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1 Searching overview

Relativity includes flexible search features designed to facilitate the document review process. These easily accessible features support a range of searching needs from filtering on fields and simple keyword searches to the development of complex queries. The following list summarizes the searching features available in Relativity.

Filters
You can use filters to limit the documents or items that appear in item lists on Relativity tabs and pop-ups. When you enable the filters for an item list, you can set criteria on single or multiple fields so that only matching documents or items appear in the view. Filters query across the searchable set of documents in the active view to return your results. Relativity supports multiple filter types so that you can easily choose the best format for different field types. See the Searching Guide for more information.

Keyword searches
You can run keyword searches from the Documents tab and from Dynamic Object tabs. With these searches, you can leverage the basic functionality for querying the SQL full-text index populated with data from extracted text fields. The keyword search engine supports the use of Boolean operators and wildcards. As the default search engine in Relativity, keyword search automatically populates with extracted text during data import. See the Searching Guide for more information.

Saved searches
These searches provide you with the functionality to define and store queries for repeated use. With flexible settings, you can create a saved search based on any Relativity search engine, assign security permissions to it, and define specific columns to display your search results. Saved searches support the development of complex queries that you build using a form with search condition options. These queries run dynamically to ensure that updated results appear when you access a saved search. See the Searching Guide for more information.

dtSearches
Available on the Documents tab, you can use the advanced searching functionality to run queries with proximity, stemming, and fuzziness operators, as well as with basic features such as Boolean operators and wildcards. Relativity administrators can create a dtSearch index for a specific subset of documents in a workspace, and then assign security to it. They must manually update indexes when the document search sets used to create them are modified. See the Searching Guide for more information.

Data Grid search
The Data Grid search option provides you with a way to search on long text fields stored in Data Grid for any Data Grid-enabled workspaces in your Relativity environment. Once you enable it, Data Grid search is available in the search drop-down, along with your Keyword Search, dtSearch, and Analytics indexes. The Data Grid search includes single-term search, exact phrase search, wildcards, fuzziness, proximity, Boolean operators, and grouping. See the Relativity Data Grid guide.

Analytics
Supporting conceptual searching, Analytics includes documents in a result set when they contain similar ideas or conceptual relationships, rather than matching specific search terms or conditions. You can create searches with Analytics that categorize your documents based on the concepts contained in a sample document set. Instead of categorizing documents, you can also perform clustering, which uses specific algorithms (system-defined rules) to identify conceptually related documents. See the Searching Guide for more information.
Regular expressions
Regular Expressions (RegEx) is a form of advanced searching that looks for specific patterns, as opposed to certain terms and phrases. With RegEx you can use pattern matching to search for particular strings of characters rather than constructing multiple, literal search queries. You can use RegEx with a dtSearch index using dtSearch syntax options to construct complex queries. See the Searching Guide for more information.

Additional features
Relativity provides additional features that make searching easily accessible from the Documents tab. With the search condition option, you can build queries using the same condition options available for saved searches. You can click Save as Search on the Documents tab to create saved searches based on the criteria defined for keyword searches, dtSearches, Analytics, or the search conditions option. See the Searching Guide for more information.
2 Filters

Filtering provides a fast and easy way to search for items in a list in Relativity. You can use filters to search for values in the fields displayed on the active view and across all records available in the searchable set. Filters are available for item lists displayed on tabs and popup windows.

The field type associated with each column determines the available filter types, such as textboxes, popup pickers, and drop-down lists. You don’t need any specific security permissions to use filtering; simply go to the item list or tab where you want to use it.

Using filters

You’re a Relativity admin facilitating a review project on a huge set of documents that includes thousands of emails between traders and investors in your client’s products. You need to quickly find all emails sent by trader David Forster that are related to energy trading, because the evidence they might contain may not be admissible in court. To do this, you turn to filters.

You find the view you set up for documents already coded for key issues and you click the filter icon. In the Email From field you enter the last name of the employee in question, "Forster." In the Key Issue field you select the "Energy Trading" choice.

This simple filtering job returns a small set of documents on which you do a quick review and find that they contain references that make them inadmissible. You then flag those documents for removal, thus ensuring that they don’t make it into saved searches or production sets.

2.1 Setting filters

The following filter buttons display above item lists in Relativity:
- **Show/Hide filters** - Activates the filters for an item list, displaying a filtering option at the top of each column. Hides filtering options at the top of the list columns if filtering options are available. Your filter settings remain unchanged.

- **Save as search** - Allows you to save the filter conditions as a saved search and provide a meaningful name for the saved search.

- **Clear all** - Removes the current filter settings. This option is only available after you set a filter.

The filter type determines the steps required to set the search criteria that it uses.

**Note:** When you create or edit a field, you can select its **Filter Type**. See Fields in the Admin guide.

To activate the filter options at the top of each column in the item list, click the icon. In the following example, the active filters display on the Documents tab.

You can use filters to narrow your searchable set, allowing you to browse through the key documents in the viewer.

For example, let's say your workspace is 120,000 records and you'd like to see documents JGRIFFITH_0000544 through JGRIFFITH_0000688. To return those documents, click in the navigation bar, enter JGRIFFITH_0000544 BETWEEN JGRIFFITH_0000688 in the Control Number field and hit **Enter**. The results become your searching set, allowing you to browse the documents.

Before defining a new search filter though, click to remove the previous settings. For example, say you create a filter on the Privileged field, but now want to search only by the Custodian field. If you don't clear the filter, Relativity filters your documents by both the Privileged and Custodian fields, and your result set may include fewer documents than you expect.

See **Filter types on the next page** and **Textbox filter search examples on page 16** for more information on using filters.

### 2.1.1 Changing item sets per page

You can use the set selector menu to change the number of items that appear per page. The set selector menu appears at the bottom of the screen. The option you select remains the default setting during your session until you select another option.
2.1.2 Saving filters as a search
To save your filtered item set as a saved search:

1. Click to open the Save Search window.
2. Enter the saved search name.
3. Select the folder in which you want to put the saved search.
4. Click Save.

2.2 Filter types
Relativity includes the following filter types:

2.2.1 Boolean filters
Boolean filters are available only on Yes/No field types. To use a Boolean filter, click the drop-down menu arrow and select Yes, No, or Blank from the list.
In the following example, setting the filter to No displays only documents that don't have native files. If selected, Blank displays only items that don't have the a Yes or No value assigned to the Boolean field.

2.2.2 Custom only
The CustomOnly filter allows you to set filtering criteria using a combination of advanced and Boolean operators.

To use a CustomOnly filter, click the drop-down menu arrow and select (Advanced...) to display a popup with filtering options. The field type determines the operators available in the popup.

To create a search criterion, select an operator from the drop-down box, and enter a value in the textbox. You can connect two search criteria with the AND or OR operators.

Click OK to set the filter. You can modify the filter by selecting (Change Advanced...) in the drop-down menu.

If the CustomOnly filter is not available for a desired field, perform the following steps:

1. Navigate to the Fields tab.
2. Locate the field that you want to enable for the CustomOnly filter and click Edit.
3. Go to the List Properties category of the field layout.
4. Select the drop-down for the Filter Type field, select CustomOnly, and click Save.

The CustomOnly filter type is available for the following field types only:
2.2.3 List filters

List filters are frequently associated with fields used for coding documents. The conditions displayed in the drop-down menu for this filter vary by the type and purpose of the associated field. For example, a field called Responsiveness might have the filter conditions of Responsive, Not Responsive, or Not Sure. Similar to Boolean filters, you only filter on one condition at a time.

In this example, if you select the Non-Responsive condition, then only documents that have been coded with this value will display in the item list.

Notes:
- Fields that contain a large number of items may also cause the List filter to take longer to populate. We recommend you only select the List filter type for Single Choice and Yes/No fields. For fields that may contain a large number of choices, you can designate a Popup filter instead.

- **Fixed Length Text fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to the Textbox filter type and an error will be written to the Error Log when you visit a Document list view containing the field.

- **Single Choice / Single Object fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to None (disabled) and an error will be written to the Error Log when you visit a Document list view containing the field.
2.2.4 Multilist filters

Using MultiList filters, you can select multiple conditions from a drop-down menu and connect them with the OR or AND operator. These filters are frequently associated with fields used for coding documents, and their conditions vary by the type and purpose of the field.

To apply a MultiList filter, click the drop-down arrow to display the conditions list. Select the conditions that you want to filter on, and clear those that you don’t want to filter on. Select the OR to set the filter to return items with one or more of the specified conditions, or select AND to set the filter to return items with all of the specified conditions.

**Note:** Selecting the (Not Set) condition returns fields that don't have a value assigned for the field.

Click **Set** to display only the items that meet the filter conditions.

Clear the (Show All) checkbox to remove all selected conditions.

2.2.5 Popup picker filters

Using the popup picker filter, you can select values for multiple/single choice fields or multiple/single object fields.

To select items in the popup picker, click the **Select** button. Select one or more items in the Available Items list.
Click **Add** to move the items to the Selected Items list.

**Note:** To remove an item from the Selected Items list, select it and click **Remove**. It should now appear in the Available Items list.

Click **Set** to display only the items that meet the filter conditions. The items now appear in the **Value** box in the search form.

### 2.2.6 Textbox filters

You can use textbox filters to search on specific terms, numbers, and dates. You can enter one or more terms in the textbox and connect multiple terms with any of the following operators:

- **AND**
- **OR**
- **BETWEEN**
- **= (equal)**
- `>=` (greater than or equal to)
- `<=` (less than or equal to)

When entering terms and operators in a textbox filter, you must use the proper syntax. See [Textbox filter search examples below](#) for more information.

The textbox filter treats each search term as if it were preceded and followed by a wildcard (*) and returns all versions of the term.

**Note:** Don't add an asterisk (*) to the beginning or ending of a search term. The filter won't return any results if you use this operator.

### 2.3 Textbox filter search examples

You can perform text searches using Boolean operators as well as filter alphabetically or numerically using greater than (`>` or equal to (`=`) and other operators.

#### 2.3.1 Boolean and other search operators

The following table lists examples of valid search strings using Boolean and other operators.

<table>
<thead>
<tr>
<th>Valid search strings</th>
<th>Returns items where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>cubs OR sox</td>
<td>([FIELD VALUE] like &quot;*cubs&quot;) OR ([FIELD VALUE] like &quot;*sox&quot;)</td>
</tr>
<tr>
<td>cubs AND sox</td>
<td>([FIELD VALUE] like &quot;*cubs&quot;) AND ([FIELD VALUE] like &quot;*sox&quot;)</td>
</tr>
<tr>
<td>cubs OR sox AND relativity</td>
<td>([FIELD VALUE] like &quot;*cubs&quot;) OR ([FIELD VALUE] like &quot;*sox&quot;) AND ([FIELD VALUE] like &quot;*relativity&quot;)</td>
</tr>
<tr>
<td>percent sign ( % )</td>
<td>Use this operator to check whether the field is set to a value. It behaves like the &quot;Is like&quot; operator in a query.</td>
</tr>
<tr>
<td>underscore ( _ )</td>
<td>Wildcard for a missing character. Don't use the underscore to check if a field is set to a value; it's slower and more resource-intensive than using the percent sign ( %).</td>
</tr>
<tr>
<td>= with term</td>
<td>Returns an exact phrase.</td>
</tr>
</tbody>
</table>
2.3.2 Alphabetical filtering

The following table lists examples of valid search strings you can use to filter text alphabetically.

<table>
<thead>
<tr>
<th>Alphabetical filtering</th>
<th>Returns items where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= cubs</td>
<td>[FIELD VALUE] &gt;= 'cubs'</td>
</tr>
<tr>
<td>&lt;= cubs</td>
<td>[FIELD VALUE] &lt;= 'cubs'</td>
</tr>
<tr>
<td>= cubs</td>
<td>[FIELD VALUE] = 'cubs'</td>
</tr>
<tr>
<td>= cubs AND sox</td>
<td>[FIELD VALUE] = 'cubs AND sox'</td>
</tr>
<tr>
<td>cubs BETWEEN sox</td>
<td>([FIELD VALUE] &gt;= 'cubs') AND ([FIELD VALUE] &lt;= 'sox')</td>
</tr>
<tr>
<td>relativity and cubs BETWEEN sox</td>
<td>([FIELD VALUE] &gt;= 'relativity and cubs') AND ([FIELD VALUE] &lt;= 'sox')</td>
</tr>
</tbody>
</table>

*If you attempt to use more than one BETWEEN operator in a single filter string (for example, 12/13/2000 BETWEEN 1/0/2008 BETWEEN 5/4/2009), you'll receive an Incorrect Syntax error in the filter box. If you need to search for documents based on multiple BETWEEN operators, you can create a saved search with multiple conditions, each of which uses a date field with a between operator and a date range value. For more information, see the Saved search documentation on our website.

2.3.3 Dates and numbers

The following table lists examples of valid date and number searches, as well as the expected result set.

<table>
<thead>
<tr>
<th>Valid search strings</th>
<th>Returns items where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 7/24/2008</td>
<td>[FIELD VALUE] &gt;= '7/24/2008'</td>
</tr>
</tbody>
</table>
2.4 Filters in the new UI framework

2.4.1 Showing and hiding filters in the item list

You can use filters to quickly narrow your searchable set, allowing you to browse through the key documents in the viewer efficiently.

The following filter buttons display above item lists in Relativity:

- **Show/Hide filters** - Displays the field column filters for an item list at the top of each column. This icon turns orange when filters are activated. Click the icon again to hide the filters if filtering options are displayed. Your filter settings remain unchanged.

- **Clear all** - Removes the current filter settings. This option is only available after you set a filter.

## Valid search strings

<table>
<thead>
<tr>
<th>Search string</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 7/24/2008</td>
<td>[FIELD VALUE] &lt; '7/25/2008'</td>
</tr>
<tr>
<td>&gt;= 100</td>
<td>[FIELD VALUE] &gt;= '100'</td>
</tr>
<tr>
<td>&lt;= 100</td>
<td>[FIELD VALUE] &lt;= '100'</td>
</tr>
<tr>
<td>= 100</td>
<td>[FIELD VALUE] = '100'</td>
</tr>
</tbody>
</table>

The following table includes examples of invalid data and number search strings.

## Invalid search strings

<table>
<thead>
<tr>
<th>Search string</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 7/24/2008</td>
<td>The equal sign must be used with the greater than operator (as in &gt;=).</td>
</tr>
<tr>
<td>&lt; 7/24/2008</td>
<td>The equal sign must be used with the less than operator (as in &lt;=).</td>
</tr>
<tr>
<td>&gt;= 0/24/2008</td>
<td>The search string includes the value 0 for the month.</td>
</tr>
<tr>
<td>= 0/24/2008</td>
<td>The search string includes the value 0 for the month.</td>
</tr>
<tr>
<td>0/24/2008 BETWEEN 8/24/2008</td>
<td>The search string includes the value 0 for the month in the starting date.</td>
</tr>
<tr>
<td>7/24/2008 BETWEEN 0/24/2008</td>
<td>The search string includes the value 0 for the month in the ending date.</td>
</tr>
</tbody>
</table>
The filter type determines the steps required to set the search criteria that it uses. See Filter types on page 21

Note: When you create or edit a field, you can select its Filter Type. See Fields in the Admin guide.

In the following example, the active filters display on the Documents tab.

![Example of filters on Documents tab]

2.4.2 Setting a filter

To activate the filter options at the top of each column in the item list, click the icon. The icon turns orange when filters are activated. Click the icon again to hide the filters.

Note: Before defining a new search filter, click or click Clear Conditions in the search panel to remove any previous settings. For example, say you create a filter on the Privileged field, but now want to search only by the Custodian field. If you don’t clear the filter, Relativity filters your documents by both the Privileged and Custodian fields, and your result set may include fewer documents than you expect.

Select a field or fields that you want to filter (e.g., Custodian). The filter type determines the steps required to set the search criteria that it uses. See Filter types on page 21

Make your selections from the filter drop-down menu or enter text in the filter textbox (if the field is a text field), and then click Enter.

The field column header is highlighted in orange and has a filter icon in the top right corner to let you know that filtering has been applied to that field. This will persist whether or not you have the filters shown or hidden.
The search panel is also updated with the applied filter conditions and displayed as an orange filter card in a List Conditions box.
You cannot edit the filter card by clicking on it. However, you can clear the list condition the same way you can clear any search conditions on the search panel. The item list will update accordingly.

See Filter types below and Textbox filter search examples on page 29 for more information on using specific filters.

2.4.3 Filter types

Relativity includes the following filter types:

- Boolean filters
- Numeric filters
- List filters
- Date filters
- Multilist filters
- Textbox filters

2.4.3.1 Using Boolean filters

Boolean filters are available only on Yes/No field types. To use a Boolean filter, click the drop-down menu arrow and select True, False, or <blank> from the list to apply the filter.

In the following example, selecting True would display only documents that have native files (where the field has a Yes value). If selected, <blank> displays only items that don't have the a True (Yes) or False (No) value assigned to the Boolean field (is not set).
If you click on **Advanced**, the popup for the Boolean filter appears where you can specify multiple filter conditions that are connected with explicit OR operators. Click **Apply** to apply the specified filter conditions to the field.

Click **Add Condition** to add an additional condition to the filter.

### 2.4.3.2 Using numeric filters

The numeric filter type is available for the following field types only:

- Decimal
- Whole Number
- Currency

To use a numeric filter, click the drop-down menu arrow and select an operator (equal to (=), not equal to (!=), greater than (>), less than (<)), and then enter a numerical value in the Filter textbox.

**Note:** Relativity will also correctly read the thousands separator (e.g., 100,000.00) in numeric filters.

After you enter the value in the textbox, hit **Enter** to apply the conditional expression for filtering the list (e.g., filter the list for File Size greater than a certain number).
If you click into the Filter textbox, a drop-down menu will appear. You can select the Advanced option that appears in the drop-down menu to display the popup for the numeric filter. This is where you can specify multiple filter conditions that are connected with explicit OR operators. Click Apply to apply the specified filter conditions to the field.

Click Add Condition to add an additional condition to the filter.

### 2.4.3.3 Using List filters

The List filter type is available for the following field types only:

- Single Choice
- Single Object
- User

**Notes:**

- Fields that contain a large number of items may also cause the List filter to take longer to populate. We recommend you only select the List filter type for Single Choice and Yes/No fields. For fields that may contain a large number of choices, you can designate a Popup filter instead.

- **Fixed Length Text fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to the Textbox filter type and an error will be written to the Error Log when you visit a Document list view containing the field.

- **Single Choice / Single Object fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to None (disabled) and an error will be written to the Error Log when you visit a Document list view containing the field.

List filters are frequently associated with fields used for coding documents. The conditions displayed in the drop-down menu for this filter vary by the type and purpose of the associated field. For example, a field called Responsiveness might have the filter conditions of Responsive, Not Responsive, or Needs Further...
Review. You can select the checkboxes of the options that you want to filter for and clear those that you don't want to filter on, and then click **Apply** to apply the filter to the item list. You can select **All** to select all the listed options or select **(Not Set)** to only show items where the field has not been set (null).

In this example, if you only select the Non-Responsive checkbox, then only documents that have been coded with this value will display in the item list.

**Note:** You can find an specific option in a long list by entering all or part of the name of the option you are looking for in the Filter textbox under the Apply button. The list will filter automatically as you type.

Click the **Advanced** option in the list filter drop-down to launch a pop-up where you can more easily select items in the list and use additional operators such as filtering for items that do NOT contain certain field values. Click **Apply** to apply the specified filter conditions to the field.
2.4.3.4 Using date filters

The date filter type is only available for Date field types. Using the date filter, you can quickly and efficiently filter for items meeting the specific date criteria that you want.

The following operators are available:

- All
- Not Set
- Is
- Is before
- Is before or on
- Is after
- Is after or on
- Between

For example, you only want to view items that were sent before or on 7 AM on January 21, 2015. To set and apply a date filter for this scenario:

1. Select your operator from the drop-down underneath the Apply button (e.g., is before or on).
2. Use the calendar interface to select the date criteria (e.g., January 21, 2015). There are drop-down menus for selecting a specific month and year or you can use the forward / backward arrows to navigate by month.
3. Enter the time below the calendar (e.g., 7:00 AM).

**Note:** When filtering on fields using the Date/Time format, if you don’t enter a specific time, a time of 12:00 AM will be entered explicitly for the filter.
2. Click **Apply** to apply the date filter. Only items that were sent before 7 AM on January 21, 2015 will display in your item list.

**Note:** When you select the Between operator, two calendars will display in the drop-down, allowing you to pick the start and end date / time for the time range.

You can click the **Advanced** option in the date filter drop-down to launch a pop-up that allows you to take advantage of additional operators such as "is in" that let you filter for items where the date is in this week, last week, last month, this month, etc. and create more complex date filter criteria using multiple conditions. Click **Apply** to apply the specified filter conditions to the field.

### 2.4.3.5 Using multilist filters
The multilist filter type is available for the following field types only:
Multiple Choice

Multiple Object

Using multilist filters, you can select multiple conditions from a drop-down menu and connect them with the OR or AND operator. These filters are frequently associated with fields used for coding documents.

To apply a multilist filter, click the drop-down arrow to display the conditions list. Select the conditions that you want to filter on, and clear those that you don’t want to filter on. Select the OR to set the filter to return items with one or more of the specified conditions, or select AND to set the filter to return items with all of the specified conditions. Click Apply to apply the filter conditions.

