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

Note: JSON-LD profiles can be requested by using the following `Accept` headers:

Accept: application/ld+json; profile=\"http://www.w3.org/ns/json-ld#expanded\"" - *default*
Accept: application/ld+json; profile=\"http://www.w3.org/ns/json-ld#compacted\""
Accept: application/ld+json; profile=\"http://www.w3.org/ns/json-ld#flattened\""

LIMIT Number of child resources to list. If paired with Accept: (X)HTML, the default is 100. Otherwise, the default is `-1` (all children are listed)

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 /fcrepo#PreferInboundReferences	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)
http://www.w3.org/ns /oa#PreferContainedDescriptions	Embed "child" resources in the returned representation
http://www.w3.org/ns/ldp#PreferContainment	Include/Exclude "ldp:contains" assertions to contained resources (enabled by default)
http://www.w3.org/ns/ldp#PreferMembership	Include/Exclude assertions to member resources established by the Direct and Indirect containers (enabled by default)
http://www.w3.org/ns/ldp#PreferMinimalContainer	Include/Exclude triples that would be present when the container is empty (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 -i -u fedoraAdmin:fedoraAdmin http://localhost:8080/rest/collection -H 'Prefer: return=representation;
include="http://fedora.info/definitions/fcrepo#PreferInboundReferences"; omit="http://www.w3.org/ns
/ldp#PreferMembership
http://www.w3.org/ns/ldp#PreferContainment"'
```

Response:

```
Status: 200 OK

Headers:
Date: Sat, 13 Oct 2018 00:03:25 GMT
Set-Cookie: JSESSIONID=1pgwewtt9ucywx13hwo9mtjow;Path=/
Expires: Thu, 01 Jan 1970 00:00:00 GMT
Set-Cookie: rememberMe=deleteMe; Path=/; Max-Age=0; Expires=Fri, 12-Oct-2018 00:03:25 GMT
ETag: W/"fee2096961dcdf1c475d394319fc34a53bec39ac"
Last-Modified: Fri, 12 Oct 2018 23:24:34 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#RDFSource>; rel="type"
Link: <http://www.w3.org/ns/ldp#BasicContainer>;rel="type"
Link: <http://localhost:8080/rest/collection>; rel="timegate"
Link: <http://localhost:8080/rest/collection>; rel="original"
Link: <http://localhost:8080/rest/collection/fcr:versions>; rel="timemap"
Link: <http://mementoweb.org/ns#OriginalResource>; rel="type"
Link: <http://mementoweb.org/ns#TimeGate>; rel="type"
Accept-External-Content-Handling: copy,redirect,proxy
Accept-Patch: application/sparql-update
Accept-Post: text/turtle,text/rdf+n3,text/n3,application/rdf+xml,application/n-triples,application/ld+json
Allow: MOVE,COPY,DELETE,POST,HEAD,GET,PUT,PATCH,OPTIONS
Link: <http://localhost:8080/rest/collection/fcr:acl>; rel="acl"
Preference-Applied: return=representation; include="http://fedora.info/definitions
/fcrepo#PreferInboundReferences"; omit="http://www.w3.org/ns/ldp#PreferMembership http://www.w3.org/ns
/ldp#PreferContainment"
Vary: Prefer
Vary: Accept
Vary: Range
Vary: Accept-Encoding
Vary: Accept-Language
Vary: Accept-Datetime
Content-Type: text/turtle;charset=utf-8
Content-Length: 1082
Server: Jetty(9.3.25.v20180904)

Body:
@prefix memento:  <http://mementoweb.org/ns#> .
@prefix rdf:  <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix fedora:  <http://fedora.info/definitions/v4/repository#> .
@prefix ldp:  <http://www.w3.org/ns/ldp#> .

<http://localhost:8080/rest/collection>
        rdf:type               fedora:Container ;
        rdf:type               fedora:Resource ;
        rdf:type               ldp:BasicContainer ;
        fedora:lastModifiedBy  "fedoraAdmin" ;
        fedora:createdBy       "fedoraAdmin" ;
        fedora:created         "2018-10-12T23:24:34.286Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
        fedora:lastModified    "2018-10-12T23:24:34.286Z"^^<http://www.w3.org/2001/XMLSchema#dateTime> ;
        rdf:type               ldp:RDFSource ;
        rdf:type               ldp:Container ;
        fedora:writable        true .

<http://localhost:8080/rest/collection/fcr:versions>
        memento:original  <http://localhost:8080/rest/collection> .

