

Using a Search Center in Office SharePoint Server 2007

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Introduction

The SharePoint 2007 Search Center (with publishing turned on) offers several benefits over the search box found on all non-administration pages of your sites:

- They can be centralized or located within the collaborative environments.
- They use Web parts, not field controls and therefore provide an easily customizable set of user interfaces without writing code.
- They are separate sites which support inherited or unique permissions

As shown in Figure 1, the Search Center has no default content other than the three default pages—the search page, the advanced search page and the results page. It is a SharePoint site and, as such, can contain other pages and content. Those three pages are the default.aspx, advanced.aspx and results.aspx. We will introduce these three pages in this post, but discuss how to customize these pages in follow-up posts.

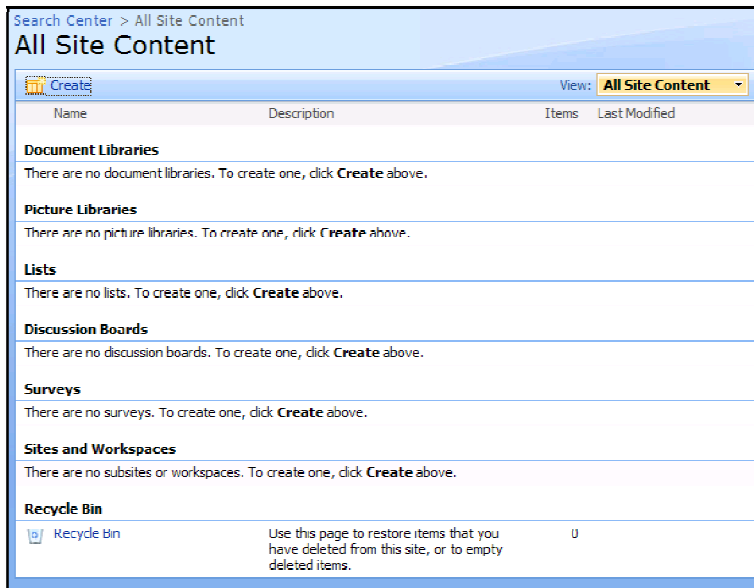


Figure 1 Search Center Viewlists page

Search Page

Named default.aspx, the search page is designed for constructing a simple query in the *Keyword Query* syntax which is then sent to the designated results page for processing and forwarding to the appropriate query servers or direct retrieval from the metadata database.

When you enter a query in the search box and click the search icon, the browser is redirected to the search results page passing the query terms as a URL query string using a HTTP 1.1 Get. For example:

`http://SearchCenter/results.aspx?k=train%20engine&s=All%20Content`

In this example, "k=" identifies the keyword query and "s=" identifies the scope.

Advanced Search Page

The advanced.aspx page can construct more complex queries using the *Full Text SQL Query* syntax which is then sent to the designated results page for processing and forwarding to the appropriate query servers or for direct retrieval from the metadata database. The Advanced Search Page can be configured to use a different Results Page than that used by the Search Page.

Search Results Page

The results.aspx contains a number of Web parts that work together to forward the queries to the appropriate servers.

When this page is loaded, a hidden search object is instantiated by the Results Web Parts on this page. The web parts pass properties and settings to the hidden object. It handles all query specific logic. This hidden object receives the search

query, evaluates it and runs the query using the SharePoint object model - either using the FullTextSqlQuery or the KeywordQuery class depending upon which search page created the query. The hidden object then returns the search results from the search component as xml to the results page Web parts. These Web parts then receive the result sets, security trim them as appropriate and display the results according to the XSL transformations (XSLT) configurations of the Web parts.

Query Syntaxes

As noted above, the two search pages use a different syntax to pass the query string to the query servers. SharePoint search supports three query syntaxes—URL, Keyword and SQL. A brief overview of these “languages” will help you understand configurations used in the default pages and custom search applications.

Any application can construct a query with the appropriate syntax and post it to the results page which will execute the query. While this post does not include developing custom search Web parts or applications, understanding the search syntax to be used is essential to these development endeavors.

An MSDN article [Building Windows SharePoint Services Search Queries](http://msdn.microsoft.com/en-us/library/ms470199.aspx) <http://msdn.microsoft.com/en-us/library/ms470199.aspx> gives a reference for these syntaxes. While this post details all syntaxes, SharePoint’s Search UI only exposes Keyword Syntax out-of-the-box. Custom development is needed to utilize the other syntaxes.

The standard search box and search box field control calls result.aspx with HTTP GET and a URL query string. The KeyWordQuery class implementation is then used.

The Advanced Search WebPart Page uses form variables with HTTP POST. It uses some but not all of the FullTextSqlQuery class implementation.

If you want to examine the syntax and how the queries are passed in more detail, we suggest installing Fiddler available at www.fiddler2.com.

KeywordQuery Syntax

The KeywordQuery syntax parameters are:

- k** Specifies the keywords. This parameter only supports a single value although the string may include multiple words separated by spaces. (results.aspx?k=Blue%20suede%20shoes)
- s** Specifies the search scope. This parameter supports multiple values if they are separated by %2c. (results.aspx?s=AllSites%2cFileSystem)

v Specifies the result view to be used to sort the query results list. There are only two views available:

relevance - Results are sorted by relevance which is the default view. (results.aspx?v=relevance)

date - Results are sorted by date order. (results.aspx?v=date)

start If your results Web part is paginating the results list, this specifies which results row number to display first. (results.aspx?start=11) If your results Web part was paginating at 10 items, entering 11 as the value would display page 2 first.

