
PeopleTools 8.53: PeopleSoft Search Technology

October 2014

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Preface

Understanding the PeopleSoft Online Help and PeopleBooks

The PeopleSoft Online Help is a website that enables you to view all help content for PeopleSoft Applications and PeopleTools. The help provides standard navigation and full-text searching, as well as context-sensitive online help for PeopleSoft users.

PeopleSoft Hosted Documentation

You access the PeopleSoft Online Help on Oracle's PeopleSoft Hosted Documentation website, which enables you to access the full help website and context-sensitive help directly from an Oracle hosted server. The hosted documentation is updated on a regular schedule, ensuring that you have access to the most current documentation. This reduces the need to view separate documentation posts for application maintenance on My Oracle Support, because that documentation is now incorporated into the hosted website content. The Hosted Documentation website is available in English only.

Locally Installed Help

If your organization has firewall restrictions that prevent you from using the Hosted Documentation website, you can install the PeopleSoft Online Help locally. If you install the help locally, you have more control over which documents users can access and you can include links to your organization's custom documentation on help pages.

In addition, if you locally install the PeopleSoft Online Help, you can use any search engine for full-text searching. Your installation documentation includes instructions about how to set up Oracle Secure Enterprise Search for full-text searching.

See *PeopleTools 8.53 Installation* for your database platform, "Installing PeopleSoft Online Help." If you do not use Secure Enterprise Search, see the documentation for your chosen search engine.

Note: Before users can access the search engine on a locally installed help website, you must enable the Search portlet and link. Click the Help link on any page in the PeopleSoft Online Help for instructions.

Downloadable PeopleBook PDF Files

You can access downloadable PDF versions of the help content in the traditional PeopleBook format. The content in the PeopleBook PDFs is the same as the content in the PeopleSoft Online Help, but it has a different structure and it does not include the interactive navigation features that are available in the online help.

Common Help Documentation

Common help documentation contains information that applies to multiple applications. The two main types of common help are:

- Application Fundamentals

- Using PeopleSoft Applications

Most product lines provide a set of application fundamentals help topics that discuss essential information about the setup and design of your system. This information applies to many or all applications in the PeopleSoft product line. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of the appropriate application fundamentals help. They provide the starting points for fundamental implementation tasks.

In addition, the *PeopleTools: PeopleSoft Applications User's Guide* introduces you to the various elements of the PeopleSoft Pure Internet Architecture. It also explains how to use the navigational hierarchy, components, and pages to perform basic functions as you navigate through the system. While your application or implementation may differ, the topics in this user's guide provide general information about using PeopleSoft Applications.

Field and Control Definitions

PeopleSoft documentation includes definitions for most fields and controls that appear on application pages. These definitions describe how to use a field or control, where populated values come from, the effects of selecting certain values, and so on. If a field or control is not defined, then it either requires no additional explanation or is documented in a common elements section earlier in the documentation. For example, the Date field rarely requires additional explanation and may not be defined in the documentation for some pages.

Typographical Conventions

The following table describes the typographical conventions that are used in the online help.

<i>Typographical Convention</i>	<i>Description</i>
Key+Key	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For Alt+W, hold down the Alt key while you press the W key.
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe ().
[] (square brackets)	Indicate optional items in PeopleCode syntax.
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.
⇒	This continuation character has been inserted at the end of a line of code that has been wrapped at the page margin. The code should be viewed or entered as a single, continuous line of code without the continuation character.

ISO Country and Currency Codes

PeopleSoft Online Help topics use International Organization for Standardization (ISO) country and currency codes to identify country-specific information and monetary amounts.

ISO country codes may appear as country identifiers, and ISO currency codes may appear as currency identifiers in your PeopleSoft documentation. Reference to an ISO country code in your documentation does not imply that your application includes every ISO country code. The following example is a country-specific heading: "(FRA) Hiring an Employee."

The PeopleSoft Currency Code table (CURRENCY_CD_TBL) contains sample currency code data. The Currency Code table is based on ISO Standard 4217, "Codes for the representation of currencies," and also relies on ISO country codes in the Country table (COUNTRY_TBL). The navigation to the pages where you maintain currency code and country information depends on which PeopleSoft applications you are using. To access the pages for maintaining the Currency Code and Country tables, consult the online help for your applications for more information.

Region and Industry Identifiers

Information that applies only to a specific region or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a region-specific heading: "(Latin America) Setting Up Depreciation"

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in the PeopleSoft Online Help:

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in the PeopleSoft Online Help:

- USF (U.S. Federal)
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Using and Managing the PeopleSoft Online Help

Click the Help link in the universal navigation header of any page in the PeopleSoft Online Help to see information on the following topics:

- What's new in the PeopleSoft Online Help.
 - PeopleSoft Online Help accessibility.
 - Accessing, navigating, and searching the PeopleSoft Online Help.
 - Managing a locally installed PeopleSoft Online Help website.
-

Understanding PeopleSoft Search Technology

This document describes the administration of the Search Framework as well as the development tasks associated with enabling and implementing PeopleSoft Search features. These features are provided by PeopleTools and are designed to run against the Oracle Secure Enterprise Search server (SES).

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Chapter 1

Getting Started with PeopleSoft Search Technology

PeopleSoft Search Technology Overview

The PeopleSoft Search Framework provides a standard, declarative method for creating, deploying, and maintaining search indexes for all of your PeopleSoft applications. Oracle Secure Enterprise Search (SES) is the search engine on which the PeopleSoft Search Framework relies.

The PeopleSoft Search Framework enables you to generate SES-based search indexes using these source types:

- **PeopleSoft Query and Connected Query:** this option provides a familiar and intuitive way to declare the fields relevant for end user searches. With PeopleSoft Query you define your search meta data attributes. You use the Search Framework Designer to map query fields to meta data attributes, save the search definition to the database, and create search categories.
- **Web source:** this option enables you to index content deployed on a website that you want to make available for end user searches.
- **File source:** this option enables you to index files, such as reports, residing in your file system.

After designing search definitions, the Search Framework Administration interface enables you to establish integration with Oracle Secure Enterprise Search (by way of Integration Broker), deploy the search definitions and search categories, build indexes, and manage crawling.

Note: The PeopleSoft Search Framework can be configured to run only against Oracle SES. Currently, any other search engine, including Verity, cannot be configured to use with the PeopleSoft Search Framework.

Implementing PeopleSoft Search Framework

The PeopleSoft Search Framework involves the proper configuration and use of the following systems, tools, and technology. To administer or develop applications using the PeopleSoft Search Framework, a working knowledge of these systems is recommended.

Required Item	Documentation
PeopleTools	<i>PeopleTools 8.53 Installation for <your platform></i>
Oracle Secure Enterprise Search	Oracle Secure Enterprise Search installation and administration documentation

<i>Required Item</i>	<i>Documentation</i>
PeopleSoft Integration Broker	See PeopleSoft Integration Broker Administration.
Feeds Publishing Framework	See Feed Publishing Framework.
PeopleSoft Query and Connected Query	See PeopleSoft Query.
PeopleCode	See "Understanding the PeopleSoft Search Framework Classes" (PeopleTools 8.53: PeopleCode API Reference)

Chapter 2

Understanding PeopleSoft Search Framework

PeopleSoft Search Framework Features

In previous PeopleTools releases, search functionality was provided in a non-declarative fashion where search engine indexes were built using custom PeopleCode and Application Engine programs. Each PeopleSoft application used a unique method for creating and maintaining search artifacts like collections and indexes--all of which required search engine-specific calls, commands, syntax, and so on.

The PeopleSoft Search Framework enables application developers and implementation teams, to create search artifacts in a consistent, declarative manner and to deploy and maintain search indexes, using one standard interface, regardless of PeopleSoft application.

The PeopleSoft Search Framework consists of PeopleSoft components (pages and records provided by PeopleTools), which provide a centralized interface for configuring PeopleSoft integration with the search engine, creating search artifacts like search definitions, search categories, and building and maintaining search indexes.

Important! Currently the PeopleSoft Search Framework supports only Oracle Secure Enterprise Search (SES) as the back-end search engine.

Some of the key features include:

- Search Administration interface provides a familiar PeopleSoft browser interface enabling you to: configure search engine connectivity, deploy search definitions, schedule index creation and maintenance, and run incremental index updates.
- Search Designer interface, provides a familiar PeopleSoft browser interface enabling you to: create search definitions, create search categories, define title and summary result display (similar to Google search results).
- Flexible security: indexes can be created with source-level security, document-level security, or no security. Oracle SES allows for fully authenticated and authorized search queries.
- Search Query API enabling rich display options, such as filtering.

PeopleSoft Search Framework Versus Verity Search Engine

Whether or not you use Oracle SES or the Verity search engine depends on which PeopleSoft application version you implement. This topic describes the options for PeopleSoft application versions.

Verity Support Based on PeopleSoft Application Version

Whether or not you use Oracle SES or the Verity search engine depends on which PeopleSoft application version you implement.

PeopleSoft Application Version 9.1x and Prior

If you are running a PeopleSoft application with a version 9.1x or earlier, you can continue to use Verity as a search engine. If you are running *at least* PeopleTools 8.52, you have the option of also implementing the PeopleSoft Search Framework. Some PeopleSoft 9.1x application feature packs have delivered search features based on the PeopleSoft Search Framework. Refer to the documentation for your application for details.

While PeopleSoft applications 9.1x and prior continue to support the use of the Verity search engine, the PeopleSoft Search Framework and any of the features based upon the PeopleSoft Search Framework *are not* available unless you configure Oracle Secure Enterprise Search for use with PeopleSoft. If you elect not to implement the Search Framework, you may continue to use the Verity search features *as they have been delivered and used* in previous PeopleTools releases.