Select the (Not Set) condition to return fields that don’t have a value assigned for the field. Clear the (All) checkbox to remove all selected conditions.

**Note:** You can find an specific option in a long list by entering all or part of the name of the option you are looking for in the Filter textbox under the Apply button. The list will filter automatically as you type.

Click the Advanced option in the list filter drop-down to launch a pop-up where you can more easily select items in the list and use additional operators such as filtering for items that do NOT contain certain field values. Click Apply to apply the specified filter conditions to the field.
2.4.3.6 Using textbox filters

The textbox filter type is available for the following field types only:

- Fixed-length Text
- Long Text

You can use textbox filters to search on specific terms, numbers, and dates. You can directly enter one or more terms in the filter textbox and connect multiple terms with any of the following operators:

- AND
- OR
- IS SET
- IS NOT SET
- BETWEEN
- = (equal)
- >= (greater than or equal to)
- <= (less than or equal to)

When entering terms and operators directly in a textbox filter, you must use the proper syntax. See Textbox filter search examples on the next page for more information.

**Note:** The textbox filter treats each search term as if it were preceded and followed by a wildcard (*) and returns all versions of the term. Don't add an asterisk (*) to the beginning or ending of a search term. The filter won't return any results if you use this operator.

You can also use the advanced textbox filter feature to build more advanced filter queries on the selected text field. See Using advanced textbox filtering on page 31.
2.4.3.7Textbox filter search examples

You can perform text searches using Boolean operators by directly entering search strings in the filter textbox as follows or you can use the Advanced feature to build more advanced filter queries on the text field (see Using advanced textbox filtering on page 31).

Boolean and other search operators

The following table lists examples of valid search strings using Boolean and other operators.

<table>
<thead>
<tr>
<th>Valid search strings</th>
<th>Returns items where…</th>
</tr>
</thead>
<tbody>
<tr>
<td>cubs OR sox</td>
<td>([FIELD VALUE] like '<em>cubs</em>') OR ([FIELD VALUE] like '<em>sox</em>')</td>
</tr>
<tr>
<td>cubs AND sox</td>
<td>([FIELD VALUE] like '<em>cubs</em>') AND ([FIELD VALUE] like '<em>sox</em>')</td>
</tr>
<tr>
<td>cubs OR sox AND relativity</td>
<td>([FIELD VALUE] like '<em>cubs</em>') OR ([FIELD VALUE] like '<em>sox</em>') AND ([FIELD VALUE] like '<em>relativity</em>')</td>
</tr>
<tr>
<td>percent sign ( % )</td>
<td>Use this operator to check whether the field is set to a value. It behaves like the &quot;Is like&quot; operator in a query.</td>
</tr>
<tr>
<td>underscore ( _ )</td>
<td>Wildcard for a missing character. Don't use the underscore to check if a field is set to a value; it's slower and more resource-intensive than using the percent sign (%).</td>
</tr>
<tr>
<td>= with term</td>
<td>Returns an exact phrase.</td>
</tr>
<tr>
<td>cubs sox</td>
<td>Returns the exact phrase (that is, the word &quot;cubs&quot; followed by a space and the word &quot;sox&quot;).</td>
</tr>
<tr>
<td>IS SET</td>
<td>Returns only items where the field has a value.</td>
</tr>
<tr>
<td>IS NOT SET</td>
<td>Returns only items where the field does not have a value (null).</td>
</tr>
</tbody>
</table>

The following table shows examples of invalid search strings.

<table>
<thead>
<tr>
<th>Invalid search strings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cubs AND</td>
<td>The AND operator requires a right search term.</td>
</tr>
<tr>
<td>cubs OR</td>
<td>The OR operator requires a right search term.</td>
</tr>
<tr>
<td>AND cubs</td>
<td>The AND operator requires a left search term.</td>
</tr>
<tr>
<td>OR cubs</td>
<td>The OR operator requires a left search term.</td>
</tr>
</tbody>
</table>

Alphabetical filtering

The following table lists examples of valid search strings you can use to filter text alphabetically.

<table>
<thead>
<tr>
<th>Alphabetical filtering</th>
<th>Returns items where…</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= cubs</td>
<td>[FIELD VALUE] &gt;= 'cubs'</td>
</tr>
<tr>
<td>&lt;= cubs</td>
<td>[FIELD VALUE] &lt;= 'cubs'</td>
</tr>
</tbody>
</table>
### Alphabetical filtering

<table>
<thead>
<tr>
<th>Returns items where...</th>
<th>Alphabetical filtering</th>
</tr>
</thead>
<tbody>
<tr>
<td>= cubs</td>
<td>[FIELD VALUE] = 'cubs'</td>
</tr>
<tr>
<td>= cubs AND sox</td>
<td>[FIELD VALUE] = 'cubs AND sox'</td>
</tr>
<tr>
<td>cubs BETWEEN sox *</td>
<td>([FIELD VALUE] &gt;= 'cubs') AND ([FIELD VALUE] &lt;= 'sox')</td>
</tr>
<tr>
<td>relativity and cubs BETWEEN sox</td>
<td>([FIELD VALUE] &gt;= 'relativity and cubs') AND ([FIELD VALUE] &lt;= 'sox')</td>
</tr>
</tbody>
</table>

### Dates and numbers

The following table lists examples of valid date and number searches, as well as the expected result set.

<table>
<thead>
<tr>
<th>Valid search strings</th>
<th>Returns items where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 7/24/2008</td>
<td>[FIELD VALUE] &gt;= '7/24/2008'</td>
</tr>
<tr>
<td>&lt;= 7/24/2008</td>
<td>[FIELD VALUE] &lt;= '7/24/2008'</td>
</tr>
</tbody>
</table>
### Valid search strings

|-------------------------------|---------------------------------------------------------------|

| >= 100 | [FIELD VALUE] >= '100' |
| <= 100 | [FIELD VALUE] <= '100' |
| = 100  | [FIELD VALUE] = '100' |

The following table includes examples of invalid data and number search strings.

<table>
<thead>
<tr>
<th>Invalid search strings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 7/24/2008</td>
<td>The equal sign must be used with the greater than operator (as in =&gt;).</td>
</tr>
<tr>
<td>&lt; 7/24/2008</td>
<td>The equal sign must be used with the less than operator (as in &lt;=).</td>
</tr>
<tr>
<td>&gt;= 0/24/2008</td>
<td>The search string includes the value 0 for the month.</td>
</tr>
<tr>
<td>= 0/24/2008</td>
<td>The search string includes the value 0 for the month.</td>
</tr>
<tr>
<td>0/24/2008 BETWEEN 8/24/2008</td>
<td>The search string includes the value 0 for the month in the starting date.</td>
</tr>
<tr>
<td>7/24/2008 BETWEEN 0/24/2008</td>
<td>The search string includes the value 0 for the month in the ending date.</td>
</tr>
</tbody>
</table>

### 2.4.3.8 Using advanced textbox filtering

You can use the following operators with advanced filtering:

- Is
- Is not
- Is set
- Is not set
- Is less than
- Is greater than
- Is like
- Is not like
To use advanced textbox filtering:

1. Click inside the **Filter** textbox for the text field in the column header.
   A drop-down displays the **Advanced** option.
2. Click the **Advanced** option to launch the Filter popup screen.
3. Choose an operator (e.g., is greater than). See Fixed-length, long, or extracted text operators in the Searching guide for a list of definitions of the available operators.

4. Enter the desired value (e.g., 100). The filter will only return items where the value of the field is greater than 100).
5. (Optional) Click **Add condition** to add a new filter condition (e.g., you may want to also return items where the text field contains the word privilege).

   **Note:** Multiple conditions are automatically connected with an OR operator.

6. Click **Apply** to apply the filter condition.

### 2.4.4 Changing item sets per page

You can use the set selector menu to change the number of items that appear per page. The set selector menu appears at the bottom of the screen. The option you select remains the default setting during your session until you select another option.
2.4.5 Saving filters as a search

To save your filtered item set as a saved search:

1. Click next to the mass operations drop-down at the bottom of the item list to open the Saved Search window.

2. Select or enter the following required information:
   - **Name** - Enter a title for the search. The title appears in the saved searches browser.
   - **Owner** - Select **Public** to make the search available to all users or choose a specific user from the list. Click **Me** to select your name from the list, making the search private. (Users must have the appropriate privileges to view searches.) See Controlling the visibility of saved searches in the Searching guide.

   - **Search Folder** - Click the **Ellipsis** button to launch a pop-up window where you can save the new search to a specific folder on the saved searches browser. Highlight the folder where you want to save the search, and then click **OK** to select it.

3. Add to or modify the search criteria as needed. See Creating or editing a saved search in the new UI framework in the Searching guide.

4. Click **Save**.
3 Keyword search

Keyword search (or SQL index search) is Relativity's default search engine. You can use a keyword search to query a full text index. The long text and fixed-length text fields included in this index vary by workspace.

You can use Boolean operators (AND, OR, NOT) in keyword searches, as well as quotation marks for exact matches, asterisks (*) for wildcards, and other features. However, if you perform a keyword search with multiple terms, documents where those terms exist in separate fields won’t return.

Note: If you want to draft queries outside of Relativity, use a plain text editor such as Microsoft Notepad to prevent adding characters or formatting that might return unexpected search results.

While the keyword search offers fewer options than other Relativity searches, it uses an index that’s automatically populated, reducing maintenance and ensuring all required document fields are indexed.

Note: For information on configuring and managing word breakers, go [here](#).

3.1 Fields

A keyword search index is available in the Search Indexes tab by default. Click the Keyword Search link.

The keyword search index details page contains the following fields:

- **Name** is the name of the keyword search index. The name is used as the display name for the index in the documents tab search with drop-down menu.

- **Order** is a number that represents the position of the index in the list. The lowest-numbered index will be at the top. The highest-numbered index is at the bottom. Items that share the same value are sorted in alphanumeric order. Index order can be any integer (positive or negative). No decimals are allowed.

- **Active** allows you to determine whether the index should be activated or deactivated. **Yes** means that the index will be activated; **No** means that the index will be deactivated.

3.2 Example keyword search strings

The following table lists search string examples with their expected results.
### Search string | Returns documents with...
--- | ---
wired | the word wired
wired magazine | the words wired and magazine
wired AND magazine | the words wired and magazine
wired OR magazine | the word wired or the word magazine
wired, magazine | the word wired or the word magazine
"wired magazine" | the exact phrase wired magazine
wired NOT magazine | the word wired and not the word magazine

**Note:** Do not start key word searches with the NOT operator, or use it with the OR operator. For example, these searches are invalid:
- not wired
- wired or not magazine
See NOT Operator Evaluation in Keyword searches.

wire* | any words beginning with wire, such as wired, wires, wireless

**Note:** Key word searches do not support the use of wildcards at the beginning of a word. (Keyword searches are SQL index searches run on the Microsoft SQL Server, which does not support leading wildcards in full text searches.)

computer AND (wired OR magazine) | the word computer and the word wired OR the word computer and the word magazine

**Note:** When a search string does not include parentheses, the order of precedence for a keyword search evaluates AND then OR expressions. For example, the search string A AND B OR C is evaluated as (A AND B) OR C.

---

### 3.3 Using the NOT operator in keyword searches

When running a keyword search that is an SQL full text search, carefully format queries that use the NOT operator. For example, you may want to query for email messages that have Ryan as the author, but do not have Will as the recipient. The fields in the following record are included in the index used to demonstrate how this query is run:

<table>
<thead>
<tr>
<th>Document</th>
<th>OCR</th>
<th>Recipient</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS00001</td>
<td>From: Ryan</td>
<td>To: Will</td>
<td>Will</td>
</tr>
</tbody>
</table>

A keyword search using the string *Ryan NOT Will* returns the document AS00001 even though you would not expect it in the result set. The following table illustrates the SQL logic used to evaluate the query Ryan NOT Will.

<table>
<thead>
<tr>
<th>SQL queries this field...</th>
<th>Returns these results...</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCR Field</td>
<td>Finds both Ryan and Will, so no document is returned.</td>
</tr>
<tr>
<td>Recipient Field</td>
<td>Does not find Ryan, so no document is returned.</td>
</tr>
<tr>
<td>Author Field</td>
<td>Finds Ryan but not Will, so the document AS00001 is returned.</td>
</tr>
</tbody>
</table>
When these fields are searched using the SQL logic, the Author field matches the query Ryan NOT Will, and unexpectedly returns the document.

**Note:** You can use the AND NOT operator in a dtSearch as an alternative approach to this type of keyword search. See [dtSearch on page 50](#).

### 3.4 Understanding stop words

When you run a keyword search, stop words are ignored because they do not act as meaningful criteria in a query. They include characters (such as punctuation marks and single letters), numbers, and words (such as at, a, on and the).

While keyword searches ignore stop words, their position in a phrase is taken into account when the query is executed. Records that contain phrases with same number of intervening stop words will be returned even when the stop words differ from those in the original phrase.

For example, the same set of documents is returned when you run the queries for the phrase *sun on my head, or sun my on head*. The result set will include documents that contain the words *sun* and *head* separated by two intervening stop words. A query for the phrase *sun on head* will return only those documents with one intervening stop word. The following table illustrates how the stop words in these phrases are handled.

<table>
<thead>
<tr>
<th>Searching string</th>
<th>Queries for the phrase...</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun on my head</td>
<td>&quot;sun [stop word] [stop word] head&quot;</td>
</tr>
<tr>
<td>sun my on head</td>
<td>&quot;sun [stop word] [stop word] head&quot;</td>
</tr>
<tr>
<td>sun on head</td>
<td>&quot;sun [stop word] head&quot;</td>
</tr>
</tbody>
</table>

However, if you replace a stop word with a meaningful word (such as *sun [stop word] tree head*), no documents will be returned since they do not contain this phrase. When a stop word is used in a keyword search it can be replaced by any word in the results. Searching *sun on my head* would return a document that has the phrase *sun on street head* where street is not a stop word.

#### 3.4.1 Single letters as stop words

Single uppercase and lowercase letters are default stop words, so you cannot query on them with a keyword search. Each single letter [A-Z and a-z] is considered a stop word.

However, you can query on a capital letter followed by a period, which the SQL search engine assumes is an abbreviation. For keyword searches, this functionality is available only on queries in the English language. It does not apply to lowercase letters followed by a period, which are still considered stop words.

#### 3.4.2 Numbers as stop words

Single digits 0-9 are default stop words, so you cannot query on them with a keyword search. You will not return the expected results if you attempt to query on a single digit. Use the dtSearch feature to query on a specific number or letter.

However, you can use a keyword search to query on whole numbers greater than 9. You can search on more than one digit, such as *09*. While these digits may be used to represent a specific numeric value (such as 9), they are not considered single digits and can be used in a keyword search.
3.4.3 Punctuation as stop words

Certain punctuation marks are treated as stop words by default, so you cannot query on them with a keyword search. They include:

- Period (.)
- Dash (–)
- Colon (:)
- Semicolon (;)
- Slash (/, \)

3.4.4 At sign (@)

The at sign (@) is ignored in a keyword search, when it is used at the beginning of a query. For example, if you search a domain name, the same number of documents will be returned whether you include or exclude @.

3.4.5 Hyphens and dashes

When a search phrase includes a hyphen or dash, the query will return results that include terms containing other punctuation marks. For example, the following results will be returned for a search on the term *Pop-up*:

- Popup
- Pop.up
- Pop--up

3.4.6 Default stop word list

Relativity comes with the following default stop words:

<table>
<thead>
<tr>
<th>Begins with</th>
<th>Stop words</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>about, after, all, also, another, any, are, as, at</td>
</tr>
<tr>
<td>B</td>
<td>be, because, been, before, being, between, but, both, by</td>
</tr>
<tr>
<td>C</td>
<td>came, can, come, could</td>
</tr>
<tr>
<td>D</td>
<td>did, do, does</td>
</tr>
<tr>
<td>E</td>
<td>each, else</td>
</tr>
<tr>
<td>F</td>
<td>for, from</td>
</tr>
<tr>
<td>G</td>
<td>get, got</td>
</tr>
<tr>
<td>H</td>
<td>has, had, he, have, her, here, him, himself, his, how</td>
</tr>
<tr>
<td>I</td>
<td>if, in, into, is, it, its</td>
</tr>
<tr>
<td>J</td>
<td>just</td>
</tr>
<tr>
<td>L</td>
<td>like</td>
</tr>
<tr>
<td>M</td>
<td>make, many, me, might, more, most, much, must, my</td>
</tr>
<tr>
<td>N</td>
<td>never, no, now</td>
</tr>
</tbody>
</table>
### 3.5 Running a keyword search

1. On the Documents tab, click the **Search With** drop-down menu, and select **Keyword Search** from the list.

2. Enter terms for the search in the **Search Terms** box. You can click **Clear** to remove search terms from the box.

3. To display fields for search conditions, click **** located next to the **Search With** drop-down menu. See **Search conditions on page 45**.

4. Click **Search**. To stop a long running search, click **Cancel Request**.

### 3.6 Running a keyword search in the new UI framework

You must enable the new UI framework from the user drop-down before you run a keyword search.

#### 3.6.1 Running a keyword search in the search panel

1. Navigate to the Search panel in the Documents Tab.
2. Click **Add Condition**.
3. Select **(Index Search)** in the Add Condition drop-down. The (Index Search) window opens.
4. Select **Keyword Search** from the Index drop-down.
5. Enter terms for the search in the **Search Terms** box.

6. Optionally, select the **Sort By Rank** option to return results in order by relevance. The most relevant documents are listed at the top of the result set.

7. Click **Apply**.

8. (Optional) Add any additional conditions through the Add Condition drop-down.

9. Click **Run Search**. To stop a long running search, click **Cancel**.

### 3.6.2 Running a keyword search in the Search browser

1. Click **🔍** to access the search browser from the document list.

2. Click **New Search**.

3. Set required fields.

4. Click **Add Condition**.

5. Select **(Index Search)** in the Add Condition drop-down. The (Index Search) window opens.

6. Select **Keyword Search** from the Index drop-down.

7. Enter terms for the search in the **Search Terms** box.

8. Optionally, select the **Sort By Rank** option to return results in order by relevance. The most relevant documents are listed at the top of the result set.

9. Click **Apply**.

10. (Optional) Add any additional conditions through the Add Condition drop-down.

11. Click **Save** or **Save As**.

12. Click the name of the keyword search in the search browser.

13. Click **Run Search**. To stop a long running search, click **Cancel**.
4 Search panel

The search panel is available for the Document list and for many other tabs in Relativity. Using the search panel, you can build complex searches using drag-and-drop to rearrange and visualize nested conditions. You can easily set conditions and drag and drop them into logic groups. The logic display at the top of the panel updates automatically to reflect your drag-and-drop changes. You can access your dtSearch and keyword search indexes and fields in the workspace when creating your search.

Search panel functionality is controlled by security permissions. To access search indexes (Keyword search, dtSearch, Analytics, and Data Grid), from the Add Conditions drop-down, you must have View Search Index permissions. To view and select fields from the Add Conditions drop-down, you must have Edit Search permissions. If neither permission is present, the search panel buttons will not appear. See Workspace security for more information on setting security permissions.

Note: You must enable the new UI framework from the user drop-down before you create searches with the search panel.

4.1 Expanding and collapsing the search panel

You can expand the search panel from the item list by clicking the icon to the left of the Views drop-down.

To collapse the search panel, click in the upper right corner of the search panel.

4.2 Using the auto-run search setting

In Relativity 9.3, a setting at the bottom of the searching panel allows you to automatically update your data when you select new conditions. With Auto-run search set to On, each condition that you select from
the searching panel will cause the page to auto-refresh and display updated data based on the new condition. You can leave Auto-run Search set to Off if you prefer to manually apply any new conditions as you add them to your search.

4.3 Creating a search in the search panel

To create a search using the search panel:

1. Expand the search panel from the item list by clicking the icon in the upper left corner of your screen.
2. Click Add Condition in the search panel.
3. Enter or select the field to which you want to apply the condition from the drop-down.
4. Depending on the field, you will be prompted to specify the conditions to add.

**Note:** For single object and multiple object fields, the name of the object(s) act(s) as hyperlinks in the filter condition card. You can quickly navigate to the named object instance by clicking on it. For example, if you have a search condition that names the "BB test cluster batch family" batch set, you can navigate directly to that batch set from the filter condition card.
5. (Optional) Add additional conditions.
6. (Optional) Apply logic groups to your conditions. See Applying logic groups.
7. Click Run Search if auto-run search is toggled off). To cancel a long running search, click Cancel.

**Note:** To remove all conditions from the search panel click Clear All Conditions.

### 4.4 Applying logic groups to search conditions

Logic groups act as visual parentheses for your search query. The criteria within logic groups are evaluated first before evaluating against other search conditions or logic groups. When creating logic groups, the logic display at the top of the search panel updates automatically to reflect your drag-and-drop changes. To apply logic groups to search conditions:

1. Click Add Logic Group. A green frame appears.
2. Click the handle on the left of the filter condition card you want to add to a logic group.
3. Drag the condition into the logic group frame.
4. Add other conditions to the logic group as needed.

**Note:** You can also create a logic group automatically by dragging one condition onto another.

5. Click the AND or OR drop-down menus to set your operators inside your logic group.
6. (Optional) Add additional logic groups and repeat steps 3-5 for the logic groups you add.
7. Click **Run Search** if auto-run search is toggled off). To cancel a long running search, click **Cancel**.

