DDF User's Guide

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1. Using Distributed Data Framework

These user interfaces are available in DDF.

Using the Landing Page

Using the Landing Page.

Using Intrigue

Using Intrigue.

Using the Simple Search

Using the Simple Search user interface. None.

2. Using the Landing Page

The DDF Landing Page is the starting point for using DDF. It is accessible at https://{FQDN}:{PORT}.

2.1. Search DDF Button

The search button navigates to the Search UI, enabling catalog queries.

2.2. Data Source Availability

The data source availabilty pane provides a quick glance at the status of configured data sources.

2.3. Announcements

The announcements pane contains messages from system adminstrators.

3. Using Intrigue

Introduction: Intrigue represents the most advanced search interface available with DDF. It provides metadata search and discovery, resource retrieval, and workspace management with a 3D or optional 2D map visualization.

NOTE	For more detail on any feature or button within Intrigue, click the ? icon in the upper right of the screen; then, hover over any item on the screen and a contextual tooltip will be displayed to define its purpose. To exit this mode, click the ? again or press `escape`.

3.1. Accessing Intrigue

The default URL for Intrigue is https://{FQDN}:{PORT}/search/catalog

NOTE	*Catalog UI Guest Users* If Guest access has been enabled, users not signed in to DDF (i.e. guest users) will have access to search functions, but all workspace configuration and settings will only exist locally and will not be available for sharing.

The default view for Intrigue is the **Workspaces** view. For other views or to return to the **Workspaces** view, click the **Navigation** menu in the upper-left corner of Intrigue and select the desired view.
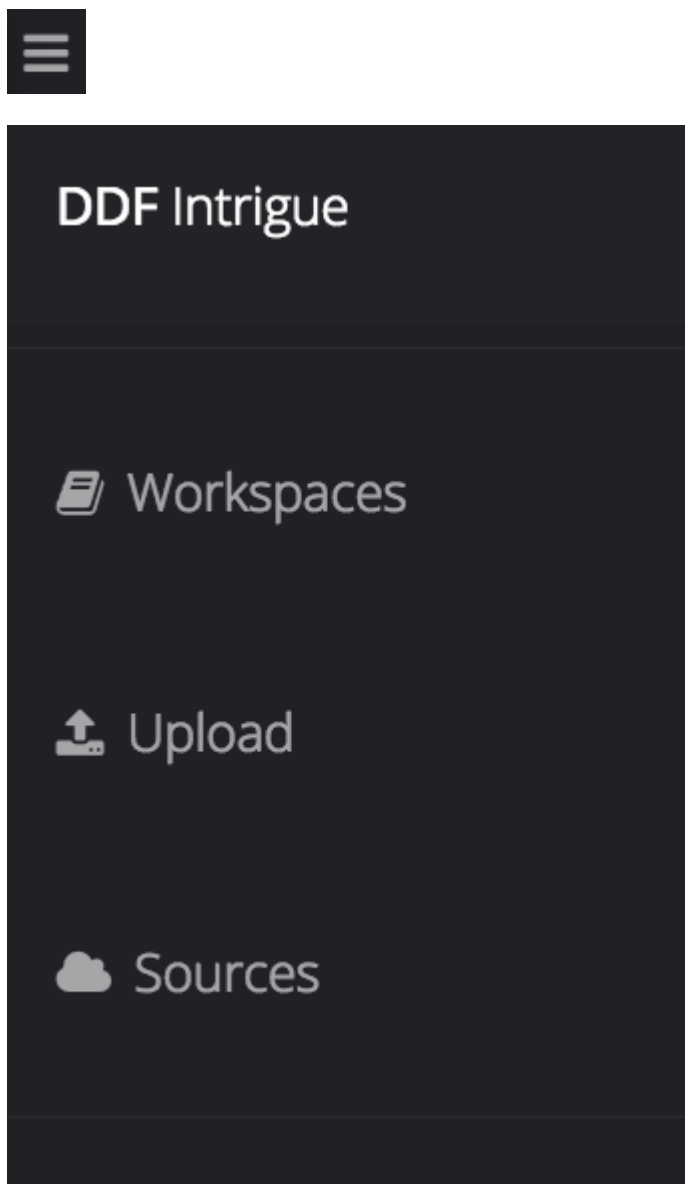

Figure 1. Select the desired view from the **Navigation** *menu.*

3.2. Workspaces in Intrigue

Within Intrigue, workspaces are collections of settings, searches, and bookmarks that can be shared between users and stored for repeated access.

3.2.1. Creating a Workspace in Intrigue

Before searching in DDF, at least one workspace must be created.

Start new workspace

1. From the **Workspaces** view, enter search terms into the **Start new workspace** search field and

   click the magnifying glass ( ) icon. This will create a new workspace and perform a search based on the entered search terms.
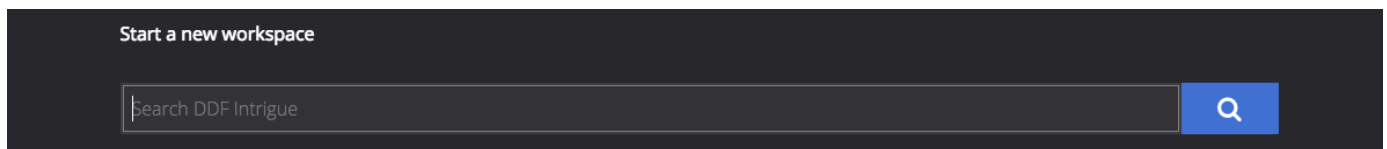

Figure 2. Start new workspace

3.2.2. Configuring a Workspace in Intrigue

Configure each workspace with searches and share options.

