

# Fedora Resource Index

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

## Sample RIsearch 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/rerelations-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/rerelations-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%23
isPartOf%3E+%3C(objuri)%3E+and+%24page+%3Chttp%3A%2F%2Fdlib.indiana.edu%2Flib%2Fxml%2Finfrastructure%2F
rdfRelations%23sequenceNumber%3E+%24sequence&dummy=(NULLBIND)

```