**Note:** To remove all conditions from the search panel click **Clear All Conditions**.
4.5 Customizing the search panel

Within the search panel you can expand and collapse your search conditions, in addition to toggling the conditions on and off. By using these options you can better visualize data and make quick, on-the-fly changes.

Toggling conditions on and off
You can toggle conditions within the search panel to change the documents the search returns. To toggle conditions on and off click the checkbox in the lower-right corner of the condition box. If the box is checked the condition is on; if the box is unchecked the condition is off.

Click Run Search to update the toggled conditions (if auto-run search is toggled off).

Note: To collapse and expand filter condition cards in the panel click the arrow next to the name of the field applied in the condition.

Removing conditions
To remove a condition, click X in the upper right corner of the condition box.

Click Run Search to update the toggled conditions (if auto-run search is toggled off).
5 Search conditions

You can use the search conditions option to build complex queries by selecting fields, operators, and values. While this feature has the same functionality as the search condition section of the saved search form, it's conveniently available from the Documents tab and Relativity Dynamic Object tabs. This option displays up to five rows, with each row representing a separate criterion. Depending on the type of field you select, different operators appear. You can use this option alone or in conjunction with keyword searches, dtSearches, Analytics, or Cluster visualization. When you use search options in conjunction with another search feature, documents must both meet the search criteria and also the conditions specified.

Note: To use the search conditions option, you must have add or edit permissions for Search and access to the Saved Searches Browser assigned to you through the Security page. See Workspace security in the Admin Guide.

5.1 Setting up search conditions

1. Navigate to the Documents tab or to a Dynamic Object tab.

2. Click to display fields for a search condition. The search conditions icon's appearance changes when conditions are active.

3. Set the following options to define a search condition:
   - **Left or Opening Parentheses** - Use the first box in the row to select a single, double, or triple parentheses for grouping criteria or controlling precedence in the query.
     
     Note: To enable this menu, you must first select a value for Field.

   - **Field** - Select a field available in your workspace.

   - **Operator** - Select a search operator. The field type determines the available operators. See Operators on page 126 Operators in the Searching guide.

   - **Value** - Enter or select a value. The field type determines the available values.
Note: With date-based fields, you can enter @today as the value instead of choosing a date if “is before” or “is after or on” operator is selected.

- **Right or Closing Parentheses** - Use the last box in the row to select a single, double, or triple parentheses to group criteria.
- **AND or OR Operators** - Use these operators to connect the criterion in each row. To remove your current selections for a condition, click the Clear link for the row.

4. (Optional) Click **Add another condition** to display another search condition row. Repeat Step 3 to set the options in the new row. You can set a total of five conditions with the search conditions option. If your query requires more than five conditions, create a saved search. See **Creating or editing a saved search on page 118** Creating a saved search in the Searching guide.

5. Click **Search**.

6. (Optional) Perform any of the following tasks to work with your search:
   - **Hide Search Conditions** - Click 🗑. A message appears above the item list indicating that the search conditions are active.
   - **Save Search Settings** - Click 🗑️. See **Saving searches on the Documents tab on page 131**. See the Searching guide.
   - **Remove Search Settings** - Click the Clear button to remove the current conditions and any search type settings.

### 5.2 Setting up search conditions in the new UI framework

You must enable the new UI framework from the user drop-down.

#### 5.2.1 Setting up search conditions in the Search panel

1. Navigate to the Search Builder.
2. Click **Add Condition** and select the fields to which you want to apply conditions. A pop-up window opens for each condition field you select.
3. Set the required conditions in the relevant field pop-up window.
4. Click **Apply**.
5. (Optional)Click **Add Logic Group** to add a logic group. Logic groups are evaluated first and then connected to other filter conditions or logic groups using AND / OR operators.
6. (Optional) Drag and drop conditions together to create logic groups.
7. (Optional) Add the AND or OR operators to connect the criterion.
8. Click **Apply**.

If you need to edit the condition, click on the condition card. The pop-up reopens so you can make changes.
5.2.2 Setting up search conditions in the Search browser

1. Click 🔍 to navigate to the Search Browser.
2. Click New Search.
3. Click Add Condition and select the fields to which you want to apply conditions. A pop-up window opens for each condition field you select.
4. Set the required conditions in the relevant field pop-up window.
5. Click Apply.
6. (Optional) Click Add Logic Group to add a logic group and drag and drop your conditions into the frames. Logic groups are evaluated first and then connected to other filter conditions or logic groups using AND / OR operators.
7. (Optional) Add the AND or OR operators to connect the criterion.
8. Enter all required fields.
9. Click Save or Save As.

If you need to edit the condition, click on the condition card. The pop-up reopens so you can make changes.

5.2.3 Using the multiple object condition builder

The new UI framework enables you to set conditions for multiple object fields from a single pop-up window. The following example uses Batch as a multiple object field condition.

To use the multi-object condition builder, follow these steps:
1. Click Add Condition from the Search browser or Search panel.
2. Enter or select Batch. The Condition: Batch window opens.
3. Select the desired operator from the Operator drop-down. For example, these conditions.
4. Click Add Condition.
5. Select the condition from the Add Condition drop-down. For example, Batch:: Batch Set.
6. Click the available fields from the Available column and move them to the Selected column as desired.
7. Click Apply.
8. (Optional) Click Add Logic Group to add a logic group. Logic groups are evaluated first and then connected to other filter conditions or logic groups using AND / OR operators.
9. (Optional) Drag and drop conditions into logic groups as desired.
10. Click Apply on the Condition: Batch window. Relativity applies your search conditions.
5.2.4 Canceled queries

You can cancel a long-running search or view by clicking the **Cancel** button in the New UI Framework or **Cancel Request** link in the Legacy UI. This link appears when you perform a keyword search, dtSearch, Analytics search, or use Pivot, as well as when you filter or sort a document or Dynamic Object list. It also appears when you perform other actions on item lists containing documents or Dynamic Objects that initiate a query in the background.

When you click **Cancel Request**, Relativity stops the background query used to populate documents in an item list. If you edit a search and click this link, your changes save, but the item list doesn't load. For example, your changes save when you perform a mass edit on a list of documents in a search and then click **Cancel Request** when the query is running to redisplay the updated list.

**Note:** Relativity creates an audit record in the History tab for canceled queries. The query description displays the running time of the query and indicates that it was canceled. You must have the appropriate permissions to view this tab.

The following table explains different scenarios in which you might cancel a running query and whether the query actually cancels.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>You start a query and click <strong>Cancel Request</strong> or <strong>Cancel</strong>.</td>
<td>The query is canceled.</td>
</tr>
<tr>
<td>You start a query and close the browser.</td>
<td>The query is canceled.</td>
</tr>
<tr>
<td>You start a query and an administrator resets the IIS on the server.</td>
<td>The query is not canceled.</td>
</tr>
<tr>
<td>You start a query and leave your browser idle for longer than the session timeout specified in Relativity web.config, regardless of whether you clicked <strong>OK</strong> or <strong>Cancel</strong> on the message from the webpage pop-up.</td>
<td>The query is not canceled.</td>
</tr>
<tr>
<td>You start a query and click <strong>Cancel</strong> on the message from the webpage pop-up within the session timeout specified in Relativity web.config.</td>
<td>The query is canceled.</td>
</tr>
<tr>
<td>You start a query and click <strong>OK</strong> on the message from webpage pop-up within the session timeout specified in Relativity web.config.</td>
<td>The query continues to run. Relativity returns you back to the waiting screen (see the first row of this table).</td>
</tr>
<tr>
<td>You start a query and paste a different URL into your browser, or you refresh the page.</td>
<td>The query is canceled.</td>
</tr>
</tbody>
</table>

5.3 Frequently asked searching questions

This section includes frequently asked questions from Relativity users.

5.3.1 Multiple Terms

**Why would I receive an error message saying my query is too complex?**
Relativity can’t return precise results when a query includes search conditions that are too complex due to the use of multiple search terms. To avoid this error message, simplify your search criteria. For example, search for 10 instead of 50 terms in your query. You can save and tag your search results from each simpler query. This approach allows you to search on the required terms, while providing better results.

5.3.2 Proximity Searches

Why are terms in my proximity search highlighted even when they don’t match my defined W/N criteria?

Relativity highlights terms that meet the requirements of your proximity search as well as the individual search terms. This behavior doesn’t affect the results of your proximity search, which returns the appropriate documents. For example, the results of a proximity search for instances of law within three words of order (that is "law W/3 order") includes highlighted terms of "law" and "order" when they aren’t within three words of each other. To accommodate this behavior, focus only on the results that match the proximity search criteria, and disregard the other highlighted terms.

5.3.3 Using ampersands

Can I use an ampersand (&) in my search queries?

Overall, searching with the & character is unpredictable and gives inconsistent search results. Although the & character is in the search index as a space character it’s also reserved as an operator in dtSearch and can skew expected search results. In order to get the most accurate results when searching with the & character use proximity searching instead. Searching with the & character as a dtSearch operator returns search results as expected.

5.3.4 Multiple Conditions

Why do my searches run slowly when I use multiple conditions?

When you add multiple search conditions to a query, Relativity searches on these conditions relative to each other, which slows down the return of your results. For example, you experience slow performance when running a query on all email messages received "after June 1" and "before June 30" of the same year. You can improve performance by using as few conditions as possible, such as excluding the condition "before June 30". Run the query with only the condition "after June 1", and then sort or filter your results to display messages received between the desired dates.

5.3.5 Nesting Searches

Can I nest multiple searches in a saved search?

For performance reasons, we don’t recommend nesting multiple searches in a saved search. You can select a search as a condition, but using multiple searches as conditions slows down the return of your results. See Using saved searches as conditions (combined searches) on page 130. See the Searching guide for more information.
6 dtSearch

Relativity's dtSearch engine provides advanced search functionality such as proximity, stemming, and fuzzy searches across any field type. It also supports the use of Boolean operators and custom noise word lists as well as the basic searching features available in keyword searches. After building your dtSearch index, the Dictionary search option is also available.

Using dtSearch indexes

There are roughly three million files relevant to a case you're working on, including emails, email attachments, invoices, and technical manuals related to construction practices and material handling. It's early in the case, and you need to gain an understanding of the data set. You also need to retrieve certain text related to five substances that you know are prevalent in this data, as an employee from the construction company mentioned these specifically in an email to you. To do this, you need to be able to perform proximity, stemming, and fuzzyproximity, stemming, and fuzzy searches on your data set. So you create a new dtSearch index.

You call the index "Hazardous Materials dtSearch" so that you can easily identify it in the Search drop-down on the Documents list. You might also create an Analytics index for this case with a similar name, so make sure to differentiate them clearly. For the Searchable set field, you select a saved search that you've already created called Hazardous Materials searchable set, which contains documents to which you've already applied keywords related to the substances mentioned in your client's email.

Because many of the invoices and emails in your data set contain references to various purchases of building materials made by various departments in the construction company you're helping to represent, you set the Auto-recognize date, email and credit card numbers field to Yes.
You leave all other fields at their default settings and save the index. You then build and activate the index so that you can select it in the Search drop-down.

When you select the index and search your document set against it, you run a number of proximity searches to see how close terms relating to hazardous substances occur to the names of the building materials that may or may not contain them. The searches you run include the following:

- lead W/10 paint
- lead W/10 plumbing pipes
- lead W/10 connectors
- lead W/10 solder
- asbestos W/10 insulation and
- asbestos W/10 pipe coverings
- asphalt W/10 sealant
- asphalt W/10 adhesives
- radioactive W/10 fluorescent lamps
- radioactive W/10 smoke detectors

As you keep running these proximity searches, you get down to a small group of intriguing emails between a prospective buyer (your client) and a prospective seller, which may prove that
6.1 Creating a dtSearch index

You can build custom dtSearch indexes for a subset of documents or for certain document fields in a workspace. You must have the appropriate permissions to complete this task. See Workspace security in the Admin Guide.

Before you begin, you need to create a saved search that includes the fields that you want to include in the index. You can then name the index based on the document search set used to create it.

**Note:** Within a field, dtSearch truncates any string longer than 32 characters that doesn't contain a space character. It indexes only the first 32 characters of the string. See Using dtSearch syntax options on page 68.

To create a new dtSearch index:

1. Navigate to the Search Indexes tab and click New dtSearch Index. The dtSearch index form appears with required fields in orange.
2. Complete the fields on the dtSearch index form. See Fields on the next page.
3. Click Save to display the index details page. The index details page now displays three additional read-only fields and the dtSearch index console. See Fields on the next page and dtSearch console on page 54.
4. Click Build Index: Full. A dialog window asks you to verify that you want to run a full build. You can also select Activate this index upon completion. Indexes must be active in order to search them.

**Note:** Click OK to build your index. If a dtSearch manager or worker agent encounters a network-related error during the build process, it will execute up to three retry attempts at 30 second intervals.

5. If you didn't select Activate this index upon completion in the dialog window, click Activate Index on the console. The index won't activate if there are errors. Activating an index makes it available in the Search menu.

6. (Optional) Click Refresh Page at any point in the build to see the index's current build status. If errors occur during the build, the Retry Errors button enables on the console under the Errors and Status heading. Click this button to attempt to resolve any errors.

Once the index is built, the console enables additional options. See dtSearch console on page 54.

6.1.1 Accent-insensitive indexes

Because Relativity uses only accent-insensitive indexes, some characters are translated to the base character, which causes those characters and any terms containing those characters to be deduplicated in a Search Terms Report.
**Note:** dtSearch uses .ABC files, but only for characters in the range from 33 to 127. All other characters are handled according to the definitions in the Unicode character tables.

**Example:** accented characters like á or ñ are converted to the unaccented versions, a or n.

**Example:** If you searching for the term fröhlich, searching that term as fröhlich or frohlich would both return the hit. However, highlighting in the Viewer may not display both variations.

### 6.2 Fields

The dtSearch index page includes the following fields:

- **Name** - the dtSearch index name. This name appears within the "search with" menu in the Documents tab.

- **Order** - the integer value (positive or negative) representing the position of the index in the search indexes list. Indexes sort from lowest (top) to highest (bottom) order number. Those with the same order number sort alphanumerically.

- **Searchable set** - the set of documents to be indexed. You can select all documents in the workspace or choose from any saved search in the workspace. If you select:
  - `<all documents in workspace>` - Relativity indexes the fields with **Include in Text Index** set to yes.
A saved search - Relativity indexes the documents returned by the search as well as the returned documents' fields. It may use a dtSearch or Relativity Analytics index. Make sure the index is active.

**Note:** When creating a dtSearch index, it's best practice to only index the fields you want to search. Move all other fields to the Fields (Required) left column. Typically, you only index the extracted text field if you're searching the body of emails.

- **Index share** - populated by default by a system admin.
- **Auto recognize date, email, and credit card numbers** - a yes/no field. See [Auto-recognition on page 69](#) for details.
- **Send Email Notification upon Completion or Failure to** - allows you to send email notifications when your index population fails or completes. Enter the email address(es) of the recipient(s). Separate multiple entries with a semicolon.
- **Sub-index size** - determines the size of each sub-index created when you generate a dtSearch index. The minimum value is 1000.

**Note:** To set a new default for this field, an administrator can edit the dtSearchDefaultSubIndexSize instance setting. See the Instance setting guide.

- **Sub-index fragmentation threshold** - determines the fragmentation level at which the system automatically compresses a dtSearch sub-index during an incremental build. An incremental build automatically compresses any sub-index equal to or greater than the fragmentation threshold. The Sub-index fragmentation threshold value must be equal to or greater than one.

**Note:** The dtSearchDefaultSubIndexFragmentationThreshold instance setting value determines the default Sub-index fragmentation threshold. It is set to 9 by default.

- **Noise Words** - allows you to edit the list of words that are ignored during indexing.
- **Alphabet** - allows you to edit the index’s alphabet file. See [Making a character searchable on page 78.](#)

Index status fields:

- **Active** - indicates whether the index is active (Yes) or inactive (No).

**Note:** File type fields, linked fields, and HTML enabled fields may have text associated with them that is not visible in your document views. This includes the system FileIcon field, which is populated with the original file name upon import. See the System Fields section in the Admin guide.

### 6.3 dtSearch console

The dtSearch index console includes the following options:
- **Build Index: Full** - creates a full build of the index. During the build, the button toggles to **Cancel Build**.

  **Note**: Canceling the build aborts the indexing thread, leaving the index in an unstable state. Relativity deletes these indexes from the population table and gives them an inactive status. You can't search against an index with an inactive status until you run a full build. Canceling also deletes the index files in the index share.

- **Build Index: Incremental** - allows you to update an index after adding or removing documents. During an incremental build the existing index remains available for searching, but changes to the index are not reflected in search results until the incremental build is complete. Canceling an incremental build returns the index to its previous state.

  **Note**: The incremental build process copies each sub-index that requires modification, updates the copy, then replaces existing sub-indexes with the updated copies. Duplicate sub-indexes are removed when the Case manager agent runs. The system automatically compresses a sub-index during an incremental build only if the sub-index fragmentation level is equal to or above the Sub-index fragmentation threshold value. The incremental build process doesn't update the index for documents currently in the index with modified text.

- **Compress Index** - compresses the dtSearch index returning all sub-indexes with a fragmentation level greater than zero to a fragmentation level of zero. You can search against the original (uncompressed) dtSearch index while compression is in progress. Once compression is complete, the system automatically replaces the old sub-indexes with the defragmented sub-indexes. Duplicate sub-indexes are removed when the Case manager agent runs.
**Note:** The Compress Index button only runs compression against sub-indexes that have a fragmentation level greater than zero. Canceling compression returns the index to its original fragmented state before compression began.

- **Deactivate Index** - deactivates the index and removes it from the "search with" menu in the Documents tab (but not from the database).

- **Swap Index** - allows you swap your index with a replacement index in order to use its resources while your index builds or is inactive or disabled for any reason. This enables you to keep searching while your primary index experiences downtime. You can only select indexes in the Replacement Index with an Active status. This index you swap to doesn’t automatically run an incremental update. Selecting the index from the drop-down and clicking OK completes the index swap. You can’t reverse the swap results in the current dialog box. You must close this swap and run again to swap back or swap another time. This functionality is useful in very limited cases for example, if you are doing a full rebuild on a very large index. Since dtSearch incremental builds are online, someone can search documents already indexed.

**Note:** The Swap Index function updates anything in the Views table, which affects batches, saved searches, nested searches, etc.

- **Retry Errors** - enables only if errors occur, this button allows you to resolve errors.

- **Show Document Errors** - enables only if document errors occur. This button creates an exportable list of document-level errors.

- **Show Detailed Status** - shows you statistical data for the index, including:
  - Doc Count - the total number of documents in the index
  - Index Size - the size of the index in bytes
  - Created Date - the date you created the index
  - Updated Date - the date you updated the index
  - Last Build Duration - how long the last build took to complete in hours, minutes, and seconds

- **Refresh Page** - allows you to see the index's current build status.

### 6.4 dtSearch index page

After you create and build a dtSearch index, the dtSearch page contains several sections where you can view details about your index.

#### 6.4.1 Index Status

The Index Status section of the layout is where you can view what state your dtSearch index is in. The name of the Index Status section is populated with the name of your dtSearch index. When you're building an index, this section changes to a progress bar where you can track your index's progress in real-time. When the index is no longer in progress, this section changes to a static field that displays the below fields.
- **Status** - the status of the index. For example, "Active - Indexed" or "Inactive - Indexed".
- **Document Breakdown** - the number of indexed documents.

### 6.4.2 dtSearch Index Information

The dtSearch Index Information section provides general details about the settings applied to your dtSearch index. This section contains the following information:

- **Name** - the name of your index.
- **Order** - the integer value (positive or negative) representing the position of the index in the search indexes list. Indexes sort from lowest (top) to highest (bottom) order number. Those with the same order number sort alphanumerically.
- **Searchable set** - the set of documents to be indexed. You can select all documents in the workspace or choose from any saved search in the workspace.
- **Index share** - populated by default by a system admin.
- **Auto-recognize date, email, and credit card numbers** - a yes/no field.
- **Email notification recipients** - the emails that receive an email notification when your index population fails or completes.

### 6.4.3 Advanced Settings

The Advanced Settings section provides sub-index details about your dtSearch index. This section contains the following information:

- **Sub-index size** - determines the size of each sub-index created when you generate a dtSearch index. The minimum value is 1000.
- **Sub-index fragmentation threshold** - the fragmentation level at which the system automatically compresses a dtSearch sub-index during an incremental build.
- **Sub-indexes scheduled for compression** - the number of sub-indexes at or above the sub-index fragmentation threshold. If one or more sub-indexes is equal to or greater than the sub-index fragmentation level, the system automatically compresses those sub-indexes during the next incremental build.

### 6.4.4 Temporary Index Details

The Temporary Index Details section only appears during an incremental build. This table displays sub-indexes that were copied from your original index and are in the process of modification during the incremental build. Once the sub-indexes in this table are updated, they replace the original sub-indexes from which they were copied. This section contains the following information:

- **Population Table** - the name of the table that a sub-index is populating.
- **Build Status** - the state that the sub-index is currently in.
- **Worker Agent** - the name of the agent that's handling the sub-index.
- **Worker Agent Status** - the state that the worker agent is currently in.
- **Index File Share** - the location where your sub-index is stored.
- **Document count** - the number of documents assigned to the sub-index.
- **Error(s)** - any errors encountered by the sub-index.
- **Fragmentation Level** - the fragmentation level of the sub-index. Any index at or above the Sub-index fragmentation threshold appears in red.