Adding searches

1. From the default **Workspaces** view, select the workspace to add a search to.

2. Click **Search DDF Intrigue** in the upper left corner, enter search terms, and click **Search** to add a search. This step can be repeated to add additional searches. Each workspace can have up to ten searches.

   a. Select **Basic** Search to select simple search criteria, such as **text**, **time**, and **location**.

   b. Select **Advanced** Search to access a query builder for more complex queries.

3. Click the save ( ) icon next to the workspace title in the upper left corner.

Navigation Menu Options

- **Workspaces**: View all available workspaces.

- **Upload**: Add new metadata and resources to the catalog.

- **Sources**: Lists all sources and their statuses.

- **Open Workspaces**: Lists open workspaces.

Workspace Menu Options

- To view a workspace's options from the **Workspaces** view, press the **Options** button ( ) for the workspace.

  - **Save**: Save changes to the workspace.

  - **Run All Searches**: Start all saved searches within this workspace.

  - **Cancel All Searches**: Cancel all running searches.

  - **Open in New Tab**: Opens this workspace in a separate tab.

  - **View Sharing**: View and edit settings for sharing this workspace. Users must be signed in to share workspaces or view shared workspaces.

  - **View Details**: View the current details for a cloud-based workspace Users must be signed in to view workspace details.

  - **Duplicate**: Create a copy of this workspace.

  - **Subscribe/Unsubscribe**: Selecting **Subscribe** will enable email notifications for search results on this workspace. Selecting **Unsubscribe** will disable email notifications for search results on this workspace.

  - **Move to Trash**: Delete (archive) this workspace.

3.2.3. Sharing Workspaces

Workspaces can be shared between users at different levels of access as needed.

Share a Workspace

1. From the **Workspaces** view, select the **Options** menu ( ) for the workspace in which sharing will be modified.

2. Select **View Sharing**.

   a. To share by user role, set the drop-down menu to **Read** or **Read and Write** for each desired role. All users with that role will be able to view the workspace, but will be limited based on the permission assigned. No user will be granted the ability to share the workspace with additional users.

   b. To share with an individual user, add his/her email to the email list and set the drop-down menu to **Read**, **Read and Write**, or **Read, Write, and Share**.

3. Click **Apply**.

Remove Sharing on a Workspace

1. From the **Workspaces** view, select the **Options** menu ( ) for the workspace in which sharing will be modified.

2. Select **View Sharing**.

a. To remove the workspace from users with specific roles, set the drop-down menu to **No Access** for those roles.

b. To remove individual users, remove the users' email addresses from the email list.

3. Click **Apply**.

3.3. Ingesting from Intrigue

Data can be ingested via Intrigue.

WARNING	The Intrigue uploader is intended for the upload of products (such as images or documents), not metadata files (such as Metacard XML). A user will not be able to specify which input transformer is used to ingest the document.

1. Select the Menu icon ( ) in the upper left corner.

2. Select **Upload**.

3. Drag and drop file(s) or click to open a navigation window.

4. After selecting the file(s) to be uploaded, select **Start** to begin uploading.

Files are processed individually with a visual status indication of each upload. If there are any failures, the user is notified with a message on that specific product. More information about the uploads can be found in the ingest log. The default location of the log is `<DDF_HOME>/data/log/ingest_error.log`.

NOTE	Uploaded products may be marked with Validation Warnings or Errors. Additional configuration may be needed to view these products in searches.

3.3.1. Using the Upload Editor

Intrigue provides an upload editor form which allows users to customize the metadata of their uploads. If enabled, it will appear alongside the upload dropzone and will displays a list of attributes a that may be set.

To set an attribute, simply provide a value in the corresponding form control. All custom values in the form will be applied on upload. If a field is left blank, the attribute will be ignored. To remove all custom values entered, simply click the "Reset Attributes" button at the bottom of the form.

Certain attributes within the form may be marked as required (indicated by an asterisk). These fields must be set before uploads will be permitted.

3.4. Searching with Intrigue

The Search pane has two tabs: **Search** and **Lists**.
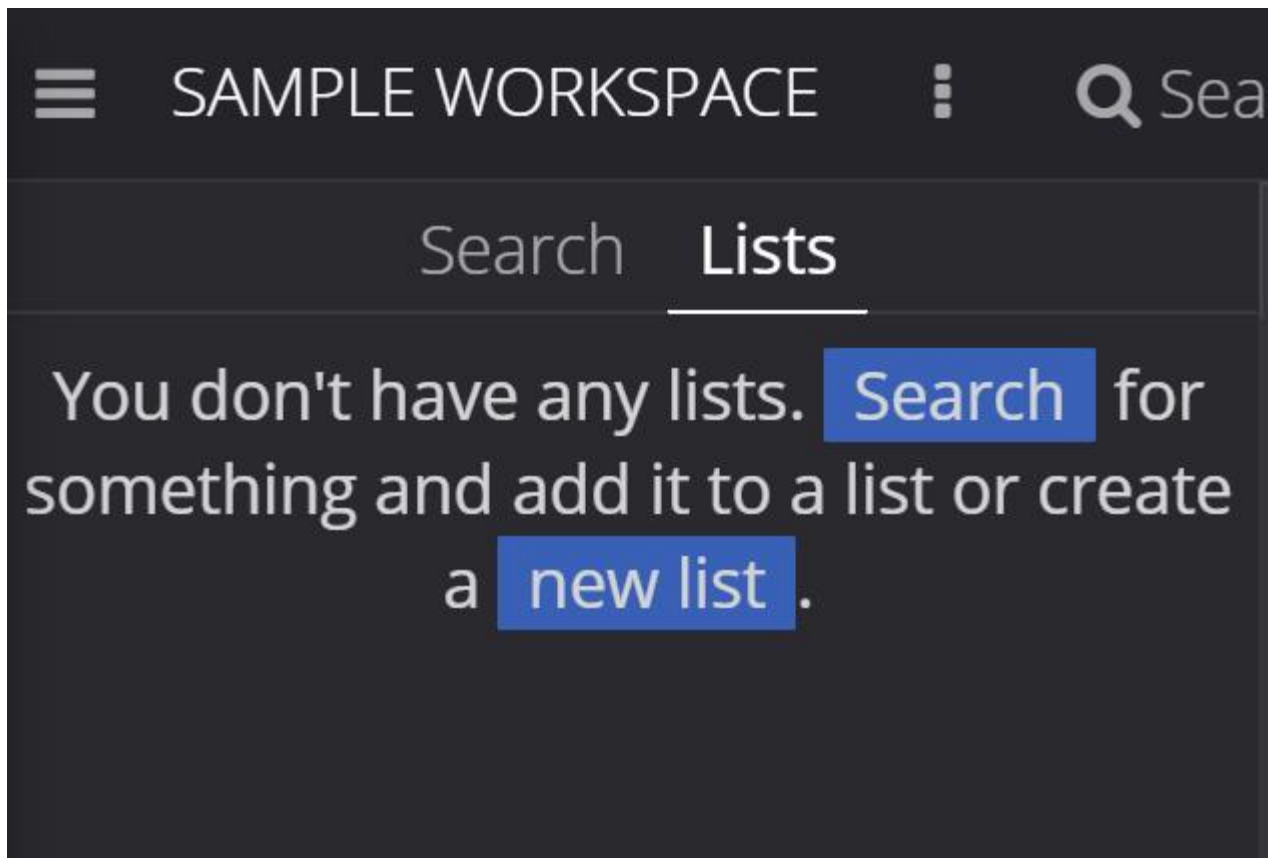
Figure 3. Search Pane Tabs

