Compound Solution Pack

Overview

The Compound Solution pack module adds the ability to to create what are called "compound objects." Compound objects function as "parent" objects that gather together "child" objects created with any other Islandora solution pack. When you associate Islandora objects with a parent compound object, the parent-child relationship is recorded in the RELS-EXT structural metadata of the child objects (see bottom of page for sample RELS-EXT). Order can also be recorded in the RELS-EXT metadata so child objects can be displayed in a sequence.

For example, a scanned postcard with a front and back view would have the following structure:

```
Parent object: Postcard Object (the compound object)
```

- ```
  Child object: Scan of postcard front (large image object) - Order 1 of 2
  ```

- ```
  Child object: Scan of postcard back (large image object) - Order 2 of 2
  ```

The "Compound" management tab allows for the addition, removal, and reordering of child objects from the parent compound object. Configuration options for the module are available through the Compound objects administrative menu (admin/islandora/solution_pack_config/compound_object)

Dependencies

This module requires the following modules/libraries:

- Islandora

This module has the following as optional requirements for certain features:

For Islandora Compound Object JAIL Display:

- JAIL library
    - If utilizing the lazy loading image ability of the solution pack, enable the "Islandora Compound Object JAIL Display" block and ensure the JAIL library is present within sites/all/libraries/JAIL.

Downloads

Release Notes and Downloads

Installation

Install as usual, see this for further information.

If utilizing the lazy loading image ability of the solution pack, the JAIL library must be present within sites/all/libraries/JAIL.

Enable the Islandora compound object module (admin/modules). There are two block options for displaying compound objects within Islandora. Select one of the following:

- The first is the default "Islandora Compound Object Navigation" block. Go to admin/structure/block/manage/islandora_compound_object /compound_navigation/configure to find navigation controls and load all objects related to the parent compound.
- The second is the "Islandora Compound Object JAIL Display" block. Go to admin/structure/block/manage/islandora_compound_object /compound_jail_display/configure to use the JAIL library, which allows for lazy loading of images. This allows the block to load images only when they are being accessed which will greatly increase performance on compounds with many children.

Configuration

Set the 'Child relationship predicate' and 'Solr filter query', as well as select options in Administration » Islandora » Solution pack configuration » Compound Object Solution Pack (admin/islandora/solution_pack_config/compound_object).

1. **Only allow compound objects to have child objects associated with them.**
   - Checked: you can only add child objects to Islandora objects with the "Compound Solution Pack" type.
   - Unchecked: all objects can have child objects.
2. **Generate a thumbnail for compound objects from their first child.**
   - Checked: A thumbnail will be generated and attached to the compound object as a TN datastream.
   - Unchecked: No thumbnail is generated and a system default thumbnail will display.
3. **Hide child objects in RI results**
   - Checked: Child objects will not be displayed in the Islandora browse. Only parent objects will display.
   - Unchecked: Child objects and parent objects will be displayed in the Islandora browse.
4. **Hide child objects in Solr results**
   a. Checked: Child objects will not be displayed in Solr search results. Only parent objects will display.
   b. Unchecked: Child objects and parent objects will be displayed in the Islandora search.
5. **Solr Filter Query**
   - This is the query that enables the "Hide child objects in Solr results" function. The default value is `-RELS_EXT_isConstituentOf_uri_mt: [* TO *]`
6. **Child relationship predicate**
   - This is the statement in the RELS-EXT metadata that associates child objects with parent objects. The default value is `isConstituentOf`
7. **Use alternative, autoloading display for compounds?**
   - Checked: Enables the JAIL display (dependencies and blocks also need to be configured. See the documentation for "Installation" and "Display" for more information.)
   - Unchecked: The default display will be used.
8. **Display compound object parents in the breadcrumbs on children objects**
   - Checked: The parent object will appear in the breadcrumb navigation.
   - Unchecked: The parent object will not appear in the breadcrumb navigation.
9. **Compound Member Query**
   - (Default) Legacy SPARQL - Does a SPARQL query followed by an access check.
   - SPARQL - Does a SPARQL query with filters. Generally faster than the default option.

Optionally, enable the JAIL compound block to utilize the lazy loading image ability as outlined below.

Usage

To create a compound object:

1. Go to parent collection.
2. Click "Manage".
3. Enable the "Compound Object" object under "Collection" tab, then click "Update Collection Policy".
4. After adding compound objects to your Collection Policy, you will be able to click the "Overview" tab and "Add an Object".
5. Select "Compound Object" then "Next".
6. Select your metadata form, such as the "Compound Object MODS form", then "Next".
7. Fill in your metadata form form then click "Next".
   - Compound objects do not have content datastreams. This process creates a "parent" compound object that child objects can be associated with. The content is attached to the child objects.

