API-A

Fedora's API-A is a SOAP interface for accessing digital objects. The access operations include methods to do reflection on a digital object (i.e., to discover the kinds of disseminations that are available on the object), and to request disseminations. The major function of the Fedora Access service is to fulfill a client's request for dissemination. To support disseminations, the underlying repository system must evaluate the services specified for a digital object, and figure out how to call it. The service may be internal to the repository, or it may be a web service external to the repository. The underlying repository system facilitates all external service bindings on behalf of the client, simply returning a dissemination result via the access service layer.

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Repository Access Methods

describeRepository

Gets information that describes the repository.

Returns:

* *RepositoryInfo*** *String repositoryName* - The name of the Repository. Set in fedora.fcfg. Default "Fedora Repository"
    * *String repositoryVersion* - The version of Fedora running. Fedora 3.0 returns "3.0"
    * *String repositoryBaseURL* - The repository base url set in fedora.fcfg. Default "http://localhost:8080/fedora"
    * *String repositoryPIDNamespace* - The prefix to use for newly generated PIDs
    * *String defaultExportFormat*
    * *String OAINamespace* - The oai namespace. Default "example.org"
    * *String[] adminEmailList* - The email to the administrator. Default "bob@example.org" and "sally@example.org". Defined in fedora.fcfg.
    * *String samplePID* - An example pid, to show how to refer to objects. "doms:100"
    * *String sampleOAIIdentifier* - An example oai identifier, to show how to refer to records. Example: "oai:example.org:doms:100"
    * *String sampleSearchURL* - The url to the search service for the repository. Default "http://localhost:8080/fedora/search"
    * *String sampleAccessURL* - The url to an example object in the repository. Default "http://localhost:8080/fedora/get/demo:5"
    * *String sampleOAIURL* - The url to an oai record. Default "http://localhost:8080/fedora/oai?verb=Identify"
    * *String[] retainPIDs* - The list of pid prefixes, that cause the pid to not be autogenerated.

Object Access Methods

findObjects

Lists the specified fields of each object matching the given criteria.

Input parameters:

* *String[] resultfields* The names of the fields to return.
* *int maxResults* The maximum number of results to return in one FieldSearchResult. Further results can be queried with the resumeFindObjects method.
* *FieldSearchQuery query*: The terms or conditions for the search. Either terms or conditions are used, not both.
    * *String terms*: The search terms
    * *Condition[] conditions*: The conditions on the results
        * *String property*: The property to condition. Possible fields are the same as for resultfields.
        * *Operator operator*: Possible values are: "has", "eq", "lt", "le", "gt" and "ge"
        * *String value*: The value the constrained property must adhere to

The possible values for *resultfield* are the following:

* Key fields: pid, label, state, ownerId, cDate, mDate, dcmDate
* Dublin core fields: title, creator, subject, description, publisher, contributor, date, format, identifier, source, language, relation, coverage, rights

Returns:

- *FieldSearchResult** ListSession listsession* The information nessesary for resuming the search.
  - *String token*: The token to be used in resumeFindObjects
    - *int cursor*: The index of the first object in this resultlist, in the complete resultlist.
    - *int completeListSize*: The size of the complete resultlist.
    - *String expirationDate*: The expirationdate for the token. The last time when the search can be resumed.
  - *ObjectFields[] resultlist*: the specified fields of each object matching the given criteria.
    - *String pid* Only set if the relevant field was set in resultfields
    - *String label* Only set if the relevant field was set in resultfields
    - *String state* Only set if the relevant field was set in resultfields
    - *String ownerId* Only set if the relevant field was set in resultfields
    - *String cDate* Only set if the relevant field was set in resultfields
    - *String mDate* Only set if the relevant field was set in resultfields
    - *String dcmDate* Only set if the relevant field was set in resultfields
    - *String[] title* Only set if the relevant field was set in resultfields
    - *String[] creator* Only set if the relevant field was set in resultfields
    - *String[] subject* Only set if the relevant field was set in resultfields
    - *String[] description* Only set if the relevant field was set in resultfields
    - *String[] publisher* Only set if the relevant field was set in resultfields
    - *String[] contributor* Only set if the relevant field was set in resultfields
    - *String[] date* Only set if the relevant field was set in resultfields
    - *String[] type* Only set if the relevant field was set in resultfields
    - *String[] format* Only set if the relevant field was set in resultfields
    - *String[] identifier* Only set if the relevant field was set in resultfields
    - *String[] source* Only set if the relevant field was set in resultfields
    - *String[] language* Only set if the relevant field was set in resultfields
    - *String[] relation* Only set if the relevant field was set in resultfields
    - *String[] coverage* Only set if the relevant field was set in resultfields
    - *String[] rights* Only set if the relevant field was set in resultfields

