

Islandora 8 and Beyond



Mark Jordan and Marcus Barnes
iCampEU, June 2019

Topics

- Functional overview of Islandora 8 version 1.0.0
- Roadmap and support timeline
- Early implementations and pilots
- Closer look at Islandora 8
- Demos
- Discussion

Islandora 7.x



Islandora 8



Functional Overview of Islandora 8

Supported Content Types

Images

Audio

Video

PDFs

Collections

Binary Files (a.k.a “anything else”)

Content Types to Come Soon

Books

Newspapers

Serials

“Compound” Objects

Documentation

Islandora 8 Documentation Sprint: Complete!




Submitted by manez on Fri, 03/22/2019 - 09:27

The latest Islandora 8 sprint focussed on a key aspect of our first release: documentation. *It has been a stunning success.* From March 4th to 15th, a 22-person [team of volunteers](#) worked together to write, review, and publish pages and pages of brand new documentation covering topics for developers, system administrators, and front-end site builders. We're still working on getting everything finished up and put into a new Table of Contents to make the documentation easier to explore, but you can explore samples of new completed work such as:

- [What is an Islandora 8 Object?](#)
- [Media in islandora 8](#)
- [Context in Islandora 8](#)
- [Islandora 8 via REST](#)
- [Flysystem](#)

What's next for Islandora 8? We're still a sprint away from our first release. Stay tuned for a second call for volunteers to participate in an auditing and testing sprint, running April 8th to 19th, where the new

 **Islandora CLAW** Search

Islandora CLAW

Summary

Installation

User Documentation ^

Introduction

Nodes

Media

Make an Image

Collections

Metadata

Content Types

Searching

Context

Views

Users

Blocks

Usage Stats

Multilingual

Developer Documentation v

Migration v

Contributing v

Summary

Islandora is an open-source repository framework, that combines a Drupal front-end with a Fedora repository. It is a solution for institutions who want an extremely flexible and configurable preservation repository without creating a lot of custom code.

Islandora 8 integrates **Drupal** (currently, Drupal 8) and Duraspace's **Fedora Repository** project (currently, Fedora 5).

Islandora 8 allows you to create nodes, media, files, and taxonomy terms in Drupal, which are converted to RDF and pushed into a Fedora repository. It also allows you to connect repository content with microservices, small webapps that transform files to other types for display or preservation, or to extract additional metadata.

Roadmap and Support Timeline

Roadmap

Managed by the Technical
Advisory Group (TAG)
but driven by the community

Influence the roadmap by
completing the survey:
<https://t.co/IRUFwuPGA6>

Proposed Technical Roadmap

These are roughly in order of priority (1 being highest priority)

1. [Migration Tools](#)
 - a. Document and provide examples of migration strategies into CLAW for both new and existing users coming from 7.x.
2. [Multi-tenancy in Fedora](#)
 - a. Allow multiple Drupal sites to populate a single Fedora instance with appropriate permissions to isolate each site in Fedora.
3. [Expose RDF Mappings through UI](#)
 - a. Allow front end-users to control what triples are sent to Fedora and the [Triplestore](#) via a GUI.
4. [Resource Versioning](#)
 - a. Create versions for resources in Fedora when Drupal versions are created.
5. [Web Accessibility](#)
 - a. Support integration with Drupal distributions that support web accessibility guidelines.
6. [Audit service](#)
 - a. Allow users to verify the fixity of repository content.
7. [OAI-PMH Endpoint](#)
 - a. Allow repository content to be exposed for harvesting via an OAI-PMH endpoint in a user specified metadata profile (DC, OpenAire, etc...)
8. [SEO](#)
 - a. Add support for improving search engine ranking and AMP search results.
9. [Multiple Metadata Profile Support](#)
 - a. Allow users to apply different metadata profiles to different types of repository content. This is done by letting users configure their own
 - i. Fields
 - ii. RDF Mapping
 - iii. Context configuration
10. [Access Restrictions and Embargoes](#)

that's essentially how F.R.E.M.I.S. works in 7.x. Next week I will be putting the fixity auditing service I've been working on up on Github so maybe we can move that discussion to use cases and issues there.



