

# Fedora Resource Index

The ResourceIndex manages relationships between Fedora objects. It is very powerful, but the query syntax can be tricky.

## Sample Rsearch queries

Select objects, modification dates, and titles. Start with the 50th Fedora object, and get the next 25 objects:

```
select      $object $modified $title $type
from        <#ri>
where       $object <rdf:type> $type
and         $object <rdf:type> <fedora-model:FedoraObject>
and         $object <fedora-view:lastModifiedDate> $modified
and         $object <dc:title> $title
order by    $title $object
limit       25
offset      50
```

Count all objects that are members of the collection object iudl:10:

```
select count(
  select $object
  from   <#ri>
  where  $object

  <info:fedora/fedora-system:def/relations-external#isMemberOfCollection>
    <info:fedora/iudl:10>
)
from <#ri>
where $a $b $c
```

Get objects with models and created dates that were created in a specified date range:

```
select $object $model $created from <#ri>
where  $object <fedora-model:hasModel> $model
and    $object <info:fedora/fedora-system:def/model#createdDate> $created
and    $created <mulgara:after>
'2015-12-01T00:00:00.000Z'^^<xml-schema:dateTime> in <#xsd>
and    $created <mulgara:before>
'2016-01-01T00:00:00.000Z'^^<xml-schema:dateTime> in <#xsd>
```

Get all collection objects:

```
select $object
from   <#ri>
where  $object
      <fedora-model:hasModel>
      <info:fedora/cmodel:collection>
```

Get the status of the OVERVIEW datastream:

```
select  $state
from    <#ri>
where   <info:fedora/iudl:99732/OVERVIEW>
        <fedora-model:state>
        $state
```

Find all inactive items:

```
select  $object
from    <#ri>
where   $object
        <fedora-model:state>
        <info:fedora/fedora-system:def/model#Inactive>
```

Find the OwnerID for an item:

```
select  $ownerId
from    <#ri>
where   <info:fedora/iudl:200332>
        <info:fedora/fedora-system:def/model#ownerId>
        $ownerId
```

Count all non-deleted items in a collection:

```
select count(select  $object
from    <#ri>
where   $object
        <info:fedora/fedora-system:def/relations-external#isMemberOfCollection>
        <info:fedora/iudl:10>
minus  $object
        <fedora-model:state>
        <info:fedora/fedora-system:def/model#Deleted>)
from    <#ri>
where   $a $b $c
```

Find all Service Deployments

```
select $object from <#ri>
where  $object <fedora-model:hasModel>
       <info:fedora/fedora-system:ServiceDeployment-3.0>
```

Find all Service Deployments for a given content model (in this case, the cmodel:image content model):

```
select $object from <#ri>
where $object <fedora-model:isContractorOf> <info:fedora/cmodel:image>
```

Find all deleted object:

```
select $object
from <#ri>
where $object <fedora-model:state>
<info:fedora/fedora-system:def/model#Deleted>
```

Find all collections that have an item exposed through OAI PMH: (NOTE: be sure to check "Force Distinct")

```
select $collectionPid
from <#ri>
where $item <http://www.openarchives.org/OAI/2.0/itemID> $itemID
and $item
<info:fedora/fedora-system:def/relations-external#isMemberOfCollection>
$collectionPid
```

Find all image-derivative items in the slocum collection that aren't described by another object nor contain description themselves

```
select $image
from <#ri>
where $image <fedora-model:hasModel> <info:fedora/cmodel:image-derivatives>
and $image
<info:fedora/fedora-system:def/relations-external#isMemberOfCollection>
<info:fedora/iudl:14>
minus $image
<info:fedora/fedora-system:def/relations-external#hasMetadata>
$description
minus $image <fedora-model:hasModel> <info:fedora/cmodel:item-metadata>
```

Find all service definitions that **aren't** registered with a "hasService" relationship to another object.

```
select $object from <#ri>
where $object <fedora-model:hasModel>
<info:fedora/fedora-system:ServiceDefinition-3.0>
minus $object2 <fedora-model:hasService> $object
```

## Encoding queries as URLs

All RI queries must be URL-encoded (with a tool like [this one](#)) before being added to a behavior mechanism. To manually encode a query, make the following substitutions:

Original	Replaced
----------	----------

#	%23
\$	%24
(	%28
)	%29
/	%2F
:	%3A
<	%3C
>	%3E
[space]	+

**Do not** encode the parentheses around any parameters that you want Fedora to pass in. The encoded query should be placed after a suitable base URL like

```
http://fedora.dlib.indiana.edu/fedora/risearch?type=tuples&lang=itql&format=Sparql&query=
```

If no datastream parameters are being passed, remember to include a "nullbind" parameter (see [Behavior Mechanisms](#) for more detail on this). Here is a completed query that searches for the pages of a given object (linebreaks added for readability):

```
http://fedora.dlib.indiana.edu/fedora/risearch?type=tuples&lang=itql&format=Sparql&query=select+%24page+%24sequence+from+%3C%23ri%3E+where+%24page+%3Cinfo%3Afedora%2Ffedora-system%3Adef%2Frelations-external%23isPartOf%3E+%3C(objuri)%3E+and+%24page+%3Chttp%3A%2F%2Fdlib.indiana.edu%2Flib%2Fxml%2Finfrastructure%2FrdfRelations%23sequenceNumber%3E+%24sequence&dummy=(NULLBIND)
```