3.4.1. Search Tab

View and edit searches from the **Search** tab.

The available searches for a workspace can be viewed by clicking on the drop-down on the **Search** tab.
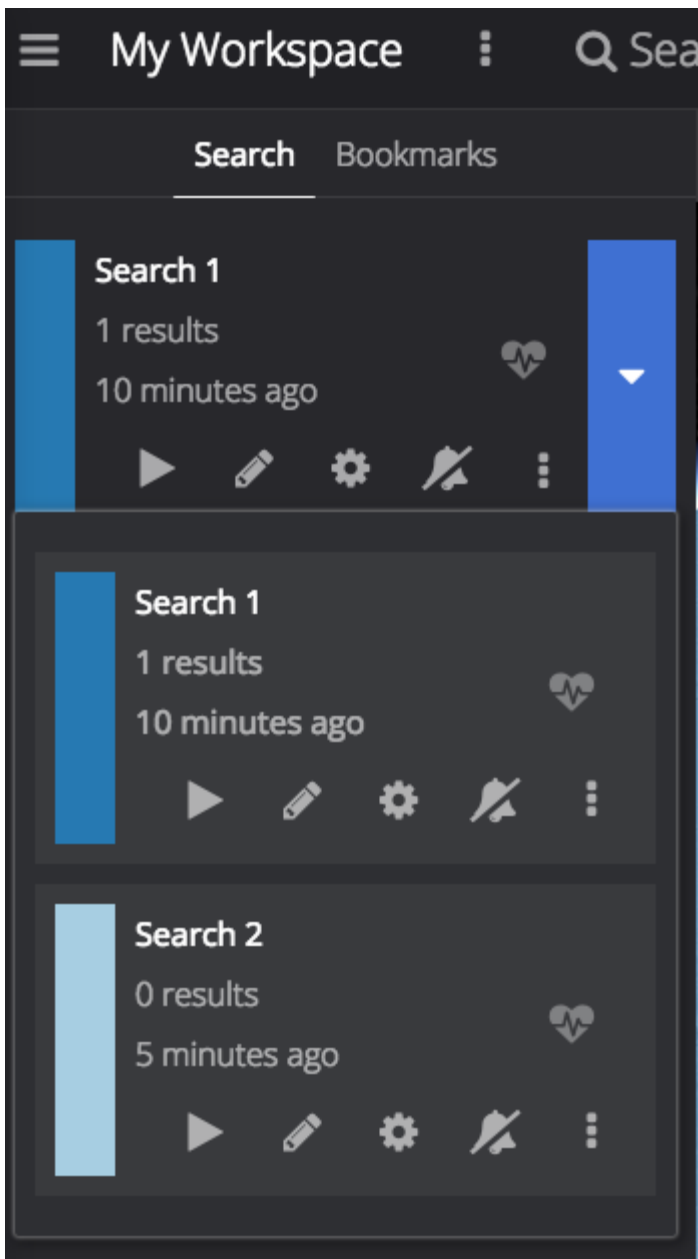
Figure 4. Viewing available searches.

Search Menu Options

At the bottom of each search is a list of options for the search.

- **Run**: Trigger this search to begin immediately.
- **Edit**: Edits the search criteria.
- **Settings**: Edits the search settings, such as sorting.
- **Notifications**: Allows setting up search notifications.
- **Stop**: Stop this search.
- **Delete**: Remove this search.
- **Duplicate**: Create a copy of this search as a starting point.

- **Search Archived**: Execute this search, but specifically for archived results.

- * Search Historical*: Execute this search, but specifically for historical results.

3.4.1.1. Editing a Search

An existing search can be updated by selecting the search in the **Search** tab of a workspace and by clicking the Edit ( ) icon.

Text: Perform a minimal textual search that is treated identically to a Basic search with only Text specified.

Basic: Define a Text, Temporal, Spatial, or Type Search.

Text Search Details: Searches across all textual data of the targeted data source. Text search capabilities include:

Search for an exact word, such as `Text = apple` : Returns items containing the word "apple" but not "apples". Matching occurs on word boundaries.