Note:
The only way to get the Object State (or OwnerID) is via a findObjects call. Use these parameters to query the state of a object.

- *String[] resultfields* = ["pid", "state"]
- *int maxResults* = null
- *FieldSearchQuery query*:
  - *Condition[] conditions*:
    - *String property*: "pid"
    - *Operator operator*: "eq"
    - *String value*: "The pid of the object you want to find"

resumeFindObjects

Gets the next list of results from a truncated findObjects response.

Input parameters:

- *String token*: The token of the session in which the remaining results can be obtained.

Returns:

- *FieldSearchResult** ListSession listsession* The information nessesary for resuming the search.
  - *String token*: The token to be used in resumeFindObjects
    - *int cursor*: The index of the first object in this resultlist, in the complete resultlist.
    - *int completeListSize*: The size of the complete resultlist.
    - *String expirationDate*: The expirationdate for the token. The last time when the search can be resumed.
  - *ObjectFields[] resultlist*: the specified fields of each object matching the given criteria.
    - *String pid* Only set if the relevant field was set in resultfields
    - *String label* Only set if the relevant field was set in resultfields
    - *String state* Only set if the relevant field was set in resultfields
    - *String ownerId* Only set if the relevant field was set in resultfields
    - *String cDate* Only set if the relevant field was set in resultfields
    - *String mDate* Only set if the relevant field was set in resultfields
    - *String dcmDate* Only set if the relevant field was set in resultfields
    - *String[] title* Only set if the relevant field was set in resultfields
    - *String[] creator* Only set if the relevant field was set in resultfields
    - *String[] subject* Only set if the relevant field was set in resultfields
    - *String[] description* Only set if the relevant field was set in resultfields
    - *String[] publisher* Only set if the relevant field was set in resultfields
    - *String[] contributor* Only set if the relevant field was set in resultfields
    - *String[] date* Only set if the relevant field was set in resultfields
    - *String[] type* Only set if the relevant field was set in resultfields
    - *String[] format* Only set if the relevant field was set in resultfields
    - *String[] identifier* Only set if the relevant field was set in resultfields
    - *String[] source* Only set if the relevant field was set in resultfields
    - *String[] language* Only set if the relevant field was set in resultfields
    - *String[] relation* Only set if the relevant field was set in resultfields
    - *String[] coverage* Only set if the relevant field was set in resultfields
    - *String[] rights* Only set if the relevant field was set in resultfields

getObjectHistory

Gets a list of timestamps that correspond to modification dates of components. This currently includes changes to Datastreams and disseminators.

Input parameters:

- *String pid* The pid of the object.

Returns:

- *String[]* An array containing the list of timestamps indicating when changes were made to the object.

getObjectProfile

Profile of an object, which includes key metadata fields and URLs for the object Dissemination Index and the object Item Index. Can be thought of as a default view of the object.

Input parameters:

- *String pid* The pid of the object.
- *String asOfDateTime* The date/time stamp specifying the desired version of the object. If null, the current version of the object (the most recent time) is assumed.

Returns:

- *ObjectProfile* Contains these fields
  - ○ *String pid* The pid of the object
  - ○ *String objLabel* The label of the object
  - ○ *String[] objModels* The pids of the content models of the object
  - ○ *String objCreateDate* The creation date
  - ○ *String objLastModDate* The last modification time
  - ○ *String objDissIndexViewURL* The REST url for the Dissemination index, as known from the built in search service
  - ○ *String objItemIndexViewURL* The REST url for the Datastream index, as known from the built in search service

Note:
There are two general object properties, State and OwnerID, which are not part of the ObjectProfile. The way to get these are through the findObjects method.