### 6.4.5 Current Index Details

The Current Index Details section displays the sub-indexes that make up your dtSearch index. This section contains the following information:

- **Population Table** - the name of the table that a sub-index is populating.
- **Build Status** - the state that the sub-index is currently in.
- **Worker Agent** - the name of the agent that's handling the sub-index.
- **Worker Agent Status** - the state that the worker agent is currently in.
- **Index File Share** - the location that your sub-index is stored.
- **Document count** - the number of documents assigned to the sub-index.
- **Error(s)** - any errors encountered by the sub-index.
- **Fragmentation Level** - the fragmentation level of the sub-index. Any index at or above the Sub-index fragmentation threshold appears in red.

### 6.5 Temporary storage

If you specify a temporary storage location, dtSearch builds the index in this directory and then copies the index over to the final index share when the build completes. Using a temporary storage location could potentially speed up the build time and reduce network contention. See the Admin guide for more information on Servers.

### 6.6 Running a dtSearch

Use dtSearch to complete stemming, fuzzy, and proximity searches on the information included in your dtSearch index.

#### 6.6.1 Running a dtSearch

1. Select a dtSearch search index from the "search with" menu. The available dtSearches vary by workspace.
2. (Optional) Click Dictionary to determine the total occurrences of a term in the dtSearch index. See Running a Dictionary search on page 62.

3. Enter terms for the search in the in the Search Terms box. You can click Clear to remove the current search terms from the box.

**Note:** You can enter search terms on multiple lines (i.e., hit Enter), but the hard return will not be treated as an AND / OR operator.

**Note:** Your total number of search terms cannot exceed 65,000 characters. Additionally, words longer than 32 characters are truncated during indexing.

The following table shows search string examples and their expected results. For more information, see Using dtSearch syntax options on page 68.

<table>
<thead>
<tr>
<th>Search String</th>
<th>Returns Documents With...</th>
</tr>
</thead>
<tbody>
<tr>
<td>apple pear</td>
<td>The exact phrase apple pear</td>
</tr>
<tr>
<td>&quot;apple pear&quot;</td>
<td>The exact phrase apple pear</td>
</tr>
<tr>
<td>apple AND pear</td>
<td>The word apple and the word pear</td>
</tr>
<tr>
<td>(apple and pear) AndAny (grape or banana)</td>
<td>Any document that contains apple and pear, with grape and banana also being counted as hits. Grape and banana aren’t evaluated as conditions; they’re simply added to the search results as optional terms to be highlighted if they appear in the document.</td>
</tr>
<tr>
<td>apple OR pear</td>
<td>Either apple or pear</td>
</tr>
<tr>
<td>apple W/5 pear</td>
<td>Apple appears within 5 words of pear</td>
</tr>
<tr>
<td>apple PRE/5 pear</td>
<td>Apple appears within 5 words before pear</td>
</tr>
<tr>
<td>apple NOT W/5 pear</td>
<td>Apple occurs not within 5 words of pear</td>
</tr>
<tr>
<td>apple AND NOT pear</td>
<td>Apple appears but pear does not</td>
</tr>
<tr>
<td>apple W/5 xfirstword</td>
<td>Apple appears in the first 6 words of the document</td>
</tr>
<tr>
<td>apple w/5 xlastword</td>
<td>Apple appears in the last 6 words of the document</td>
</tr>
</tbody>
</table>

4. (Optional) To display fields for search conditions, click the search conditions icon next to the "search with" menu. See Search conditions on page 45.

5. Click Search. To stop a long running search, click Cancel Request.
Note: The **Sort by Rank** option doesn't have any functionality in dtSearch. All documents returned have a rank of 100%. To learn more about the Rank column, see Running a concept search in the viewer in the Analytics guide.

### 6.6.2 Running a dtSearch in the new UI framework

To run a dtSearch in the new UI framework, you must first enable the new UI framework from the user drop-down.

#### 6.6.2.1 Running a dtSearch in the Search panel

1. Navigate to the Search Builder.
2. Click **Add Condition**.
3. Select **(Index Search)** from the Add Condition drop-down. The (Index Search) window opens.
4. Select the name of your dtSearch index from the Index drop-down.
5. Enter terms for the search in the Search Terms box.

**Note:** You can enter search terms on multiple lines (i.e., hit Enter), but the hard return will not be treated as an AND / OR operator.

**Note:** Your total number of search terms cannot exceed 65,000 characters.

The following table shows search string examples and their expected results. For more information, see [Using dtSearch syntax options on page 68](#).

<table>
<thead>
<tr>
<th>Search String</th>
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</tr>
</thead>
<tbody>
<tr>
<td>apple pear</td>
<td>The exact phrase <strong>apple pear</strong></td>
</tr>
<tr>
<td>&quot;apple pear&quot;</td>
<td>The exact phrase <strong>apple pear</strong></td>
</tr>
<tr>
<td>apple AND pear</td>
<td>The word <strong>apple</strong> and the word <strong>pear</strong></td>
</tr>
<tr>
<td>(apple and pear) AndAny (grape or banana)</td>
<td>Any document that contains <strong>apple</strong> and <strong>pear</strong>, with <strong>grape</strong> and <strong>banana</strong> also being counted as hits. <strong>Grape</strong> and <strong>banana</strong> aren't evaluated as conditions; they're simply added to the search results as optional terms to be highlighted if they appear in the document.</td>
</tr>
<tr>
<td>apple OR pear</td>
<td>Either <strong>apple</strong> or <strong>pear</strong></td>
</tr>
<tr>
<td>apple W/5 pear</td>
<td><strong>Apple</strong> appears within 5 words of <strong>pear</strong></td>
</tr>
</tbody>
</table>
| apple PRE/5 pear | **Apple** appears within 5 words before **pear**
**Note:** Relativity does not use the POST operator. However, you can mimic this functionality by reversing the order of the terms, and using the PRE operator. |
| apple NOT W/5 pear | **Apple** does not appear within 5 words of **pear** |
6.6.2.2 Running a dtSearch in the Search Browser

You must enable the new UI framework from the user drop-down before you run a dtSearch.

1. Click 🔄 to access the Search browser from the Documents List.

2. Click New Search.

3. Enter required fields in the Information card.

4. Click Add Condition.

5. Select (Index Search) from the Add Condition drop-down. The (Index Search) window opens.

6. Select the name of your dtSearch index from the Index drop-down.

7. Enter terms for the search in the Search Terms box.

**Note:** Your total number of search terms cannot exceed 65,000 characters.

The following table shows search string examples and their expected results. For more information, see Using dtSearch syntax options on page 68.

<table>
<thead>
<tr>
<th>Search String</th>
<th>Returns Documents With...</th>
</tr>
</thead>
<tbody>
<tr>
<td>apple AND NOT pear</td>
<td>Apple appears but pear does not</td>
</tr>
<tr>
<td>apple W/5 xfirstword</td>
<td>Apple appears in the first 6 words of the document</td>
</tr>
<tr>
<td>apple W/5 xlastword</td>
<td>Apple appears in the last 6 words of the document</td>
</tr>
<tr>
<td>apple pear</td>
<td>The exact phrase apple pear</td>
</tr>
<tr>
<td>&quot;apple pear&quot;</td>
<td>The exact phrase apple pear</td>
</tr>
<tr>
<td>apple AND pear</td>
<td>The word apple and the word pear</td>
</tr>
<tr>
<td>(apple and pear) AndAny (grape or banana)</td>
<td>Any document that contains apple and pear, with grape and banana also being counted as hits. Grape and banana aren't evaluated as conditions; they're simply added to the search results as optional terms to be highlighted if they appear in the document.</td>
</tr>
<tr>
<td>apple OR pear</td>
<td>Either apple or pear</td>
</tr>
<tr>
<td>apple W/5</td>
<td>Apple appears within 5 words of pear</td>
</tr>
<tr>
<td>Search String</td>
<td>Returns Documents With…</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>pear</td>
<td></td>
</tr>
<tr>
<td>apple PRE/5 pear</td>
<td><strong>Apple</strong> appears within 5 words before <strong>pear</strong></td>
</tr>
<tr>
<td><strong>Note:</strong> Relativity does not use the POST operator. However, you can mimic this functionality by reversing the order of the terms, and using the PRE operator.</td>
<td></td>
</tr>
<tr>
<td>apple NOT W/5 pear</td>
<td><strong>Apple</strong> does not appear within 5 words of <strong>pear</strong></td>
</tr>
<tr>
<td>apple AND NOT pear</td>
<td><strong>Apple</strong> appears but <strong>pear</strong> does not</td>
</tr>
<tr>
<td>apple W/5 xfirstword</td>
<td><strong>Apple</strong> appears in the first 6 words of the document</td>
</tr>
<tr>
<td>apple w/5 xlastword</td>
<td><strong>Apple</strong> appears in the last 6 words of the document</td>
</tr>
</tbody>
</table>

8. (Optional) Add any additional search conditions.
9. Click **Apply**. The search terms populate in the Search builder.
10. Click **Save** or **Save As**.
11. Select the name of the dtSearch in the Search Browser.
12. Click **Run Search**. To stop a long running search, click **Cancel**.

### 6.7 Running a Dictionary search

When you run a dtSearch, you can use **Dictionary Search** to query the index for a term and find the total occurrences and number of documents in which it occurs. The Dictionary Search dialog displays the results, including the following columns:

- **Keyword** - the word contained in the index. If you use fuzziness or stemming in your search, this column displays any variations of the term.
- **Total Words** - the number of times the word appears in the dtSearch index.
- **Total Documents** - the number of documents in the index that contain the word.

A dictionary search returns only the first 2,000 items in the result set. If your search returns more than that, a message displays to indicate that only 2,000 items were returned.

#### 6.7.1 Running a Dictionary search

To run a Dictionary search:

1. In the "search with" menu, select a dtSearch index. See **Running a dtSearch on page 58**.
2. Click **Dictionary** to determine the total occurrences of a term in the dtSearch index.

3. Enter a search term in the textbox. You can enter variations of a search term as well as the wildcard (*), stemming (~), or fuzzy searching (%) operators.

4. (Optional) Set one of the following search operators:
   - **Fuzziness Level** - Select a value from one to ten to set the degree of variation in the terms returned. A larger number returns terms with more variation. This option is independent of the fuzziness (%) character that you can enter in the textbox on the Dictionary Search dialog. See **Fuzzy searching on page 76**.
   - **Enable Stemming** - Select to return grammatical variations of a word. For example, a search on *apply* will return *applying*, *applies* and *applied*. This option is independent of the stemming (~) character that you can enter in the textbox on the Dictionary Search dialog. See **Stemming on page 79**.

5. Click **Search** to display a list of keywords and the associated totals.

6. Perform any of the following tasks with your search results:
   - **Copy to Clipboard** - Select the checkboxes for the terms that you want to copy, and click **Copy to Clipboard**. On the Documents tab, right-click in the **Search Terms** box, and click **Paste**. The terms will added to the textbox separated by the OR operator.
   - **Sort** - Click a column header to sort in descending or ascending order.
- **Reset Columns Sizes** - Displays columns with their default widths.
- **Export to Excel** - Click to download an Excel spreadsheet containing the keywords and totals from the dictionary search.
- **Show Filters/Clear All** - See Filters on page 9.

### 6.7.2 Running a Dictionary search in the new UI framework

To run a Dictionary search in the new UI framework, you must enable the new UI framework from the user dropdown.

#### 6.7.2.1 Running a Dictionary search in the Search panel

1. Navigate to the Search panel.
2. Click **Add Condition**.
3. Select (Index Search) from the Add Condition dropdown. The (Index Search) pop-up opens.
4. Select the name of your dtSearch index from the Index dropdown.
5. Click **Dictionary**. The Dictionary Search pop-up opens.
6. Enter a search term in the textbox. You can enter variations of a search term as well as the wildcard (*), stemming (~), or fuzzy searching (%) operators.
7. (Optional) Set one of the following search operators:
   - **Fuzziness Level** - Select a value from one to ten to set the degree of variation in the terms returned. A larger number returns terms with more variation. This option is independent of the fuzziness (%) character that you can enter in the textbox on the Dictionary Search dialog. See Fuzzy searching on page 76.
   - **Enable Stemming** - Select to return grammatical variations of a word. For example, a search on *apply* will return *applying*, *applies*, and *applied*. This option is independent of the stemming (~) character that you can enter in the textbox on the Dictionary Search dialog. See Stemming on page 79.
8. Click **Search** to display a list of keywords and the associated totals.
9. Perform any of the following tasks with your search results:
   - **Copy to Clipboard** - Select the checkboxes for the terms that you want to copy, and click **Copy to Clipboard**. On the Documents tab, right-click in the **Search Terms** box, and click **Paste**. The terms will added to the textbox separated by the OR operator.
   - **Sort** - Click a column header to sort in descending or ascending order.
   - **Reset Columns Sizes** - Displays columns with their default widths.
   - **Export to Excel** - Click to download an Excel spreadsheet containing the keywords and totals from the dictionary search.
   - **Show Filters/Clear All** - See Filters on page 9.

#### 6.7.2.2 Running a Dictionary search in the Search Browser
1. Click to access the Search browser from the Document list.
2. Click New Search.
3. Enter required fields.
4. Click Add Condition.
5. Select (Index Search) from the Add Condition dropdown. The (Index Search) pop-up opens.
6. Select the name of your dtSearch index from the Index dropdown.
8. Enter a search term in the textbox. You can enter variations of a search term as well as the wildcard (*), stemming (~), or fuzzy searching (%) operators.
9. (Optional) Set one of the following search operators:
   - **Fuzziness Level** - Select a value from one to ten to set the degree of variation in the terms returned. A larger number returns terms with more variation. This option is independent of the fuzziness (%) character that you can enter in the textbox on the Dictionary Search dialog. See Fuzzy searching on page 76.
   - **Enable Stemming** - Select to return grammatical variations of a word. For example, a search on apply will return applying, applies and applied. This option is independent of the stemming (~) character that you can enter in the textbox on the Dictionary Search dialog. See Stemming on page 79.
10. Click Search to display a list of keywords and the associated totals.
11. Perform any of the following tasks with your search results:
   - **Copy to Clipboard** - Select the checkboxes for the terms that you want to copy, and click Copy to Clipboard. On the Documents tab, right-click in the Search Terms box, and click Paste. The terms will added to the textbox separated by the OR operator.
   - **Sort** - Click a column header to sort in descending or ascending order.
   - **Reset Columns Sizes** - Displays columns with their default widths.
   - **Export to Excel** - Click to download an Excel spreadsheet containing the keywords and totals from the dictionary search.
   - **Show Filters/Clear All** - See Filters on page 9.

### 6.8 dtSearch default alphabet file text

Some of the characters in the alphabet file are not printable, so screenshots were used instead of the actual text. You cannot copy or paste the Spaces or Ignore characters since they are not printable. Instead, use the dtSearchDefaultAlphabetFile instance setting in the Instance Setting system guide to update the dtSearch default alphabet file.

[Letters] // Original letter, lower case, upper case, unaccented

0 0 0 0
6.9 Using dtSearch syntax options

dtSearch includes special characters and other operators that you can use to define search criteria. The following table summarizes the syntax options available for queries run against a dtSearch index.

<table>
<thead>
<tr>
<th>Special characters or operators</th>
<th>Search functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>date()</code>, mail(), creditcard()</td>
<td>Auto-recognition on the next page</td>
</tr>
<tr>
<td><code>AND</code>, OR, NOT</td>
<td>Boolean operators on page 70</td>
</tr>
<tr>
<td><code>xfirstword</code>, <code>xlastword</code></td>
<td>Built-in search words on page 74</td>
</tr>
<tr>
<td><code>%</code></td>
<td>Fuzzy searching on page 76</td>
</tr>
<tr>
<td>Noise Words, Alphabet</td>
<td>Noise words and the alphabet file on page 77</td>
</tr>
<tr>
<td><code>#</code></td>
<td>Phonic searching</td>
</tr>
<tr>
<td><code>##</code></td>
<td>Regular expressions</td>
</tr>
<tr>
<td><code>~</code></td>
<td>Stemming on page 79</td>
</tr>
<tr>
<td><code>?</code>, <code>*</code></td>
<td>Wildcards on page 81</td>
</tr>
<tr>
<td><code>W/N (or WI)</code></td>
<td>W/N operator on page 82</td>
</tr>
<tr>
<td><code>=</code></td>
<td>Numerical patterns</td>
</tr>
</tbody>
</table>

For the list of the special characters recognized as spaces that cause word breaks, see Alphabet file on page 77.

**Note:** The underscore (_) is not recognized as a space by default. Verify that a given character is defined as causing a word break before using it as a space in a dtSearch.

6.9.1 Exact phrase

Searching for words right next to each other with no operator between them constitutes an exact phrase in dtSearch. For example, if you search for `apple pear`, Relativity returns documents that contain the exact phrase `apple pear`. There is no rule that requires quotation marks around a phrase of any number of words. However, you must use quotation marks for exact phrases that are Boolean expressions when a phrase contains a connector. For example:

`clear and present danger`

"clear and present danger"

In the first case, dtSearch searches for documents that contain the word `clear and present danger`. In the second case, dtSearch searches for the phrase "clear and present danger".

The following graphic depicts what documents are returned when you execute an exact phrase search:
6.9.2 Auto-recognition

Auto-recognition provides you with the ability to search for various date formats, e-mail addresses, and credit card numbers. However, it can dramatically affect indexing and searching performance. You must activate auto-recognition before you can use it in your workspace. Contact your administrator for more information.

6.9.2.1 Date recognition

Date recognition searches for strings that appear to be dates. It uses English-language months, including common abbreviations, and numerical formats. For example, these date formats are recognized:

- January 15, 2006
- 15 Jan 06
- 2006/01/15
- 1/15/06
- 1-15-06
- The fifteenth of January, two thousand six

Note the following date and date range search strings:

- To search for a date, enter a date expression between the parentheses in the string `date()`; for example, `date(jan 10 2006)`
- To search for range of dates, enter a date range between the parentheses in the string `date()`; for example, `date(jan 10 2006 to jan 20 2006)`
- To search for a range of dates near the word `apple`, enter `date(jan 10 2006 to jan 20 2006) w/10 apple`
Unterminated date ranges aren't supported. To search for any date after or before a particular date, enter a bounded range with a maximal or minimal value for the bounds. The maximum value for a year is 2900, and the minimum value is 1000. For example, `date(jan 10 2006 to jan 1 2900)`

dtSearch recognizes numeric strings as dates, as long as it can be interpreted as a valid date. This includes formats common in the US and UK, including:

- MM/DD/YY or MM-DD-YY
- MM/DD/YYYY or MM-DD-YYYY
- DD/MM/YY or DD-MM-YY
- DD/MM/YYYY or DD-MM-YYYY

In the case of ambiguous dates, such as `01/05/10`, dtSearch defaults to MM/DD/YY. If the date contains words the dtSearch converts the words to a numeric value to help interpret the date. For example, 30 must be a day and not a month, and 2015 must be a year (not a day or month).

### 6.9.2.2 Email address recognition

Email address recognition searches for text with the syntax of a valid email address, such as `sales@example.com`. With this feature, you can search for a specific email address regardless of the alphabet settings for `"@", ".", or other punctuation in the email address.

You can also use the word listing functions in dtSearch to enumerate all email addresses in a document collection. You must include either the * or ? wildcard expression to enumerate all email addresses in a document collection.

- `mail(sales@example.com)` - returns the exact email address: sales@example.com
- `mail(sa*@example.com)` - returns variations of the email address: sal@example.com; sales.sa@example.com

### 6.9.2.3 Credit card number recognition

Credit card number recognition searches for any sequence of numbers that matches the syntax for a valid credit card number issued by a major company, such as Visa, MasterCard, and so on. A credit card number is recognized regardless of the pattern of spaces or punctuation embedded in the number:

- 1234-5678-1234-5678
- 1234567812345678
- 1234 5678 1234 5678

Credit card issuers use numerical tests to exclude sequences of numbers that aren't valid credit card numbers. Since these tests don't detect all invalid numbers, the feature for credit card number recognition may find additional invalid numbers.

To search for a credit card number, enter a credit card number between the parentheses in `creditcard()` as exemplified in `creditcard(1234*)`.

### 6.9.3 Boolean operators

The dtSearch engine supports Boolean operators, including AND, OR, and NOT. You can use these operators to connect multiple phrases or terms in a single search expression.
Note: When using Boolean operators in a proximity search, noise words are included. Although the noise words are not searchable, they are still counted in the proximity search.

6.9.3.1 AND operator

When you use the AND operator to connect expressions, only documents that contain all the expressions in the search string will be returned in the result set. The following search strings illustrate how to use this operator:

- apple pie AND poached pear retrieves any documents that contain both phrases.
- (apple or banana) AND (pear w/5 grape) retrieves any documents that contain apple or banana AND contain pear within five words of grape.

The following graphic depicts what documents are returned when you use the AND operator in a dtSearch string:

![AND Operator Diagram]

6.9.3.2 AndAny operator

You can combine a search for required search terms with other terms that are optional. The words before the AndAny connector are required, and the words after the AndAny connector are optional. For example, (apple and pear) AndAny (grape or banana) would find any document that contains apple and pear, with grape and banana also being counted as hits only if apple and pear are also present in the document.