These parameters are passed in the URL by applications and cannot be entered directly into the query text box on the standard query page.

However, keywords can be entered in different manners to impact the query.

- **Included term:** This is the default entry. It may be preceded by a "+" character which is assumed if no other character is entered.
- **Excluded term:** Keywords preceded by a "-" character must not be contained in items returned in search results.
- **Phrases:** Keywords enclosed in quotation marks are treated as phrases.

SharePoint also extends this syntax to support certain filters which users can type directly into the keyword text box to narrow the keyword search focus. The filters are typed in the <property name>:<value> format. While keyword property filters have no maximum length, the full length of the keyword query should be less than 1024 characters. If it exceeds that value, it switches to a POST action and a SQL query.

These filters are:

Site: This is the URL property of a site, library or list. If it contains a space, it must be enclosed in quotation marks and must not end with a trailing slash ("/"). The keyword entry **Blue Site:http://MOSS01/sites/devteam** will only return items containing the word blue found at the DevTeam site or below.

Managed properties: Keyword syntax only supports querying on managed properties of a string or numeric type. Boolean managed properties are not supported. Some managed property searches perform as a SQL "contains" clause. "Author:English" or Author:"Bill English" or "Author:Eng" will all return documents where Bill English is the author. For exact matches, a compound name should be enclosed in quotes, as "Bill English". Others must be an exact match. SiteTitle:"Corporate Site" will find the Web site while SiteTitle:Corporate will not. Users will not be able to use managed properties without training. You will need to identify significant managed properties and teach your users how to specify them

in keyword searches. A managed property does not have to be selected for use in a scope to be used as a filter in a keyword search property.

Scopes: Even in search boxes without the scope picker exposed, knowledgeable users can narrow their search using scope names. The friendly name of the scope should be entered enclosed within quotation marks if it contains spaces.

Duplicates: As a collapsing filter, duplicate can be used to request duplicates from a particular URL overriding the default action of the core results Web part which does not show duplicates. Unfortunately the complete URL must be entered as duplicates are collapsed at the item level. The Keyword entry **red duplicates:"http://MOSS01/Shared Documents/Exact Phrase.docx"** will return all duplicates of the specific document. The entry **red duplicates:"http://MOSS01/Shared Documents/"** will not return any results.

Keyword filters can be combined to form a complex keyword search. Except for "duplicates," include (+) and exclude (-) instructions work with these filters. As with simple keyword queries, the include is the default unless otherwise specified.

The actions differ somewhat if you use multiple filters of the same type. When you use a managed property (author:) with a site (site:), the assumed "+" is a join (AND). However if you use two or more of the same filters, (author:English author:Webster author:Curry), the assumed "+" functions as "OR". In either case, "-" functions as "NOT".

From a search box the keyword query "blue scope:"all sites" -green "blue not red" is passed as

```
GET /sites/DevTeam/search/results.aspx?k=blue%20scope%3A%22all%20sites%22%20-green%20%22blue%20not%20red%22 HTTP/1.1
```

If the scope had been selected from the drop box, the query would appear as

```
GET /Results.aspx?k=blue%20-green%20%22blue%20not%20red%22&s=All%20Sites HTTP/1.1
```

Notice that the scope picker used the keyword syntax "s" for scope but the manual entry used the filter "scope:"

SQL Syntax

The Enterprise Search query syntax supports many options that enable more complicated queries. Not all these options are used by the Advanced Search Web part.

The following table describes each clause in the **SELECT** statement, and the features it supports.

Clause	Description
--------	-------------

SELECT	Specifies the columns returned by the query.
FROM	Specifies the location to search.
WHERE	Specifies what constitutes a matching document. This clause has many options, enabling rich control over the search conditions. For example, you can match against words, phrases, inflectional word forms, strings, numeric and bitwise values, and multivalued arrays. You can also combine matching conditions with Boolean operators.
ORDER BY	Specifies the sort order for the results returned by the query. You can specify more than one field on which the results are sorted, and you can use ascending or descending ordering.

The following example searches for documents where the title contains "Trains" from the "All Sites" search scope.

```
SELECT rank, title, path, author from Scope() WHERE
CONTAINS(title,'Trains') and "scope"='All Sites'
```

Since users will not be manually entering SQL syntax queries, a detailed description of how to construct one is outside the scope of this post. For developers, the SDK contains instructions on building custom Web parts and constructing queries in the SQL syntax.

Additional posts in this series include

- [Customize the Search Page in an Office SharePoint Server 2007 Search Center Site](#)
- [Customize the Advanced Search Page in an Office SharePoint Server 2007 Search Center Site](#)
- [Customize Search Results Pages in an Office SharePoint Server 2007 Search Center Site](#)
- [Adding Pages to an Office SharePoint Server 2007 Search Center Site](#)

More Information

For more training on using search and other End User related topics, see the following training courses available at [Mindsharp](#):

- [Office SharePoint 2007 Power End User](#)
- [Office SharePoint 2007 Site Collection Administration](#)