For example, if you intend to use Verity as your *only* search engine, you cannot use or implement the features of the SES-based PeopleSoft Search Framework, such as Global Search, Search Pages, Faceted Navigation, and so on. Verity and the SES-based PeopleSoft Search Framework *can* coexist within a PeopleSoft implementation, however, the two search engines do not interact. Existing Verity implementations can be ported manually into the PeopleSoft Search Framework to take advantage of its features, if desired.

PeopleSoft Application Version 9.2 and Beyond

For PeopleSoft applications 9.2 and later, configuring the PeopleSoft Search Framework and installing and configuring Oracle SES is required. Using Verity is no longer supported beginning with PeopleSoft application versions 9.2.

Understanding Key Differences Between Oracle SES and Verity

This topic describes some key differences between Oracle SES and Verity from the perspective of the use and implementation within a PeopleSoft application system.

Item	Oracle SES Support Description
Lexers	<p>SES supports lexers. The default lexer can be modified to consider printjoins. If you do so, consider these items:</p> <ul style="list-style-type: none"> • Printjoins must be administered manually by scripting on the SES server, not through the PIA interface. • It's recommended to use printjoins sparingly due to performance and maintenance issues. • Printjoins are set per search category, so one has to be defined for each search category needing special characters. • When the lexer configuration is changed, you need to re-generate all of the indexes for your search definitions. • You can choose to define a custom lexer to be assigned to a search definition. The custom search definition-specific lexers will need to be reapplied manually if a search definition is re-deployed. When a custom lexer is assigned to a search definition, you need to regenerate the index for that search definition. <p>For additional information on working with special characters, see the Encode Search Attributes option on the Advanced Settings tab for a search definition, Working With Advanced Settings.</p> <p>Refer to the <i>Oracle® Secure Enterprise Search Administrator's Guide</i> for more information on the lexer supported with Oracle SES.</p>
Mixed case search	Not currently supported on Oracle SES.
Thesaurus	Supported on SES, but not supported through the PIA interface. This must be set up in SES, manually using scripts.
Soundex	<p>This is not currently supported with native SES Global Search.</p> <p>In some cases, using otext has replicated the functionality.</p>
Stop Word	<p>SES has a Stop Word capability and a list of words is pre-delivered within the SES database instance. The list cannot be modified by PIA or the SES administration console.</p> <p>Refer to Oracle SES documentation, My Oracle Support Knowledge Base, or Oracle SES support for guidance.</p>
Match any Match all	Support became available PeopleTools 8.53 application teams are currently working on incorporating it into delivered search definitions.
Attachments	With SES, the inclusion of attachments must be enabled per search definition.

<i>Item</i>	<i>Oracle SES Support Description</i>
Stemming	<p>SES supports stemming search for the following languages:</p> <ul style="list-style-type: none"> • English • Dutch • French • German • Italian • Spanish <p>For more information on supported languages, refer <i>Oracle® Secure Enterprise Search Administrator's Guide</i>.</p>

Search Framework Definitions

The Search Framework is based on these PeopleSoft definitions:

<i>Definition</i>	<i>Description</i>
Search Definition	<p>Created in the Search Framework designer interface, a search definition maps the PeopleSoft Query fields, web source, or file source, to searchable attributes in the SES search engine.</p> <p>The search definition also enables you to attach security attributes to restrict access to the search results. The search definition provides the information required by the framework to enable the system to create search results (search documents).</p> <hr/> <p>Note: A search definition in the PeopleSoft Search Framework becomes a "source" on the SES server, and the system also creates an index schedule on SES for that source.</p> <hr/>
Search Category	<p>Also created in the Search Framework designer interface, search categories enable you to group search definitions logically. A search definition must belong to at least one search category. End users run searches against search categories, not individual search definitions. It is a requirement that at least one search category exists with exactly the same name as the search definition.</p> <hr/> <p>Note: A search category in the PeopleSoft Search Framework becomes a "source group" on the SES server.</p> <hr/>

Search Documents

Search documents describe the format of search results.

The main elements of a PeopleSoft search document are:

- URL
- Title
- Summary

In some cases, search documents are non-structured documents, such as a Microsoft Word document or the text in a website. In a PeopleSoft application, the majority of information is structured, (as in, a Purchase Order). PeopleSoft information resides in a relational database where the document attributes constituting the search document are well known, such as Employee Name, Customer Name, Product ID, and so on. While most of the PeopleSoft information can be displayed in the form of structured documents, the system also stores unstructured data in the form of attachments.

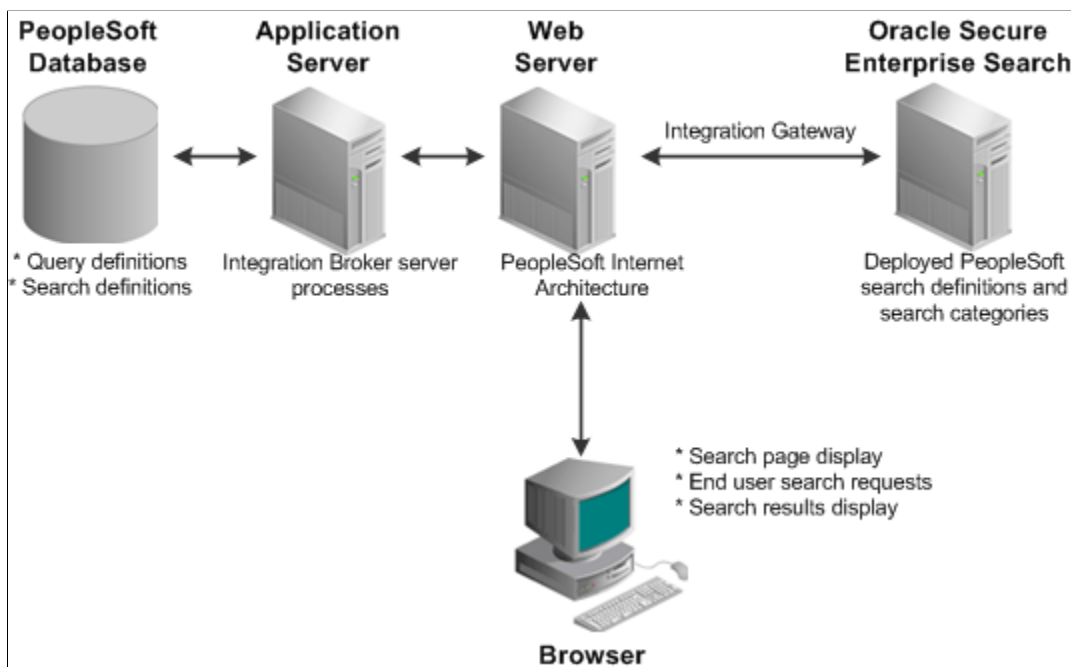
When a user runs a search based on a set of known attributes, the search returns “hits” in the form of search documents, or search results. The user then analyzes the content of the search result to determine relevancy and uses the associated URL to navigate to the desired application page.

PeopleSoft Search Framework Architecture

The server topology uses the essential elements of the PeopleSoft Internet Architecture, with the addition of SES server.

Image: PeopleSoft server architecture with Oracle SES

The following illustration depicts the PeopleSoft server architecture connected to Oracle Secure Enterprise Search using Integration Broker.



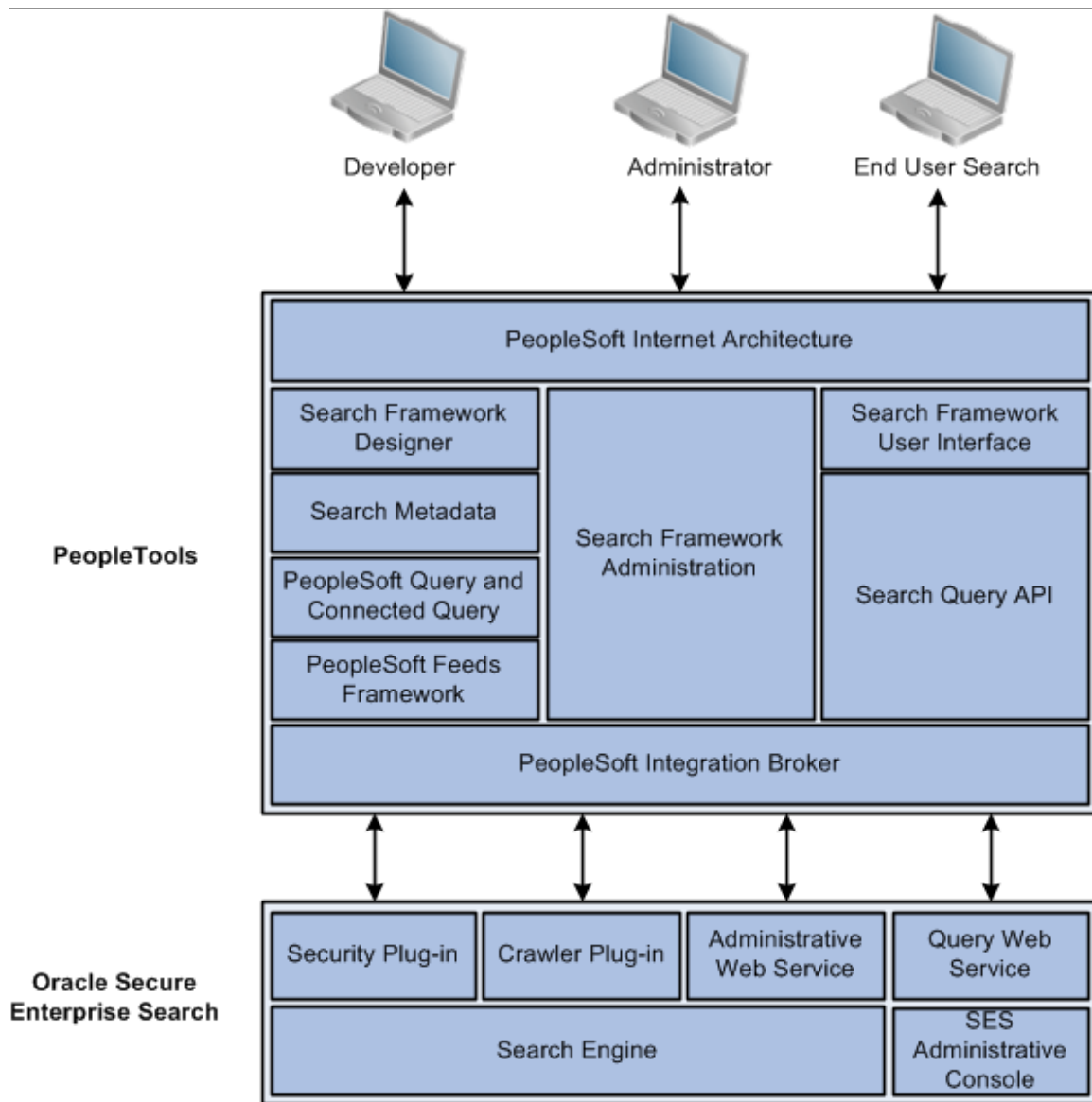
The web server and application server (the PeopleSoft Internet Architecture) provide the interface for the design, administration, and end user. The PeopleSoft database stores the PeopleSoft queries that define the search data as well as the search definition meta data. Oracle Secure Enterprise Search stores the deployed

search definitions and performs the typical search engine tasks, such as building indexes, crawling for updates, maintaining indexes, and servicing end-user search requests.

