

Search

How to return OpenSearch results from your search engine

The exact details on what needs to be done for your site depend on your particular technology.

To get you started, the [OpenSearch client libraries page](#) contains a list of libraries that can produce OpenSearch results within popular software packages and programming languages.

If those libraries don't meet your needs, there are three basic steps for publishing your search results as OpenSearch:

1. Modify your search engine to optionally return results in RSS or Atom format, augmented with [OpenSearch response elements](#).
 - Check to see if there is [already software](#) to do this for you.
 - If you can edit the source code of your search engine, do so to support RSS or Atom based search results.
 - If you can not edit the source code, then you may be able to write a wrapper around the existing search results to transform them into RSS or Atom. XSLT works well for transforming XML-based search results, and Perl and Python are good languages to scrape HTML based search results.
2. Create a [OpenSearch description document](#) and publish it on the same host as the search engine.
3. Lastly, you'll probably want to submit your OpenSearch description document to the one of the [directories of search engines that support OpenSearch](#).

How to indicate errors

There is no hard rule about how the search server should communicate error conditions to the search client.

However, the technique of returning a single result containing an error message provides the end-user with an explanation as to what wrong.

For example:

```
<?xml version="1.0" encoding="UTF-8"?>
<rss version="2.0" xmlns:openSearch="http://a9.com/-/spec/opensearch/1.1/">
  <channel>
    <title>title</title>
    <link>link</link>
    <description>description</description>
    <openSearch:totalResults>1</openSearch:totalResults>
    <openSearch:startIndex>1</openSearch:startIndex>
    <openSearch:itemsPerPage>1</openSearch:itemsPerPage>
    <item>
      <title>Error</title>
      <description>error message</description>
    </item>
  </channel>
</rss>
```

How to read OpenSearch results

You can use a publicly available search aggregator or search client, such as [those listed here](#).

Or you can build your own search client, perhaps using one of the existing [OpenSearch client libraries](#) to get you started.

And if nothing meets your exact needs, you can always write something from scratch by following the [OpenSearch specification](#).

For generating parsing/validation/marshalling-code, an **[XML Schema Definition](#)** describing OpenSearch might come in handy.

How to find OpenSearch enabled search engines

To find search engines that support OpenSearch, view [this list of sites that maintain directories of OpenSearch enabled search engines](#).

How to embed rich content in OpenSearch results

One solution is to use a **[microformats-based](#)** approach. Please see the article on [OpenSearch and microformats](#) for more information about this technique.