Search for the existence of items containing multiple words, such as `Text = apple orange` : Returns items containing both "apple" and "orange" words. Words can occur anywhere in an item's metadata.

Search using wildcards, such as `Text = foo*` : Returns items containing words like "food", "fool", etc..

Wildcards should only be used for single word searches, not for phrases.

WARNING	When searching with wildcards, do not include the punctuation at the beginning or the end of a word. For example, search for `Text = ca*` instead of `Text = -ca*` when searching for words like "cat", "-cat", etc.. and search for `Text = *og` instead of `Text = *og.` when searching for words like "dog", "dog.", etc..

Text searches are by default case insensitive, but case sensitive searches are an option.

Temporal Search Details: Search based on absolute time of the created, modified, or effective date.

Any: Search without any time restrictions (default).

After: Search records after a specified time.

Before: Search records before a specified time.

Between: Set a beginning and end time to search between.

Relative: Search records relative to the current time.

Spatial Search Details

Search by latitude/longitude (decimal degrees or degrees minutes seconds), USNG/MGRS, or UTM using a line, polygon, point-radius, or bounding box. Spatial criteria can also be defined by entering a **Keyword** for a region, country, or city in the **Location** section of the query builder.

Type Search Details

Search for specific content types.

Advanced: Advanced query builder can be used to create more specific searches than can be done through the other methods.

Advanced Query Builder Details

Operator: If 'AND' is used, all the filters in the branch have to be true for this branch to be true. If 'OR' is used, only one of the filters in this branch has to be true for this branch to be true.

Property: Property to compare against.

Comparison: How to compare the value for this property against the provided value. Depending on the type of property selected, various comparison values will be available. See Types of Comparators

Search Terms: The value for the property to use during comparison.

Sorting: Sort results by relevance, distance, created time, modified time or effective time.

Sources: Perform an enterprise search (the local Catalog and all federated sources) or search specific sources.

Advanced Query Builder Comparators

Textual:

CONTAINS: Equivalent to Basic Text Search with Matchcase set to No.

MATCHCASE: Equivalent to Basic Text Search with Matchcase set to Yes.

=: Matches if an attribute is precisely equal to that search term.

NEAR: Performs a fuzzy proximity-based textual search. A NEAR query of `"car street" within 3` will match a sample text of `the blue car drove down the street with the red building` because performing three word deletions in that phrase (`drove`, `down`, `the`) causes `car` and `street` to become adjacent.

EMPTY: Search records when the attribute itself does not exist or when the attribute value is null.

More generally, a NEAR query of `"A B" within N` matches a text document if you can perform at most N insertions/deletions to your document and end up with `A` followed by `B`.

It is worth noting that `"street car" within 3` will not match the above sample text because it is not possible to match the phrase `"street car"` after only three insertions/deletions. `"street car" within 5` will match, though, as you can perform three word deletions to get `"car street"`, one deletion of one of the two words, and one insertion on the other side.

If multiple terms are used in the phrase, then the `within` amount specifies the total number of edits that can be made to attempt to make the full phrase match. `"car down street" within 2` will match the above text because it takes two word deletions (`drove`, `the`) to turn the phrase `car drove down the street` into `car down street`.

Temporal:

    BEFORE: Search records before a specified time.

    AFTER: Search records after a specified time.

    RELATIVE Search records relative to the current time.

    EMPTY: Search records when the attribute itself does not exist or when the attribute value is null.

Spatial:

    INTERSECTS: Gives a component with the same functionality as Basic Spatial Search.

    EMPTY: Search records when the attribute itself does not exist or when the attribute value is null.

Numeric:

    >: Search records with field entries greater than the specified value.

    >=: Search records with field entries greater than or equal to the specified value.

    =: Search records with field entries equal to the specified value.

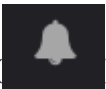   <=: Search records with field entries less than or equal to the specified value.

    <: Search records with field entries less than the specified value.

    EMPTY: Search records when the attribute itself does not exist or when the attribute value is null.

3.4.1.1.1. Editing Search Settings

An existing search's settings can be modified by selecting the search in the **Search** tab of a workspace and by clicking the **Settings** (⚙) icon. Sorting and sources can be customized here.

3.4.1.1.2. Editing Search Notifications

An existing search's notifications can be modified by selecting the search in the **Search** tab of a workspace and by clicking the **Notifications** (🔔) icon. Notification frequency can be customized here.

3.4.1.1.3. Viewing Search Status

An existing search's status can be viewed by selecting the search in the **Search** tab of a workspace and by clicking the **Status** (💓) icon. The **Status** view for a search displays information about the sources searched.

NOTE

Intersecting Polygon Searchs

If a self intersecting polygon is used to perform a geographic search, the polygon will be converted into a non-intersection one via a convex hull conversion. In the example below the blue line shows the original self intersecting search polygon and the red line shows the converted polygon that will be used for the search. The blue dot shows a search result that was not within the original polygon but was returned because it was within the converted polygon.

Figure 5. Self Intersecting Polygon Conversion Example

3.4.1.2. Refining Search Results

Returned search results can be refined further, bookmarked, and/or downloaded from the **Search** tab. Result sets are color-coded by source as a visual aid. There is no semantic meaning to the colors assigned.
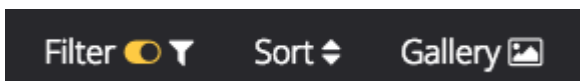

Figure 6. Search Results Options

1. On the **Search** tab, select a search from the drop-down list.

2. Perform any of these actions on the results list of the selected search:

    a. Filter the result set locally. This does not re-execute the search.

    b. Customize results sorting. The default sort is by title in ascending order.

    c. Toggle results view between **List** and **Gallery**.

3.4.1.3. Search Result Options

Options for each individual search result

- **Download**: Downloads the result's associated product directly to the local machine. This option is only available for results that have products.