The following diagram depicts the relationships between all of the separate elements that are involved with the PeopleSoft Search Framework.

Image: PeopleTools elements and Oracle SES elements

The following illustration depicts the PeopleTools elements and the Oracle SES elements interacting to enable the PeopleSoft Search Framework features.



The following table describes the PeopleTools elements.

<i>PeopleTools Element</i>	<i>Description</i>
PeopleSoft Internet Architecture	Enables access to all aspects of the PeopleSoft Search Framework, including development, administrative, and end user interfaces.

PeopleTools Element	Description
Search Framework Designer	Enables application developers and implementation teams to perform design-time tasks, such as map query fields to search metadata, define search attributes, create search definitions, and create search categories.
Search Metadata	The metadata defined with both PeopleSoft Query and the Search Designer to describe the data that end users will run searches against.
PeopleSoft Query Connected Query	Provides familiar interface for creating SQL queries that declare exactly the data against which end users will run searches, and takes advantage of Query security.
PeopleSoft Feeds Framework	Enables the incremental updates of indexes by transmitting new and updated search data by way of feeds technology.
Search Framework Administration	Provides the interface for system administrators to perform tasks, such as creating a search instance, deploying search objects, and scheduling search index builds.
Search Framework User Interface	Provides the end user of a PeopleSoft application the appropriate prompts and fields by which they can submit a search request and review results.
Search Query API	A PeopleCode API that enables application developers to form a valid search request from user input.
PeopleSoft Integration Broker	Facilitates the integration between PeopleTools elements and the search engine (SES).

The following table describes the Oracle SES elements.

SES Element	Description
Security Plug-in	<p>This module gets invoked from Search Engine side for a user who initiates a search from an application. Search security framework is responsible for authentication, search user validation and authorization of search query request. Search Engine passes user credentials to PeopleSoft Security Service (Web service) which authorizes the users and get security attribute for that user. Search Results are filtered based on this security attribute. Security Plug-In a part of SES Search Engine and is written in Java. SES comes with built-in plug-ins specifically for PeopleSoft.</p> <p>There are two security plug-ins: PeopleSoft Identity Plug-in and PeopleSoft Authorization Plug-in. PeopleSoft Identity plug-in is responsible for authenticating search users. PeopleSoft Authorization Plug-in is responsible for getting security attributes for search users and filtering search results based on them.</p>

SES Element	Description
Crawler Plug-in	Crawler plug-in is part of SES search engine. The Crawler plug-in is responsible for extracting documents for a source and indexing them. The PeopleSoft crawler-plug-in extracts documents from PSQUERY (each returned row is a document). The Crawler plug-in indexes document search attributes like Title, Summary, search fields (fields to index), and so on. It can also index document-level security attributes if document-level security is being used.
Administrative Web Service API	Exposes various SES configuration settings and administrative commands to the PeopleSoft system.
Query Web Service API	Query Plug-in works in conjunction with the PeopleCode Search API for application developers to compose search queries and execute them. Query Plug-in exposes various search features like filtering, sorting, grouping, restricting search scope, pagination, and so on.
Search Engine	Search Framework works with Oracle Secure Search Enterprise, Oracle's search engine software. SES runs against an Oracle database and is installed into Oracle Middleware. The PeopleSoft Application Server integrates with SES using the PeopleSoft Search Framework.

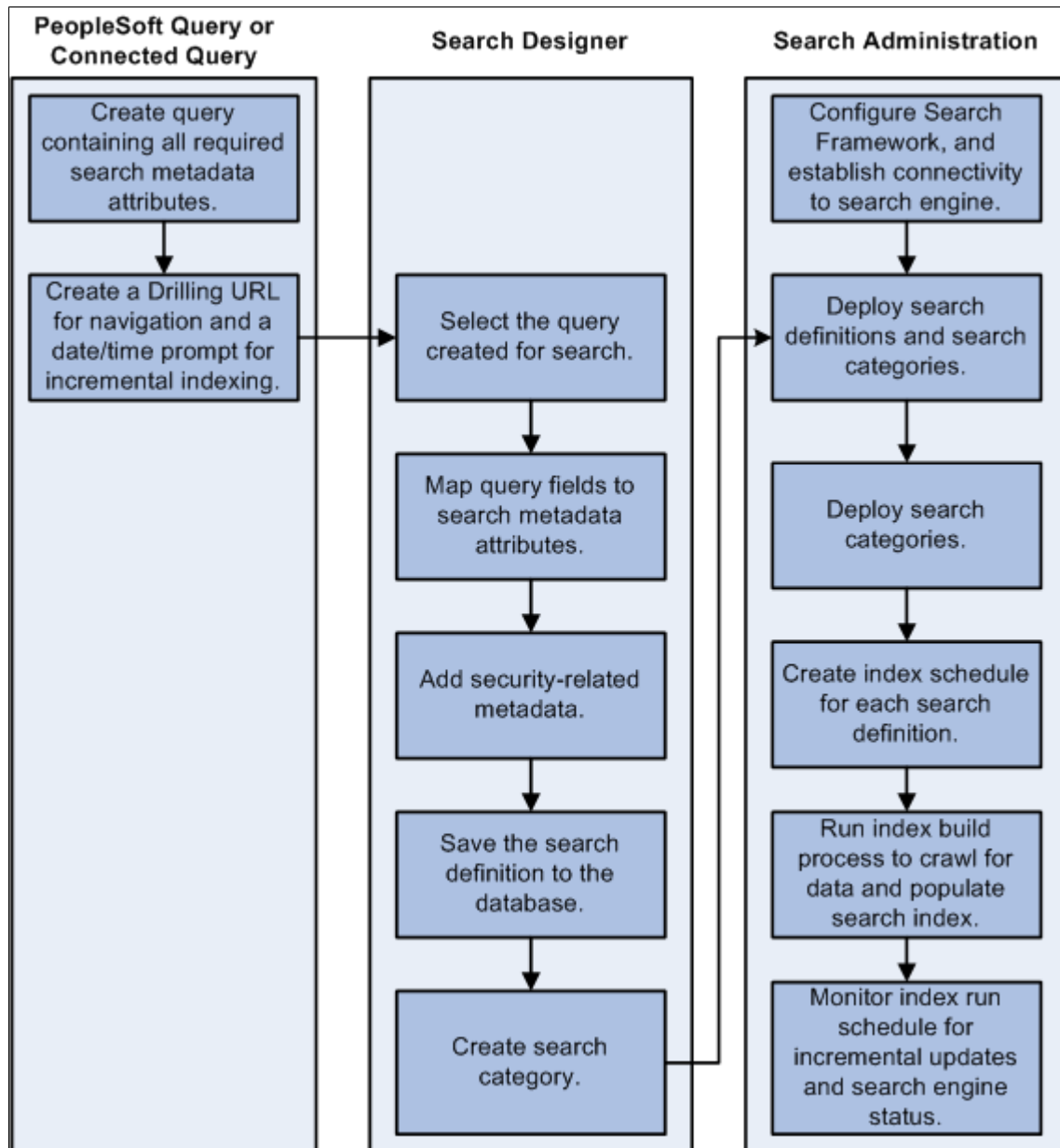
Implementation Process Flow

The following diagram illustrates the general process flow when implementing the PeopleSoft Search Framework and deploying search definitions. You first identify the business data you want to expose to text searches and create queries using PeopleSoft Query that select the appropriate data from your transaction tables. In the Search Designer you map the query fields to the search metadata attributes and map the search definition to a search category. In the Search Administration interface you deploy the

search definitions and categories, schedule index builds, and schedule index crawling so that the index can be updated as needed to reflect the current business data.

Image: PeopleSoft Search Framework process flow

The following illustration depicts the Search Framework implementation, beginning with PeopleSoft Query and Connected Query, moving to the Search Designer for creating search definitions and categories, then moving to Search Administration for deploying search definitions and defining index builds.



Note: For web source and file source search definitions, you do not define those using PeopleSoft Query. For those source types, you only need to point to the location of the web source or file source in the respective search definition.

PeopleSoft Search Features

Once Search Framework is configured and search definitions have been deployed and tested, you can enable these PeopleSoft Search features for your end users:

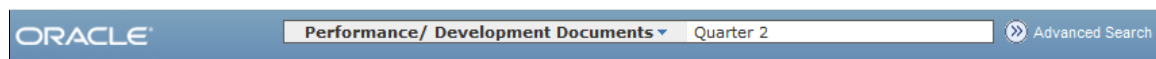
- Global Search.
- Search Pages.

