLSchema#string> ;
...
<http://fedora.info/definitions/v4/repository#jcr/xml> rdfs:label "jcr/xml"^^<http://www.w3.org/2001/XMLSchema#string> .
<http://54.173.23.104:8080/fcrepo4/rest/test1/fcr:export?format=jcr/xml> dc:format <http://fedora.info/definitions/v4/repository#jcr/xml> .
```

### 1.2 Add your updates (e.g. <> dc:title "some-resource-title" .) under the full result of the GET response in 1.1

```
curl -X PUT -H "Content-Type: text/turtle" --data-binary "@new-triples.rdf" "http://localhost:8080/rest/node/to/update"

Request Body:

@prefix dc: <http://purl.org/dc/elements/1.1/>
...
@prefix ldp: <http://www.w3.org/ns/ldp#>
<http://localhost:8080/rest/node/to/update> a ldp:RDFSSource , ldp:Container , <http://www.jcp.org/jcr/nt/1.0folder> , <http://www.jcp.org/jcr/nt/1.0hierarchyNode> , <http://www.jcp.org/jcr/nt/1.0base> , <http://www.jcp.org/jcr/mix/1.0created> , fcrepo:Container , fcrepo:Resource , fcrepo:Resource , <http://www.jcp.org/jcr/mix/1.0created> , <http://www.jcp.org/jcr/mix/1.0lastModified> , <http://www.jcp.org/jcr/mix/1.0referenceable> ;
    fcrepo:primaryType "nt:folder"^^<http://www.w3.org/2001/XMLSchema#string> ;
    fcrepo:created "2014-11-20T16:23:31.684Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
    fcrepo:lastModified "2014-11-20T16:23:31.684Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
    fcrepo:mixinTypes "fedora:Container"^^<http://www.w3.org/2001/XMLSchema#string> , "fedora:Resource"
^^<http://www.w3.org/2001/XMLSchema#string> ;
...
<http://fedora.info/definitions/v4/repository#jcr/xml> rdfs:label "jcr/xml"^^<http://www.w3.org/2001/XMLSchema#string> .
<http://54.173.23.104:8080/fcrepo4/rest/test1/fcr:export?format=jcr/xml> dc:format <http://fedora.info/definitions/v4/repository#jcr/xml> .
<> dc:title "some-resource-title" .
```

### Response:

```
Status: 204 No Content
```

Note that to prevent conflicts, the value of the `fedora:lastModified` triple in the request must match its current counterpart in the repository. The way to ensure this is to base the changes in a PUT request on the RDF content obtained in an immediately prior GET request, and never try to PUT consecutively, as this will result in a 400 error.

## Example (2): Creating a new resource at a specified path

```
curl -i -X PUT "http://localhost:8080/rest/node/to/create"
```

**Response:**

```
Status: 201 Created

Response Headers:
ETag: "ef214795c3b9109389ffa542a6c081976e1e9587"
Last-Modified: Mon, 19 May 2014 20:52:57 GMT
Location: http://localhost:8080/rest/node/to/create

Body:
http://localhost:8080/rest/node/to/create
```

**Example (3): Creating new binary resource at a specified path**

```
curl -X PUT --upload-file image.jpg -H"Content-Type: image/jpeg" "http://localhost:8080/rest/new/image"
```

**Response:**

```
Status: 201 Created

Headers:
ETag: "urn:sha1:ea3d29b28522724a82de042a7b7a4e79a1653435"
Last-Modified: Mon, 19 May 2014 20:55:31 GMT
Location: http://localhost:8080/rest/new/image

Body:
http://localhost:8080/rest/new/image
```

Note that once a resource is created as an RDF or non-RDF source, it must remain an RDF or non-RDF source. In order to change the type of resource, you must DELETE and then re-create the resource.

**Status:****204**

No Content

**412**

Precondition Failed

**Example (4): Creating a new binary resource at a specified path redirecting to external content**

```
curl -X PUT -H"Content-Type: message/external-body; access-type=URL; URL=\"http://www.example.com/file\""
"http://localhost:8080/rest/node/to/create"
```

**Response:**

```
Status: 201 Created

Headers:
ETag: "ef214795c3b9109389ffa542a6c081976e1e9587"
Last-Modified: Mon, 19 May 2014 20:52:57 GMT
Link: <http://localhost:8080/rest/node/to/create/fcr:metadata>; rel="describedby"
Location: http://localhost:8080/rest/node/to/create

Body:
http://localhost:8080/rest/node/to/create
```

**PATCH**

## Modify the triples associated with a resource with SPARQL-Update

### Request Headers:

IF-MATCH

IF-UNMODIFIED-SINCE

CONTENT-LOCATION (Optional) A URI to a resource to use instead of the request body

### Example (1):