- **Bookmark**: Adds/removes the results to/from the saved bookmarks.

- **Hide from Future Searches**: Adds to a list of results that will be hidden from future searches.

- **Expand Metacard View**: Navigates to a view that only focuses on this particular result.

- **Create Search from Location**: Searches for all records that intersect the current result's location geometry.

3.4.2. Lists Tab

Lists organize results and enable performing actions on those sets of results.

1. Perform any of these actions on lists:

    a. Filter the result set locally (does not re-execute the search),

    b. Customize results sorting (Default: Title in Ascending Order).

    c. Toggle results view between **List** and **Gallery**.

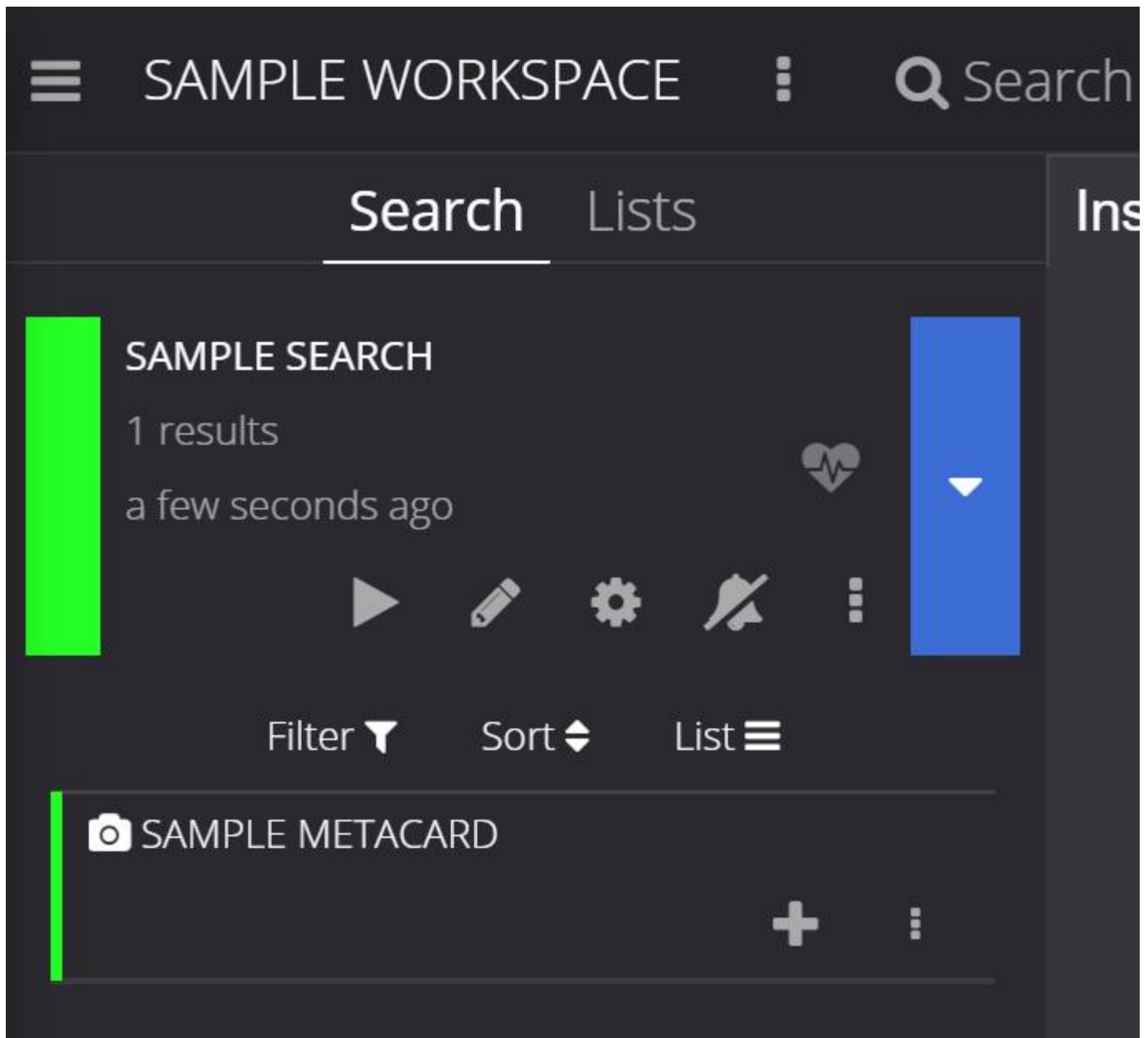   **NOTE** | Lists are not available to guest users.

