

Alternative REST API

Alternative REST API

⚠️ Aaron Birkland pointed out a severe, and unrecoverably problem with this proposal. For a versionable datastream, a new version is created for each property or content change. As such, to not make 10 versions with a datastream update, a proper transaction system, or methods that allow you to change all the properties in one invocation is necessary. For that reason, a modifyDatastream method like in the current API is still required.

In this I will propose an alternative REST api to the one in the Fedora Documentation. It is made to support CRUD (Create, Retrieve, Update, Delete) workflows more natively than the current Fedora APIs. It is based around the idea that every conceivable url should be gettable, and probably puttable. There should not be big methods with lots of parameters, but rather a bunch of small resources with very clear purpose.

For CRUD purposes, foxml is not the format of Fedora. Foxml is a very useful and well designed storage format, but it is intricate. There will be no ingest or exportToXML methods in this api, as the user should not have to understand foxml. Rather, the Fedora objects is decomposed into resources, available through through URLs.

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General principles

Content	Location
Objects	/objects/
Object presentation	/objects/{pid}

Object properties	/objects/{pid}/properties
Object relations	/objects/{pid}/relations
Object content models	/objects/{pid}/contentmodels
Datastreams	/objects/{pid}/datastreams
Datastream	/objects/{pid}/datastreams/{dsID}
Datastream content	/objects/{pid}/datastreams/{dsID}/content
Datastream properties	/objects/{pid}/datastreams/{dsID}/properties
Datastream relations	/objects/{pid}/datastreams/{dsID}/relations
Datastream versions	/objects/{pid}/datastreams/{dsID}/versions
Object Methods	/objects/{pid}/methods
Method invocation	/objects/{pid}/methods/{sdef}/{methodName}?params

Create methods

Object resources

Create new object with given pid

PUT /objects/{pid}

Return: Nothing or pid of the new object

Creates a new, empty object

Create new object with autogenerated pid

POST /objects/

Return: pid of the new object (/objects/demo:newObject2)

Creates a new, empty object

Datastream resources

Create a new datastream

PUT /objects/{pid}/datastreams/{dsID}/[withControlGroup/{cg}]

Creates a new datastream in the object with controlgroup X or {cg} if specified. Datastream is empty.

Retrieve methods

Object resources

Present Object

GET /objects/{pid}

Return: XML that presents the object....

Undetailed

Get the object properties

GET /objects/{pid}/properties

Return: list of property names (/object/demo:myPid2/properties/label)

Provides a list of property names that can be queried

Get a specific object property

GET /objects/{pid}/properties/{property}
Return: The value

Give the value of the specific property, or 404 if property not found

Example: /objects/demo:myPid2/properties/label

Get content models for a object

GET /objects/{pid}/contentmodels
Return: Get the content models of the object (/objects/demo:contentmodel)

Get a list of the content models of this object

Get all the relations of an object

GET /objects/{pid}/relations
Return: Return a list of relation names

Get a specific relation from an object

GET /objects/{pid}/relations/{rel-name}
Return: List of pids of objects referred by this relation

List the methods on an object

GET /objects/{pid}/methods
Return: a list of objects

Invoke a method on an object

GET/POST /objects/{pid}/methods/{sdef}/{methodName}?params

Datastream resources

Get Contents of a datastream

GET /objects/{pid}/datastreams/{dsID}

Get the properties of a datastream

GET /objects/{pid}/datastreams/{dsID}/properties

Get a specific property of a datastream

GET /objects/{pid}/datastreams/{dsID}/properties/{prop}
Return: The value

Get the relations of the datastream

GET /objects/{pid}/datastreams/{dsID}/relations

The RELS-INT block "about" this datastream

Get version timestamps of a datastream

The idea is that the old version of the datastream should support the same getter methods as the current version

GET /objects/{pid}/datastreams/{dsID}/versions

Get the contents of a specific version of a datastream

GET /objects/{pid}/datastreams/{dsID}/versions/{timestamp}/contents

Get the versioned properties of a specific version

GET /objects/{pid}/datastreams/{dsID}/versions/{timestamp}/properties

Get a specific versioned property of a specific version

GET /objects/{pid}/datastreams/{dsID}/versions/{timestamp}/properties/{propertyname}

Get the relations of a specific version

GET /objects/{pid}/datastreams/{dsID}/versions/{timestamp}/relations/

Update methods

Object resources

Write a specific property

PUT /objects/{pid}/properties/{property}

Contents: The new value

Return nothing, or 404 if property not found. New properties cannot be created.

Add a relation to an object

PUT /objects/{pid}/relations/{rel-name}/to/{objpid}

Add a content model to this object

PUT /objects/{pid}/contentmodels/{cmpid}

Contents: Nothing

Add cmpid to the list of content model for this object

Add a literal relation

PUT /objects/{pid}/relations/{rel-name}/toLiteral/{value}[/withType/{type}]

Datastream resources

Update the contents of an Inline Datastream

POST /objects/{pid}/datastreams/{dsID}/contents

Contents: The new content of the datastream

Update a datastream property

PUT /objects/{pid}/datastreams/{dsID}/properties/{prop}

Contents: The new value

examples: versionable, state and so on.

Update an External, managed or Redirect Datastream

ContentLocation is just a property of these datastreams

PUT /objects/{pid}/datastreams/{dsID}/properties/contentLocation

Contents: The URL to the contents of the datastream

Add a relation to the datastream

PUT /objects/{pid}/datastreams/{dsID}/relations/{rel-name}/to/{objPid}

Add a literal relation to the datastream

PUT /objects/{pid}/datastreams/{dsID}/relations/{rel-name}/toLiteral/{value}[/withType/{type}]

Delete methods

Object resources

Purge object

DELETE /objects/{pid}

Remove a content model from this object

DELETE /objects/{pid}/contentmodels/{cmpid}

Contents: Nothing

Remove cmpid from the list of content models for this object

Purge a relation to an object

DELETE /objects/{pid}/relations/{rel-name}/to/{objpid}

Delete a literal relation

DELETE /objects/{pid}/relations/{rel-name}/toLiteral/{value}

Datastream resources

Delete a datastream

DELETE /objects/{pid}/datastreams/{dslID}

Purge the datastream from the object from the repository

Purge a relation from the datastream

DELETE /objects/{pid}/datastreams/{dslID}/relations/{rel-name}/to/{objPid}

Purge a literal relation from a datastream

DELETE /objects/{pid}/datastreams/{dslID}/relations/{rel-name}/toLiteral/{value}