

Cloudera Runtime 7.1.4

## Atlas Search

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# CLOUdera

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# Contents

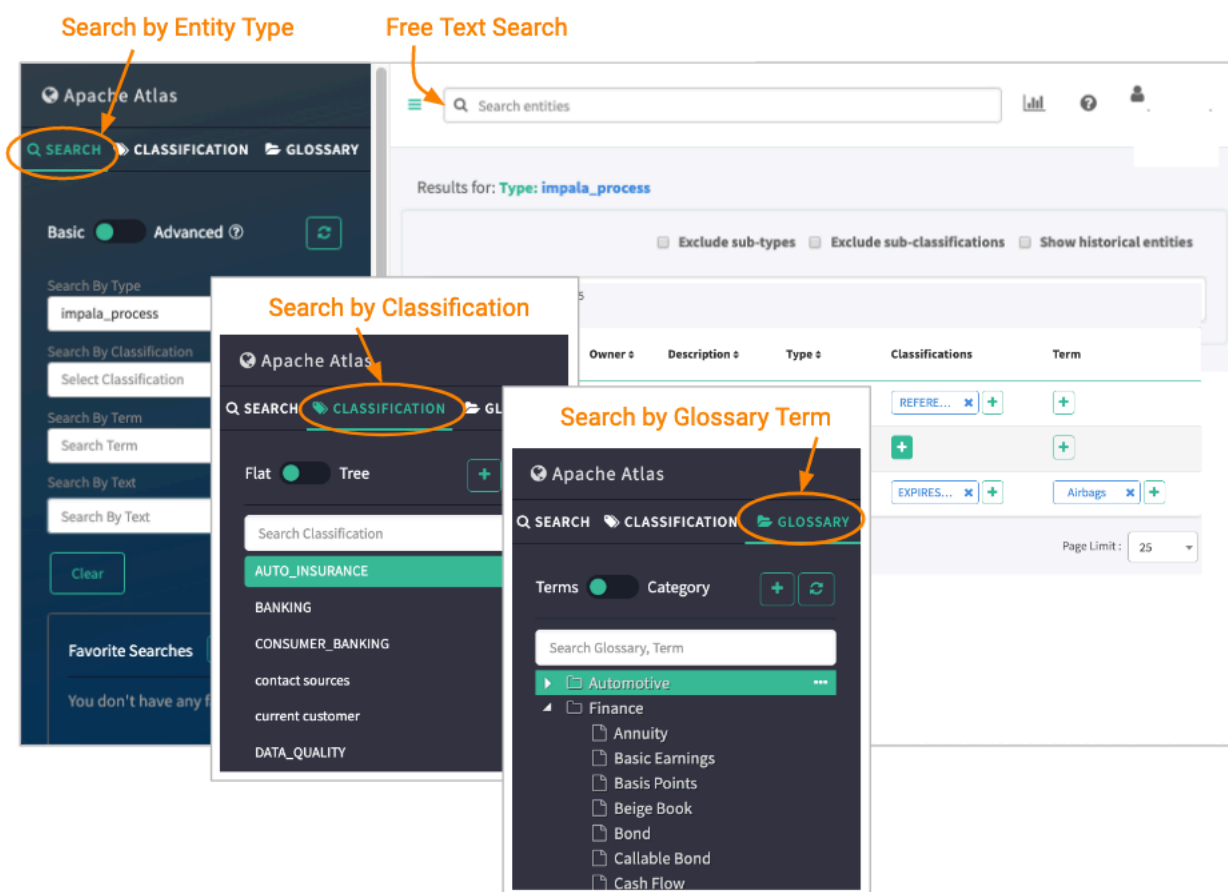
|                                    |           |
|------------------------------------|-----------|
| <b>Searching overview.....</b>     | <b>4</b>  |
| <b>Using Basic Search.....</b>     | <b>5</b>  |
| <b>Using Search filters.....</b>   | <b>6</b>  |
| <b>Using Free-text Search.....</b> | <b>8</b>  |
| <b>Saving searches.....</b>        | <b>9</b>  |
| <b>Using advanced search.....</b>  | <b>10</b> |

## Searching overview

Search using any metadata text, by entity type, entity and system attribute value, classification, or glossary term.

You can search for entities using four search modes:

- Free text from all string-type metadata, including classifications, labels, Business Metadata attributes, and user-defined properties
- By entity type, with refinements by system attribute, entity attribute, Business Metadata attribute, classification, term, label, or user-defined property
- By classification
- By glossary term



### Related Information

[Using Free-text Search](#)

[Using Basic Search](#)

[Using Search filters](#)

[Searching for entities using classifications](#)

[Searching for entities using Business Metadata attributes](#)

[Searching for entities using terms](#)

[Using advanced search](#)

[Saving searches](#)

## Using Basic Search

Search using an entity type in Basic Search.

