Overview

The Simple Query Language is a query language that provides basic search functionality to novice users. It is similar to the Google and Yahoo query languages.

ℹ	Simple Query Language is a "default AND" query language. This means that all terms in the query are ANDed together, unless specifically excluded with the exclusion modifier (-) or made optional with the **OR** operator. For example, a query containing the term, "AND", returns documents containing the word, "and". (The AND operation is implicit in Simple Query Language, and "AND" is never interpreted as an AND operator in Simple Query Language).

Special Characters

The following characters are special characters that must be escaped with a backslash () unless wrapped in double quotes:
```
– \ " < > [ ] { } : ~ ^
```

Example Value	Escaped Value	Quoted Value
dog	dog	"dog"
attivio engine	attivio\ engine	"attivio engine"
dog=cat	dog\=cat	"dog=cat"
double"quote	double\"quote	"double\"quote"

Data Types

Strings

A **String** is a run of characters broken by a space or other special character.
To specify a string that contains spaces, wrap the string in double quotes.

Dates

A **Date** value must be specified in UTC format, wrapped in double quotes, because the colon is a special character:
"YYYY-MM-DDThh:mm:ssZ"

Examples	Notes
"2007-08-09T05:55:00Z"	fully specified
"2007-08-09Z"	assumes dates in the index are for midnight, that is, 00:00:00Z

⚠	To search for dates, query date fields in the schema.

⚠	• Dates in documents (except in the case of Date() objects) and queries are always parsed in UTC format and timezone. • Leaving off the time portion of the date defaults the time to midnight; so, for example, searching for date:[2009-03-12 TO 2009-03-13] is equivalent to searching for date: [2009-03-12T00:00:00 TO 2009-03-13T00:00:00].

Numbers

Numbers can be searched at query time.

To search for a negative number, the number must be wrapped in double quotes, because the minus sign (-) is a special character.

Examples
532
532
"-532"
5.5
5.05
"-32.8"

⚠	To search for numbers, query numeric fields (integer, double, float, long) in the schema.

Terms

Terms and phrases can be searched at query time.

The syntax for a Term is:
`VALUE[MODIFIERS]`

Example Query	Description
hello	Match documents that contain the term "hello"
"hello world"	Match documents that contain the phrase "hello world"

Boost Modifier

A boost can be applied to a term in order to more heavily weight the value of matching that term in relevancy scoring.

To boost a term, append the search term/phrase with a caret ("^") symbol along with an integer (percentage) boost factor. The default boost factor is 100 which is, effectively, no boost.

Example Query	Description
hello^200	Match documents that contain the term "hello" and weight documents that contain this term twice as heavily

Similarity Modifier

A term can be used in a similarity search. A similarity search finds terms that are similar to the search term.

To use a term in a similarity search, append the search term with a tilde ("~") symbol followed by an optional similarity factor (Default: 50).
The similarity factor is a percentage value between 1 and 100.

Example Query	Description
cat~80	Match documents that have terms that are similar to the term "cat" (matching terms may include "hat", "cats", "bat")

Wildcard Searching

To perform wildcard searches, specify the "*" or "?" characters in the search term.

Example Query	Description
h?llo	Match documents that satisfy the wildcard expression "h?llo" (matching terms will include "hello", "hillo", "hallo", etc)
cat*	Match documents that satisfy the wildcard expression "cat*" (matching terms will include "cat", "cats", "catapult", etc)

Fields

Field-specific queries can be performed.

Field Modifier Syntax:
`FIELD:EXPRESSION`

FIELD is the name of the field to search. EXPRESSION is the search term or expression.

Any search terms that are not field-specific are applied to the default search field that is specified in the schema.

Example Query	Description
title:hello	Match documents that contain the term "hello" in the "title" field
title:"hello world"	Match documents that contain the phrase "hello world" in the "title" field

Ranges

Range searches match all documents that have values within a given range for a given field.
Range queries can be applied to all data types, including strings.

> Range queries without an upper bounds default to unbounded search. For example date: [2009-03-15] is the same as date:[2009-03-15 TO *].

Operator	Query	Description
Greater Than	size:>55	Match documents with values greater than 55 (exclusive)
Greater Than	size:[55 TO *]	Match documents with values greater than 55 (inclusive)
Greater Than	size:{55 TO *]	Match documents with values greater than 55 (exclusive)
Less Than	size:<55	Match documents with values less than 55 (exclusive)
Less Than	size:[* TO 55]	Match documents with values less than 55 (inclusive)
Less Than	size:[* TO 55}	Match documents with values less than 55 (exclusive)
In Range	size:[5 TO 50]	Match documents with values between 5 and 50 inclusive
In Range	size:{5 TO 50}	Match documents with values between 5 and 50 exclusive
In Range	size:[5 TO 50}	Match documents with values between 5 (inclusive) and 50 (exclusive)
In Range	size:{5 TO 50]	Match documents with values between 5 (exclusive) and 50 (inclusive)

In Date Range	date:[2007-01-01 TO 2007-01-04]	Match documents with date values between Jan 1 and Jan 4th 2007
In Date Range	date:[2007-01-01T00:00:00Z TO 2007-01-01T00:00:00Z]	Match documents with date values between Jan 1 and Jan 4th 2007 with full precision
In Date Range	date:[2009-03-15]	Match documents with dates later than March 15th 2009

Exclusion Modifier

Use the exclusion modifier to match only documents that do not contain a specific term.

To exclude a term, prefix the term with a **-**.
If the term includes a field, place the **-** prior to the field name.

Example Query	Description
-cat	Only match documents that do not contain the term cat in the default search field
-title:cat	Only match documents that do not contain the term cat in the title field

OR Operator

Use the OR operator to require that a matching document contain only one of many possible values.

⚠️	The **OR** operator must be specified in upper case (otherwise the search is for term, "or").

Example Query	Description
cat OR dog	Matches documents that contain the term "cat" or the term "dog"
cat OR "hound dog"	Matches documents that contain the term "cat" or the phrase "hound dog"