# **Squirro Academy**

# **Cheat Sheet - Query Syntax**

Query syntax refers to the way users structure their search inputs. By using operators (AND, OR, NOT, +,-), brackets (), wildcards (\*,?), and quotation marks (" "), you can narrow or broaden your search results. By starring, boosting, sorting, and manipulating time increments, you can adjust how your results are presented.

### **Boolean Operators**

### OPERATOR



# AND NOT

Operators must be entered in all capital letters.

- Term after the + symbol must exist somewhere.
- Excludes documents that contain the term after the symbol.

#### **EXAMPLE BOOLEAN OUERIES**

squirro <b>AND</b> memonic	Search documents that contain squirro and memonic.
squirro <b>OR</b> memonic	Search documents that contain either squirro or memonic.
+memonic -squirro	Search documents that contain memonic but do not contain squirro.
squirro <b>NOT</b> memonic	Search documents that contain squirro but do not contain memonic.

### Wildcard Search

- Two wildcard operators are permitted:
  - \* matches 0 or more characters.
  - ? matches any single character.
- Leading wildcards are allowed, but note that they can be very slow and potentially timeout within Elasticsearch. To prevent slow queries, avoid beginning the search query with \* or?
- Wildcard search can also apply per field.

#### **EXAMPLE WILDCARD OUERIES**

squirr*	Search documents that contain (e.g.) "squirro" and "squirrel".
*emonic	Search documents that contain (e.g.) "memonic" and "mnemonic". (As noted above, this has the potential to be an extremely slow search.)
te <b>?</b> t	Search documents that contain (e.g.) "test" and "text".
name:*	Search documents that have (e.g.) the field "name".
-name:*	Search documents that do not have (e.g.) the field "name". 1
name:squir*	Search documents that contain the "name" field started by "squir", (e.g.) "name:squirro" and "name:squirrel".

<sup>1</sup> Facet names containing spaces need to be put inside quotes within queries.

### Defaults

- 'Title' and 'body' fields are taken into account when searching.
- Search terms entered are **OR** combined by default.
- Dynamically tagged text labels can also be made searchable. ☐ Learn more about <u>Default Term Matching Configuration</u>.

### Phrase Search

- Use double quotes "" around the search terms to perform a phrase search.
- Phrase search returns results found within close distance (the default distance is 5 terms.
- Manually specify the phrase\_slop distance between terms using a tilde ~

#### **EXAMPLE PHRASE OUERIES**

"oracle financial services"	Find documents where oracle, financial and services are found within the configured default phrase_slop distance. See query strategy configuration (topic.search.query-strategy::phrase.phrase_slop)
"oracle financial services"~1	Find documents where oracle, financial and services match in exactly this order and within three terms.
"oracle financial leasing"~3	Find documents where oracle, financial and leasing must match but allow for up to 3 additional terms between them. The order of the terms is no longer strict, but swapping two words is equivalent to adding two words in terms of edit distance.

# Grouping

Use round brackets/parentheses () to group search terms.

#### **EXAMPLE GROUPED OUERIES**

(java <b>AND</b> solar <b>) OR</b> (python AND elasticsearch)	Search documents that contain both java and solar, or documents that contain both python and elasticsearch.
nektoon <b>AND</b> (squirro <b>OR</b> memonic)	Search documents that contain nektoon and either squirro or memonic.

## **Entity Search**

Query syntax to search for items having entities satisfied some criteria:

entity :{< any query to match a single entity document >}

#### **EXAMPLE ENTITY QUERIES**

<pre>entity:{type:company AND name:"Thom- son Reuters"}</pre>	Search for Items containing at least one compa- ny-typed Entity "Thomson Reuters" and another one Entity "Squirro".
<pre>entity:{type:company AND name:"Thom- son Reuters" AND confidence &gt; 0.8}</pre>	Search for Items containing a specific Entity of type company with a confidence higher than 80%.

### Starred and Read Items

- Starred items are items marked as favorite / bookmarked items.
- Flags must be enabled for your project(s) before you are able to guery for starred and read items.
- To do so, enable the enable\_flags\_for\_project\_ids property in topic.ini

Query syntax for (un)starred items and (un)read items:



# Sorting

You can use the following query syntax to sort the result:

sort:<field\_name>[:<order>]

The square brackets mean the fields are optional. The brackets are not part of the syntax.

Where <field\_name> is either date (default) or relevance or any item field name you want to sort by and <order> is either asc for ascending or desc for descending. The order suffix is optional, the default order is descending.

Additionally, you can add a second (or third etc.) sorting criteria by adding the following to the guery syntax:

[;<2nd\_sort\_field>[:<2nd\_order>]]

#### **EXAMPLE SORTED OUFRIES**

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sort:date	Sort by date (descending order by default).
sort:date:asc	Sort by date in ascending order.
sort:relevance:desc	Sort by relevance in descending order.
<pre>sort:<my_sortable_facet> :desc;date:desc</my_sortable_facet></pre>	Sort by "my_sortable_facet" in descending order, additionally add a second sorting by descending date.

### Label Search

Use any document label to restrict the search.

Label searches are case sensitive.

#### **EXAMPLE LABEL OUERIES**

Country:France	Search documents that have a label named Country with a value France.
Country:"United Kingdom"	Search documents that have a label named Country with a value United Kingdom. <sup>2</sup>
"Mixed Sentiment":Yes	Search documents that have a label named Mixed Sentiment with a value Yes. <sup>2</sup>

<sup>&</sup>lt;sup>2</sup> Facet names containing spaces need to be put inside quotes within search queries.

### Time Increment

Time increments shown in the main timeline and in the dashboard widgets can be controlled using time\_increment:<value>

#### Possible values include:

- time increment:minute
- time increment:hour
- time\_increment:day
- time increment:week
- time increment:month
- time\_increment:guarter
- time\_increment:year

Values can also be further defined for increased flexibility. For example:

- time\_increment:12hours
- time\_increment:4days
- time\_increment:8weeks
- time increment:6months
- time\_increment:3year

There is a performance impact when using a time increment that results in many individual increments. This impact is both in the user interface, where each increment needs to be drawn, as well as on the Elasticsearch level, where they need to be calculated. Accordingly, use the setting carefully.

### Boosting

- Individual elements of a guery can be prioritized by boosting them.
- Sorting needs to be by relevance to notice the changed relevance scores.

#### **EXAMPLE BOOSTED OUERIES**

France^10 Europe	Search for France and Europe, but boost matches of "France".
France <b>OR Country:</b> France <b>^</b> 10	Search for France in full text, as well as the "Country" facet and boost items that have the value defined in the country facet.
France-10	items that have the value defined in the country facet.
France * 0.1 Europe	Search for France and Europe, but de-prioritize matches of "France" (the default boost is 1.0).

# Field Search

Only search within specific fields.

#### **EXAMPLE FIELD QUERIES**

\$title:France	Search documents with the term France in the title.
\$body:France	Search documents with the term France in the body.
\$item_id:PgnAQM1FTSCP1uNOesoE7Q	Search for a specific document by id.
\$item_created_at>="2015-02-01T00:00:00"	Search documents created after Feb. 2, 2015.
\$item_created_at<="2015-02-01T00:00:00"	Search documents created before Feb. 2, 2015.
\$item_created_at>="now-7d/d"	Search documents created in the last 7 days (see <u>Elasticsearch documentation</u> )
\$_size > 100000	Search documents with size > 100,000 bytes