3.4.2.1. Creating a List

A new list can be created by selecting the **Lists** tab and selecting the **new list** text.
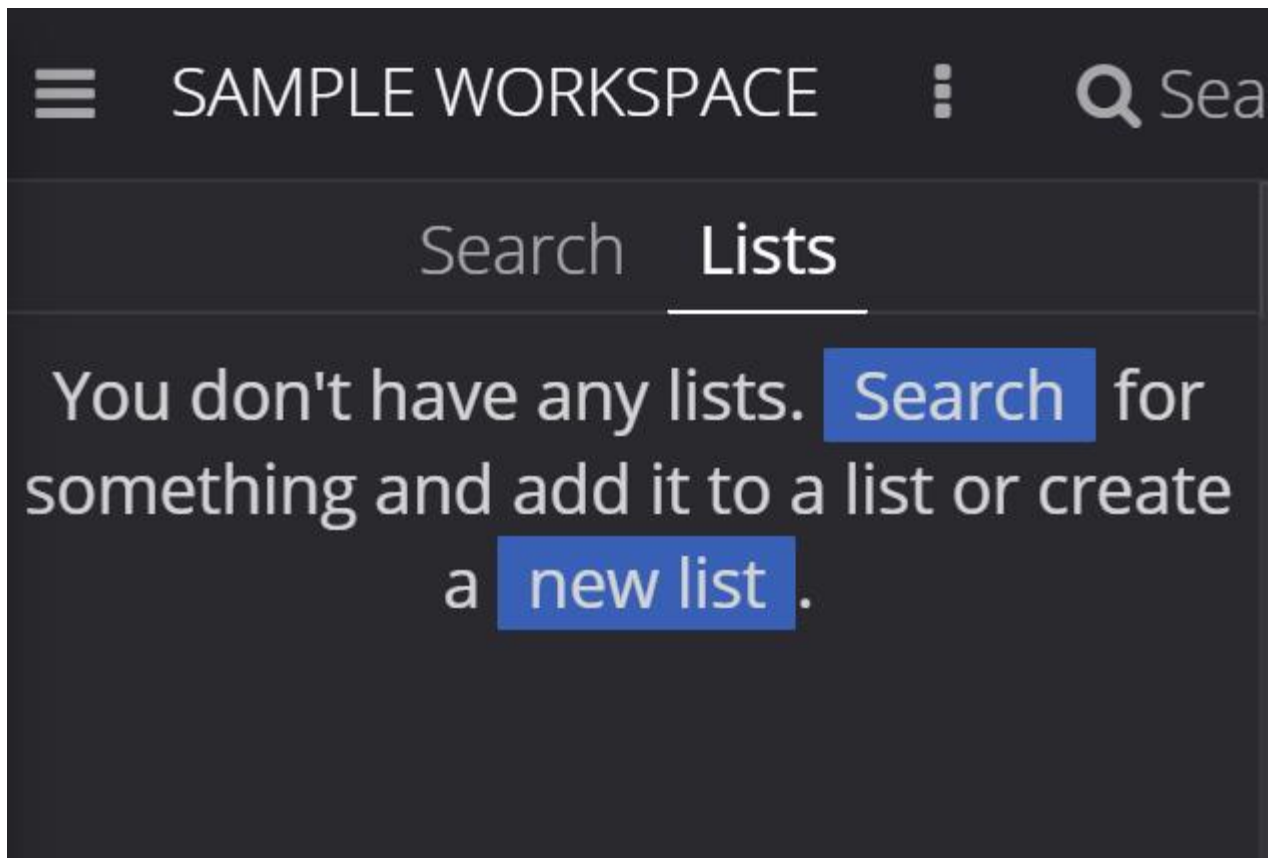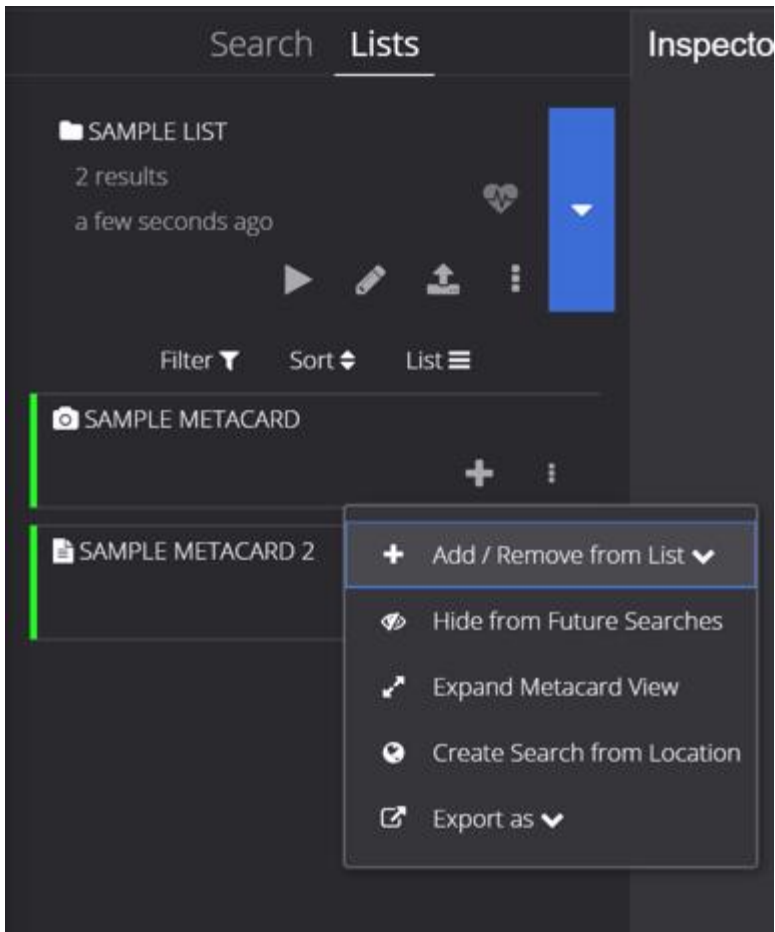
3.4.2.2. Adding/Removing Results to a List

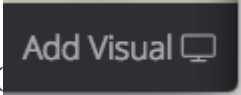Results can be added to a list by selecting the + icon on a result.
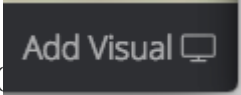
Results can be added or removed to/from a list through the result's dropdown menu.

3.5. Viewing Search Results

3.5.1. Adding Visuals

Visuals are different ways to view search results.

1.
   Click the **Add Visual** ( ) icon in the bottom right corner of Intrigue.
2. Select a visual to add.
   a. **2D Map**: A 2 dimensional map view.
   b. **3D Map**: A 3 dimensional map view.
   c. **Inspector**: In depth details and actions for the results of a search.
   d. **Histogram**: A configurable histogram view for the results of a search.
   e. **Table**: A configurable table view for the results of a search.

The **Search** tab displays a list of all of the search results for the selected search. The **Inspector** visual provides in depth information and actions for each search result.