With Basic Search, Atlas returns all of the entities of the type you select.

There are many ways you can define a Basic Search. Setting a value in more than one search field builds a logical



AND condition for the search. To repeat the same search, click the Refresh button.

### Search By Type

- Choose an entity type to limit the search.
- Choose `_ALL_ENTITY_TYPES` to apply an attribute filter across all entity types.



### Search By Type and specify attribute values using the Filter

The Attribute Filter dialog box lists all the attributes that correspond to the selected entity type, including:

- Technical attributes specific to the entity type
- System attributes, including classifications, labels, and user-defined properties
- Business Metadata attributes
- Terms



**Note:** When searching on classifications in the Search By Type filter, use "contains" rather than "=" for the filter operator. If there is more than one classification assigned to an entity, "contains" matches a single classification name; equal only matches the entire list of classifications names.

### Search By Classification

- Choose an existing classification; the search returns all entities that have that classification assigned to them.
- Choose `_ALL_CLASSIFICATION_TYPES` to apply an attribute filter across all classifications.
- Choose `_CLASSIFIED` or `_NOT_CLASSIFIED` with an entity type selected to find entities of that type with any or no classifications assigned.



### Search By Classification and specify attribute values using the Filter

The Attribute Filter dialog box lists all the attributes for the selected classification; set a value to one or more attributes to define the search. You can choose to match partial strings using the "contains", "begins with", and "ends with" operators.

### Search by Term

Choose an existing glossary term. You can enter the first few letters to select a term from a list of matching terms. This filter is case-sensitive.

### Search by Text

Search on string values for technical, system, Business Metadata, and classification attribute values. Labels and terms are also included. This search is the same as the Free-Text search; note that when you enter text in the Free-Text search box, it fills in this Search By Text field also.

You can also save these searches when they are useful to run more than once.

**Related Information**[Using Free-text Search](#)[Searching for entities using Business Metadata attributes](#)[Searching for entities using terms](#)[Searching for entities using classifications](#)[Saving searches](#)[Apache Atlas metadata attributes](#)[Using Search filters](#)

## Using Search filters

The Basic Search panel includes filter icons that allow you to search for entities based on one or more attribute values.

In a filter row, the attribute data type determines which of the following operators can be used to define your search criteria:

| Strings     | Dates       | Enumerations<br>Boolean | Numerics    |
|-------------|-------------|-------------------------|-------------|
| =           |             | =                       | =           |
| !=          |             | !=                      | !=          |
|             | >           | >                       | >           |
|             | <           | <                       | <           |
| is null     | is null     | is null                 | is null     |
| is not null | is not null | is not null             | is not null |
| contains    |             |                         |             |
| begins with |             |                         |             |
| ends with   |             |                         |             |

All classification attributes are string values; numerics include byte, short, int, float, double, and long attribute data types.



**Note:** If the attribute you are searching for could include multiple values, use "contains" rather than "=" to make sure the search finds the individual value out of the list.

The screenshot shows the 'Attribute Filter' dialog. At the top left, there are 'AND' and 'OR' buttons. On the right, there are '+ Add filter' and '+ Add filter group' buttons. A single filter row is visible with 'ProcessingStage (string)' in the attribute dropdown. A dropdown menu is open, showing operators: '=', '!=', 'contains', 'begins with', 'ends with', 'is null', and 'is not null'. To the right of the operator dropdown is an empty value input field with a red 'X' button. At the bottom right, there are 'Cancel', 'Apply', and 'Search' buttons.

To search on values for more than one attribute, add another filter row to the search filter (click Add filter). The search can find entities matching either filter criteria (logical OR) or matching both criteria (logical AND). Set the logic using the AND / OR buttons at the top-left of the filter rows.