Datastream Access Methods

getDatastreamDissemination

Gets the content of a datastream.

Input parameters:

- *String pid* The PID of the object.
- *String dsID* The datastream ID.
- *String asOfDateTime* A dateTime indicating the version of the datastream to retrieve. If null, Fedora will use the most recent version.

Returns:

- *MIMETypedStream*** *String MIMEType* The mimetype of the stream
  - ○ *byte[] stream* The contents of the Stream
  - ○ *Property[] header* The header will be empty, or if applicable, contain the http header as name/value pairs.
    - ■ *String name*
    - ■ *String value*

listDatastreams

Lists the datastreams of an object.

Input parameters:

- *String pid* The pid of the object.
- *String asOfDateTime* The date/time stamp specifying the desired version of the object. If null, the current version of the object (the most recent time) is assumed.

Returns:

- *DatastreamDef[]* A datastream definition object, containing the following values
  - ○ *String ID* The datastream id - "DC" for the DC datastream

- ○ *String label* The datastream label
- ○ *String MIMEType* The mimetype of the datastream, if any

Dissemination Access Methods

getDissemination

Disseminates the content produced by executing the method specified in the service definition associated the specified digital object.

Input parameters:

- *String pid* The pid of the object.
- *String serviceDefinitionPid* The PID of the Service Definition object.
- *String methodName* The name of the method to be executed.
- *Property[] parameters* name-value pairs.
  - ○ *String name*
  - ○ *String value*
- *String asOfDateTime* The versioning dateTime. If null, Fedora will use the most recent version.

Returns:

- *MIMETypedStream*** *String MIMEType* The mimetype of the stream
  - ○ *byte[] stream* The contents of the Stream
  - ○ *Property[] header* The header will be empty, or if applicable, contain the http header as name/value pairs.
    - *String name*
    - *String value*

listMethods

Lists all the methods that the object supports.

Each method can take a number of paramethers. Each parameter for a method has a name, and a type. The possible values of a parameter depends on its type. It can be bound to a datastream in the object, it can have a hardcoded value or it can be defined by the caller.

Each parameter is defined to be passed by reference or passed by value.

Input parameters:

- *String pid* The pid of the object.
- *String asOfDateTime* The date/time stamp specifying the desired version of the object. If null, the current version of the object (the most recent time) is assumed.

Returns:

- *ObjectMethodDef[]*** *String PID* The pid of the data object
  - ○ *String serviceDefinitionPID* The pid of the service definition object
  - ○ *String methodName* the name of the method
  - ○ *MethodParmDef[] methodParmDefs* An array of the method parameters
    - *String parmName* The name of the parameter.
    - *String parmType* The type of the parameter. Restricted to "fedora:datastreamInputType", "fedora:userInputType" or "fedora: defaultInputType"
    - *String parmDefaultValue* If the parmType is default, this is the value that will be used. Null if other type.
    - *String[] parmDomainValues* If the parameter can be defined by the user, these are the possible values. If Null, the parameter can take any value. Null if other type.
    - *boolean parmRequired* False, if this parameter can be left out of a call.
    - *String parmLabel* The label for the parameter. Can be null.
    - *String parmPassBy* The method of passing the paramenter. Restricted to "URL_REF" (if the parameter is pass by reference - by an url) and "VALUE" (if the parameter is pass by value)
  - ○ *String asOfDate* The timestamp/version of the method definition

WSDL

When running your own Fedora server, the API-A WSDL is available at **/wsdl?api=API-A**.

Example:

```
http://localhost:8080/fedora/wsdl?api=API-A
```

Warning

The Apache Axis library also automatically provides an INCORRECT WSDL DOCUMENT at `/fedora/services/access?wsdl`. Please DO NOT USE this; it is automatically generated and will result in unexpected behavior for your clients. The recommended URL, /fedora/wsdl?api=API-A produces a copy of the API-A WSDL exactly as it was intended.