Global Search

With Global Search enabled, the Global Search bar displays in the header of the application. Beside the keyword edit box, the Global Search bar provides a dropdown list for selecting a specific search category against which to run a search.

Image: Global Search menu bar

This example illustrates the fields and controls on the Global Search bar. You can find definitions for the fields and controls later on this page.



Search Pages

If you've enabled the Search Pages features for Search Framework by mapping a component to a search definition, the Keyword Search tab appears amongst the search pages the end user encounters when navigating into a component. The Keyword Search page enables users to execute a deeper, more free-form search to access application data. For example, the Find an Existing Value tab is limited to level 0 data, where the Keyword Search tab lets the users enter custom keywords and the system will search indexed data from level 0-3.

Image: Keyword Search page

This example illustrates the fields and controls on the Keyword Search page. You can find definitions for the fields and controls later on this page.

A screenshot of the 'Job Data' search page. At the top, it says 'Enter any information you have and click Search. Leave fields blank for a list of all values.' Below this are two tabs: 'Find an Existing Value' and 'Keyword Search', with the latter being selected. A note states: 'Note: Keyword Search will return data updated less than 1 hour ago (08/15/2011 1:57:19PM)'. Underneath is a section titled 'Search Criteria' with a dropdown arrow. Below that is a text input field labeled 'Keywords' containing the word 'clerk'. At the bottom, there are two buttons: 'Search' and 'Advanced Search'.

Note: The Find and Existing Value search page is equivalent to the component search pages in previous versions of PeopleSoft applications.

Defining Search Definition Queries

Understanding Search Definition Queries

To define the PeopleSoft application data that end users can run their searches against, you use these standard PeopleSoft query design tools:

- PeopleSoft Query
- Connected Query

Using these tools provides a familiar interface for PeopleSoft implementation teams and a standard means of defining searchable data amongst all PeopleSoft applications. You will also need to make sure that the data you want to expose to Query is authorized by way of the Query Security Manager.

Note: If you are creating a search definition of the source type File Source or Web Source, you do not create a query or connected query to define the information to be indexed.

The data returned by the query you use serves as the source data that the Oracle SES system crawls to create the search index. If you want a particular field available for end user searches, you want to make sure that field is included in the list of fields of your query. Likewise, if you do not think a particular field is appropriate or useful to expose for end user searches, then you can make sure that field is not included in the list of fields for your query. This enables you to declare the scope of the search index and manage its size, as well.

You do not need to create new queries solely for creating search definitions. You can re-purpose existing queries in PeopleSoft Query or connect multiple existing queries using Connected Query. Except for a handful of requirements for the Search Framework, queries used for creating search definitions are created exactly as you would any other query.

Queries need the following items defined for use with the Search Framework:

- List of fields to index from authorized records.
- "Last Updated" record field.
- Drilling URL.
- Prompt against the "Last Updated" field.
- Criteria for the "Last Updated" field.

This section describes the requirements and guidelines to follow when defining queries for use with the Search Framework. The PeopleSoft Query and Connected Query documentation is not duplicated within this guide. It is assumed that you have a working knowledge of those products.

Related Links

"PeopleSoft Query Overview" (PeopleTools 8.53: PeopleSoft Query)

"Creating New Queries" (PeopleTools 8.53: PeopleSoft Query)

Defining Search Definition Queries with PeopleSoft Query

This section discusses:

- Preparing records.
- Specifying a list of fields to index.
- Setting up a "Last Updated" Field.
- Creating a Drilling URL.
- Creating a Prompt for the "Last Updated" Field.
- Defining Prompt Criteria.
- Testing the query.

Adding a “Last Updated” Field to Records

The application data to be indexed *must* exist in a record containing a column that tracks the update history of the data. This column is referred to as the "Last Updated" field. The Last Updated field is a datetime field that captures when the set of data to be indexed has been changed. Keeping track of the data updates is *critical* for enabling incremental indexing. Rather than recreating the entire index each time the index needs to be updated, incremental indexing enables the system to gather only the information that has changed since the last time the index generation process has run.

The system keeps track of when the index generation process last ran, and compares that time to the Last Updated field value in the underlying record structure. Based on the comparison between those time values, the system can isolate only the data that has undergone a change since the last index generation process run. Once the system creates the initial full index, only those rows that have been updated or added since the last index process run will be collected and added to the existing index. Using incremental index updates improves performance and decreases system overhead.

If the query being used for the search definition only runs against a single record, then that record must contain a datetime field to capture data update date and time values. If the data exists within a hierarchy of tables (grand parent, parent, and child, for example), only one of the records within the hierarchy requires the existence of the datetime field.

Important! The Last Updated field *must* be of the type datetime. An example of this field is the LASTUPDTM field, which can be found in many delivered PeopleSoft applications. Whether you intend to implement an incremental indexing system or not, it is still a requirement to have a "last updated" field within the record

Note: Many PeopleSoft application tables come with a LASTUPDTM field in place, especially those for which the application has provided search definitions. For any custom tables or tables that do not already track date and time updates, you need to ensure the field exists in the record or record hierarchy.

Note: For any search definitions delivered with your PeopleSoft applications, the underlying records will be configured to include the required datetime field as well as the program logic to ensure that the value of the datetime field is collected. For any custom applications, you will need to add the datetime field *manually*, alter the underlying SQL table, and include program logic to ensure the value of the datetime field is collected and updated accurately. For example, using SavePreChange PeopleCode you can test IsComponentChanged and if so, then update the LASTUPDTM field accordingly.

Specifying a List of Fields to Index

The query defines which fields will comprise the index for a search definition. When working in the query, use the Fields tab to determine if your list is complete. Keep in mind that fields in the index can be used for different purposes. While some fields are the ideal field against which end users would intuitively search (Customer Number, Order Date, and so on), others can be included for different reasons.

For example, some fields are used as metadata to help describe the data contained in the row (resume, invoice, sales order, and so on). Other fields are useful for security in restricting the viewing of the data only to users that have access to a certain type or level of data.

Because the underlying records require the existence of a datetime field to track the "last updated" value, the query must also contain the corresponding query field in the fields list.

Note: All search keys and alternate search keys must be indexed. Select additional fields to be indexed as required by your business processes. Also keep in mind that some fields are codes and might need to be translated to their description for searching.

Important! When saving the query, make sure it is of type *Public*.

Creating a Drilling URL

The drilling URL defines the URL, the target, for the search result. The drilling URL enables the end user to click the link in the search result to display the appropriate PeopleSoft application page, with the appropriate data populated in the page.

To create a drilling URL for Search Framework:

1. In PeopleSoft Query Manager, select the Expressions tab.
2. Click Add Expression.
3. On the Edit Expressions Properties dialog box, select Drilling URL from the Expression Type drop-down list.
4. Click the Component URL link.
5. On the Select a Component page, provide the navigation to the appropriate page.
6. Click Search Keys to define which key(s) needs to be passed to launch the page to display the unique information automatically for a particular search result.

For example, Field Name = CUSTOMER ID and Key Value = A.CUSTOMER_ID.

Note: If you do not specify the correct search keys, the system will launch the page you have specified, but the user would still need to add the keys manually to view the information associated with a search result, which is not the desired behavior.

7. Click OK.
8. Click the Use as Field button to associate the Drilling URL as a field in the Query.

Image: Edit Expression Properties dialog box

This example illustrates the fields and controls on the Edit Expression Properties dialog box. You can find definitions for the fields and controls later on this page.

Edit Expression Properties

*Expression Type:
 Drilling URL

Expression Text:
 '/c/RB_DEFINE_PRODUCTS.PROD_DEFN.GBL?
 Page=PROD_DEFN&Action=U&PRODUCT_ID=%
 A.PRODUCT_ID%&SETID=%A.SETID%'

[Query URL](#) [Component URL](#)
[External URL](#) [Attachment URL](#)
[Free Form URL](#)

OK Cancel

When your expression is complete, click the Use as Field link in the Drilling URL grid on the Expressions tab. You should also name the field with a valid field name, such as *DRILL_URL*.

Creating a Prompt for the Last Modified Field

You need to create a prompt for your query so that the system can use the last update date and time for enabling incremental index updates. This is required by the Search Framework even if you do not intend to implement incremental index updates. The Application Engine program performing incremental index updates requires the valid prompt data. Use the prompt tab in Query Manager to create your prompt. On the Edit Prompt Properties dialog box, select the "last updated" from the Field Name drop-down list.

Image: Edit Prompt Properties dialog box

This example illustrates the fields and controls on the Edit Prompt Properties dialog box. You can find definitions for the fields and controls later on this page.

Defining Prompt Criteria

So that the prompt identifies the correct rows for incremental updates, you must also add query criteria based on the "last updated" field. Use the Criteria tab in Query Manager, and click Add Criteria. Set the criteria as described in the following table.

Item	Value Selected
Expression 1	<ul style="list-style-type: none"> Field. Your "last updated" field.

<i>Item</i>	<i>Value Selected</i>
Condition Type	<ul style="list-style-type: none"> • <i>not less than</i>(recommended) • greater than
Expression 2	<ul style="list-style-type: none"> • Prompt • Your prompt

For example:

Image: Edit Criteria Properties dialog box

This example illustrates the fields and controls on the Edit Criteria Properties dialog box. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Edit Criteria Properties' dialog box. It is divided into two main sections: 'Expression 1' and 'Expression 2'.
 - **Expression 1:** Under 'Choose Expression 1 Type', 'Field' is selected. The 'Choose Record and Field' section shows 'Record Alias.Fieldname:' with a search result 'A.ROW_LASTMANT_DTTM - Last Mod'.
 - **Condition Type:** A dropdown menu is set to 'greater than'.
 - **Expression 2:** Under 'Choose Expression 2 Type', 'Prompt' is selected. The 'Define Prompt' section shows 'Prompt: :1' with links for 'New Prompt' and 'Edit Prompt'.
 - At the bottom are 'OK' and 'Cancel' buttons.