Summary

A summarized view of the result.

Details

A detailed view of the result.

History

View revision history of this record.

Associations

View or edit the relationship(s) between this record and others in the catalog.

Quality

View the completeness and accuracy of the metadata for this record.

Actions

Export the metadata/resource to a specific format.

Archive

Remove the selected result from standard search results.

Overwrite

Overwrite a resource.

3.5.2. Editing Records

Results can be edited from the **Summary** or **Details** tabs in the **Inspector** visual.

3.5.3. Viewing Text Previews

If a preview for a result is available, an extra tab will appear in the **Inspector** visual that allows you to see a preview of the resource.

3.5.4. Editing Associations on a Record

Update relationships between records through **Associations**.

1. Select the desired result from the **Search** tab.

2. Select the **Inspector** visual.

3. Select the **Associations** tab.

4. Select **Edit**.

5. For a new association, select **Add Association**. Only items in the current result set can be added as associations.

    a. Select the related result from either the **Parent** or **Child** drop-down.

    b. Select the type of relationship from the **Relationship** drop-down.

    c. Select **Save**.

6. To edit an existing association, update the selections from the appropriate drop-downs and select **Save**.

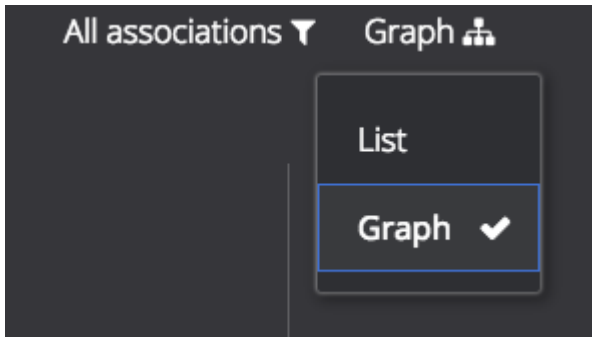View a graphical representation of the associations by selecting **Graph** icon from the **Associations** menu.

Figure 7. Associations menu.

3.5.5. Viewing Revision History

View the complete revision history of a record.

1. Select the desired result from the **Search** tab.

2. Select the **Inspector** visual.

3. Select the **History** tab.

    a. Select a previous version from the list.

    b. Select **Revert to Selected Version** to undo changes made after that revision.

3.5.6. Viewing Metadata Quality

View and fix issues with metadata quality in a record.

NOTE	Correcting metadata issues may require administrative permissions.

1. Select the desired result from the **Search** tab.

2. Select the **Inspector** visual.

3. Select the **Quality** tab.

4. A report is displayed showing any issues:

    a. Metacard Validation Issues.

    b. Attribute Validation Issues.

3.5.7. Exporting a Result

Export a result's metadata and/or resource.

1. Select the desired result from the **Search** tab.

2. Select the **Inspector** visual.

3. Select **Actions** tab.

4. Select the desired export format.

5. Export opens in a new browser tab. Save, if desired.

3.5.8. Archiving a Result

To remove a result from the active search results, archive it.

1. Select the desired result from the **Search** tab.

2. Select the **Inspector** visual.

3. Select the **Archive** tab.

4. Select **Archive item(s)**.

5. Select **Archive**.

3.5.9. Restoring Archived Results

Restore an archived result to return it to the active search results.

1. Select the **Search Archived** option from the **Search Results Options** menu.

2. Select the desired result from the **Search** tab.

3. Select the **Inspector** visual.

4. Select the **Archive** tab.

5. Select **Restore item(s)**.

6. Select **Restore**.

Restore hidden results to the active search results.

1. Select the **Settings** (⚙) icon on navigation bar.

2. Select **Hidden**.

3. Click on the eye (👁) icon next to each result to be unhidden.

   a. Or select **Unhide All** to clear the list.
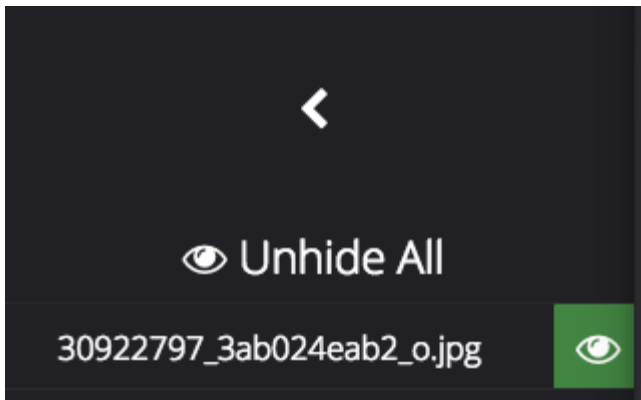
3.5.10. Overwriting a Resource

Replace a resource.