A document is only returned if it contains at least the required search terms. If the document contains any or all of the terms that come after the AndAny connector but none of the terms that come before the AndAny connector, it will not be returned. In other words, the AndAny operator doesn’t change the set of docs responsive for any optional terms coming to the right of the AndAny operator. The AndAny terms are not evaluated as conditions, but are simply added to the search results.

The following example further explains the AndAny operator:

You have three documents, each containing the term(s) specified below:
Document 1: Apple
Document 2: Apple, Grape, Pear
Document 3: Grape, Pear

Note the following behavior:

- When you search for the term **apple**, documents 1 and 2 are returned.
- When you search for the string **apple AND pear**, only document 2 is returned.
- When you search for the string **apple AndAny pear**, documents 1 and 2 are returned.

The following graphic depicts what documents are returned when you use the AndAny operator in a dtSearch string:

---

**6.9.3.3 OR operator**

When you use the OR operator to connect expressions in a search string, documents that contain one or more of these expressions will be returned in the result set. For example, the search string **apple pie or poached pear** will return documents that contain **apple pie**, **poached pear**, or both phrases.

The following graphic depicts what documents are returned when you use the OR operator in a dtSearch string:
6.9.3.4 NOT operator

In a dtSearch, you can use the NOT operator at the beginning of a search expression to negate its meaning and exclude documents from a result set. For example, the search expression *applesauce and NOT pear* returns documents that contain the word *applesauce*, but not those documents that contain both the words *applesauce* and *pear*.

- **NOT operator as a standalone** - You can use the NOT operator by itself at the beginning of a search expression. For example, the search expression *NOT pear* returns all the documents that do not contain the word *pear*. The search expression *NOT (apple w/5 pear)* returns all the documents that do not contain the word *apple* within five words of *pear*.

- **NOT operator as a connector** - When the NOT operator appears in the middle of a search expression, it must be used in conjunction with either AND or OR. For example, the search expression *apple OR NOT pear* returns all the documents that contain the word *apple* and those that do not contain the word *pear*.

**Note:** You can also use NOT in a proximity search as illustrated by the NOT W/N (NOT Within N words) operator.

- **AND NOT operator** - You can use the AND NOT operator to develop queries for documents that include the first expression but not the second expression. For example, you may want to query for email messages that have Ryan as the author, but do not have Will as the recipient. The following record illustrates these conditions:

<table>
<thead>
<tr>
<th>Document</th>
<th>OCR</th>
<th>Recipient</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS00001</td>
<td>From: Ryan To: Will</td>
<td>Will</td>
<td>Ryan</td>
</tr>
</tbody>
</table>

You can perform a dtSearch using the search string *Ryan AND NOT Will* and return results that don't include document AS00001.

The dtSearch engine combines into a single pool the text for all fields identified for inclusion in an index. A search string using the AND NOT operator will query the index that includes the combine text from all indexed fields, rather than querying the content of individual fields. This behavior ensures consistent result sets when querying with the AND NOT operator.
Note: A keyword search is an SQL full text search, which queries individual fields. Keyword search won’t return the same results as dtSearch when the NOT operator is used to query across multiple fields. See NOT operator on the previous page.

The following graphic depicts what documents are returned when you use the AND NOT operator in a dtSearch string:

6.9.3.5 Operator precedence
The precedence, or order of evaluation, determines how a group of expressions is evaluated in a query. You can use parentheses to group expressions and control which ones are evaluated first. For example, the following search strings illustrate how to group expressions:

- (apple and pear) or grape
- apple and (pear or grape)

When a search string doesn’t include parentheses, a dtSearch evaluates OR expressions and then AND expressions. For example, the search string A AND B OR C is evaluated as follows for a dtSearch: A AND (B OR C).

Note: The order of precedence for a keyword search evaluates AND expressions and then OR expressions: (A AND B) OR C.

When two expressions are connected by W/N, at least one of them must be a single word or phrase, or a group of words and phrases connected by OR:

- (apple and banana) W/10 (pear or grape)
- (apple and banana) W/10 (orange tree)

6.9.4 Built-in search words
dtSearch includes the following built-in search words:
You can use these terms to limit a search to the beginning or end of a file. For example, apple \textit{W/10 xlastword} searches for \textit{apple} within 11 words of the end of a document.

- **xfirstword** - Marks the beginning of a file.

The following graphic depicts what documents are returned when you use the \textit{W/# xfirstword} operator in a dtSearch string:

![W/# xfirstword Operator](image1)

- **xlastword** - Marks the end of a file.

The following graphic depicts what documents are returned when you use the \textit{W/# xlastword} operator in a dtSearch string:

![W/# xlastword Operator](image2)
6.9.5 Fuzzy searching

Using the dtSearch engine, you can perform fuzzy searches, which return documents containing spelling variations of a specified term. You may want to use fuzzy searching when querying documents that contain misspelled terms, typographical errors, or have been scanned with Optical Character Recognition (OCR).

The percent sign (%) is the character used for fuzzy searches. The number of (%) used indicates how many characters in the search term will be ignored by the dtSearch engine when it runs the query. The position of the % indicates the number of characters from the beginning of the term that must match exactly with words in the result set. The following search strings illustrate how this character is used:

- `app%ly` indicates that a matching word must begin with `app` and differ from `apply` by only one character.
- `a%apply` indicates that a matching word must begin with `a` and differ from `apply` by only two characters.

The following graphic depicts what documents are returned when you use fuzzy searching in dtSearch:

For a description of using fuzzy searching and stemming together, see Using fuzzy searching and stemming together.

6.9.5.1 Using the fuzziness operator and fuzziness level option

In Relativity, you have can use the fuzziness character (%) or the Fuzziness Level menu to perform fuzzy searches. The availability of these search options depends on the location where you are running a dtSearch:

- **Documents tab** - When you select a dtSearch in the **Search With** option, you can use the fuzziness character (%). See Running a dtSearch on page 58.

- **Dictionary Search** - When you click the **Dictionary** link, you can use the fuzziness character (%) and the Fuzziness Level menu on the Dictionary Search dialog. See Running a Dictionary search on page 62.
  
  In the Fuzziness Level menu, you can select a value from 1 to 10, which applies to all terms in the textbox. Larger numbers return terms with more variation. We recommend using values between 1 and 3 for moderate error tolerance. The following table describes the expected results for sample settings.

<table>
<thead>
<tr>
<th>Fuzziness level</th>
<th>Description of search results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>Only returns the entered term.</td>
</tr>
<tr>
<td>1</td>
<td>Returns slight variations of the entered term.</td>
</tr>
<tr>
<td>4</td>
<td>Returns multiple variations of the entered term.</td>
</tr>
</tbody>
</table>

- **Saved Search** - When you create a saved search, you can use the fuzziness operator (%) and the Fuzziness Level menu in the Search Conditions section of the form. The Fuzziness Level menu in a saved search uses the same settings as described above. See Saved search on page 110.

**Note:** The Fuzziness Level menu is independent of the fuzziness (%) character that you can enter in the textbox. A search for `appl%` without a Fuzziness Level setting may return documents containing `apple` or `apply`, since these terms have the stem `appl` and differ by one character.
Fuzzy searching uses term length and fuzziness level to decide how many % characters to add. This is not a straight level to character match. This means a level 7 fuzziness search doesn’t necessarily mean up to 7 additional characters return.

### 6.9.6 Noise words and the alphabet file

The dtSearch engine references a default list of noise words and an alphabet file when it creates a new index. The noise words are included in a dtSearch index to improve query performance and prevent unnecessary index growth. These commonly used words are ignored when you run a query. The alphabet file determines how single characters and spaces are handled in a query.

**Note:** If your dtSearches aren't returning the expected results, you may want to ask your administrator about updating the noise word list or alphabet file.

#### 6.9.6.1 Alphabet file

The dtSearch engine uses an alphabet file to define which characters are treated as text, cause word breaks, and are ignored. Administrators can modify the default alphabet file when they create or edit a dtSearch index. See [Making a character searchable on the next page](#).

The alphabet file determines which characters are treated as text, which cause spaces, which cause word breaks, and which are ignored. The categories of items in the alphabet file include:

- **Letters** - all searchable characters, which should include all alphabet characters (a-z and A-Z) and all digits (0-9).
- **Hyphens** - all characters removed during index creation. For example *First-Level* becomes two separate words in a dtSearch index.
- **Spaces** - characters that causes a word break. For example, if you classify the period as a space character, then dtSearch would processes *U.S.A.* as three separate words: *U*, *S*, and *A*.
- **Ignore** - characters that are disregarded in processing text. For example, if you classify the period as ignore instead of space, then dtSearch would process *U.S.A.* as one word, *USA*.

**Note:** The underscore (\_) isn't recognized as a space by default. Verify that a given character is defined as causing a word break before using it as a space in a dtSearch.

#### 6.9.6.2 Default noise word list

The dtSearch engine is configured with the default noise words listed in the following table. Administrators can modify this list when they create or edit a dtSearch index.

<table>
<thead>
<tr>
<th>Begins with...</th>
<th>Noise words</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>a, about, after, all, also, an, another, any, are, as, and, at</td>
</tr>
<tr>
<td>B</td>
<td>be, because, been, before, being, between, but, both, by</td>
</tr>
<tr>
<td>C</td>
<td>came, can, come, could</td>
</tr>
<tr>
<td>D</td>
<td>did, do</td>
</tr>
<tr>
<td>E</td>
<td>each, even</td>
</tr>
<tr>
<td>F</td>
<td>for, from, further, furthermore</td>
</tr>
<tr>
<td>G</td>
<td>get, got</td>
</tr>
</tbody>
</table>
The following graphic depicts what documents are returned when you include noise words in a dtSearch string:

6.9.6.3 Making a character searchable

**Note:** You can make special characters in a dtSearch index. However, some characters need to be escaped using regular expressions. For more information, see the Regular expression searching - symbols recipe on the Relativity documentation site.

1. Navigate to the dtSearch index.
2. Click **Edit** and scroll down to the Alphabet section.
3. Delete the character from the current category ("hyphen", "spaces", etc). Don't delete the category heading.

4. Scroll to the top of the Alphabet section and scroll down to the first set of Z's.

5. Create a new line after the Z's and enter the character you want to make searchable four times, separated by spaces. You must also begin with a space.

6. Scroll down in the file to the next line of Z's.

7. Repeat step 5 and save.

8. Perform a full build on the dtSearch index. The characters you added will now be included in your searches.

6.9.7 Phonic searching
Using the dtSearch engine, you can perform phonic searching, which returns documents containing words that sound like the word you're searching for and begins with the same letter. The pound sign (#) is the character used for phonic searches when added to the front of a word. For example, a phonic search for pear also finds pair and pare.

You can also use phonic searching in Dictionary searches.

6.9.8 Stemming
Using the dtSearch engine, you can perform stemming searches, which return documents containing grammatical variations of a root word. The tilde (~) is the character used for stemming searches when added at the end of the root word. For example, a search on apply~ returns documents containing the words apply, applying, applies, and applied.

Because stemming only works with the root word, it generally doesn't return irregular variations of a verb. For example, a search on run~ would not return ran. The dtSearch engine only supports stemming for the English language.

After you perform a stemming search, grammatical variations of the root word aren't highlighted in the document result set. For example, the words applied or applying aren't automatically highlighted in the viewer. You can enter applied in the Find Next box, and click the Find Next icon to locate hits or grammatical variations.
6.9.8.1 Using the stemming operator and enable stemming checkbox

In Relativity, you have can use the stemming character (~) or the **Enable Stemming** checkbox to perform stemming searches. The availability of these search options depends where you’re running a dtSearch:

- **Documents tab** - When you select a dtSearch in the **Search With** option, you can use the stemming character (~). See Running a dtSearch on page 58.

- **Dictionary Search** - When you click the **Dictionary** link, you can use the stemming character (~) and the **Enable Stemming** checkbox on the Dictionary Search dialog. See Running a Dictionary search on page 62.

- **Saved Search** - When you create a saved search, you can use the stemming character (~) and the **Enable Stemming** checkbox in the Search Conditions section of the form. See Saved search on page 110.

The **Enable Stemming** checkbox is independent of the stemming (~) character that you can enter in the **Search Terms** box or **Dictionary Search** textbox. A search for *apply~* with **Enable Stemming** checkbox unselected will return *apply*, *applied*, *applies*, or *applying*. A search for *apply* with **Enable Stemming** checkbox selected will return the same results.

The following graphic depicts what documents are returned when you use stemming in your dtSearch string:
In this example, *arthrosopic* doesn't return because arthrosopic doesn't stem from *art* in English, rather *arthro*.

### 6.9.8.2 Using fuzzy searching and stemming together

With fuzzy searching and stemming enabled, it will check for a fuzzy match twice, once against the original term, and once comparing the stemmed word with the stemmed word in the index. A match on either will count as a hit.

### 6.9.9 Wildcards

The dtSearch engine supports special characters that you can use as wildcards. It also supports the use of leading wildcards, or those added to the beginning of a word. The following characters represent wildcards in dtSearches:

<table>
<thead>
<tr>
<th>Special character</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>Matches any single character.</td>
</tr>
<tr>
<td>*</td>
<td>Matches any number of characters. <strong>Note</strong>: This character slows searches when used near the beginning or middle of a word.</td>
</tr>
<tr>
<td>~</td>
<td>Matches words containing grammatical variations of a root word. The tilde (~) is the stemming character available in dtSearches. See <em>Stemming on page 79</em>.</td>
</tr>
</tbody>
</table>

As illustrated in the following table, you can add wildcards to the root of any word to return matching terms from a dtSearch.

<table>
<thead>
<tr>
<th>Sample search string</th>
<th>Description of search results</th>
</tr>
</thead>
<tbody>
<tr>
<td>appl*</td>
<td>Matches apple, application, and so on.</td>
</tr>
<tr>
<td><em>cipl</em></td>
<td>Matches principle, participle, and so on.</td>
</tr>
<tr>
<td>appl?</td>
<td>Matches apply and apple, but not apples.</td>
</tr>
<tr>
<td>ap*ed</td>
<td>Matches applied, approved, and so on.</td>
</tr>
<tr>
<td>apply~</td>
<td>Matches apply, applied, applies, and so on.</td>
</tr>
</tbody>
</table>
The following graphic depicts what documents are returned when you use the * wildcard in a dtSearch string:

![Wildcard *]

The following graphic depicts what documents are returned when you use the ? wildcard in a dtSearch string:

![Wildcard ?]

**6.9.10 W/N operator**

You can use the W/N (within N words) operator to return documents with two words or phrases occur within a certain proximity of each other. When using Boolean operators in a proximity search with the W/N operator, noise words are included. The N value represents the number of intervening words. For example, the search expression `apple W/5 pear` returns documents that contain `apple` only when it occurs within five words of `pear`. The documents returned by the search must contain the terms within the required proximity, such as five words.

The W/N operator is symmetrical. The search expression `apple W/5 pear` returns the exact same document as `pear W/5 apple`.
Note: Single characters are treated as full words when this operator is used. For instance, if you search for Harry W/2 Truman, your search retrieves documents that include Harry S Truman or Harry S. Truman.

Note: The W/N operator can be interchanged with WI (or wi). For example, the search expression apple W/5 pear returns the same results as apple WI5 pear.

The following graphic depicts what documents are returned when you use the W/# operator in a dtSearch string:

6.9.10.1 NOT W/N

You can use the NOT W/N (not within N words) operator to exclude documents from a result set when two words or phrases are within a certain proximity of each other.

For example, the search expression apple NOT W/20 pear returns documents that contain apple when it’s separated from pear by at least 20 words; it also returns documents that don’t contain pear. Documents that contain apple separated from pear by fewer than 20 words aren’t returned.

The NOT W/N isn’t symmetrical. The search expression apple NOT W/20 pear doesn’t return the same documents as pear NOT W/20 apple.

The following graphic depicts what documents are returned when you use the NOT W/# operator in a dtSearch string:
6.9.10.2 Complex expressions

You can create complex expressions with the W/N operator by connecting words or phrases. At least one of these expressions must be a single word, phrase, or group of words and phrases connected by an OR operator as illustrated by the following:

- (apple AND banana) W/10 (pear OR grape)
- (apple AND banana) W/10 (orange tree)

Avoid creating complex expressions that produce ambiguous results as illustrated in the following examples:

- (apple AND banana) W/10 (pear AND grape)
- (apple w/10 banana) w/10 (pear and grape)

**Note:** dtSearch displays a warning message when you enter an ambiguous search request.

You can also use the boolean operators AND and OR to connect proximity expressions as illustrated in the following examples:

- (apple w/10 banana) AND (pear w/5 grape)
- (apple or banana) OR (pear w/5 grape)

**Note:** When connecting proximity expressions using boolean operators, you must use parentheses.

6.9.10.3 PRE

You can use the PRE operator to search for a word that appears within a certain number of words before another word.
For example, the search string *apple PRE/5 pear* returns documents where *apple* appears within 5 words before *pear*.

**Note:** Relativity does not use the POST operator. However, you can mimic this functionality by reversing the order of the terms, and using the PRE operator.

The following graphic depicts what documents are returned when you use the PRE/# operator in a dtSearch string:

### 6.9.11 Numerical patterns

To search for other numerical patterns such as social security numbers, you can use the = wildcard, which matches any single digit. For example, if hyphens are indexed as spaces, then the following search request would find U.S. social security numbers:

```markdown
==== === ====
```

This searching pattern can return false hits; for example, no valid social security number begins with 9. However, this is the only way to get social security numbers with spaces instead of dashes.

**Note:** dtSearch support notes the `=== === ====` notation is actually more performant than a regular expression for the same pattern assuming you’re ok with getting some false hits.

### 6.9.12 Connector words

The dtSearch connector words are:

- and
- or
- not
To search for a phrase that contains one of the dtSearch connector words, quote a connector word or the phrase it is in, or put a tilde after the connector. The following search strings work in returning phrases that contain connector words:

- "clear and convincing evidence"
- not~ relevant
- "whether or not John wants to"

Note the following:

- Adding a ~ after a connector word prevents dtSearch from recognizing the word as a connector but does not otherwise affect the search. The ~ character after a word tells dtSearch to apply the stemming rules to it. Because the stemming rules included with dtSearch do not modify short words, the ~ does not change the outcome of a search for and, or, not, or to.
- Connector words such as "and" and "not" are also included by default in the noise word list. All these words are Noise words and you must remove these words from the list to make dtSearch index these files. See Creating a dtSearch index on page 52 for details.

### 6.9.13 Words and phrases

With a dtSearch, you can use quotation marks to search for a phrase. For example, the phrase *fruit salad* is included in the search string *apple w/5 fruit salad*. The following list outlines how dtSearch queries on words or phrases with noise words or punctuation:

- **Phrases with Noise Words** - dtSearch skips any noise words in a phrase. For example, it skips *of* in the search string *Statue of Liberty* and retrieves any documents that contains *statue*, an intervening word, and *liberty*.

- **Words with Punctuation** - Punctuation inside a word is treated as a space. For example, dtSearch treats the search term *can't* as two words, *can* and *t*.

- **Numbers and Characters in Parenthesis** - Unexpected results may be returned when numbers or characters in parenthesis are used in a dtSearch. For example, the search term *1843 (c)(8)(ii)* is treated as four words.
7 Data Grid search

The Data Grid search option provides you with a way to search on long text fields stored in Data Grid for any Data Grid-enabled workspaces in your Relativity environment. Once you enable Data Grid search, the Data Grid option is available in the search drop-down, along with your Keyword Search, dtSearch, and Analytics indexes. The Data Grid search includes single-term search, exact phrase search, wildcards, fuzziness, proximity, Boolean operators, and grouping.

This search functionality is immediately available as text is imported or published into Data Grid. To use Data Grid search, your workspace and long text fields must be enabled for Data Grid.

Note: Beginning in Relativity 9.3.297.13, you no longer have to include a backslash in front of quotation marks, dollar signs, apostrophes, or percent signs.

7.1 Using Data Grid search

Once you’ve enabled your workspace for Data Grid and activated the Data Grid index, you can use it through the following steps:

1. Select Data Grid from the Search drop-down.

2. Enter terms for the search in the in the Search Terms box. See Data Grid search syntax considerations on page 92. You can click Clear to remove the current search terms from the box.

3. (Optional) To display fields for search conditions, click the search conditions icon next to the "search with" menu.

4. Click Search. To stop a long running search, click Cancel Request.

Note the following regarding Data Grid search indexes:

- Once you create a Data Grid search index, you can select it from the Index field on a new Search Terms Report (STR). This means that you have the option of selecting between dtSearch and Data Grid search indexes when creating an STR. For more information, see the Search terms reports section of the Admin Guide.

- When you run a Data Grid search, Relativity caches the results in a search cache table in SQL in the workspace database so that subsequent runs of the query are faster. By default, all cache results are valid until you modify any data in the index. The DataGridSearchProviderCacheTimeout instance setting determines how often Relativity checks the index for updates. When the off-hour agent runs, the Data Grid Manager agent is responsible for cleaning up expired search cache tables.
Errors due to invalid search queries can occur during Data Grid searches. If necessary, you can view these errors in the Errors tab in Relativity.