Defining Search Definition Queries with Connected Query

You can also use Connected Query to develop your queries for Search Framework. Connected Query enables you to connect multiple queries together in a parent-child relationship, where the child queries filter results for the parent queries. Using Connected Query lets you connect numerous simpler queries, rather than writing one more complicated query. The smaller more modular queries can be reused in different queries.

When using Connected Query, only the top-level (or root) parent query needs to have the requirements described in this topic. The child queries do not require these elements. For example, only the parent query requires a Drilling URL defined.

Defining a Deletion Query

In many cases, you may want to consider also writing a deletion, or pruning, query to keep the index and the transactional tables in sync with regard to rows that have been deleted from the transactional tables.

For example, assume a row exists in the transactional table for Big Company, and that row has been included in the search query criteria and indexed by the Search Framework crawler. Now, suppose that row gets deleted from the transactional table because Big Company went out of business and no longer exists. Because the row no longer exists in the transactional table, you do not want the previously indexed data to appear in a user's search results. In a search definition, you associate a deletion query for an index on the Advanced tab in the Define Query to Delete SBO section. There you specify the query name and the Drilling URL field for the deletion query.

The Delete query generates a feed containing only the records that need to be deleted from the index or those documents/records that are marked for deletion from the index. One method of capturing the deleted rows is to create an audit record on the transactional table in which a record of all deleted rows gets inserted into the audit table. The delete query would then capture the rows in the audit table and remove from the index the document entries matching those rows. The delete query also needs a datetime prompt which returns rows deleted after that datetime value.

Testing Your Search Definition Query

After you have defined your query in Query Manager with all the correct fields included along with the Search Framework requirements, you can test the query using the Run tab. This runs the query outside of the Search Framework, making sure the query is valid prior to incorporating it into a search definition.

This enables you to determine a variety of items, including:

- The correct rows are being returned by your query.
- The Drilling URL displays the appropriate page and data when clicked.
- You can open any associated attachments (if you can't open it from the query test results, then neither can SES and the PeopleSoft Search Framework).

To test your query with the Run tab:

1. In Query Manager, with your query open, click the Run tab.
2. At the prompt, enter a valid value to run against the Last Modified field.

For example:

01/01/1900 0:0

- View the results and click the Drilling URL and/or attachment links.

Image: Query Manager Run tab

This example illustrates the fields and controls on the Query Manager Run tab. You can find definitions for the fields and controls later on this page.

RecordsQueryExpressionsPromptsFieldsCriteriaHavingView SQLRun

View All | Rerun Query | Download to Excel | Download to XML

First1-100 of 386Last

	ID	Eff Date	Name	First	Last	SSN	JobCode	DeptID	Drilling URL
1	7705	06/15/1996	Holt,Susan	SUSAN	HOLT	342564859	G061	10200	http://rtdc79623vmc.dsi-net.peoplesoft.com/ps/ps/EMPLOYEE/QE_LOCAL/c/QE_SAMPLE_APPS.QE_EMPLOYEE.GBL?Page=QE_EMPLOYEE&Action=U&EMPLID=7705
2	8001	09/01/1996	Schumacher,Simon	ASD	ASD	549693847	1001	10100	http://rtdc79623vmc.dsi-net.peoplesoft.com/ps/ps/EMPLOYEE/QE_LOCAL/c/QE_SAMPLE_APPS.QE_EMPLOYEE.GBL?Page=QE_EMPLOYEE&Action=U&EMPLID=8001
3	8001	05/05/1997	Schumacher,Simon	ASD	ASD	549693847	6001	10200	http://rtdc79623vmc.dsi-net.peoplesoft.com/ps/ps/EMPLOYEE/QE_LOCAL/c/QE_SAMPLE_APPS.QE_EMPLOYEE.GBL?Page=QE_EMPLOYEE&Action=U&EMPLID=8001
4	8052	05/05/1997	Avery,Joan	JOAN	AVERY	111111111	6001	10200	http://rtdc79623vmc.dsi-net.peoplesoft.com/ps/ps/EMPLOYEE/QE_LOCAL/c/QE_SAMPLE_APPS.QE_EMPLOYEE.GBL?Page=QE_EMPLOYEE&Action=U&EMPLID=8052
5	8101	06/27/1991	Penrose,Steven	STEVEN	PENROSE	302467012	1211	10500	http://rtdc79623vmc.dsi-net.peoplesoft.com/ps/ps/EMPLOYEE/QE_LOCAL/c/QE_SAMPLE_APPS.QE_EMPLOYEE.GBL?Page=QE_EMPLOYEE&Action=U&EMPLID=8101

- Confirm that you arrive at the desired page with the appropriate data loaded as expected.

Image: PeopleSoft application page (Drilling URL target)

This example illustrates the fields and controls on the PeopleSoft application page (Drilling URL target). You can find definitions for the fields and controls later on this page.

Empl ID: 7705

[Find](#) | [View All](#)
First 1 of 1 Last

***Effective Date:** 06/15/1996

Employee Name: Holt,Susan

Last Name: HOLT

First Name: SUSAN

***Department:** 10200

***JobCode:** G061

Social Security Number: 342-56-4859

Creating Query and Connected Query Search Definitions

Creating Search Definitions

To create a search definition:

1. Select PeopleTools, Search Framework, Designer, Search Definition
2. Click Add a New Value.
3. On the Add New Search Definition page, enter the in the Search Definition field.
4. Select the appropriate value from the Source Type drop-down list.
 - *Query\Connected Query*: requires an existing PeopleSoft query\connected query that defines the scope of the application data to be indexed.
 - *File Source*: enables you to index files stored within an accessible file system.
 - *Web Source*: enables you to index content within the structure of a website.
5. Click Add.
6. Complete the required settings for the search definition source type, and save the search definition.

Specifying General Settings

Access the General page, by selecting PeopleTools, Search Framework, Designer, Search Definition.

Image: General page

This example illustrates the fields and controls on the General page. You can find definitions for the fields and controls later on this page.

General Settings

Search Definition QE_CUSTOMERS

*Description QE_CUSTOMERS

Object Owner ID PeopleTools

Source Information

Source Type Connected Query

*Source Name CUSTOMERS [View](#)

Search Result Field Mapping

*Last Modified Date Time LASTMAINT_DTTM

*URL Link DRILLING_URL

*Title

%QUERYFIELD:CT_CUSTOMER:A.CUST_ID% - %
 QUERYFIELD:CT_CUSTOMER:A.NAME1% - %QUERYFIELD:CT_CUSTOMER:A.SETID%

[*Title](#)

*Summary

%QUERYFIELD:CT_CUSTOMER:A.NAMESHORT% - %
 QUERYFIELD:CT_CUSTOMER:A.NAME1% - Customer since: %
 QUERYFIELD:CT_CUSTOMER:A.SINCE_DT%

[*Summary](#)

Search Definition

Displays the search definitions name as specified when adding a new value.

Note: At least one search definition must use the same name as the search category to which it belongs.

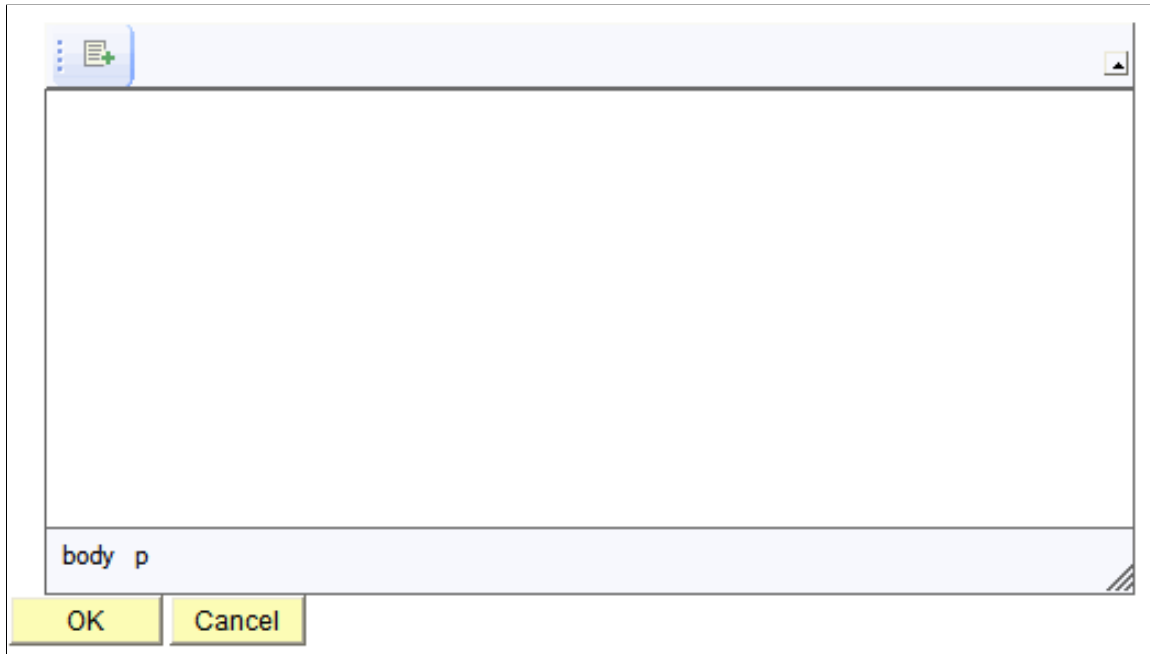
Description	Provide any additional information to distinguish the search definition.
Source Type	Select the type of query used to define the searchable data. Options are: Query or Connected Query.
Source Name	Select the name of the base Query or Connected Query.
View	<p>Click to view the underlying query or connected query in either Query Manager or Connected Query Manager, respectively. This helps you to better understand the data being indexed by the search definition. When viewing the query or connected query from the PeopleSoft Search Framework, keep these items in mind:</p> <ul style="list-style-type: none"> • To view the query or connected query, you must have the appropriate security permissions in place. • You cannot make changes to the query or connected query when accessing it from the PeopleSoft Search Framework. The View button is intended for informational purposes only.
Last Modified Date Time	Select the field specified in the query that determines the underlying record's update date and time. For example, LASTUPDDTTM.
URL Link	Select the query field containing the drilling URL defined for the query.
Title	<p>Define the title of the search result document. This is the bold, first line of the search result.</p> <p>You can add text and bind variables to the title by clicking the *Title button. You cannot add text to the edit box directly.</p>
Summary	<p>Define the summary, or body, of the search result text. This is the text that appears below the title in a search result document.</p> <p>You can add text and bind variables to the summary by clicking the *Summary button. You cannot add text to the edit box directly.</p>

Adding Text for the Title and Summary

In the Title\Summary dialog box you can insert custom text and bind variables, or a combination of the text and bind variables to accurately express the content of the search result document.