Anonymous
Sep 27, 2018

Mark J. left that anonymous comment, BTW...



Jonathan Gre...
Aug 31, 2018

[Resolve](#)

I know several LYRASIS hosted Islandora sites use the OAI endpoint heavily, so this will be a barrier for them migrating.



Paul Clifford
Sep 26, 2018

Does the native Drupal 8 Rest API (or JSON API module) help with this?



Danny Lamb
Sep 27, 2018

just found this and commented about it in Github: https://github.com/guilmour-asc/rest_oai



Carolyn Moritz
Oct 3, 2018

[Resolve](#)

We are experimenting with Islandora Context to achieve something of a similar end; would a Context-like module be feasible in CLAW or is the intention to

Islandora Version Support Timeline

- Drupal 8 version 1.0.0 released: June 5, 2019
- Drupal 7 EOL (end of life) - November, 2021
 - Islandora 7.x
 - One release per year: 2019
 - No new features will be added: November, 2020
 - No new bug fixes will be made: November, 2021
 - No new security fixes will be made: April, 2022
- Drupal 8 EOL: November, 2021
 - Islandora 8.x EOL: N/A. Becomes Islandora 9
- Drupal 9 Release: June, 2020
 - Islandora 9.x Release: August 2020



Islandora 8 - 9 Transition

- Drupal 8 and Drupal 9 share the same architecture
 - Semantic versioning requires a major version number change because of underlying dependency changes (i.e., Symfony)
- From a user-facing perspective, the “upgrade” to Drupal 9 will be the same as an upgrade from Drupal 8.8 to 8.9
- From a developer perspective, changes to code will be minor and easily implemented
- Contrib module Upgrade Status analyses your site to identify deprecated code

Pilots and Early Implementations

Centre for Digital Humanities, Eötvös Loránd University

The Project: Knowledge Base of Hungarian Philosophy and Research Journals of the Faculty of Humanities

When: September 2019

Contribution: Testing, use-cases, and first proof that It Can Be Done!



Johns Hopkins University

The Project: Special Collections and Archives (specific use case TBD)

When: Lat 2019

Contributions: Detailed assessment of the stack, use cases



JOHNS HOPKINS
UNIVERSITY

University of Toronto Scarborough

The Project: Dragoman Renaissance Research Platform

When: Beta online. Full launch TBD.

Contributions: Video, Audio, PDF, eventually Oral Histories



University of Nevada Las Vegas

The Project: Migration of photographs, manuscripts, oral histories, and newspapers from ContentDM. Born digital collections to follow.

When: End of 2019

Contributions: Controlled Access Terms, ArchivesSpace integration, OAI-PMH, Desktop Metadata Importer/Editor, Archivematica integration



University of Texas at Austin

The Project: Latin American Digital Initiatives (LADI)