### 7.2 Using Data Grid search in the new UI framework

To create and run a Data Grid search in the new UI framework, you must first enable the new UI framework in the user drop-down.

1. Click **Add Condition** in the search panel.
2. Select *(Index Search)*.
3. Select **Data Grid**, then enter terms in the **Search Terms** box and click **Apply**.
   Optional: Select the check syntax check box before clicking **Apply** to check the syntax of your Data Grid search terms before adding new terms. For more information, see [Data Grid check syntax](#).
4. When you return to the Documents list, click **Run Search** at the bottom of the conditions list to execute a search on your terms.

5. Refer to the Documents list to see which documents were returned by your query.

1. Click
to access the Search browser from the Documents List.

2. Click **New Search**.
3. Enter required fields in the Information card.
4. Click **Add Condition**.
5. Select **(Index Search)** from the Add Condition dropdown. The (Index Search) window opens.
6. Select the name of your Data Grid index from the Index dropdown.
7. Enter terms for the search in the Search Terms box. For more information, see Data Grid search syntax considerations on page 92.
8. (Optional) Add any additional search conditions.
9. Click **Apply**. The search terms populate in the Search builder.
10. Click **Save** or **Save As**.
11. Select the name of the dtSearch in the Search Browser.
12. Click **Run Search**. To stop a long running search, click **Cancel**.

**7.3 Data Grid check syntax**

Even though Data Grid search supports many of the same operations as dtSearch, the syntax for running a Data Grid search is slightly different. Beginning in Relativity 9.3.376.35, you now have the option to check the syntax of your Data Grid search terms before adding new terms. This option is only available if you've selected a Data Grid search index.

When you enable the check syntax checkbox, Relativity checks for incompatible dtSearch syntax for any of the following:

- Search operators
- Proximity search
- Stemming search
- Fuzzy search
- Regular expressions

**Note:** Changing the checkbox setting updates the default property for the logged in user.

If you're using incompatible syntax (such as apple w/5 pear), Relativity displays a warning message with the following options:

- **Add Anyway** - ignores the syntax errors that exist in your search terms and adds the terms to your search.
- **Edit Terms** - closes the syntax warning and allows you to edit your remaining terms.
Note: When you select a Data Grid search index for a Search Terms Report, you have the check syntax option when entering new terms for that STR. For more information, see the Relativity User Guide.

7.3.1 Using check syntax for Data Grid search in the new UI framework

1. If the syntax checker is disabled, select the checkbox next to Check Syntax.

2. Enter your terms in the Search Terms box and click Apply. Relativity checks for any dtSearch syntax that is not compatible with Data Grid search (such as "apple w/5 pear").

3. You have the following options:
   - **Apply Anyway** - ignores the syntax errors that exist in your search terms and adds the terms to the conditions list in the search panel.
   - **Edit Terms** - closes the syntax warning and returns you to the Search Terms box where you can edit your terms.

Note: Changing the checkbox setting updates the default property for the logged in user.
7.4 Data Grid search syntax considerations

The following sections provide descriptions and examples of the query syntax that Data Grid supports:

Note the following about Data Grid search syntax:

- Relativity doesn't currently provide a configurable alphabet file for Data Grid search. You can search all characters with the exception of special characters, which Data Grid interprets as spaces. These are `+ - = && || > < ! ( ) [ ] ^ " ~ * ? /`.  

  **Note:** Data Grid indexes commas and periods only when they are surrounded for text. For more information, see [Special characters](#).

- Data Grid search uses a standard tokenizer, which means that it's optimized for searching on Western European characters, but it's not optimized for CJK languages. For more information on the language analyzers Data Grid runs on, see [this article](#).

- Data Grid currently doesn't support a default stop/noise word list. As such, every word within an indexed document field is included in the text.

- Use upper case for all operators in your search strings. For example, AND, OR, and NOT.

- Unlike dtSearch, Data Grid search does not support stemming.
Note: Unlike dtSearch, Data Grid search looks in a single field for multiple queried terms and only counts the document a hit if that field contains all of those terms. For example, if the Extracted Text field contains “Johnny” and the Email from field contains “Appleseed”, a Data Grid search query for Johnny AND Appleseed would not hit on that document. You aren't able currently to arrange for Data Grid search to search across multiple fields for different terms, nor can you limit that search to one specific field.

7.4.1 Phrases
To search for a phrase (two or more terms), surround the phrase with quotes.

- Make sure to type the quotes in the search box instead of copying and pasting so that the quote formatting isn't copied over.

Example:
“apple pear”

The following graphic depicts which documents Data Grid search returns when you execute a search for a phrase:

![Phrase in Data Grid search diagram]

7.4.2 Question mark single wildcard
You can run wildcard searches on individual terms. Use ? to replace a single character.

Example:
appl?

The following graphic depicts which documents Data Grid search returns when you execute a search that includes the ? wildcard:
7.4.3 Asterisk wildcard

You can use * to replace zero or more characters.

Example:

appl*

The following graphic depicts which documents Data Grid search returns when you execute a search that includes the * wildcard:

7.4.4 Fuzziness

Using Data Grid search, you can perform fuzzy searches, which return documents containing spelling variations of a specified term. You may want to use fuzzy searching when querying documents that contain misspelled terms, typographical errors, or have been scanned with Optical Character Recognition (OCR).

You can use fuzziness, in conjunction with a whole number value between 0 and 2, in a Data Grid search string. When you run a fuzziness search, we recommend specifying a numerical value after the ~ to
specify the edit distance. This number value is the count of the replacements, inserts, delete, or switches of adjacent characters. If you do not specify an edit distance (and the Data Grid syntax checker is disabled), the query defaults to an edit distance of 1.

**Note:** The numerical value must be a whole number. Data Grid supports a maximum edit distance of 2.

Data Grid fuzziness search operates with four types of one-character edits:

- **Substitution** of one character for another: h_ats → m_ats
- **Insertion** of a new character: mats → m_e_ats
- **Deletion** of a character: meat_s → meat
- **Transposition** of two adjacent characters: me_at → me_ta

The transformation from the word "hats" to the word "meta" reflects an edit distance of 4. The impact that a single edit has on a string depends on the length of the string. Specifying too large of an edit distance may produce results beyond the scope of what you were looking for. If you're performing a fuzzy search for "hats," you probably don’t want to returns results for "meta." Since 80% of human misspellings have an edit distance of 1, Data Grid supports a maximum edit distance of 2.

Use the following parameters to help determine your edit distance:

- 0 for strings of one or two characters
- 1 for strings of three, four, or five characters
- 2 for strings of more than five characters

**Note:** These parameters are merely a suggestion. You may find that an edit distance of 2 returns results that don’t appear to be related, in which case you may get better performance with a maximum fuzziness of 1.

Example:

**apply~1**

The following graphic depicts which documents Data Grid search returns when you execute a search that includes the fuzziness operator:

**Fuzziness in Data Grid search**
7.4.5 Proximity
In Data Grid search, you can run a proximity search to return documents with two or more words occurring within a certain proximity of each other.

Note the following about proximity searching:

- When you run a proximity search you must include a numerical value after the ~ or your search will display no results. This number specifies the number of replacements, inserts, deletions, or switches of adjacent words required for a match (i.e., the edit distance).

- The proximity operator is symmetrical. While a phrase query (e.g. "john smith") expects all of the terms in exactly the same order, a proximity query allows the specified words to be further apart or in a different order. This means that the search expression "apple orange"~5 returns the exact same document as "orange apple"~5.

Example:
"apple orange"~3

The following graphic depicts which documents Data Grid search returns when you execute a search that includes proximity operators:

7.4.6 AND operator
To search for documents that contain two or more terms, use the AND operator. You can’t start a search with AND.

Examples:
apple AND pear
apple && pear

The following graphic depicts which documents Data Grid search returns when you execute a search that includes the AND operator:
7.4.7 OR operator
To search for documents that contain either of two or more terms, use the OR operator. You can't start a search with OR.

Examples:
apple OR pear
apple || pear

The following graphic depicts which documents Data Grid search returns when you execute a search that includes the OR operator:

7.4.8 NOT operator
To search for documents that contain one term but specifically not another, use the NOT operator.
- NOT affects only terms to the right of the operator.
- You can start a search with NOT.

Examples:

NOT apple
apple NOT pear
apple ! pear

The following graphic depicts which documents Data Grid search returns when you execute a search that includes the NOT operator:

**7.4.9 Regular expressions**

You can search for regular expressions in Data Grid search. RegEx queries must be surrounded by forward slashes `/`

Examples:

/joh?n(ath[o]a)n/  
/abab(ab)?/

The following table describes the special characters that are allowed for regular expressions in Data Grid search:

<table>
<thead>
<tr>
<th>Character</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period (.)</td>
<td>The period &quot;.&quot; can be used to represent any character.</td>
</tr>
<tr>
<td>Question mark (?)</td>
<td>The question mark &quot;?&quot; makes the preceding shortest pattern optional. It matches zero or one times.</td>
</tr>
<tr>
<td>Plus sign (+)</td>
<td>The plus sign &quot;+&quot; can be used to repeat the preceding shortest pattern once or more times.</td>
</tr>
<tr>
<td>Asterisk (*)</td>
<td>The asterisk &quot;*&quot; can be used to match the preceding</td>
</tr>
<tr>
<td>Character</td>
<td>Result</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Pipe symbol (</td>
<td>)</td>
</tr>
<tr>
<td>Parentheses ({} )</td>
<td>Parentheses &quot;{}&quot; can be used to form sub-patterns. The quantity operators listed above operate on the shortest previous pattern, which can be a group.</td>
</tr>
<tr>
<td>Quotes (&quot; )</td>
<td>Any characters (except double quotes) are interpreted literally when surrounded by double quotes.</td>
</tr>
<tr>
<td>Backslash ()</td>
<td>Any reserved character.</td>
</tr>
<tr>
<td>Dollar sign ($)</td>
<td>Most regular expression engines allow you to match any part of a string. If you want the regexp pattern to start at the beginning of the string or finish at the end of the string, then you have to anchor it specifically, using ^ to indicate the beginning or $ to indicate the end.</td>
</tr>
<tr>
<td>Caret(^)</td>
<td>Most regular expression engines allow you to match any part of a string. If you want the regexp pattern to start at the beginning of the string or finish at the end of the string, then you have to anchor it specifically, using ^ to indicate the beginning or $ to indicate the end.</td>
</tr>
<tr>
<td>Curly brackets ({}</td>
<td>Curly brackets &quot;{}&quot; can be used to specify a minimum and (optionally) a maximum number of times the preceding shortest pattern can repeat.</td>
</tr>
<tr>
<td>Square brackets ([ ]</td>
<td>Ranges of potential characters may be represented as character classes by enclosing them in square brackets &quot;[ ]&quot;. A leading ^ negates the character class.</td>
</tr>
</tbody>
</table>

### 7.4.10 Grouped queries

You can group multiple terms or clauses together with parentheses, to form sub-queries.

- The operator precedence is NOT, then AND, then OR.
- Use a + to indicate a word must be included.
- Use a – to indicate that a word must not be included.

Examples:

```
(apple AND dog) OR cat
(apple && dog) || cat
Cat NOT dog
Cat !dog
cat +puppy -bird
```
7.4.11 Special characters
You can't search for special characters in Data Grid search.

- Data Grid interprets special characters as spaces.
- For periods that are surrounded by text, the period character is indexed with the text.
- For commas that are surrounded by text, the comma character is indexed with the numbers.

Examples:
A search for jdoe@example.com is indexed as:

jdoe
Example.com

A search for $300,000 is indexed as:

300,000

7.4.12 Unsupported dtSearch syntax in Data Grid search
Data Grid does not support the following dtSearch syntax:

- pre/#
- w/# - Data Grid supports proximity searching with the syntax described above.
- xlastword
- xfirstword
- AndAny operator
- Stemming
8 Searching with Regular Expressions (RegEx)

A regular expression is a form of advanced searching that looks for specific patterns, as opposed to certain terms and phrases. With RegEx you can use pattern matching to search for particular strings of characters rather than constructing multiple, literal search queries.

RegEx uses metacharacters in conjunction with a search engine to retrieve specific patterns. Metacharacters are the building blocks of regular expressions. For example, “\d” in a regular expression is a metacharacter that represents a digit character, but “d” stands for the literal character, “d.” You can use regular expressions to search for social security numbers, patent numbers, URLs, email addresses, Bates numbers, and other strings that follow a specific pattern.

There are several implementations of RegEx. The differences in implementations usually include the way special characters are handled and how character classes are treated.

8.1 Use cases for Regular expressions

RegEx can help you in cases where you need to find different numbers that contain the same pattern, for example, the following serial numbers:

- XFRD-8324-ERWH-3231
- GHSR-3413-KBKV-8173
- MPFS-1357-QEGT-9376

Instead of writing three literal search strings to match each serial number, you can construct one regular expression to match the serial numbers’ pattern. This single RegEx returns any document that contains any of the three serial numbers.

- Pattern: 4 letters-4 digits-4 letters-4 digits
- RegEx: [a-z]{4}-[0-9]{4}-[a-z]{4}-[0-9]{4}

You cannot use capital letters when constructing a RegEx in dtSearch. Thus, if you are searching for varying strings that all begin with NLRT, such as:

- NLRT-0381
- NLRT-6334
- NLRT-9167

The proper Relativity RegEx is: "##nlrt-\d{4}".

**Note:** Think of each RegEx as a phrase when you construct your search string. If you switch the order of the string you won’t receive the same results.

8.2 Regular expression metacharacters

Metacharacters are the building blocks of regular expressions. Characters in RegEx are understood to be either a metacharacter with a special meaning or a regular character with a literal meaning.
The following are some common RegEx metacharacters and examples of what they would match or not match in RegEx.

<table>
<thead>
<tr>
<th>Metacharacter</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
</table>
| \d            | Whole Number 0 - 9| \d\d\d = 327
\d\d = 81
\d = 4
----------------------------------------------------------------------------
\d\d\d ≠ 24631
\d\d\d doesn't return 24631 because 24631 contains 5 digits. \d\d\d only matches for a 3-digit string. |
| \w            | Alphanumeric      | \w\w\w = dog
\w\w\w\w = mule
\w\w = to
----------------------------------------------------------------------------
\w\w\w = 467
\w\w\w\w = 4673
----------------------------------------------------------------------------
\w\w\w ≠ boat
\w\w\w doesn't return boat because boat contains 4 characters.
----------------------------------------------------------------------------
\w ≠ !
\w doesn't return the exclamation point ! because it is a non-alphanumeric character. |
| \W            | Symbols           | \W = %
\W = #
\W\W\W = @#%
----------------------------------------------------------------------------
\W\W\W\W ≠ dog8
\W\W\W\W doesn't return dog8 because d, o, g, and 8 are alphanumeric characters. |
<p>| [a-z]         | Character set, at least one of | pand[ora] = panda |</p>
<table>
<thead>
<tr>
<th>Metacharacter</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
</table>
| [0-9]        | which must be a match, but no more than one unless otherwise specified. The order of the characters does not matter. | pand[ora] = pando  
-----------------  
pand[ora] ≠ pandora  
pand[ora] doesn't bring back pandora because it is implied in pand[ora] that only 1 character in [ora] can return.  
(Quantifiers that allow pand[ora] to match for pandora is discussed below.) |
| (abc) (123)  | Character group, matches the characters abc or 123 in that exact order. | pand(ora) = pandora  
pand(123) = pand123  
-----------------  
pand(oar) ≠ pandora  
pand(oar) does not match for pandora because it's looking for the exact phrase pandoar. |
| | | pand(abc|123) = pandora OR pand123 |
| | | colou?r = colour (u is found 1 time)  
colu?r = color (u is found 0 times) |
| | | tre* = tree (e is found 2 times)  
tre* = tre (e is found 1 time)  
tre* = tr (e is found 0 times)  
-----------------  
tre* ≠ trees  
tre* doesn't match the term trees because although "e" is found 2 times, it is followed by "s", which is not accounted for in the RegEx. |
<table>
<thead>
<tr>
<th>Metacharacter</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Plus sign matches when the character preceding + matches 1 or more times. The + sign makes the character match mandatory.</td>
<td>tre+ = tree (e is found 2 times) &lt;br&gt;tre+ = tre (e is found 1 time) &lt;br&gt;tre+ ≠ tr (e is found 0 times) &lt;br&gt;tre+ doesn't match for tr because e is found zero times in tr.</td>
</tr>
<tr>
<td>. (period)</td>
<td>The period matches any alphanumeric character or symbol.</td>
<td>ton. = tone &lt;br&gt;ton. = ton# &lt;br&gt;ton. = ton4 &lt;br&gt;ton. ≠ tones &lt;br&gt;ton. doesn't match for the term tones because . by itself will only match for a single character, here, in the 4th position of the term. Â In tones, s is the 5th character and is not accounted for in the RegEx.</td>
</tr>
<tr>
<td>.*</td>
<td>Combine the metacharacters . and <em>, in that order .</em> to match for any character 0 or more times. &lt;br&gt;NOTE: .* in RegEx is equivalent to dtSearch wildcard * operator.</td>
<td>tr.* = tr &lt;br&gt;tr.* = tre &lt;br&gt;tr.* = tree &lt;br&gt;tr.* = trees &lt;br&gt;tr.* = trough &lt;br&gt;tr.* = treadmill</td>
</tr>
</tbody>
</table>

### 8.2.1 RegEx quantifiers

RegEx use quantifiers to indicate the scope of a search string. You can use multiple quantifiers in your search string. The following table gives examples of the quantifiers you can use in your RegEx:
<table>
<thead>
<tr>
<th>Quantifier</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
</table>
| \{n\}     | Matches when the preceding character, or character group, occurs n times exactly. | \d{3} = 836  \\
|             |             | \d{3} = 139  \\
|             |             | \d{3} = 532  \\
|             |             | pand[ora] \{2\} = pandar  \\
|             |             | pand[ora] \{2\} = pandoo  \\
|             |             | pand(ora) \{2\} = pandoraora  \\
|             |             | pand[ora] \{2\} \ne pandora  \\
|             |             | pand[ora] \{2\} doesn't match for pandora because the quantifier \{2\} only allows for 2 letters from the character set [ora].  \\
| \{n,m\}   | Matches when the preceding character, or character group, occurs at least n times, and at most m times. | \d{2,5} = 97430  \\
|             |             | \d{2,5} = 9743  \\
|             |             | \d{2,5} = 97  \\


8.2.2 Escaping RegEx Metacharacters

When using RegEx to search for a character that is a reserved metacharacter, use the backslash \ to escape the character so it can be recognized. The following table gives an example on how to escape a reserved metacharacter when searching.

<table>
<thead>
<tr>
<th>Search For</th>
<th>RegEx</th>
<th>Match Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK phone number</td>
<td>+[0-9]{11}</td>
<td>+14528280001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+38119930978</td>
</tr>
<tr>
<td></td>
<td></td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the + sign is not escaped with a backslash, RegEx treats + as a quantifier instead of the literal plus sign character.</td>
</tr>
</tbody>
</table>

8.3 Using regular expressions with dtSearch

You can use RegEx with your dtSearch index to search for things like Bates numbers, zip codes, and phone numbers. You can use RegEx in conjunction with proximity, stemming, and fuzzy searching in dtSearch.

Using Regular Expressions

Your case team needs to find documents containing a variety of serial numbers that all match the same pattern. The pattern consists of five letters, a hyphen, then four numbers: ABCDE-1234. Instead of searching for every possible serial number, you decide to use a regular expression. By using the regular expression you know you'll be able to find all instances of the
serial number in your document set and save your case team a lot of time. You use the following RegEx search string: "##[a-z]{5}-[0-9]{4}" and find all instances of the serial numbers for your case team.

8.3.1 RegEx search strings

You activate RegEx in dtSearch by starting your search string with ##.

The syntax for running a RegEx search in Relativity is as follows:

"##RegularExpression"

"##" signals to Relativity that the string following ##, and encapsulated by double quotes, should be interpreted as RegEx. When adding double quotes to your RegEx, ensure you use straight quotes ("""). Curly quotes ("""") cause the RegEx to fail. You also want to avoid using capital letters in your RegEx because all characters in a dtSearch index are normalized to lowercase.

Once you run your RegEx search and your results return, it's important to know the terms are not highlighted in the document viewer. Any document that Relativity returns contains content that matches your RegEx search. Open each document to review the content.

8.3.1.1 RegEx caveats in dtSearch

There are a few caveats to consider when using RegEx in dtSearch. Consider the following caveats before constructing your RegEx.

- The metacharacter \s never matches a whitespace character in Relativity, because whitespace characters don’t exist in a dtSearch index. Instead, spaces are word breaks in dtSearch.

- You cannot use capital letters when constructing a RegEx in dtSearch. Thus, if you are searching for varying strings that all begin with NLRT, such as:
  - NLRT-0381
  - NLRT-6334
  - NLRT-9167
  - The proper Relativity RegEx is: "##nlrt-\d{4}".

8.3.2 Common dtSearch RegEx examples

The following table includes examples of dtSearch RegEx you can use to search for patterns in dtSearch.
Note: You must make any hyphens or symbols represented in these examples searchable in your dtSearch index.

