



## Searching with Keywords

Keywords are the most efficient way to quickly find what you want on MilitaryHire. They are also the most complicated search tool. The purpose of this tutorial is to help you better use keywords in your searching.

### *Precision vs. number of results*

The four options for type of keyword search each offer a different level of search precision and corresponding number of results. The more precise your search, the fewer results you will get. This rule applies to all aspects of searching, not just keywords. It is very easy to define such a precise search that you get few or no results. Many times a less precise search would yield a larger number of good results.

The following table shows the precision vs. number of results tradeoff.

	<b>Any Keywords</b>	<b>All Keywords</b>	<b>Exact Phrase</b>	<b>Boolean Search</b>
Precision	Low	Medium	High	Extremely High
Number of results	High	Medium	Low	Very Low

### *All Keywords/Any Keywords*

The All Keywords and Any Keywords options are the easiest way to search using keywords. With these options, you can specify one or more words to use in identifying relevant postings. You do not need to type quotation marks, commas, or anything other than the words themselves. For example, you might enter

maintenance logistics aircraft

to find postings related to aircraft maintenance. If you select the "All Keywords" option, your results will be limited to postings that contain all three words. A posting with two of the three would be excluded. This results in more accurate, but fewer results. If you choose "Any Keywords," your results will contain postings with any one or more of the keywords. You will get more postings, but they may be a less accurate match.

## Exact Phrase

The exact phrase feature limits your search results to postings containing the exact phrase you enter. You should not enter any quotation marks or other punctuation. All other postings will be excluded. This results in even fewer results than the "All Keywords" option. For example, if you enter

```
Aircraft Maintenance
```

you will see any posting with the phrase "aircraft maintenance." postings containing both words, but in a different order, will be excluded.

## Boolean Search

Boolean searches are the most powerful and complex queries. Boolean searches require special attention be paid to proper syntax. Boolean searching allows you to apply the following conditions to your search words:

### WILDCARD SEARCHES

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Boolean searching supports single and multiple character wildcard searches within single terms (not within multiple word phrases).

To perform a single character wildcard search use the "?" symbol.

To perform a multiple character wildcard search use the "\*" symbol.

The single character wildcard search looks for terms that match that with the single character replaced. For example, to search for "text" or "test" you can use the search:

```
te?t
```

Multiple character wildcard searches looks for 0 or more characters. For example, to search for test, tests or tester, you can use the search:

```
test*
```

You can also use the wildcard searches in the middle of a term.

```
te*t
```

Note: You cannot use a \* or ? symbol as the first character of a search.

### FUZZY SEARCHES

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Boolean searching supports fuzzy searches based on the Levenshtein Distance, or Edit Distance algorithm. To do a fuzzy search use the tilde, "~", symbol at the end of a Single word Term. For example to search for a term similar in spelling to "roam" use the fuzzy search:

```
roam~
```

This search will find terms like foam and roams.

An additional (optional) parameter can specify the required similarity. The value is between 0 and 1, with a value closer to 1 only terms with a higher similarity will be matched. For example:

```
roam~0.8
```

The default that is used if the parameter is not given is 0.5.

## PROXIMITY SEARCHES

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Boolean searching supports finding words are a within a specific distance away. To do a proximity search use the tilde, "~", symbol at the end of a Phrase. For example to search for a "transportation" and "logistics" within 10 words of each other in a document use the search:

```
"transportation logistics"~10
```

## BOOSTING A TERM

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Boolean searching provides the relevance level of matching documents based on the terms found. To boost a term use the caret, "^", symbol with a boost factor (a number) at the end of the term you are searching. The higher the boost factor, the more relevant the term will be.

Boosting allows you to control the relevance of a document by boosting its term. For example, if you are searching for

```
logistics transportation
```

and you want the term "logistics" to be more relevant boost it using the ^ symbol along with the boost factor next to the term. You would type:

```
logistics^4 transportation
```

This will make documents with the term logistics appear more relevant. You can also boost multiple word phrases as in the example:

```
"aircraft maintenance"^4 "helicopter"
```

By default, the boost factor is 1. Although the boost factor must be positive, it can be less than 1 (e.g. 0.2)

## BOOLEAN OPERATORS

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Boolean operators allow terms to be combined through logic operators. Boolean searching supports AND, "+", OR, NOT and "-" as Boolean operators(Note: Boolean operators must be ALL CAPS).

The OR operator is the default operator. This means that if there is no Boolean operator between two terms, the OR operator is used. The OR operator links two terms and finds a matching document if either of the terms exist in a document. The symbol || can be used in place of the word OR.

To search for documents that contain either the phrase "aircraft maintenance" or just "logistics" use the query:

```
"aircraft maintenance" logistics
```

or

```
"aircraft maintenance" OR logistics
```

## AND

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The AND operator matches documents where both terms exist anywhere in the text of a single document. The symbol && can be used in place of the word AND.

To search for documents that contain "aircraft maintenance" and "helicopter" use the query:

```
"aircraft maintenance" AND "helicopter"
```

## +

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The "+" or required operator requires that the term after the "+" symbol exist somewhere in a the text of a single document.

To search for documents that must contain "aircraft" and may contain "maintenance" use the query:

+aircraft maintenance

## NOT

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The NOT operator excludes documents that contain the term after NOT. The symbol ! can be used in place of the word NOT.

To search for documents that contain the phrase "aircraft maintenance" but not "helicopter" use the query:

```
"aircraft maintenance" NOT "helicopter"
```

Note: The NOT operator cannot be used with just one term. For example, the following search will return no results:

```
NOT "aircraft maintenance"
```

-

The "-" or prohibit operator excludes documents that contain the term after the "-" symbol.

To search for documents that contain "aircraft maintenance" but not "helicopter" use the query:

```
"aircraft maintenance" -"helicopter"
```

## GROUPING

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Boolean searching supports using parentheses to group clauses to form sub queries. This can be very useful if you want to control the boolean logic for a query.

To search for either "logistics" or "transportation" and "aircraft" use the query:

```
(logistics OR transportation) AND aircraft
```

This eliminates any confusion and makes sure you that aircraft must exist and either term logistics or transportation may exist.

## ESCAPING SPECIAL CHARACTERS

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Boolean searching supports escaping special characters that are part of the query syntax. The current list special characters are

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

To escape these character use the \ before the character. For example to search for "F-16" use the query:

```
F\-16
```

To search for "c++" use the query:

```
c\+\+
```

Note: in "All Keyword," "Any Keyword," and "Exact Phrase" searches, special characters are automatically escaped. You do not need to use the "\" character. In Boolean searches, however, you must use the "\" to escape special characters as described above. This allows us to determine whether you intend the special character to be a part of a search word or a boolean command.