When: November 2019

Contributions: Paged content (Books!), multilingual support



University of Prince Edward Island

The Project: Research Data Management

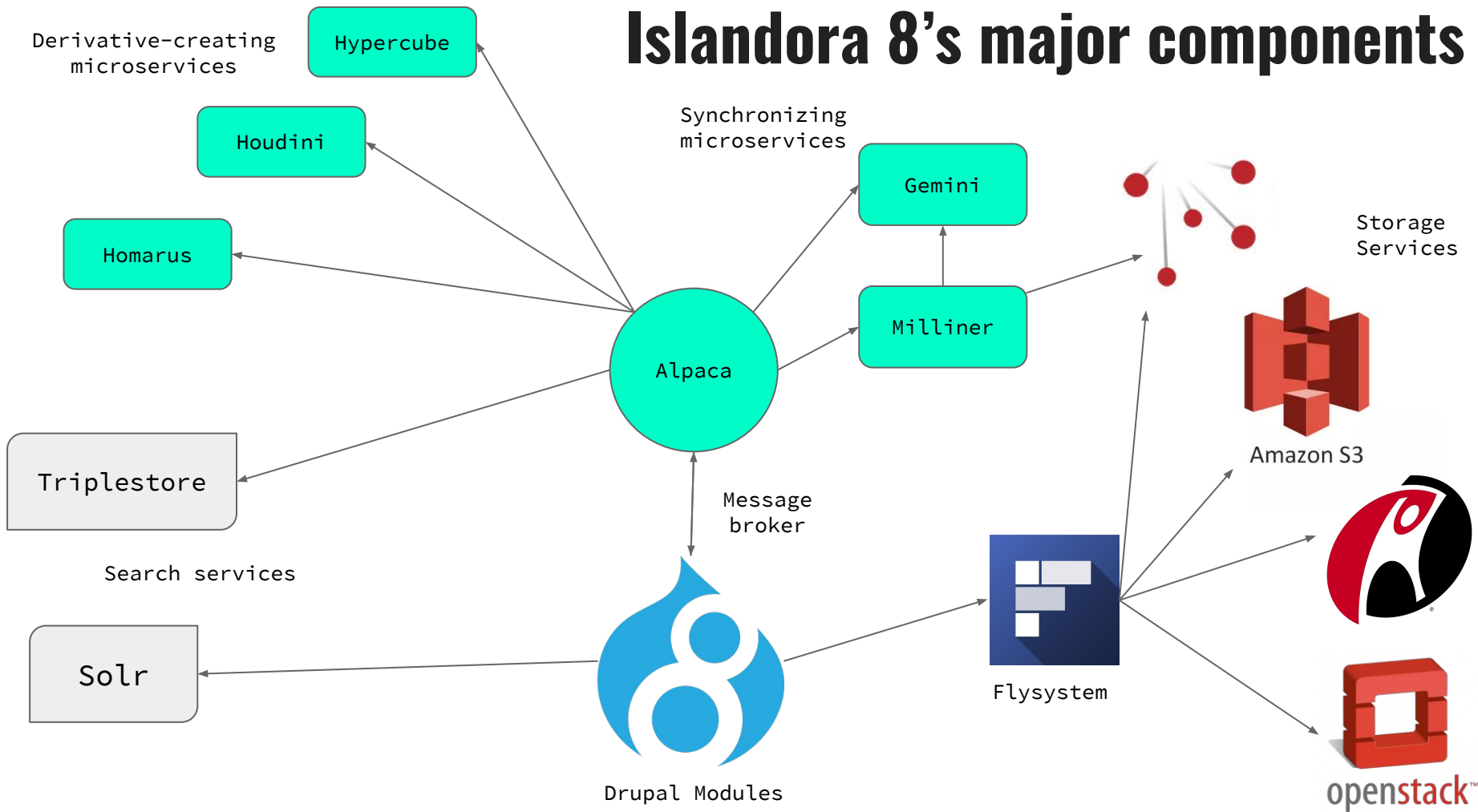
When: 2020

Contributions: ORCID; Datacite; preservation reports; FITS; OAI Endpoint; cloud storage support; structured RDF displays; configurable permissions; and content types for Datasets, Grants, Data Management Plans (DMPs), researchers, and organizations.