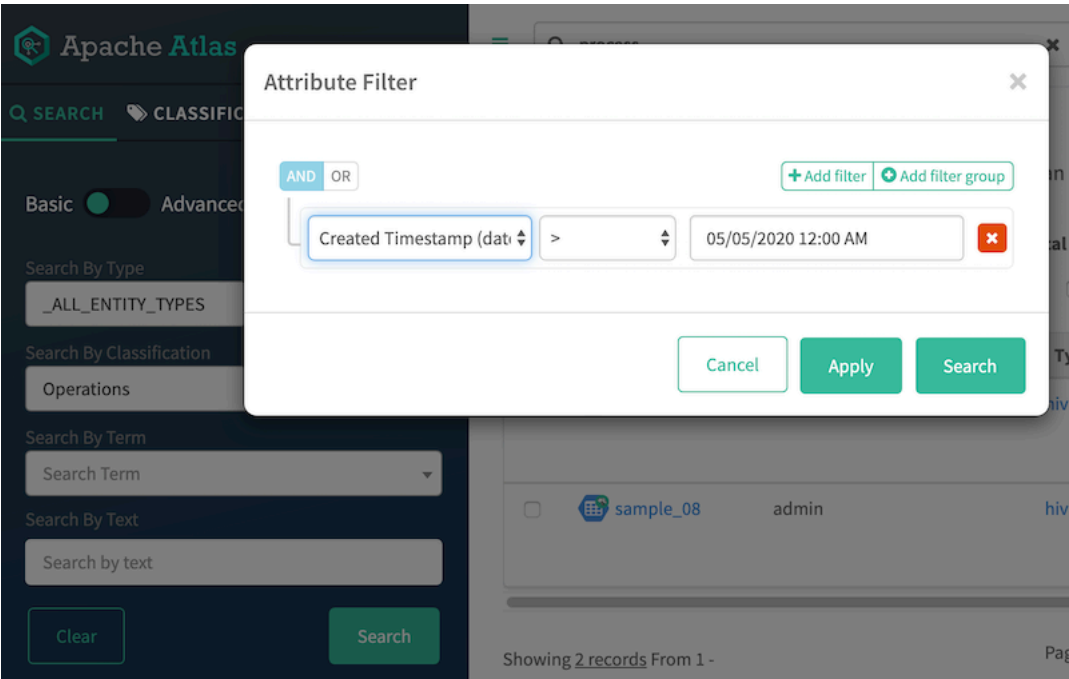
You can combine logical AND and OR criteria using filter groups. The logic is the same within a filter group; use more than one filter group to produce both AND and OR logic. For example, the following Classification attribute filter searches for entities that are at "new" or "acknowledged" stages in their processing and are owned by the Finance business team.

The screenshot shows the 'Attribute Filter' dialog with a more complex configuration. At the top left, 'AND' and 'OR' buttons are present. On the right, there are '+ Add filter', '+ Add filter group', and a 'Delete' button. The filter structure is as follows:
 

- Top level: 'BusinessOwner (string)' = 'Finance'.
- Below this, there is a filter group indicated by a bracket on the left. Inside this group:
  - Logic: 'AND'.
  - Filter 1: 'ProcessingStage (string)' contains 'New'.
  - Filter 2: 'ProcessingStage (string)' contains 'Acknowledged'.

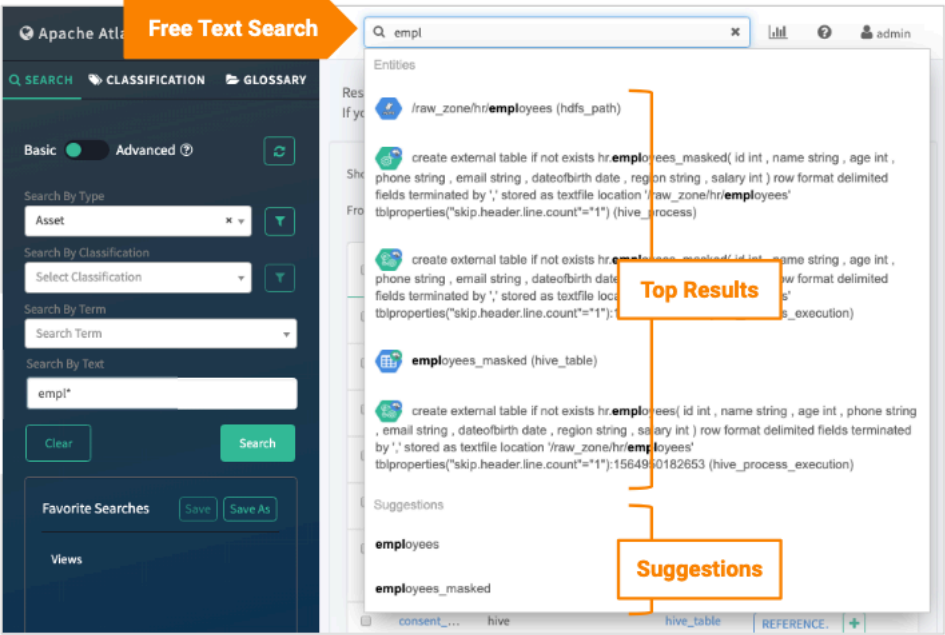
 At the bottom right, there are 'Cancel', 'Apply', and 'Search' buttons.