1. Select the desired result from the **Search** tab.

2. Select the **Inspector** visual.

3. Select the **Overwrite** tab.

4. Select **Overwrite content**.

5. Select **Overwrite**

6. Navigate to the new content via the navigation window.

3.5.11. Intrigue Settings

Customize the look and feel of Intrigue using the **Settings** (⚙) menu on the navigation bar.
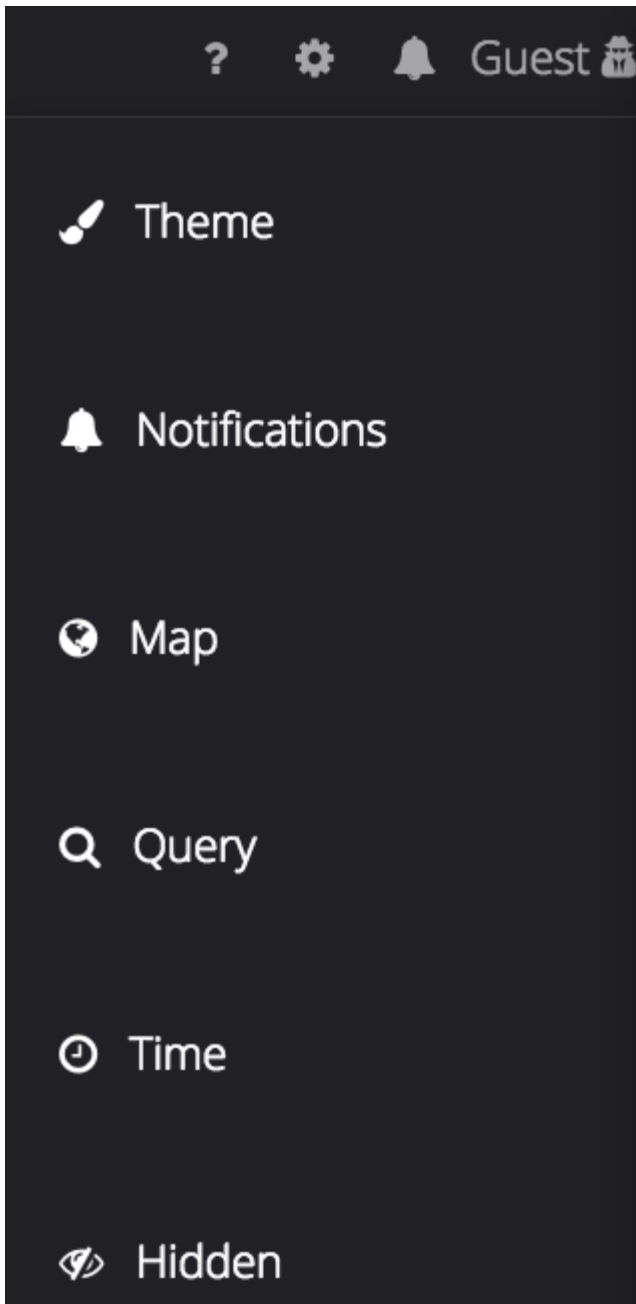
Figure 8. Settings Menu Options

- **Theme**: Visual options for page layout.

- **Notifications**: Select if notifications persist across sessions.

- **Map**: Select options for map layers.

- **Query**: Customize the number of search results returned.

- **Time**: Set the time format (ISO-8601, 24 Hour or 12 Hour), as well as the timezone (UTC-12:00 through UTC+12:00).

- **Hidden**: View or edit a list of results that have been hidden from the current search results.

3.5.12. Intrigue Notifications

Notifications can be checked/dismissed by clicking the **Notifications** icon () on the navigation bar.

3.5.13. Intrigue Low Bandwidth Mode

Low bandwidth mode can be enabled by passing in a `?lowBandwidth` parameter along with any URL targeting the Intrigue endpoint. Ex: `https://{FQDN}:{PORT}/search/catalog/?lowBandwidth#workspaces`. Currently, enabling this parameter causes the system to prompt the user for confirmation before loading potentially bandwidth-intensive components like the 2D or 3D Maps.

4. Using the Simple Search

The DDF Simple Search UI application provides a low-bandwidth option for searching records in the local Catalog (provider) and federated sources. Results are returned in HTML format.

4.1. Search

The **Input** form allows the user to specify keyword, geospatial, temporal, and type query parameters. It also allows the user to select the sources to search and the number of results to return.

4.1.1. Search Criteria

Enter one or more of the available search criteria to execute a query:

Keyword Search

A text box allowing the user to enter a textual query. This supports the use of (*) wildcards. If blank, the query will contain a contextual component.

Temporal Query

Select from **any**, **relative**, or **absolute**. Selecting **Any** results in no temporal restrictions on the query, selecting **relative** allows the user to query a period from some length of time in the past until now, and selecting **absolute** allows the user to specify a **start** and **stop** date range.

Spatial Search

Select from **any**, **point-radius**, and **bounding box**. Selecting **Any** results in no spatial restrictions on the query, selecting **point-radius** allows the user to specify a **lat/lon** and **radius** to search, and selecting a **bounding box** allows the user to specify an **eastern**, **western**, **southern** and **northern** boundary to search within.

Type Search

Select from **any**, or a specific type. Selecting **Any** results in no type restrictions on the query, and

Selecting **Specific Types** shows a list of known content types on the federation, and allows the user to select a specific type to search for.

Sources

Select from **none**, **all sources**, or **specific sources**. Selelcting **None** results in querying only the local provider, Selecting **All Sources** results in an enterprise search where all federations are queried, and selecting **Specific Sources** allows the user to select which sources are queried.

Results per Page

Select the number of results to be returned by a single query.

4.1.2. Results

The table of results shows the details of the results found, as well as a link to download the product if applicable.

4.1.2.1. Results Summary

Total Results

Total Number of Results available for this query. If there are more results than the number displayed per page then a page navigation links will appear to the right.

Pages

Provides page navigation, which generate queries for requesting additional pages of results.

4.1.2.2. Results Table

The Results table provides a preview of and links to the results. The table consists of these columns:

Title

Displays title of the metacard. This will be a link which can clicked to view the metacard in the Metacard View.

Source

Displays where the metadata came from, which could be the local provider or a federated source.

Location

Displays the WKT Location of the metacard, if available.

Time

Shows the Received (Created) and Effective times of the metacard, if available.

Thumbnail

Shows the thumbnail of the metacard, if available.

Download

A download link to retrieve the product associated with the metacard, when applicable, if available.

4.1.3. Result View

This view shows more detailed look at a result.

Back to Results Button

Returns the view back to the Results Table.

Previous & Next

Navigation to page through the results one by one.

Result Table

Provides the list of properties and associated values of a single search result.

Metadata

The metadata, when expanded, displays a tree structure representing the result's custom metadata.