A Closer Look at Islandora 8

Islandora 8's major components



Fedora in Islandora 8

Fedora is smart storage from Drupal's perspective

Proxy or redirect to external content

Fixity digest generation

Audit trail

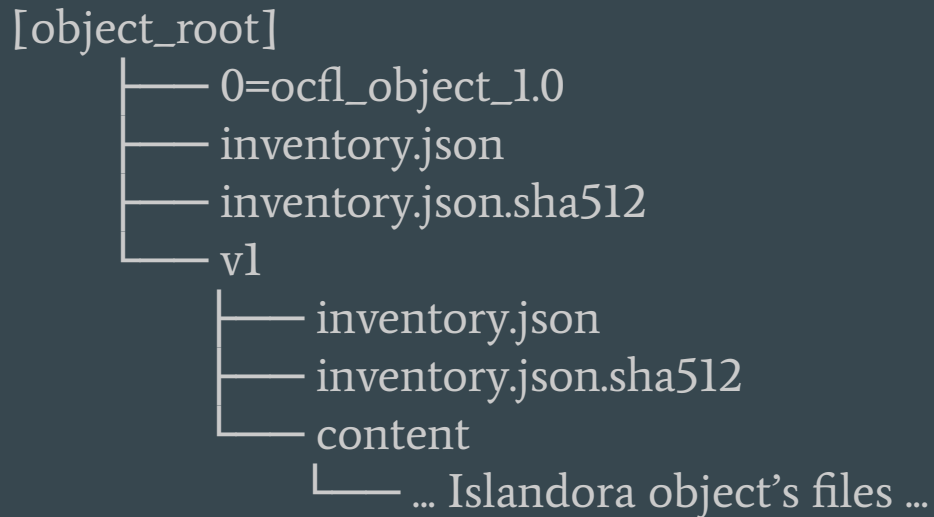
Memento versioning

API-X, which advertises relevant microservices for repository content

In Fedora 6, OCFL (Oxford Common File Layout)



Oxford Common File Layout (in Fedora 6)



Islandora Content as Drupal Nodes

The *key difference* between Islandora 8 and its predecessors.

Shifts Islandora from a framework for managing and accessing Fedora objects to a set of GLAM-specific business rules.

Allows Islandora content to use any standard Drupal contrib module.

Important conceptual shifts:

- Islandora object properties are now Drupal node properties
- Drupal taxonomies, actions/Context, and node field values encode business logic
- Files (images, audio, etc.) are now Drupal Media associated with nodes

Views and Views Bulk Operations

Views Bulk Operations (VBO) allows actions to be executed on items in a View.

Islandora can use it to:

- Regenerate derivatives
- Reindex nodes in Fedora and the triplestore
- Delete files and media
- Update metadata

Drupal Taxonomies (Tags)

Authority lists for names, subjects, geographic terms. You can also add your own.

Also determine Islandora “models” (image, audio, video, collection, binary) and “media use” (original file, preservation master file, extracted text, service file, thumbnail image).

Used extensively by Context.

One of the ways Islandora can use Linked Data.

EXTERNAL URI

URL

Start typing the title of a piece of content to select it. You can also enter an internal path

Link text

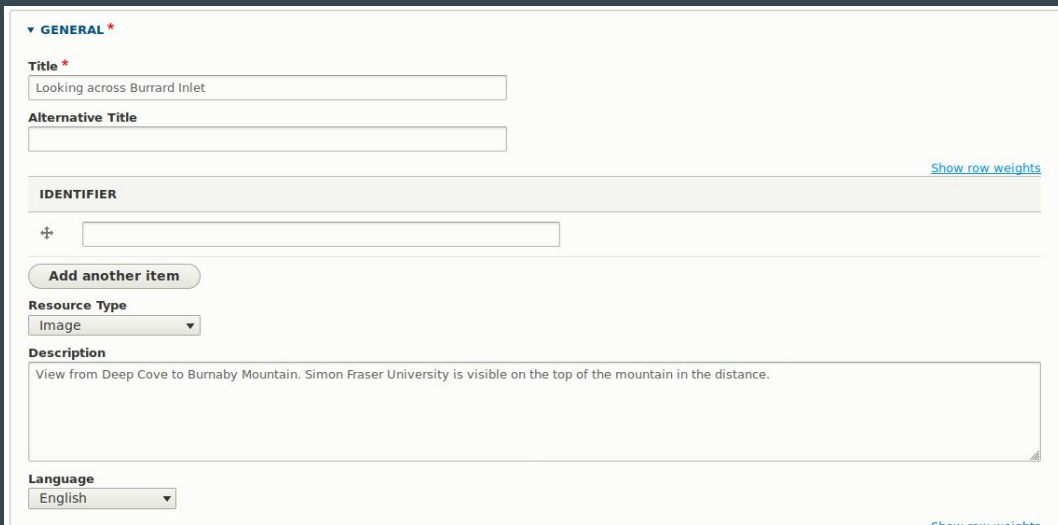
Metadata in Islandora 8

Metadata is stored and managed as fields on Drupal nodes.

It can be serialized into XML/JSON-LD/etc. on demand (e.g., for OAI-PMH requests).

“Profiles” or templates are created via Drupal content types.

Bulk updates, etc. are handled via Drupal’s Views Bulk Operations.