<http://localhost:8080/rest/item>
        ldp:isMemberOfCollection  <http://localhost:8080/rest/collection> .
```

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

406 Not Acceptable (the 'Accept' request-header media type is either invalid or unsupported)

POST Create new resources within a LDP container

Request Headers:

CONTENT-DISPOSITION (Optional) The filename provided in the content disposition header will be stored in a ebucore:filename property. (See 'Example (6): Uploaded file with filename')

CONTENT-TYPE (Optional) MIME type of the uploaded binary or RDF content (See ' Example (2): Create a new child binary resource with empty content ')

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.

DIGEST (Optional) A way of providing one or more checksums (SHA-1, SHA-256, MD5) which will be checked against the uploaded content to ensure error-free transfer. The header is interpreted according to RFC-3230 (See 'Example (4): Uploaded file with checksum' and 'Example (5): Uploaded file with checksum mismatch') If the provided checksum does not match the calculated value for the uploaded file a 409 Conflict will be returned. See PATCH example for documentation on how to change the default algorithm used during on-demand fixity checking. Valid `Digest` algorithms/values are: sha, sha-256, or md5.

LINK With a value containing subfield `rel= http://fedora.info/definitions/fcrepo#ExternalContent` the client may provide binary content from an external path. See the external content documentation for details about syntax and handling options (note, this is disabled by default), and Example 7 for usage.

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: "487f188240d2be3ae32d49958c0eeea18224be0a"
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" -H"digest: sha=cb1a576f22e8e3e110611b616e3e2f5ce9bdb941"
"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
```

Example (4b): Uploaded file with multiple checksum

```
curl -i -X POST --data-binary "@picture.jpg" -H"digest: sha=cb1a576f22e8e3e110611b616e3e2f5ce9bdb941, sha-
256=95331b60710d0400ee4913b5613c78f54" "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
```

Example (5): Uploaded file with checksum mismatch

```
curl -X POST --data-binary "@picture.jpg" -H"digest: sha=checksumdoesntmatch" "http://localhost:8080/rest/parent
/object"
```

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
```

Example (7): Creating a new binary resource using proxied external content

```
curl -i -X POST -H"Link: <file:///path/to/picture.jpg>; rel=\"http://fedora.info/definitions
/fcrepo#ExternalContent\"; handling=\"proxy\"; type=\"image/jpg\"" "http://localhost:8080/rest/parent/container"
```

Response:

```
Status: 201 Created

Headers:
ETag: "fe4e2bf389fe05dab6390564e40012d8d36eca19"
Location: http://localhost:8080/rest/parent/container/<autogenerated-ds-id>

Body:
http://localhost:8080/rest/parent/container/<autogenerated-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

IF-MATCH

IF-UNMODIFIED-SINCE

DIGEST (Optional) A way of providing one or more checksums (SHA-1, SHA-256, MD5) which will be checked against the uploaded content to ensure error-free transfer. The header is interpreted according to RFC-3230 (See 'Example (3): Creating new binary resource at a specified path') If the provided checksum does not match the calculated value for the uploaded file a 409 Conflict will be returned. See Fixity Service for documentation on how to change the default algorithm used during on-demand fixity checking. Valid `Digest` algorithms/values are: sha, sha-256, or md5.

PREFER With the value `handling=lenient; received="minimal"` allows replacing the properties of a container without having to provide all of the server-managed triples.

LINK With a value containing subfield `rel=http://fedora.info/definitions/fcrepo#ExternalContent` the client may provide binary content from an external path . See the external content documentation for details about syntax and handling options (note, this is disabled by default), and Example 4 for usage.

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:RDFSource , 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:RDFSource , 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" -H"digest:
sha=cb1a576f22e8e3e110611b616e3e2f5ce9bdb941" "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"Link: <http://www.example.com/file>; rel=\"http://fedora.info/definitions
/fcrepo#ExternalContent\"; handling=\"redirect\"; type=\"text/plain\"" "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-TYPE

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) Update default fixity algorithm of a binary's description:

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

Request Body:


PREFIX fedoraconfig: <http://fedora.info/definitions/v4/config#>
INSERT {
       <> fedoraconfig:defaultDigestAlgorithm "sha-256"
}
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, departed: 2016-11-14T17:26:17.334-06:00
```

```
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: "bbdd92e395800153a686773f773bcad80a51f47b"
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: The MOVE action has been deprecated and will be removed in a future version of Fedora.

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**

NOTE: The COPY action has been deprecated and will be removed in a future version of Fedora.

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 exists

412 Destination path already exists

502 Destination URI isn't a valid resource path