Image: Title and Summary edit box

This example illustrates the fields and controls on the Title and Summary edit box. You can find definitions for the fields and controls later on this page.



Insert Bind Variables



Click to launch the Insert Bind Variables dialog box and insert bind variables of the following types:

- Query fields
- Message catalog entries
- System variables

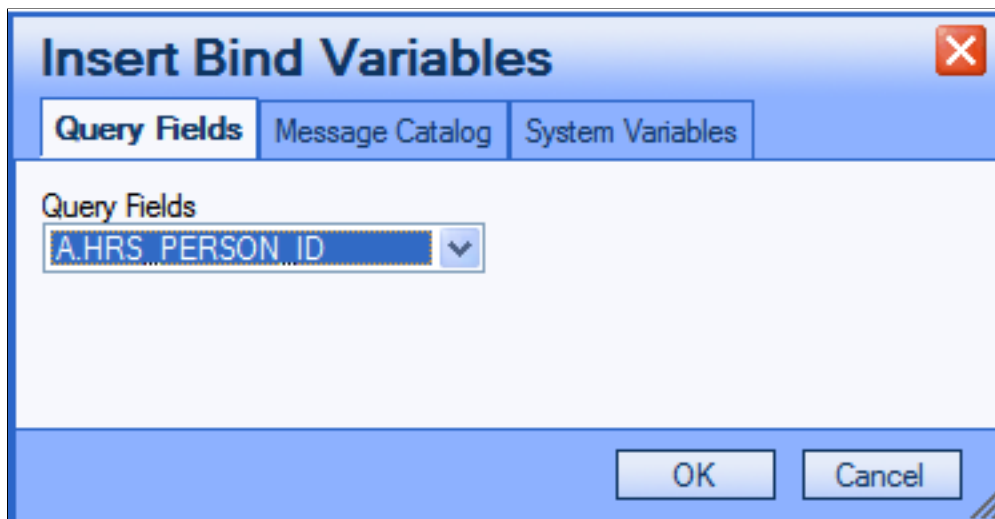
Inserting Bind Variables into Title\Summary Text

When inserting bind variables into the title or summary text, you use the icon at the top left corner to open the Insert Bind Variables dialog box, enabling you to select the bind variable type and the specific bind

variable. You can insert multiple bind variables and bind variable types within the title\summary text, as needed.

Image: Insert Bind Variables dialog box

This example illustrates the fields and controls on the Insert Bind Variables dialog box. You can find definitions for the fields and controls later on this page.



Query Fields

Use the Query Fields drop-down list to select the desired fields from the underlying query of the search definition.

Message Catalog

Specify the Message Set and Message Number to identify the specific message to display. To determine the text that displays use these options:

- Message Catalog Text: Displays the Message Text edit box of the message catalog entry.
- Message Catalog Explanation: Displays the Description edit box of the message catalog entry.

System Variables

Use the System Variables drop-down list to select the desired variable to display.

Mapping Search Attributes

Access the Map Search Attributes page, by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting the Map Search Attributes tab.

The Map Search Attributes page displays all of the query fields of the query or connected query associated with the search definition.

Image: Map Search Attributes page

This example illustrates the fields and controls on the Map Search Attributes page. You can find definitions for the fields and controls later on this page.

Fields Included in the Index								
Query Name	Query Field Name	Field to Index	Attribute Name	Attribute Display Name	Attachment Field	Is Faceted	Define Hierarchy	Hierarchy Path
1 CT_CUSTOMER	A.SETID	<input checked="" type="checkbox"/>	SETID	SetID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2 CT_CUSTOMER	A.CUST_ID	<input checked="" type="checkbox"/>	CUST_ID	Customer ID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3 CT_CUSTOMER	A.CUST_STATUS	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 CT_CUSTOMER	DRILLING_URL	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5 CT_CUSTOMER	LASTMAINT_DTTM	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6 CT_CUSTOMER	A.CUST_STATUS_DT	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7 CT_CUSTOMER	A.CUSTOMER_TYPE	<input checked="" type="checkbox"/>	CUSTOMER_TYPE		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8 CT_CUSTOMER	A.SINCE_DT	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9 CT_CUSTOMER	A.ADD_DT	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10 CT_CUSTOMER	A.NAME1	<input checked="" type="checkbox"/>	NAME1	Name 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11 CT_CUSTOMER	A.NAMESHORT	<input checked="" type="checkbox"/>	NAMESHORT	Short Name	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12 CT_CUSTOMER	A.NAME2	<input checked="" type="checkbox"/>	NAME2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Field to Index

Select the fields that you want to be indexed by the search engine. These fields would be those that you intend the end users would include in search queries intuitively. Fields that you do not select are not indexed. The remaining columns in the grid become enabled only after selecting the Field to Index check box for a particular row.

When selecting fields also consider fields that may help to group results or help distinguish security access.

Attribute Name

Displays the pre-defined attribute name that identifies the query field in the SES system.

Note: The Attribute Name must be unique in the SES system.

An Attribute Name is formed by concatenating the field name with its field label, unless the label is the default. If the field label is the default, just the field name is used for the attribute name. For example, if the field is *VENDOR* and the Display Name chosen is the default, then the attribute name is *VENDOR*. If the Display Name chosen is *SUPPL* and it is not the default, then the attribute name is *VENDOR_SUPPL*.

Due to this, there might be conflict between two fields which end up having same attribute name, and in these cases it is recommended to create a new label to make the attribute name unique.

Attribute Display Name

Determines how the attribute will display to the end user in the search results.

Note: The display name comes from the field labels associated with the Query Field Name. It cannot be entered manually. If the wording of the display name is not appropriate, you need to add a new field label. If you select a field that is not the default field label, the Attribute Name will change to reflect your choice.

Note: When creating search definitions be careful not to use the same Attribute Display Names that are used by search record key, alt keys, and list box items, unless their attribute name also matches the search record field name. Using the same display names affects how (if) fields appear to the end user on the Advanced search page.

Attachment Field

If the field contains an attachment URL, select this check box.

Is Faceted

Select to make this field a facet field, meaning that this field can be used to categorize and narrow down search results based on its value.

Defining a field as a facet requires some consideration. Facets cannot be blank, so if a field is not required, then the query needs to be structured so that there are not any blank values.

You can use defaults on the record, or build COALESCE statements on a view to populate a field with a default (such as 'None', "NA" or "Blank") if it contains a blank value.

Only string-type attributes can become facets. Number or date data types are not supported for facets.

Note: Currently, SES does not allow dates to be facets.

Note: Facets based on XLAT fields should be changed to use XLAT Long/Short in the query.

Note: SES has a data size limit of 2000 characters for faceted fields. The system truncates anything beyond 2000 characters.

Define Hierarchy

(Appears only for Connected Query.) Allows you to concatenate multiple fields into one SES attribute. If the attribute has hierarchical data, specify the hierarchy accordingly using the Define Hierarchy icon. When this icon is selected, you will see a Hierarchy Path subpage.

Hierarchy Path

(Appears only for Connected Query.) Displays the hierarchy path for a Connected Query, indicating where in the hierarchy of connected queries a particular query field resides. When defining a hierarchy, you start with the highest level (most general) field at the top and sequentially list more granular fields, with the most granular being at the bottom.

Note: This is mainly used for hierarchical facets. The label in the user interface is determined by the field on which the hierarchy is defined.

Example: Define Hierarchy Path

This is an example of defining a hierarchy path.

Image: Define Hierarchy Path page

This example illustrates the fields and controls on the Define Hierarchy Path page. You can find definitions for the fields and controls later on this page.

Sequence number	*Related Query	Query Field
1	AP_SRCH_VNDR_ADDR	A.COUNTRY_NAME
2	AP_SRCH_VNDR_ADDR	A.STATE_NAME
3	AP_SRCH_VNDR_ADDR	A.CITY

This definition is then displayed in the Hierarchy Path column of the Fields Included in the Index grid.

Image: Example: Hierarchy Path

This example illustrates the fields and controls on the Example: Hierarchy Path. You can find definitions for the fields and controls later on this page.

A.COUNTRY_NAME/A.STATE_NAME/A.CITY

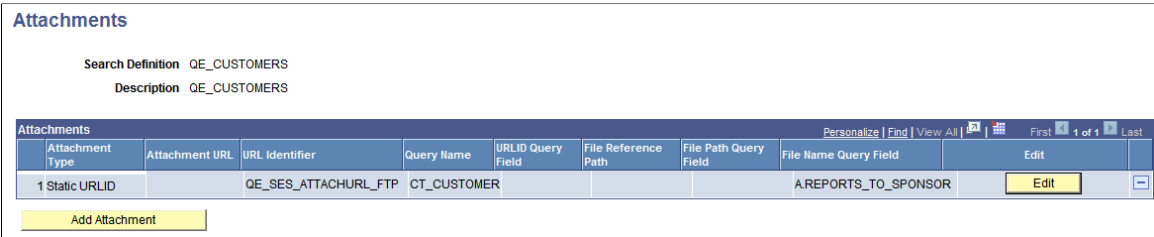
Working with Attachment Properties

Access the Attachments page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting the Attachment Properties tab.