If you wanted to further limit the search results to the entities that were created in Atlas in the last 24 hours, you would open the attribute filter for Search by Entity Type and set the system attribute "Created Timestamp" less than 24 hours. To open the Search by Entity Type filter, you would need to select an entity type or "\_ALL\_ENTITY\_TYPES".



# Using Free-text Search

Apache Atlas builds a ranked index of metadata values so you can search for values across all metadata. The search field in the top of the dashboard lets you search for entities, classifications, or terms by entering any full or partial text to match any entity metadata values. Atlas searches all metadata fields that have string data types, so you can use this search tool to find entities by their labels, descriptions, locations, or other metadata.





Searches are case insensitive. Searches automatically append the asterisk (\*) wildcard to the search term or terms so that the search behavior is to find partial strings anywhere they occur in the metadata value. The following single and double characters have special meaning:

```
+ - && || ! ( ) { } [ ] ^ " ~ * ? : \
```

If your search string includes one of these characters, surround the string in double quotation marks or escape the special character with a backslash.

You can see that the search terms you use in the search at the top of the dashboard are also inserted into the free text search field in the left Search panel: you can combine the free text search with other selections to narrow the search results. The combination acts as an “AND” with other search criteria.

Search result ordering: The search results are ranked by how well they match the search terms, with entities that match on more than one metadata value being ranked higher.

Different metadata have different scores, where the highest scoring metadata fields are entity names, including Kafka topic names. Descriptions, users/owners, query text, and comments rank next. Locations, namespaces, domains, etc. come next. Search results are not ordered in any specific way among results that have the same search ranking.

Suggestions: As you enter your search text, you see the five highest-ranked matching items and as many as five suggestions.

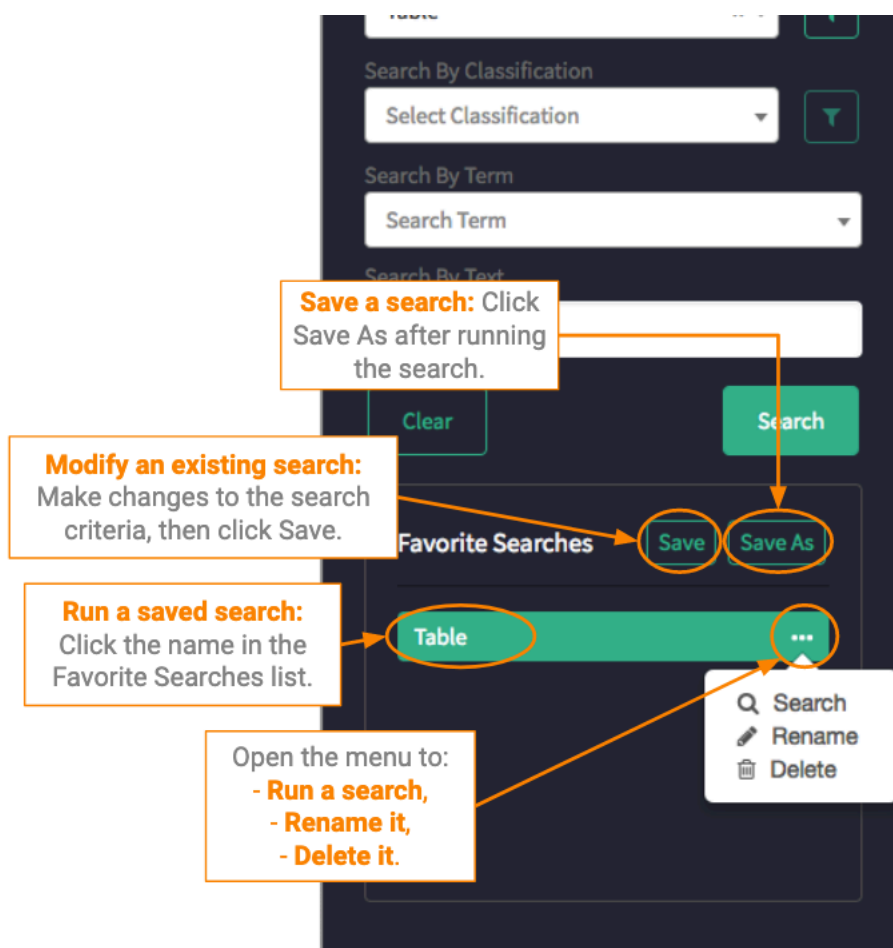
The matching items are ranked in the same way as the general search results, case-sensitive (at the moment) terms that “contain” the search terms; If there are more than five search results with the same search ranking, the five shown are randomly ordered from the highest scoring results.