<table>
<thead>
<tr>
<th>Type</th>
<th>Regular Expression</th>
<th>Match Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bates numbers</td>
<td>&quot;##rel[0-9]{6}&quot;</td>
<td>REL0000331</td>
</tr>
<tr>
<td></td>
<td>&quot;##rel\d{7}&quot;</td>
<td>REL3728948</td>
</tr>
<tr>
<td>Zip codes</td>
<td>&quot;##[a-z]{2}&quot;</td>
<td>IL 60606</td>
</tr>
<tr>
<td></td>
<td>&quot;##[0-9]{5}&quot;</td>
<td>MD 21218</td>
</tr>
<tr>
<td></td>
<td>&quot;##[a-z]{2}&quot;</td>
<td>CA 94115</td>
</tr>
<tr>
<td>United States Phone numbers</td>
<td>&quot;##[0-9]{3}-[0-9]{4}&quot;</td>
<td>373-8837</td>
</tr>
<tr>
<td></td>
<td>&quot;##\d{3}-\d{4}&quot;</td>
<td>463-9391</td>
</tr>
<tr>
<td></td>
<td></td>
<td>819-3814</td>
</tr>
<tr>
<td>United States Phone numbers</td>
<td>&quot;##([0-9]{3}-)[0-9]{4}&quot;</td>
<td>312-483-8372</td>
</tr>
<tr>
<td>numbers with or without area</td>
<td></td>
<td>463-9391</td>
</tr>
<tr>
<td>codes</td>
<td></td>
<td>819-3814</td>
</tr>
<tr>
<td></td>
<td></td>
<td>410-396-2248</td>
</tr>
<tr>
<td></td>
<td></td>
<td>708-184-4789</td>
</tr>
<tr>
<td>Patent numbers</td>
<td>&quot;##\d,\d[3],\d{3}&quot;</td>
<td>5,394,233</td>
</tr>
<tr>
<td></td>
<td>&quot;##[0-9],[0-9][3],[0-9]{3}&quot;</td>
<td>8,303,134</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9,037,193</td>
</tr>
<tr>
<td>Serial numbers</td>
<td>&quot;##[a-z]{4}-[0-9]{4}-[a-z]{4}-[0-9]{4}&quot;</td>
<td>XRFD-8324-ERWF-3231</td>
</tr>
<tr>
<td></td>
<td>&quot;##[a-z]{4}-\d{4}-[a-z]{4}-\d{4}&quot;</td>
<td>GHSR-3413-KWEJ-8173</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPFS-1357-QEGT-9376</td>
</tr>
<tr>
<td>Dates</td>
<td>&quot;##[0-9]{1,2}/[0-9]{1,2}/ [0-9]{2,4}&quot;</td>
<td>10/17/2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3/6/98</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4/25/2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12/04/87</td>
</tr>
<tr>
<td>Type</td>
<td>Regular Expression</td>
<td>Match Results</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Email addresses</td>
<td>&quot;###([w_.]+)@([w_.]+).([w_.]{2,6})&quot;</td>
<td><a href="mailto:Joe.Smith426@example.com">Joe.Smith426@example.com</a>&lt;br&gt;<a href="mailto:743.MaryJane@example.com">743.MaryJane@example.com</a>&lt;br&gt;<a href="mailto:Brian.23.Voltaire@example.net.uk">Brian.23.Voltaire@example.net.uk</a></td>
</tr>
</tbody>
</table>

### 8.3.3 RegEx: dtSearch vs. structured analytics

The following table outlines the differences between how RegEx operates in structured analytics versus dtSearch.

<table>
<thead>
<tr>
<th>dtSearch</th>
<th>Analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses TR1 implementation of RegEx.</td>
<td>Uses JAVA implementation of RegEx.</td>
</tr>
<tr>
<td>All characters in a dtSearch index are normalized to lower case. A dtSearch RegEx must contain lower case characters only.</td>
<td>Case is preserved in the Analytics pipeline. Use the flag (?i) to force case insensitive pattern match.</td>
</tr>
<tr>
<td>Spaces do not exist in dtSearch, but are instead interpreted as word breaks. The metacharacter \s will never match and return no results.</td>
<td>Any spaces are normalized to single space. The metacharacter \s matches for a space.</td>
</tr>
<tr>
<td>Need to encapsulate RegEx string with &quot;###&quot; so that it can be recognized as a regular expression.</td>
<td>No need to add special syntax for RegEx string to be recognized as a regular expression.</td>
</tr>
<tr>
<td>RegEx anchors \b, ^, and $ do not work in dtSearch.</td>
<td>You can use RegEx anchors to match for positions in a string.</td>
</tr>
</tbody>
</table>
9 Saved search

A saved search is a saved set of criteria that returns the latest documents that meet that criteria. For example, if you want to reference documents that contain the terms "confidential" and "property" and are also marked as Relevant, you can create a saved search with that criteria. However, saved searches can be much more complex.

In Relativity, you can create saved searches by defining custom queries and unique views, as well as by selecting public or private security settings, specific folders to query, and nested sort orders. You can also execute a search on the fly, save it for later use, or perform a combination of these tasks.

Since saved searches are executed in real-time, you save the search definition but not the results. Relativity executes the search each time your click on it in the Saved Searches browser and when you return to it after performing other tasks in the workspace. This functionality ensures that only data meeting the search criteria is returned in the result set. (You can set the Requires Manual Rerun option to control this functionality.)

Note: Upon the saved search execution, Relativity first applies the conditions, then the related items, then the filters. Note that conditions are on the advanced search page, and filters are applied on the item list. The only time when this order isn’t accurate is when you have nested relational searches. For example, you have Relational Search A, which relies on the results of Relational Search B. In this scenario, Relativity applies the innermost filters (in this case B), then the family that relies on it; then the filters of the outer searches (in this case A), then the family condition; and so on, until the search is complete, and Relativity applies filters as the final step.

You can also use saved searches as the building blocks in other Relativity features. For example, you're required to select a saved search when you create batches, build a dtSearch or Analytics index, define an imaging set, and perform other tasks in Relativity.

Using saved searches

You need access to all the emails in your workspace that were sent between Jan 1, 2013 and Oct 8, 2014 because they contain many references that are vital to your client's case. You’re going to reference these documents multiple times throughout review, so it’d be nice to have a way to save them and not have to search for them each time. Relativity’s saved search feature that allows you to do just that.

You go to the saved search browser and create a new saved search. You set the Includes field to Include Family because you need to return files with the same group identifier as the files that meet the field conditions you’re about to enter. For the Conditions field, you select the Sent Date field with an Operator of between. For the two Value choices you select 1/1/2013 and 10/8/2014.
When you click Save & Search, Relativity returns only email that fall in the date range you specified, and any reviewer with permissions to this saved search can easily bring up these documents in the saved search browser at any time.

9.1 Navigating the saved searches browser

On the Documents tab, you can click to view the Saved Searches browser. This browser provides you with features used to create, organize, edit, and perform other tasks with saved searches.
The Search Folder Tree displays the following options:

- **New Search button** - Click to display the Saved Search form. To display this form, you can also click any folder, including the root folder.

- **Public** or **Private** - The icons display next to the name of a saved search to indicate its visibility.

- **Search List** - Displays saved searches in a list view. See [Using search list options on the next page](#).

- **Refresh** - Refreshes the list view and tree hierarchy.

**Note**: Relativity automatically performs a refresh when you create a new search or modify an existing one. However, you need to click to display new searches or modifications to existing ones made by other users.

- **Show Current Path** - Displays the location of the search. For example, the path Salt vs. Pepper\Admin\Batch Source indicates that the search is located in a Batch Source sub-folder contained in the Admin folder, which is under the root folder Salt vs. Pepper.

- **Email Icon** - Opens an email message containing a link to the saved search. The Subject line is...
pre-populated with the following text: "Relativity Review - <Workspace Name> - <Search Name>.
When the recipient clicks on the link, the saved search is displayed with the current result set.

**Note:** Relativity displays a permissions denied message if the recipient clicks the link to display the search but does not have access rights to it.

- **Edit Search** - Displays the Search Form for updating search criteria.

- **Save Search** - Click to display a pop-up where you can select a new Owner, and modify the search name. See [Creating or editing a saved search on page 118](#).

- **Search Right-click Menu** - Highlight a search in the folder tree to display a right-click menu with the following options:
  - **Edit** - Displays the Saved Search form, where you can modify the current settings for the search.
  - **Copy** - Adds a duplicate of the search to the tree.
  - **Delete** - Permanently removes the search from the database.
  - **Secure** - Available on public searches, this option displays a security page so that you can override the security inherited from the workspace, or parent folder. See the Admin guide for more information on Setting permissions on Relativity objects.
  - **Email Link** - Opens an email message containing a link to the saved search. For additional information, see the description for E-mail Icon.

- **Folder Right-click Menu** - Highlight a folder to display a right-click menu for managing folders. See [Organizing saved searches in folders on page 118](#).

### 9.1.1 Using search list options

To display saved searches in a list view, click the list view link in the folder tree.
The search list view provides the following options and information:

- **Search Folder Tree** - Displays saved searches in a tree hierarchy.
- **Edit link** - Click to display the Saved Search form, where you can modify the settings for the search you're currently viewing.
- **Name link** - Click this link to display documents returned by the search in the item list. You can open documents from this list.
- **Path** - Displays the location of the search. For more information, see **Show Current Path** icon.
- **Email** - Opens an email message containing a link to the saved search. The Subject line is pre-populated with the following text: "Relativity Review - <Workspace Name> - <Search Name>." When the recipient clicks on the link, the saved search is displayed with the current result set.

**Note:** Relativity displays a permissions denied message if the recipient clicks the link to display the search but doesn't have access rights to it.

- **Sorting** - Click a column heading to sort in ascending order (Down arrow displays), or click twice to sort in descending order (Up arrow displays). Click a descending sort to clear it, and to display the original sorting order.
- **Export the list** - Click to create and download an Excel spreadsheet with a list of saved searches.
- **Paging** - Click on arrows at the bottom of the browser to display the next or previous page of searches, as well as first or last page of the entire list.

- **Mass Operations** - Select searches for a mass operation. Next, select **Copy**, **Move**, or **Delete** in the drop-down box at the bottom of the browser. Click **Go**. For more information on mass operations, see the Admin Guide.

### 9.2 Navigating the saved searches browser in the new UI

On the Documents tab, you can click ![Folder](image) to view the Saved Searches browser. This browser provides you with features used to create, organize, edit, and perform other tasks with saved searches.

The Search Folder Tree displays the following options:

- **New Search button** - click this to display the Saved Search form. To display this form, you can also click any folder, including the root folder.
■ **Public** or **Private** - the icons display next to the name of a saved search to indicate its visibility.

■ **Search textbox** - enter the name of a search in this field to automatically filter the list as you type to the saved search(es) that you are looking for. See [Using search list options on page 113](#).

■ **Search Right-click Menu** - highlight a search in the folder tree to display a right-click menu with the following options:
  ○ **Edit** - displays the Saved Search form, where you can modify the current settings for the search.
  ○ **Copy** - adds a duplicate of the search to the tree.
  ○ **Secure** - available on public searches, this option displays a security page so that you can override the security inherited from the workspace, or parent folder. See the Admin guide for more information on Setting permissions on Relativity objects.
  ○ **Delete** - permanently removes the search from the database.
  ○ **Email Link** - opens an email message containing a link to the saved search. The Subject line is pre-populated with the following text: "Relativity Review - <Workspace Name> - <Search Name>." When the recipient clicks on the link, the saved search is displayed with the current result set.

  **Note:** Relativity displays a permissions denied message if the recipient clicks the link to display the search but does not have access rights to it.

■ **Folder Right-click Menu** - highlight a folder to display a right-click menu for managing folders. See [Organizing saved searches in folders on page 118](#).

The action bar displays the following when a search is selected in the browser:

■ **Edit Search** - when you click this icon on the action bar, the Search Builder dialog appears where you can update search criteria.

■ **Save Search** - when you click this icon on the action bar, a pop-up appears where you can select a new owner and modify the search name. See [Creating or editing a saved search in the new UI framework on page 122](#).

### 9.2.1 Filtering the list of saved searches

To filter the list in the saved search browser:

1. Enter text matching the search or search folder you want to see in the Filter textbox at the top of the browser.  
   
---

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Matching searches and search folders display as you type in their respective folders.

2. Select the search you want to view.

Note: To remove your filtering from the list, delete the text that's there or click the X to the right.. The list of searches will automatically update.

9.3 Controlling the visibility of saved searches

On the saved search form, you can control the visibility of a search by setting the Owner option. New searches are private by default, making them visible only to you and Relativity administrators. In addition to owner access, users must have permissions to the Saved Searches Browser and at least view permissions for Search on the security page. For more information on workspace permissions, see the Admin Guide.

You can change the visibility of a search by selecting one of these options in the Owner drop-down menu:

- **Public** - makes the search available to all users with the appropriate permissions.

  Note: You can configure Relativity to make your saved searches public by default. When you create a search, the Owner box will display Public. In My Settings, select Public in the option Default Saved Search Owner.

- **User Name** - select a specific user from the drop-down menu. The search will be visible only to that user and Relativity administrators.

- **Me** - click this button to reset the visibility on the search to private. Your name appears in the Owner box.

You define the criteria used for saved searches in the Conditions section of the Saved Search form. You can build complex queries using a combination of fields and operators that are set to required values. For information about the operators available for building these queries, as well as specific options for searching batches and developing combined searches, see Defining criteria for saved searches on page 126.
9.4 Organizing saved searches in folders

You can organize saved searches by adding them to securable folders that you create and manage in the Saved Searches browser. To work with search folders, you must have the appropriate permissions for Search Folder, Search, and the Saved Searches Browser on the security page. For more information on workspace permissions, see the Admin Guide.

9.4.1 Adding sub-folders to the root

In the Search Folder Tree, right-click on the root folder to add sub-folders to the browser. Click Create to add a new folder, and name it something descriptive of its contents. To update the folder name, right-click on the folder, and click Rename.

9.4.2 Managing subfolders

Right-click on a folder under the root to display the following menu options:

- **Create** - adds a subfolder to the highlighted folder.
- **Rename** - makes the folder name editable. Enter new text for the name.
- **Secure** - displays a security page so that you can override the security inherited from the workspace, or parent folder. For more information on setting permissions on objects, see the Admin Guide.
- **Delete** - permanently removes all the searches and subfolders that folder contains from the database.
- **New Search** - displays the Saved Search form. See Creating or editing a saved search below.

9.4.3 Adding existing searches to folders

To add existing searches to a folder, left click the search and then drag and drop it into the folder. Click OK on the confirmation message.

**Note:** When you move a search, it inherits the security from the parent folder. You may want to check the security on a folder before moving a search into it.

9.5 Creating or editing a saved search

9.5.1 Creating or editing a saved search

To create or edit a saved search:

1. Click at the bottom of the browser.
2. Click New Search above the document list manager. To edit a search, right-click on the name, and click Edit.
Note: If you don’t see New Search, you may have another saved search selected. Click the top-level folder in the browser to deselect another search.

3. Fill out the fields on the form. See Search fields below.

4. Click Save.

9.5.2 Search fields

The Information fields are:

- Name - enter a title for the search.

- Includes - select an option for returning documents related to hit documents. (Hit documents match the search criteria.) The related documents are included in the result set, but they do not need to match the search criteria.
  
  - Include Duplicates - use this setting if you want the result set to include documents with the same MD5 Hash values as the hit documents. (The MD5 Hash value is used as a unique file identifier.)
  
  - Include Family - use this setting if you want the result set to include documents with the same group identifiers as the hit documents.
  
  - Include <Custom Field> - your organization may use custom related fields. Contact your system admin for additional information.

- Scope - select one of these options to designate the document set for the search:
  
  - Entire Workspace - search all the documents within a workspace.
  
  - Selected Folders - select this option, and then click Select Folders. On the Select Folders pop-up, select the checkboxes for the folders that you want to search. Clear the Include Subfolders on the pop-up if you don’t want subfolders included.

- Requires Manual Rerun - select this option if you want to require users to rerun a saved search when they return to it after navigating to other features in Relativity. Selecting this option only affects the search that the current user is running. It doesn’t affect any parent or nested searches tied to the current search. If you have a search that has Requires Manual Rerun checked and you include it as the criteria for another search, it reruns. See Rerunning out-of-date saved searches on page 125.

Note: The Requires Manual Rerun option is for searches that might take a long time to run, and you don’t need them to run automatically when you navigate back to the saved searches. This keeps you from having to manually cancel queries before you can navigate away from that search.

The Search Conditions fields are:
- **Search With** - select Keyword, dtSearch, or Relativity Analytics index for your search engine.

  **Note:** The Search With option is hidden when only a Keyword Search index exists. Additionally, the Search Text option appears only for Keyword Searches, while other options are available for dtSearches and Analytics. Your selection for the Search With option doesn't affect the availability of Field, Operator, or Value options displayed in the Conditions section of the form.

- **(Keyword Only) Search Text** - enter search terms or conditions. See [Keyword search on page 34](#).

- **(dtSearch Only) Search Terms, Fuzziness Level, or Enable Stemming** - enter search terms, and select settings as necessary. See [dtSearch on page 50](#).

- **(Analytics Only) Keywords, Fuzziness Level, Concepts, Min Concept Rank** - enter terms and select settings as necessary. See the Analytics Guide.

- **Sort By Rank** - select this option to return results in order by relevance. The most relevant documents appear at the top of the result set. The documents return in the following ways per index:
  - **Analytics** - the rank is the actual conceptual rank (0.00 - 1.00) indicating how similar in concept the document is to the query. The higher the number, the more similar it is to the search terms.
  - **dtSearch** - the rank values indicate a binary hit/no hit for the results. Currently there are no gradations or relative ranking.
  - **Data Grid** - the rank values indicate a binary hit/no hit for the results. Currently there are no gradations or relative ranking. If you are using the new UI framework, this option doesn't display.
  - **Keyword** - the rank is a number between 1-1000 determined by a SQL ranking system generated for the search terms entered.

In the Conditions section, you set multiple search conditions to create complex queries. To remove a condition, click **Clear** for the associated row. Each row represents a separate criterion. Depending on the type of field you select, different operators are available. Each box within the row represents a different part of the query:

- **Left or Opening Parentheses** - use the first box in the row to select a single, double, or triple parentheses for grouping criteria or controlling precedence in the query.

- **Field** - select a field available in your workspace.

- **Operator** - select a search operator. The field type determines the available operators.

- **Value** - enter or select a value. The field type determines the available values.

- **Right or Closing Parentheses** - use the last box in the row to select a single, double, or triple parentheses to group criteria.

- **AND or OR Operators** - use these operators to connect the criterion in each row.
Note: Using the Extracted Text OR Full Text field as a condition searches across the Extracted text or Full Text fields but only with the operators of Contains or Does Not Contain. This is identical to the way a Keyword search acts.

The Fields (Required) are:

- **Available Fields**: these fields are listed in left box.
- **Selected Fields**: these fields are listed in the right box, and display for your search results. They are ordered based on their position in this box.

Use the following options to move the fields between the Available and Selected Field boxes:

- **Move a Single Field**: highlight a field and click the Right or Left single arrow. You can also double-click on a field name.
- **Move Multiple Fields**: hold the SHIFT key down. Click on a range of fields that you want to move, or drag the mouse over these fields. Click the Right or Left single arrow to move the fields between boxes.
- **Move All Fields**: click the Right or Left double arrow to move all the fields from one box to another.
- **Change the Selected Fields Order**: use the Up and Down arrows to reorder the fields. Topmost fields display as a columns on the left of the item list, while fields at the bottom display on the right.

Note: You can edit the default list of selected fields displayed in this option. On the Views tab, click Default Search Views, and then click Edit to update the field list.

The Sort options are:

You can define the default sort order used for the search results. Each row in a sort criterion contains the following options:

- **Sort Field**: select a field from the left drop-down box. The search sorts on the field you select.
- **Order**: select ascending or descending from the right drop-down box.

You can create a nested sort order by selecting fields in several drop-down boxes.

The Other fields are:

- **Keywords** - any keywords you want to provide additional information about the search.
- **Notes** - any notes you want to add to provide additional information about the search.
- **Query Hint** - used to optimize views. Only use the query hint if instructed by the Relativity Client Services team. Currently, you can use Hashjoin: (true/false) or Maxdop: (x) to populate the field.

- **Relativity Applications** - select one or more applications you want to associate with the saved search. On the details view of an application, you must link the Document object to the application before you see your search in the Saved Search associate list. For more information, see Creating an application in Relativity on the Relativity 9.3 Developers site.

### 9.5.3 Creating or editing a saved search in the new UI framework

To create or edit a saved search from the Search browser, follow these steps:

You must enable the new UI framework from the user drop-down before you create or edit a saved search in the new UI framework.

1. Click ![search icon] at the top of the browser.
2. Click **New Search** above the document list. To edit a search, right-click on the name, and click **Edit**.

   **Note:** If you don't see New Search, you may have another saved search selected. Click the top-level folder in the browser to deselect another search.

3. Fill out the information in the Information section. See [Information below](#).

4. Click **Add Condition** to add a new condition to the search or click **Add Logic Group** to create a logic group to group conditions together to create the criteria for the search. See [Conditions on the next page](#).

5. Click on the Fields tab, and then choose which fields display for the search results. See [Fields on the next page](#).

6. Click on the Sort tab, and then specify any sorting for the search results. See [Sort on page 124](#).

7. Click on the Other tab to add additional information. See [Other on the next page](#).

8. Click **Save** or **Save As**.

### 9.5.4 New UI framework search fields

**Information**
The Information fields are:

- **Name** - enter a title for the search.