8. After the compound object has been created, go to "Manage" > "Compound" to associate objects with the parent compound object.
   - Child objects must already exist in your repository before you can add them.
9. Under the "Add Child Object" field, enter the PID for each object to be added to the compound object.
   - Child objects can only be added one at a time. The "Child Object Pid/Label" box has an autocomplete function that searches for objects by label or PID.
10. Click "Save" when all the child objects are associated with the parent objects.

Once a child has been added to the compound, the view of the compound will use the metadata and thumbnail from the first object to render the main object view. To reorder objects, go to the parent object's Manage tab, select "Compound", and use the "Reorder" list.

Child objects can be removed from parent objects from the parent object Manage >Compound tab. This removes the association from the RELS-EXT metadata but does not remove the child object from the repository.

Display

The object view of a compound object is replaced by the view of its first child object. After a compound object is created, the "Islandora Compound Object Navigation" block must be activated and set in an appropriate region. When a user navigates to a compound object, this block will render a thumbnail view of all the additional objects linked via the compound object.

Block options

There are two block options for displaying compound objects within Islandora. The default "Islandora Compound Object Navigation" block will provide navigation controls and loading of all objects related to the parent compound. The second option is a block utilizing the JAIL library which allows for "lazy loading" of images. This allows the block to load images only when they are being accessed, which will greatly increase performance on compound objects with many children. See the "Installation" section for more information about the two display options.

Theme

The "Islandora Compound Object Navigation" block can be themed. See `theme_islandora_compound_prev_next()`.

Drush

A Drush command has been added, to be run from the command line (Terminal), that will update the existing rel-predicate of existing compound objects to `isConstituentOf`. It can be run with the drush command `drush update_rels_predicate`. This command accpets no arguments.

Previous versions of this module (Islandora 7.x-1.2 and earlier) had a different predicate in the RELS-EXT to associate child objects with parent objects. To update to the new compound object predicate, run the drush command `update_rels_predicate`. This will update the predicates of existing compound objects to `isConstituentOf`. This command accepts no arguments.

Content Models, Prescribed Datastreams and Forms

The Compound Solution Pack comes with the following objects in http://**path.to.your.site**/admin/islandora/solution_packs:

- Islandora Compound Object Content Model (islandora:compoundCModel)
- Compound Collection (islandora:compound_collection)

A parent object created using the Compound Solution Pack's content model will have the following datastreams:

RELS-EXT	Default Fedora relationship metadata
MODS	MODS record, created at time of ingest
DC	Dublin Core record
TN	Thumbnail image, created at time of ingest

The Compound Solution Pack comes with the Compound Object MODS form.

Sample RELS-EXT for Parent Object (Compound Object)

```
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:fedora="info:fedora/fedora-system:def
/relations-external#"
xmlns:fedora-model="info:fedora/fedora-system:def/model#" xmlns:islandora="http://islandora.ca/ontology/relsext#">
  <rdf:Description rdf:about="info:fedora/islandora:3">
    <fedora:isMemberOfCollection rdf:resource="info:fedora/islandora:compound_collection"></fedora:
isMemberOfCollection>
    <fedora-model:hasModel rdf:resource="info:fedora/islandora:compoundCModel"></fedora-model:hasModel>
  </rdf:Description>
</rdf:RDF>
```

Sample RELS-EXT for Child Object (Large Image Object)

```
<rdf:RDF xmlns:fedora="info:fedora/fedora-system:def/relations-external#" xmlns:fedora-model="info:fedora/fedora-
system:def/model#"
xmlns:islandora="http://islandora.ca/ontology/relsext#" xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#">
  <rdf:Description rdf:about="info:fedora/islandora:2">
    <fedora:isMemberOfCollection rdf:resource="info:fedora/islandora:sp_large_image_collection"></fedora:
isMemberOfCollection>
    <fedora-model:hasModel rdf:resource="info:fedora/islandora:sp_large_image_cmodel"></fedora-model:hasModel>
    <fedora:isConstituentOf rdf:resource="info:fedora/islandora:3"></fedora:isConstituentOf>
    <islandora:isSequenceNumberOfislandora_3>1</islandora:isSequenceNumberOfislandora_3>
  </rdf:Description>
</rdf:RDF>
```

Troubleshooting/Issues

Having problems or solved a problem? Check out the Islandora google groups for a solution.

- Islandora Group
- Islandora Dev Group