The suggested items are chosen from search results that match with a “starts with” behavior.

## Saving searches

Saving a search saves the search criteria with a name that will help you remember what the search returns.

After you run a search, you can save it under a name in the list of Favorites. Here's what you can do to save a search and to use a search you've already saved:

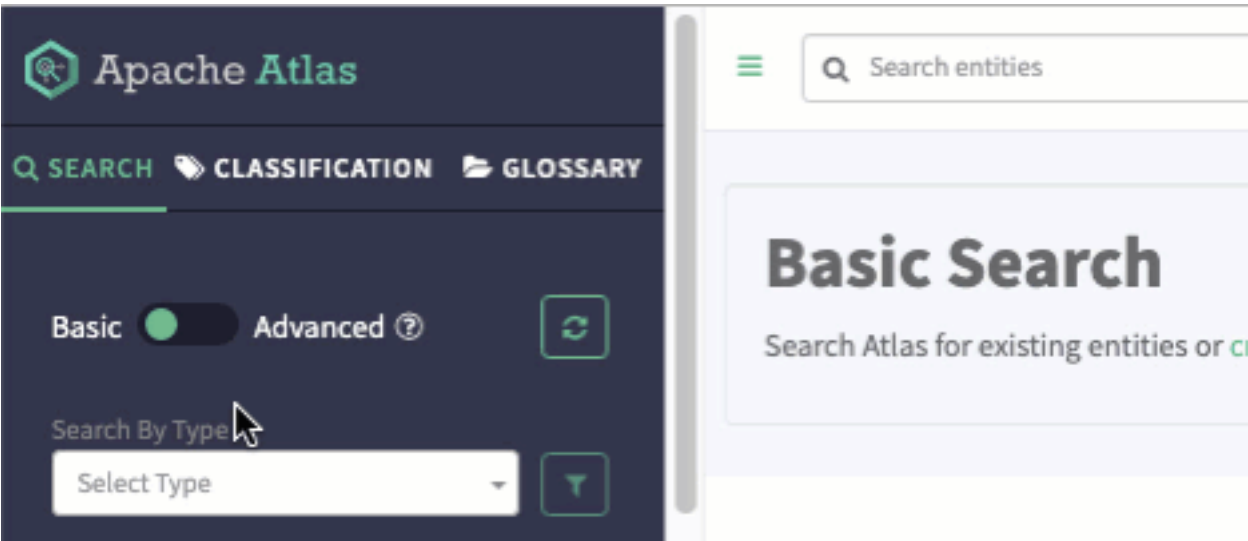


## Using advanced search

Apache Atlas advanced search lets you use a query language to combine criteria and refine search results.

Advanced search gives you more control over search criteria through the Atlas domain-specific query language.

In the left navigator pane, Search tab, switch to Advanced search mode by sliding the green toggle button from Basic to Advanced.



Select an entity type if appropriate, then add your query to refine the search results. Here are some examples of advanced search queries:

- Search for partial names

```
from hive_table where name LIKE '*_dim'
```

- Search in date ranges

Note that the entity attributes may contain date fields that are populated from the source while the system attributes contain date fields that are populated when the entity is created in Atlas. The values can be different.

|                                   |                                                                                                  |
|-----------------------------------|--------------------------------------------------------------------------------------------------|
| Entity attribute createTime       | <pre>from hive_table where createTime &gt; '2019-01-01' and createTime &lt; '2019-01-03'</pre>   |
| System attribute Create Timestamp | <pre>from hive_table where __timestamp &gt; '2019-01-01' and __timestamp &lt; '2019-01-03'</pre> |

- Search for deleted entities

System attributes (with two underscores before the name) are available on all entity types.

```
from hive_table where __state = DELETED
```

- Search for multiple criteria

```
from hdfs_path where isFile = true and name = "Invoice"
```

- Return specific metadata

```
from hive_table where name = 'customer_dim' select owner, name,  
qualifiedName, createTime
```

- Search for entities with classifications

```
from hive_table where hive_table isa Dimension select owner, name, quali  
fiedName
```

See the advanced search reference for information about the query language and for more examples.

### Related Information

[Atlas Advanced Search language reference](#)

[Apache Atlas Advanced Search \(atlas.apache.org\)](https://atlas.apache.org)