You use the Attachments page to select options related to the attachments that will be indexed as part of your search definition.

Image: Attachment Properties page

This example illustrates the fields and controls on the Attachment Properties page. You can find definitions for the fields and controls later on this page.



Attachments

The Attachments grid contains attachments you specify to be indexed as part of your search definition. These are the types of attachments supported:

- Attachment URL:
- Static URLID:
- Dynamic URLID:

The options for each attachment type are described later in this topic where each attachment type is discussed.

See [Specifying Attachment URL Properties](#), [Specifying Static URL ID Attachment Properties](#), [Specifying Dynamic URL ID Attachment Properties](#).

Edit

Click to edit the properties of a previously entered attachment.

Add Attachment

Click to add a new attachment to the Attachments grid.

Important! If the attachment URL properties or the URL of the attachment storage location changes, the PeopleSoft Search Framework recognizes the changes, and during the next index build or index update, the system will update the deployed search definitions to reflect the updated attachment properties and URL information.

Related Links

[Creating the Attachment URL ID List](#)

Specifying Attachment URL Properties

An Attachment URL type of attachment refers to attachments that are linked to the search definition by way of an Attachment URL type of drilling URL, specified on the Expression tab of PeopleSoft Query.

When using the Attachment URL type of attachment, the system uses the call-back credentials, defined for the SES instance, to access the location of the attachment files. For example, if your attachments are

stored in an FTP server, the FTP server needs to have the SES call-back credentials configured as a valid user.

Note: The drilling URLs are different depending on the attachment repository type (database, FTP, and so on), but in all cases the system uses call-back user credentials to access the files.

Access the properties for this type of attachment by clicking the Add Attachment or Edit button on the Attachments page.

Image: Define Attachment Properties: Attachment URL

This example illustrates the fields and controls for setting Attachment URL properties. You can find definitions for the fields and controls later on this page.

The screenshot shows a dialog box titled "Define Attachment properties". It contains two main sections. The first section, "Attachment Type", has two radio buttons: "Attachment URL" (which is selected) and "URL Id". The second section, "Attachment URL", contains a "Query Name" text field with the value "CT_CUSTOMER" and a search icon. Below this is another section labeled "Attachment URL" with a text field and a search icon. At the bottom of the dialog are "OK" and "Cancel" buttons.

Attachment URL

Select if the attachment is linked to the search definition through a drilling URL in the underlying query as specified on the Expression tab in PeopleSoft Query.

Query Name

Select the query in which the Attachment URL drilling URL is defined.

Attachment URL

Select the query field in which the drilling URL query expression exists.

Specifying Static URL ID Attachment Properties

A Static URL ID type of attachment refers to an attachment that is associated with a URL ID that is static, or unlikely to change. You select the URL ID from the URL list defined by the Attachment URL ID List (PeopleTools, Search Framework, Administration, Attachment URL ID List). For a Static URL ID type,

the URL is generated from a URL ID (static) and a constant file reference path. This makes the URL always constant, and the file name changes based on the value received from the query field.

Image: Define Attachment Properties - Static URL

This example illustrates the fields and controls for a Static URL. You can find definitions for the fields and controls later on this page.

Define Attachment properties

Attachment Type

☐ Attachment URL ☒ URL Id

Query Name

URLID

URL Id Type

URL Identifier

File Reference Path

File Name Query Field

OK Cancel

URL ID

Select if your attachment is associated with a URL ID, not an Attachment URL expression defined in PeopleSoft Query.

Query Name

Select the query name in which this attachment is referenced.

URL ID Type

If the URL ID is constant and unlikely to change, select *Static*.

URL Identifier

Select the URL Identifier from the drop-down list. This list is populated by the list defined by the Attachment URL ID List (PeopleTools, Search Framework, Administration, Attachment URL ID List). These URLs are a subset of the URLs defined in the PeopleSoft database, and this subset are those URLs identified to be used with the PeopleSoft Search Framework.

File Reference Path

(Optional) Enter a file reference path for mapping a dynamic file path.

File Name Query Field

Select the query field that will contain the name of the attached file.

Specifying Dynamic URL ID Attachment Properties

With a dynamic attachment type, all the components of a URL are generated from the value in query field. With a dynamic attachment type, much of the information related to the attachment is unknown prior to the transaction occurring.

For example, with a static attachment type, it is known beforehand what the URLID will be, so it can be specified when the attachment properties are set. With a dynamic attachment type, the values of the attachment properties are determined at the transaction time, and the property values, such as URLID, file reference path, and attachment file name, are stored in the row of data associated with the attachment. The attachment property values can vary between rows.

Image: Define Attachment Properties - Dynamic URL

This example illustrates the fields and controls for a Dynamic URL. You can find definitions for the fields and controls later on this page.

Define Attachment properties

Attachment Type

☐ Attachment URL ☒ URL Id

Query Name

URLID

URL Id Type

*URLID Query Field

File Path Query Field

File Name Query Field

OK Cancel

Query Name Select the query name in which this attachment is referenced.

URL Id Type If the URL ID is not constant and likely to change, select *Dynamic*.

URLID Query Field Select the field in the query that will hold the URL ID of the attachment storage location.

File Path Query Field Select the field in the query that will hold the URL ID of the attachment file reference path.

File Name Query Field Select the query field that will contain the name of the attached file.

Working With File Attachment Storage Locations

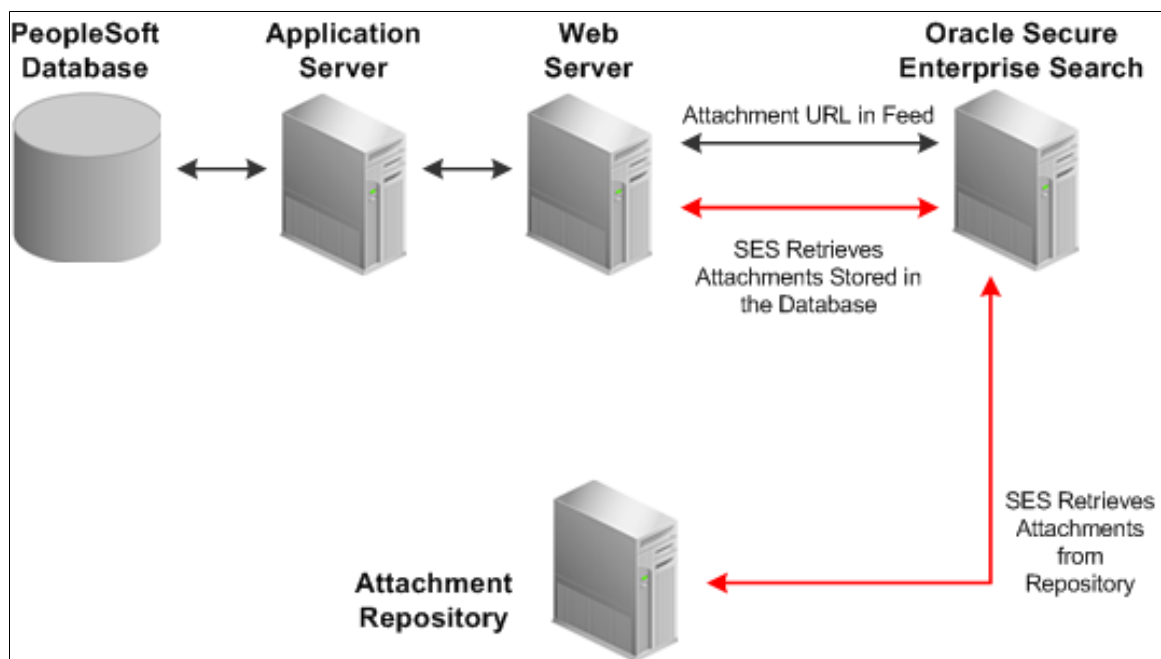
Currently, the PeopleSoft Search Framework supports these file attachment storage location options:

- PeopleSoft database
- FTP
- SFTP

During index generation, Oracle SES downloads the URL for the file attachment location, as part of the generated feed. Then the SES crawler accesses the file using the downloaded URL for indexing.

Image: PeopleSoft Search Framework architecture including file attachment repository

The following graphic depicts Oracle SES downloading the attachment URL and then using the URL to access the file attachment from the appropriate storage location for indexing.



Managing Search Definition Security

Access the Security page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting the Security tab.

Image: Security page

This example illustrates the fields and controls on the Security page. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Security' tab of a search definition configuration page. The 'Search Definition' field is set to 'ITEMDEFIN' and the 'Description' is 'Item Definition'. Under the 'Security Option' section, the 'No Security' radio button is selected, indicating that no security restrictions are applied to the search results.

The Security page enables you to restrict access to search results generated by a search definition. Depending on the sensitivity of the search results, you can set these degrees of security:

No Security

Select to define no security restriction for a search definition's search results. Anyone with access to the application can view the search results for a search definition set to No Security. That is, the search results are public to all users.

Source Level Security

Select to allow or restrict access to the entire search definition as per the specified user or role. That is, only specified users and roles are able to view search results for that search definition.

Document Level Security

Select to restrict access to specific search results (documents) generated by a search definition. That is, with document level security, users can view search results generated by that search definition, but only the documents to which they have access.

Note: This is generally referred to as row-level security in PeopleSoft applications.

Setting Source Level Security

Access the source-level security settings by selecting the Source Level Security radio button.

Image: Security page: Source Level Security options

This example illustrates the fields and controls on the Security page: Source Level Security options. You can find definitions for the fields and controls later on this page.