The screenshot shows a web form for creating or editing metadata. At the top, there is a tab labeled 'GENERAL' with a red asterisk. Below this, the 'Title' field is required and contains the text 'Looking across Burrard Inlet'. An 'Alternative Title' field is also present but empty. To the right of the 'Alternative Title' field is a link that says 'Show row weights'. Below these fields is a section header 'IDENTIFIER' in a light green box. Underneath is a plus icon followed by an empty text input field. Below this is a button labeled 'Add another item'. The 'Resource Type' is set to 'Image' via a dropdown menu. The 'Description' field is a large text area containing the text 'View from Deep Cove to Burnaby Mountain. Simon Fraser University is visible on the top of the mountain in the distance.' At the bottom, the 'Language' is set to 'English' via a dropdown menu. A second 'Show row weights' link is visible at the bottom right of the form.

Flexible Storage

- Uses Flysystem, a filesystem abstraction library for PHP
- Swap out filesystems without application-wide rewrites
- Adapters for:
 - AWS S3
 - Azure
 - Digital Ocean Spaces
 - Local storage
 - Drop Box
 - Many more...

Multilingual Capabilities

User interface and metadata (including its Linked Data forms) can be translated into multiple languages.

எடுத்துக்காட்டுப் படம்

admin - Sun, 06/02/2019 - 12:21



இல் உறுப்பினர்
படங்கள் சேகரம்

மொழி
Tamil

விபரிப்பு
இது ஓர் எடுத்துக்காட்டுப் படம்.

அளவு
1 item

துறை
வோம்பாற், ஆத்திரேலியா

Fedora URI

<http://localhost:8080/fcrepo/rest/7f/1a/45/23/7f1a4523-eee9-43dd-8e10-dd9d6621eec8>

Microservices

- Single-purpose applications external to Drupal and Fedora
- Uses
 - Synchronize Drupal and Fedora (Gemini, Milliner)
 - Create derivatives (Houdini, Hypercube)
 - Generate and maintain preservation data (FITS, Riprap)
 - Package content for export (Islandora Bagger)
- Benefits
 - Distributed
 - Swapable



μ-services

Context

A Drupal contrib module that allows configuration of "if this, then that" logic using an administrative user interface.

Defines “conditions” (the “if this” part) and “reactions” (the “then that” part). In Drupal 8, extends reactions to include Drupal Actions.

Contexts defined by Islandora 8 include:

- Which viewer to use for an object (e.g. OpenSeadragon)
- Whether to store specific files in Drupal only or also in Fedora
- For collection nodes, show the block listing its members.

Example “Content” context defined by Islandora

If

- The node’s content type is “repository item”

Then

- Index it in Fedora and in the triplestore.
- [Delete], [Map URI to predicate], [Alter JSON-LD type]

The screenshot shows the Islandora configuration interface for a 'Content' context. It is divided into two main sections: 'Conditions' and 'Reactions'.

Conditions:

- Add condition** button.
- Node Bundle:** A large empty text area.
- Node types:**
 - ☒ Repository Item
 - ☐ Article
 - ☐ Basic page
 - ☐ Negate the condition
- Remove condition** button.

Reactions:

- Add reaction** button.
- Index:** A list of actions with a search bar and a dropdown menu.
 - Delete**
 - Map URI to predicate**
 - Alter JSON-LD Type**
- Actions:** A list of actions with a search bar and a dropdown menu.
 - Audio - Generate a service file from an original file
 - Delete Node from Fedora
 - Delete Node from Triplestore
 - Image - Generate a thumbnail from a service file
 - Image - Generate a service file from an original file
 - Index Node in Fedora** (highlighted)
 - Index Node in Triplestore** (highlighted)
 - Delete content
 - Make content sticky
 - Make content unsticky
 - Promote content to front page
 - Publish content
 - Save content
 - Remove content from front page
- Remove reaction** button.

Pre-configured actions to execute. Multiple actions may be selected by shift or ctrl clicking.

Save and continue button and **Delete** link.