```
curl -X PATCH -H "Content-Type: application/sparql-update" --data-binary "@body.rdf" "http://localhost:8080/rest/node/to/update"
```

Request Body:

```
PREFIX dc: <http://purl.org/dc/elements/1.1/>
INSERT {
  <> dc:title "some-resource-title" .
}
WHERE { }
```

### Response:

Status: 204 No Content

### Example (2): Updating multiple containers with a single SPARQL Update

```
curl -X PATCH -H "Content-Type: application/sparql-update" --data-binary "@body.rdf" "http://localhost:8080/rest/node/to/update"
```

Request Body:

```
PREFIX dc: <http://purl.org/dc/elements/1.1/>
INSERT {
  <> dc:title "some-resource-title" .
  <http://localhost:8080/rest/another/node/to/update> dc:title "some-other-title" .
}
WHERE { }
```

### Response:

Status: 204 No Content

### Status:

204

No Content

412

Precondition Failed

**DELETE**

## Delete a resource

### Example:

```
curl -X DELETE "http://localhost:8080/rest/resource/to/delete"
```

**Response:**

```
Status: 204 No Content
```

Delete requests create "tombstone" resources which need to be removed before you can reuse a URI.

**Example:**

```
curl -X GET "http://localhost:8080/rest/some/deleted/resource"
```

```
Status: 410 Gone
```

```
Link: <http://localhost:8080/rest/some/deleted/resource/fcr:tombstone>; rel="hasTombstone"
```

```
Body:
```

```
Discovered tombstone resource at /some/deleted/resource {jcr:primaryType=fedora:Tombstone, jcr:created=2014-11-20T16:04:21.131Z, jcr:createdBy=bypassAdmin}
```

```
curl -X DELETE "http://localhost:8080/rest/some/deleted/resource/fcr:tombstone"
```

```
Status: 204 No Content
```

Create a new node and reuse the deleted URL

```
curl -X PUT "http://localhost:8080/rest/some/deleted/resource"
```

```
Status: 201 Created
```

**Status:****204**

No Content

**404**

Not Found

**HEAD****Retrieve the resource headers****Example:**

```
curl -i -X HEAD "http://localhost:8080/rest/resource/to/head"
```

**Response:**

```
Status: 200 OK
ETag: "bddd92e395800153a686773f773bcad80a51f47b"
Last-Modified: Wed, 28 May 2014 18:31:36 GMT
Last-Modified: Thu, 20 Nov 2014 15:44:32 GMT
Link: <http://www.w3.org/ns/ldp#Resource>;rel="type"
Link: <http://www.w3.org/ns/ldp#Container>;rel="type"
Link: <http://www.w3.org/ns/ldp#BasicContainer>;rel="type"
Accept-Patch: application/sparql-update
Accept-Post: text/turtle,text/rdf+n3,text/n3,application/rdf+xml,application/n-triples,multipart/form-data,
application/sparql-update
Allow: MOVE,COPY,DELETE,POST,HEAD,GET,PUT,PATCH,OPTIONS
```

#### Status:

200

OK

404

Not Found

#### OPTIONS

**Outputs information about the supported HTTP methods, etc.**

#### Example:

```
curl -i -X OPTIONS "http://localhost:8080/rest/node/to/options"
```

#### Response:

```
Status: 200 OK
Accept-Patch: application/sparql-update
Allow: MOVE,COPY,DELETE,POST,HEAD,GET,PUT,PATCH,OPTIONS
Accept-Post: text/turtle,text/rdf+n3,application/n3,text/n3,application/rdf+xml,application/n-triples,multipart
/form-data,application/sparql-update
```

#### Status:

200

OK

#### MOVE

**Move a resource (and its subtree) to a new location**

Note: A federated resource can be moved within the federation, but not from the federation to the internal repository (or vice versa)

#### Example (1):

```
curl -X MOVE -H "Destination: http://localhost:8080/rest/new/path/to/resource" "http://localhost:8080/rest/path/to/resource"
```

#### Response:

```
Status: 201 Created

Headers:
Location: http://localhost:8080/rest/new/path/to/resource
```

### Example (2):

```
curl -X MOVE "http://localhost:8080/rest/path/to/resource"
```

### Response:

Status: 502 Bad Gateway

### Status:

201

Created

409

Source path doesn't exist

412

Destination path already exists

502

Destination URI isn't a valid resource path

COPY

### Copy a resource (and its subtree) to a new location

### Example:

```
curl -X COPY -H "Destination: http://localhost:8080/rest/new/path/to/resource" "http://localhost:8080/rest/path/to/resource"
```

### Response:

Status: 201 Created

Headers:

Location: http://localhost:8080/rest/new/path/to/resource

### Status:

201

Created

409

Source path doesn't exist

412

Destination path already exists

502

Destination URI isn't a valid resource path