- **Owner** - select an Owner from the drop-down or use ![me] to make yourself the owner.

- **Scope** - select one of these options to designate the document set for the search:
  - **Entire Workspace** - searches all documents within a workspace.
  - **Selected Folders** - select this option, and then click **Select Folders**. On the Select Folders pop-up, select the checkboxes for the folders that you want to search. Clear the **Include Subfolders** checkbox on the pop-up if you don't want to include subfolders.
Notes - any notes you want to add to provide additional information about the search.

Other
The Other fields are:

- Keywords - any keywords you want to provide additional information about the search.
- Query Hint - used to optimize views. Only use the query hint if instructed by the Relativity Client Services team. Currently, you can use Hashjoin: (true/false) or Maxdop: (x) to populate the field.

Conditions
The Conditions fields define the criteria of the search. Click on a filter card to edit the condition or click the x in the top right corner to remove the condition. The equation box along the top gives you a high-level view of the conditional statement you are creating. There are the following controls on this tab:

- Add Condition - select the field you want to apply a condition to by entering the name of the field or selecting the field from the drop-down list.
  - Index Search - select this to select a Keyword, dtSearch, data grid, or Analytics index, and then enter search terms to apply as a search condition.
  - Saved Search - select this to select an existing Keyword, dtSearch, data grid, or Analytics saved search to apply as a search condition.
  - <field name> - select an object field name to create a conditional expression for that field to apply to the overall search criteria.
- Add Logic Group - adds logic groups you can add conditions to by dragging and dropping the conditions into the logic group frames. Use the AND or OR operator to join logic groups.
- Includes drop-down - select an option for returning documents related to hit documents. (Hit documents match the search criteria.) The related documents are included in the result set, but they do not need to match the search criteria. Select No Related Items if you do not wish to include any of these documents.
  - Duplicates - use this setting if you want the result set to include documents with the same MD5 Hash values as the hit documents. (The MD5 Hash value is used as a unique file identifier.)
  - Family - use this setting if you want the result set to include documents with the same group identifiers as the hit documents.
  - <Custom Field> - your organization may use custom related fields. Contact your system admin for additional information.

Fields
The Fields (Required) fields are what get displayed for your search results:

- Available Fields: these fields are listed in left box.
- Selected Fields: these fields are listed in the right box, and they will be displayed for your search results. They are ordered based on their position in this box.
Sort
The Sort options define the default sort order used for the search results. Each row in a sort criterion contains the following options:

- **Sort Field**: select a field from the left drop-down box. The search sorts on the field you select.
- **Order**: select ascending or descending from the right drop-down box.

### 9.5.5 Using pop-up pickers
You may have the option to select values from a pop-up picker when you choose certain fields or operators in the Conditions section. For example, pop-ups are available when you select the following operators:

- Any of these
- None of these
- All of these (only for multiple object fields)
- Not all of these (only for multiple object fields)

See [Creating or editing a saved search on page 118](#). For information about setting batch conditions, see [Batch fields as search conditions on page 129](#).

#### 9.5.5.1 Select items pop-up picker
Use the following general steps to select items in the picker:

1. Navigate to the Saved Search form or use the Search Conditions feature.
2. Select a **Field** option for a condition.
3. To display the picker, click `...` in the **Value** box.
4. Select one or more items in the Available Items list. A checkmark indicates an item is selected.
5. Click **Add**. The items display in the Selected Items list.

**Note**: To remove an item from this list, select it and click **Remove**. The item displays in the Available Items list.

6. Click **Set**. The items add to the **Value** box in the search form.

#### 9.5.5.2 System user fields
System user fields include the System Created By and System Last Modified By fields, which you can use in search conditions.

1. Navigate to the Save Search form or use the Search Conditions feature.
2. Select a system user field in the **Field** option for a condition.
3. Select an operator, and perform one of the following tasks:

   - If you selected any of these or none of these, click the ellipse in the Value box to display the Select Options pop-up. Choose one or more user names, and click OK.
   - Enter the user name in the textbox.

4. Define any additional search criteria as needed.

9.5.5.3 Folder name field
You can select Folder Name as a field in a search condition to create more flexible queries than using the Scope section of the Saved Search form. You can combine conditions containing the Folder Name and other fields with AND or OR operators refining your search criteria.

1. Navigate to the Save Search form or use the Search Conditions feature.
2. Select Folder Name in the Field option for a condition.
3. Select an operator, and perform one of the following tasks:

   - If you selected any of these or none of these, click in the Value box to display Select Folder pop-up. Choose one or more folders, and click OK.
   - Enter the folder name in the textbox.

4. Define any additional search criteria as needed.

9.5.6 Rerunning out-of-date saved searches
You may need to rerun a saved search when you return to it after navigating to other features in Relativity. Instead of seeing your search results, you see a message indicating that your search is out of date.

**Note:** To enable the Run saved search feature, select the Require Manual Rerun option in the Information section of the Saved Search form.

Perform one of these tasks:

   - Click Run saved search to reload your search results. You can also click on the saved search in the browser to rerun the search.
   - Click Edit Search to display the Saved Search form where you modify the search settings.

If you edit an item returned in your saved search, you need to rerun it. You must rerun the search even when the edited item still meets the search criteria, and the number of documents returned doesn't change.

9.5.7 Copying a saved search to another workspace
You can copy a saved search contained in one workspace to another workspace if the saved search references Keyword Search and is copied to the new workspace as part of a template.

For saved searches that include other saved searches as conditions, these are only copied over as part of a template if all of the searches referenced use Keyword Search.
9.6 Defining criteria for saved searches

You define the criteria used for saved searches in the Conditions section of the saved search form. You can build complex queries using a combination of fields and operators that are set to required values. This section provides information about the operators available for building these queries, as well as specific options for searching batches and developing combined searches. For information about building queries, see Creating or editing a saved search on page 118.

9.6.1 Operators

When defining search criteria in the Conditions section of a saved search form, you use operators to determine how a field is queried for the value that you selected or entered. The operators available for a search criterion depend upon the field type:

- Fixed-length, long, or extracted text operators below
- Whole number, decimal, and currency operators on page 128
- User operators on page 128
- Date operators on page 128
- Yes or no operators on page 129
- Single and multiple choice field operators on page 129

9.6.1.1 Fixed-length, long, or extracted text operators

The following operators are available for fixed-length, long, and extracted text field types.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Returns Documents Where...</th>
</tr>
</thead>
</table>
| Is like  | The field contains all or part of the entered term. Blank values are filtered out, and search values can be enclosed in double quotation marks. A partial match does not require a wildcard (*).
|          | Relativity returns an OR operator between terms when a condition uses the "Is like" operator, and the terms are separated by a carriage return into multiple lines, or they are separated by a comma within a single line. For example, Relativity interprets a query as "Field is like Term 1 or Field is like Term 2 or Field is like Term 3". **Note:** For performance reasons, kCura recommends using the "Contains" operator rather than building queries with single or multiple uses of the "Is like" operator. See FAQs for Contains and Is Like operators on the next page. |
| Is not like | The field does not contain the entered term. Wildcards (*) are already applied at the beginning and end of a term with this operator. The comments about the "Is like" operator also apply to "Is not like". |
| Is      | The field value equals any of the entered items. Multiple values can be separated by a comma or carriage return. Blank values are filtered out, and search values can be enclosed in double quotation marks. |
| Is not  | The field value does not equal the entered term. |
| Is set  | The field is not empty. |
| Is not set | The field is empty. |
### FAQs for Contains and Is Like operators

You can improve your searches by understanding the differences between the "Contains" and "Is like" operators.

- **Why do searches using the "Is like" operator tend to run slowly?**
  The "Is like" operator can slow the performance of your system because it queries every document for the field specified in the condition. For performance reasons, we don't recommend building queries with single or multiple uses of the "Is like" operator. Instead, you can use the "Contains" operator, which improves performance by querying only the fields in the full-text index.

- **Are there any special requirements for using the "Contains" operator?**
  Yes, the full text-index must include the field that you want to search with the "Contains" operator.

- **How does query execution differ for searches with the "Contains" and "Is like" operators?**
  The "Contains" operator queries the SQL full text catalog, while the "Is like" operator queries the database table inside the catalog. The "Is like" operator prevents other queries from editing the table until it completes, which can negatively affect performance.

- **Why are different search results returned by queries using the "Contains" versus "Is like" operators?**
  The difference in result sets is caused by the way SQL interprets queries using these operators. An "Is like" statement appends a wildcard to the front of each query, which sometimes causes it to return more items than a query with the "Contains" operator. You must evaluate these additional
Is the entered number is equal to the field value.
Is not The entered number is not equal to the field value.
Is set The field is not empty.
Is not set The field is empty.
Is greater than The field value is greater than the entered number.

9.6.1.3 User operators
The following operators are available for user field types.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Returns Documents Where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is logged in user</td>
<td>The logged in user is equal to the field value.</td>
</tr>
<tr>
<td>Any of these</td>
<td>Any of the selected users match the field value.</td>
</tr>
<tr>
<td>None of these</td>
<td>The selected users do not match the field value.</td>
</tr>
<tr>
<td>Is set</td>
<td>The field is not empty.</td>
</tr>
<tr>
<td>Is not set</td>
<td>The field is empty.</td>
</tr>
</tbody>
</table>

9.6.1.4 Date operators
The following operators are available for date field types.

You can search on date and time but time is not displayed by default when you select a date on the calendar pop-up. For example, you can search on 10/16/2001 3:57 PM by typing in the time after your selected date. You can also search for 2/3/10 between 4/3/10 and both 2/3/10 and 4/3/10 return in the results.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Returns Documents Where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is</td>
<td>The entered date is equal to the field value.</td>
</tr>
<tr>
<td>Is not</td>
<td>The entered date is not equal to the field value.</td>
</tr>
<tr>
<td>Is set</td>
<td>The field is not empty.</td>
</tr>
<tr>
<td>Is not set</td>
<td>The field is empty.</td>
</tr>
<tr>
<td>Is before</td>
<td>The field value is before the entered date.</td>
</tr>
<tr>
<td>Is before or on</td>
<td>The field value is before or on the entered date.</td>
</tr>
<tr>
<td>Is after</td>
<td>The field value is after the entered date.</td>
</tr>
<tr>
<td>Is after or on</td>
<td>The field value is on or after the entered date.</td>
</tr>
<tr>
<td>Between</td>
<td>The field value is between the two entered dates.</td>
</tr>
</tbody>
</table>

For more information, contact your system admin.
### 9.6.1.5 Yes or no operators

The following operators are available for Yes/No field types.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Returns Documents Where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is</td>
<td>The selected value (Yes or No) is equal to the field value.</td>
</tr>
<tr>
<td>Is not</td>
<td>The selected value (Yes or No) is not equal to the field value.</td>
</tr>
<tr>
<td>Is set</td>
<td>The field is not empty.</td>
</tr>
<tr>
<td>Is not set</td>
<td>The field is empty.</td>
</tr>
</tbody>
</table>

### 9.6.1.6 Single and multiple choice field operators

The following operators are available for single and multiple choice field types.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Returns Documents Where...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any of these</td>
<td>Any of the selected choices are present in the field.</td>
</tr>
<tr>
<td>None of these</td>
<td>None of the selected choices is present in the field.</td>
</tr>
<tr>
<td>All of these</td>
<td>All of the selected choices are present in the field.</td>
</tr>
<tr>
<td>Not all of these</td>
<td>The selected choices are not present in the field.</td>
</tr>
<tr>
<td>Is set</td>
<td>The field is not empty.</td>
</tr>
<tr>
<td>Is not set</td>
<td>The field is empty.</td>
</tr>
</tbody>
</table>

### 9.6.2 Batch fields as search conditions

Relativity includes several fields related to batching that you can use as conditions for searching across batch sets. To use batch fields as search conditions, follow these steps:

1. Create a new saved search. See [Creating or editing a saved search on page 118](#).
2. Select **Batch** in the Fields drop-down menu in the Conditions section of the saved search form.
3. Choose the operator you want to use.
4. Click ![icon] in the **Value** column to display the Select Batch Criteria popup.
5. Select one of the following batch related fields:
   - Batch
   - Batch::Batch Set
   - Batch::Assigned To
   - Batch::Status
You can use the Assigned To field to search for batches set to a specific user.

<table>
<thead>
<tr>
<th>Field</th>
<th>Operator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch::Assigned To</td>
<td>is logged in user</td>
<td></td>
</tr>
</tbody>
</table>

See [Operators on page 126](#) for more information.

### 9.6.3 Using saved searches as conditions (combined searches)

You can combine searches by selecting previously created saved searches as Field conditions. To use a saved search as a search condition, follow these steps:

1. Create a new saved search. See [Creating or editing a saved search on page 118](#).
2. Select (Saved Search) from the top of this list in the Field drop-down menu in the Conditions section of the saved search form.
3. Select an option in the Operator drop-down menu.
4. Click **...** in the Value column to display a pop-up window.
5. Select a saved search and click OK.

**Note:** Beginning with the Relativity 9.1.137.12 release, you can delete a saved search that is referenced by another saved search through the mass delete operation.

### 9.6.3.1 Preventing circular references

Relativity prevents you from creating recursive searches when you combine multiple searches as conditions in a query. For example, you might create a combined search using Saved Searches 1, 2, and 3 as follows:

- Saved Search 2 uses Saved Search 1 as a Field condition.
- Saved Search 3 uses Saved Search 2 as a Field condition.

When you edit Saved Search 1, you can’t select Saved Search 2 or Saved Search 3 as Field conditions. Relativity prevents you from creating a circular reference by not listing these searches in the Value pop-up window.

### 9.6.3.2 Including related items in combined searches

You can combine saved searches to check for conflicts within related item groups. For example, a review manager may use a combined search for quality control when preparing to produce responsive documents for a case.

Use the following steps to confirm that a search for responsive documents doesn’t include any privileged documents.

1. Create a saved search called **Responsive Check** that uses the Includes Family option and sets a condition on a field, such as Designation to **Responsive**. This search specifies production criteria...
that return only responsive documents.

2. Create a second saved search called Privilege Check that uses the Includes Family option and sets a condition on a field, such as Privilege Description to Privileged, Attorney Client, and so on. This search is used for evaluation purposes.

3. Create a combined search called Conflict Check that uses the Includes Family option and sets conditions for the Responsive Check and Privilege Check searches. This quality control search determines if any privileged documents are included in the production-eligible saved search.

9.6.4 Lists as search conditions

If you've created saved lists using the Lists feature, you can add lists as criteria in a saved search.

Follow these steps to create a new saved search using a saved list of documents as the search criteria:

1. On the Documents tab, click to open the Saved Searches browser.
2. Click New Search.
3. Type a name for the saved search in the Name field.
4. Add a condition with the following column settings:
   - Field - select Lists.
   - Operator - select these conditions.
   - Value - select the following value criteria:
     - Field - select Lists.
     - Operator - select any of these.
     - Value - select one or more saved lists to include in the search criteria.
5. In the Fields category, select the fields you want to include when viewing your saved search results. Select the Lists field to show the list(s) with which an object is associated.
6. Click Save to save the search. Or, click Save & Search to save and execute the search.

9.7 Saving searches on the Documents tab

On the Documents tab, you can click Save as Search to save a search based on the criteria that you've already set for filtering, Keyword searches, dtSearches, or Analytics. You can enter a unique name for the search, select an owner, and choose a folder for it. Relativity also saves any settings that you have selected for the view, sort order, or other features that control how your results appear.

After you save your search, it appears in the saved searches browser, and you can modify it using the same options available for saved searches. See Creating or editing a saved search on page 118.

Note: To use Save as Search, you must have add permissions for Search, and access to the Saved Searches Browser assigned to you through the security page. For more information on workspace conditions, see the Admin guide.

To create a saved search on the Documents tab:
1. Navigate to the Documents tab.

2. (Optional) In the **Browser** menu, select the **Folders, Field Tree**, or **Clusters** option. The item list for the selected browser is displayed.

3. Filter on the documents in the list or select a keyword or other search option. To set search criteria, see the specific instructions for running Keyword searches, dtSearches, Analytics, or filters. Your search results will be displayed in the item list on the Documents tab. Any folder, tag, or cluster selected in the browser will be included as a condition when the search is saved. The currently displayed columns and sort order will also be saved.

   **Note:** If you select an option in the Include Related Documents drop-down menu, and also set the filters, you will not be able to save this search with **Save as Search**. You can set the Include Related Documents drop-down menu to blank or clear all filters, and then use this link to save the search.

4. Click **Save**.

5. Select or enter the following information:

   - **Owner** - Select **Public** to make the search available to all users or choose a specific user from the list. Click **Me** to select your name from the list, making the search private. (Users must have the appropriate privileges to view searches.) See [Controlling the visibility of saved searches on page 117](#).

   - **Name** - Enter a title for the search. The title appears in the saved searches browser.

   - **Folder List** - Click the **Plus** button to expand the folders in the list. Highlight the folder where you want to add the search.

6. Click **Save**.

   Your search criteria are saved, and the search is added to the saved searches browser. You can click the **Search** to display this browser.

   To update the search, follow the same steps as those used to edit a saved search. Right-click on the search in the saved searches browser, and click **Edit**. The saved search form pre-populates with information used in your search.

### 9.7.1 Saving searches on the Documents tab in the new UI framework

Saving searching on the Documents tab in the new UI framework

On the Documents tab, you can click **Save as Search** at the bottom of the screen near the mass operations to create a new search using the criteria that you've already set on the search panel for conditional searches, keyword searches, dtSearches, or Analytics searches. Relativity also retrieves any settings that you have selected for the view, sort order, or other features that control how your results appear.

**Note:** To use **Save as Search**, you must have add permissions for **Search**, and access to the **Saved Searches Browser** assigned to you through the security page. For more information on workspace conditions, see the Admin guide.
To create a saved search on the Documents tab:

1. Navigate to the Documents tab.

2. (Optional) In the Browser menu, select the Folders, Field Tree, or Clusters option. The item list for the selected browser is displayed.

3. Filter on the documents in the list or select a keyword or other search option. To set search criteria, see the specific instructions for running keyword searches, dtSearches, Analytics, or filters. Your search results will be displayed in the item list on the Documents tab.

   **Note:** Any folder, tag, or cluster selected in the browser will be included as a condition when the search is saved. The currently displayed columns, column filters, and sort order are saved along with any conditions set for your view (including your selection in the Related Documents drop-down menu).

4. Click 🔍. The search builder window appears.

5. Select or enter the following required information:
   - **Name** - Enter a title for the search. The title appears in the saved searches browser.
   - **Owner** - Select Public to make the search available to all users or choose a specific user from the list. Click Me to select your name from the list, making the search private. (Users must have the appropriate privileges to view searches.) See Controlling the visibility of saved searches on page 117.
   - **Search Folder** - Click the Ellipsis ... button to launch a pop-up window where you can save the new search to a specific folder on the saved searches browser. Highlight the folder where you want to save the search, and then click OK to select it.

6. Add to or modify the search criteria as needed. See Creating or editing a saved search in the new UI framework.

7. Click Save.

After you save your search, it appears in the saved searches browser, and you can modify it using the same options available for saved searches. See Creating or editing a saved search in the new UI framework. Click the 🔍 to display the saved search browser. To update the search, follow the same steps as those used to edit a saved search. Right-click on the search in the saved searches browser, and click Edit. The saved search form pre-populates with information used in your search.

### 9.8 Saved search history

On the History tab, you can view the audit records for saved searches, unsaved searches, and queries performed on views (such as filtering on a column).
Use the following guidelines to view search history records:

- **Saved Searches** - the Name column displays the name of the search, and the Object Type column displays "Search." Click the Query link to display a pop-up window with the SQL statement for the query.

- **Unsaved Searches or Views** - the Name column displays the name of the view in which the search was performed, and the Object Type column displays "View." Click the name link to display the
details page for the view, or click the **Query** link to display a pop-up window with the SQL statement for the query.
10 Optimized indexing

Optimized indexing requires some knowledge of your data. The time it takes to scrub your data before indexing will be rewarded in time saved when creating an index and returning search results. Consider the following when creating an index:

- Consider removing file types that have no searchable content, such as system or program files.
- Use a separate index for searching database files and large Excel files.
  - Even if your database has only a small number of these files, creating an index without them will improve searching speed, especially numeric range searching.
- Set up multiple dtSearch indexes, including one with a smaller document set based on one or more of the following criteria:
  - date ranges
  - custodians
  - text size (extracted or OCR text)
    - Small (< 2 MB)
    - Medium (> 2 MB and < 10 MB)
    - Large (> 10 MB and < 25 MB)
    - Very large (> 25 MB)
- Set a dtSearch index to recognize and/or ignore words, characters, and digits as necessary.
  - Noise Words (Ex: Include “sample” as a part of the noise word list for a dtSearch index containing Excel documents.)
  - Alphabet file list (Ex: Index the character “£.”)
  - Remove numbers from the alphabet file list if only searching for words – this will reduce the size of the index and will disable numeric range searching.
- Enable dtSearch indexes to automatically recognize dates, email addresses, and credit card numbers only when necessary. Enabling this setting increases build time.
- Consider using a pair of dtSearch indexes when adding new data. You can have one index updated in the background and then swap out the outdated index with the current one.
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