Linked Data Capabilities

Vocabularies for subjects, names, places can use authority links (URIs)

Objects' metadata can be serialized into JSON-LD

Capability to use Linked Data exists but user-facing services do not yet

- Discovery aggregators
- Realtime 'related repository' queries
- Point of creation lookups



Rich REST interfaces

Read, create, update, delete nodes and media

Drupal's JSON:API is also available

Will allow creation of external tools, e.g.:

[Islandora Bagger](#)

[CLAW REST Ingester](#)

A desktop client

There's a Module for That...

Objects as nodes allows Islandora to use any standard Drupal contrib module.

Permissions by Term

Provides access control using tags

Submodule Permissions by Entity extends this to Media

Within each term's
“Edit” tab: “If left empty,
all users will have access
to content, related to
this taxonomy term
and this taxonomy term
itself.”

▼ PERMISSIONS

To limit access to this term by user(s) or role(s), select users or roles above. If left empty, all users will have access to content related to this taxonomy term.

Allowed users

Enter a comma-separated list of user names who will be able to access content, related to this taxonomy term.

Allowed roles

- ☐ Anonymous user
- ☐ Authenticated user
- ☐ Administrator
- ☐ fedoraAdmin

Select user roles who will be able to access content, related to this taxonomy term.



Search Overrides



Admin users “will be able to choose a specific search term, and pick which nodes should be at the top, and also choose to exclude nodes so they will not be shown in the results.”

Query

The search term or phrase whose results will be changed.

PROMOTED NODES



 

Nodes that should appear at the top of the results.

Add another item

EXCLUDED NODES

Nodes that should NOT appear in the results.

Add another item

Save

Delete

Wayback Submit to Archive.org

“The Wayback Submit module will submit all your [URLs] to The Wayback Machine at Archive.org.”

Menu settings (all languages) Install TV4ever	Wayback Submit (all languages)
URL path settings Automatic alias	When to submit. <input type="radio"/> Never <input type="radio"/> On save <input type="radio"/> On save, then on schedule <input checked="" type="radio"/> On schedule
XML sitemap (all languages) Inclusion: Default (included) Priority: Default (0.5)	Submitted on • 5 March, 2019 - 07:00 (2 days ago)
Translation Translation published. Do not flag translations as outdated	Internet Archive status isn't activated. Activate it for all entities here or see it for this entity here (Opens in a new tab or window).
Revision information (all languages) New revision	
Comment settings (all languages) Closed	
Meta tags Using defaults	
Authoring information (all languages) By admin on 2017-11-11 11:55:01 +0100	
Publishing options (all languages) Published	
Wayback Submit (all languages) On schedule	
Save	Delete translation

Content Feedback

Feedback ✕

Name

Email

Do you have any suggestions to make this page better ? *

“Allows users and visitors to quickly send feedback messages about the currently displayed content.”

Feedback is presented
To admin users so it
can be easily
processed.

Feedback

Moderation Scheduler

“Moderation Scheduler gives content editors the ability to schedule nodes to be published at specified dates and times in the future.”

▼ SCHEDULING OPTIONS

MODERATION SCHEDULED PUBLISH TIME

yyyy - mm - dd

-- :-- :-- --

Enter a date and time. Leave the date blank for no scheduled publishing.
Moderation Scheduler Publish date input field

☒ Published

Save

Preview

[Delete](#)

Live Demos

Bulk Ingest from CSV

1. Configure YAML files
2. Run migration from web interface or command line
3. Web interface: files, then nodes, then media
4. Command line
 - Reimport migration configurations after changes to .yaml files: `drush -y fim migrate_islandora_csv`
 - Run all migrations: `drush -y --userid=1 mim --group=migrate_islandora_csv --uri=http://localhost:8000`
 - Roll back everything: `drush -y mr --group=migrate_islandora_csv`

Migration from 7.x to 8

1. Configure YAML files
2. Run migration from web interface or command line
 - Reimport migration configurations after changes to .yaml files: `drush -y fim islandora_migrate_7x_claw_feature`
 - Run all migrations: `drush -y --userid=1 mim --uri=http://localhost:8000 --group=islandora_7x`
 - Roll back everything: `drush -y mr --group=islandora_7x`

Discussion