General | Map Search Attributes | **Security** | Advanced | Component Mapping

Search Definition: ITEMDEFIN
Description: Item Definition

Security Option

☐ No Security ☒ Source Level Security ☐ Document Level Security

Source Level

	*Type	Name	*Privilege		
1	Role	QE_CECLRK_ROLE	Allow	+	-
2	User	QETSTR	Allow	+	-

Type

Select *Role* or *User* depending on the scope of your intended access restriction.

Selecting *Role* restricts access to a specific PeopleSoft role.

Selecting *User* restricts access to a specific PeopleSoft user.

Name

Select the user or role name.

Privilege

Define the access privilege or restriction.

- Allow. The specified role or user is allowed to view search results for this search definition.
- Deny. The specified role or user is not allowed to view search results for this search definition.

Note: Source-level security applies to every document within that search definition (SES data source).

Setting Document Level Security

Access the document-level security settings by selecting the Document Level Security radio button. Document-level security can also be thought of as attribute-based security.

With document-level security, one or more PeopleSoft Query columns act as the security attribute. You can then specify an application class (AppClass) that returns a list of values for the selected security

attributes. When the user submits the search request, SES compiles a list of values returned from the application class associated with that specific user to build the security filter.

Image: Security page: Document Level Security options

This example illustrates the fields and controls on the Security page: Document Level Security options. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Security' tab of a configuration page. At the top, there are tabs for 'General', 'Map Search Attributes', 'Security' (selected), 'Advanced', and 'Component Mapping'. Below the tabs, the 'Search Definition' is 'HC_HR_CAREER_PLAN' and the 'Description' is 'Career Planning'. Under 'Security Option', three radio buttons are present: 'No Security', 'Source Level Security', and 'Document Level Security' (which is selected). Below this is a 'Document Level' section containing a table with one row. The table has columns for 'Query Name', 'Source Field', 'Attribute Name', and 'Privilege'. The row contains '1 HR_SRCH_CP', 'A.EMPLID', 'EMPLID', and 'Allow'. Below the table is a 'Document Filter App Class' section with three fields: 'Package Name' (HR_SRCH_DIRECT_REPORTS), 'Path' (empty), and 'Class ID' (IndirectReports). Each field has a search icon to its right.

Query Name	Source Field	Attribute Name	Privilege
1 HR_SRCH_CP	A.EMPLID	EMPLID	Allow

Document Filter App Class

Package Name: HR_SRCH_DIRECT_REPORTS

Path:

Class ID: IndirectReports

Document Level

Query Name

Select the name of the query or connected query containing the fields you want to use to restrict access.

Source Field

Select the field which will identify security values which will determine access.

The source field(s) selected becomes the security attribute having the specified privilege. At indexing time, when the crawler inserts application data into the index, the values populating the selected source field(s) will carry the specified privilege.

Privilege

Define the access privilege or restriction.

- Allow. The value specified in the Source Field is allowed access to the data for this row in the search results.
- Deny. The value specified in the Source field cannot see the data for this row in the search results.

Note: The privilege of Deny is useful in situations where there are too many values for the security attribute if Allow were selected. For example, rather than enabling access to nine out of ten field values, it is more efficient to deny access only to the one you want to restrict.

Note: If multiple attributes appear in the grid the system effectively inserts an AND clause between the items in the grid.

Document Filter App Class

The application class specified in the Document Filter App Class section creates a list of values for the security attribute at query time. The application class enables you to define and run additional filters and logic against the application data contained in the indexed source fields.

As needed, PeopleSoft applications will provide filtering App Classes for delivered search definitions. For any custom search definitions, or additional filtering requirements, you will need to create or modify the filtering App Classes.

Package Name	Select the name of the appropriate App Package.
Path	Select the path pointing to the App Class.
Class ID	Select the class ID for the App Class.

For example, assume you want to compile a list of valid SETIDs to which the user may have access. You define an application package that would contain a method called evaluateAttrValues. This passes the search definition name (sboName), the name of the security attribute field that was identified in the search definition, and the user who will access the data. The application method would then build a list of valid values for that user and return it to SES for comparison against the data to see if the attribute value on the data matches.

```
method evaluateAttrValues
    /+ &sboName as String, +/
    /+ &secAttr as String, +/
    /+ &srchUser as String +/
    /+ Returns Array of String +/
    /+ Extends/implements PTSF_SECURITY:SearchAuthnQueryFilter.evaluateAttrValues +/
    Local array of string &secValues;
    Local string &Role, &userPref, &csFullAccess, &csAdminAccess, &OnBehalfOf,
    &docOwner, &BU_Security, &Security_Type, &SID_Security, &PermList;
    Local SQL &sqlRoles, &sqlUserPrefs, &sqlDocOwners;

    &secValues = CreateArrayRept("", 0);

    /*&BU_Security, &Security_Type, &SID_Security*/
    SQLExec("Select SETID_SECURITY, SECURITY_TYPE
    from PS_INSTALLATION_FS", &SID_Security,
    &Security_Type);
    If &SID_Security = "N" Then
        &secValues.Push("A:ALL");
    Else
        Evaluate &Security_Type
        When "N"
            &secValues.Push("A:ALL");
        When "O"
            &secValues.Push("U:" | &srchUser);
        When "C"
            SQLExec("Select OPRCLASS from PSOPRDEFN where OPRID = :1",
            &srchUser, &PermList);
            &secValues.Push("P:" | &PermList);
        End-Evaluate;
    End-If;
End-method;
```

Note: Concatenating multiple attribute values using a separator, you can achieve an OR clause between attributes. For example, in the this sample "A:ALL" and "U:" | &srchUser are two different attributes merged into a single attribute to achieve the OR clause.

Note: To achieve improved performance, the security attribute should be chosen in such a way that no more than 50 values are returned per user per attribute.

Working With Advanced Settings

Access the Advanced page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting the Advanced tab.

Image: Advanced Properties page

This example illustrates the fields and controls on the Advanced Properties page. You can find definitions for the fields and controls later on this page.

Advanced Properties

Search Definition	QE_QRY_SD
Description	Qry SD

Define Query to Delete SBO

Query Name	<input type="text"/>	
URL Link Field	<input type="text"/>	

Pre Processing AE Library

AE Library	<input type="text"/>	
AE Section	<input type="text"/>	

Post Processing AE Library

AE Library	<input type="text"/>	
AE Section	<input type="text"/>	

Encode Search Attributes

	Search Attribute	Attribute Display Name		
1	<input type="text"/>			

Full Indexing Criteria

Index Only Last	<input type="text" value="0"/>	Days	Index Start Date	01/01/1900
-----------------	--------------------------------	------	------------------	------------

Alternate search keywords

Define Query to Delete SBO

Query Name

Select the query that you've defined to remove orphaned search documents. This is your deletion query.

For example, for rows of data that have been deleted from the database, you would want to ensure that those rows of data (or search result documents) no longer appear in the search index.

Note: Even though this query is defined the same way as the source type query is defined, the difference is that the result of the query is used for deleting the already indexed documents from SES. The Drilling URL field acts as the primary identifier to locate the documents to be deleted. This means the drilling URL must be identical to the drilling URL built for the original query.

Delete SBO Query will not be executed during the first index build of a search definition. It only becomes active after the initial index is populated.

See [Defining a Deletion Query](#).

URL Link Field

Select the drilling URL field for the query selected.

Pre Processing AE Library

Before an index build is run, data can be manipulated to perform additional tasks. For example, it may be required to search through subqueries to determine if one or more subquery might have changed and to update the last updated datetime value on the parent so that the change is recognized. Another use might be to calculate or summarize a value to be indexed. Another common case for pre processing occurs when a query is created based on staging tables. In this case the pre processing Application Engine program can be used to populate the staging tables. This is useful when the data cannot be retrieved using a simple query (such as hierarchal or computed data).

You can define an Application Engine routine to perform these tasks.

Note: Pre and post processing adds to the overall indexing time, and it is recommended not to use this in scenarios where it can be avoided.

Note: Application Engine programs used for pre or post processing should be defined as type Library.

AE Library

To call additional processing logic from Application Engine, specify the correct AE Library (Application Engine program) to run.

AE Section

Specify the Application Engine program section to run.

Post Processing AE Library

After an index is built, certain clean-up functions might need to be performed, such as removing the records in your delete query, or cleaning up staging tables. Use the post processing Application Engine routine to perform these functions.

AE Library

To call additional processing logic from Application Engine, specify the correct AE Library (Application Engine program) to run.

AE Section

Specify the Application Engine program section to run.

Encode Search Attributes

Use the encode option in place of setting up custom lexers for applications that have indexed code-based fields for search attributes. Encoding these values enables the system to process the codes when generating the feed for the search index without requiring staging tables or a pre-processor Application Engine program. Encoding keeps words intact for indexing and searching that otherwise might be split during the parsing process of search index generation.

For example, a code-based search field, expects the end user to enter a code, known to the application users, that may not be interpreted as a single value by SES. In which case, SES may index the code as multiple values, losing the meaning of the code. For example, perhaps there is a product version represented by the code "M-2000". If SES indexes this code as two separate values, "M" and "2000" rather than "M-2000," the code loses its meaning and it no longer serves as a useful search attribute. In this case, if added to the Encode Search Attributes grid, PeopleSoft Search Framework encodes the "M-2000" value (to Mx2000 for example) so that it is indexed as a single value. While the value may be encoded for SES, the end user enters the code when searching as normal, requiring no knowledge of how the code is represented for SES indexing purposes.

If encoding search attributes, keep these items in mind:

- Encoded attributes are not exposed to the end user. The system uses encoded values only for programmatic operation.
- SES has a token limit of 64 bytes, so fields with more than 30 characters cannot be encoded. In a hierarchical value, use a word separator character to ensure the end value does not exceed 64 bytes.
- For these values, the system encodes the search string using EncodeSearchCode PeopleCode before passing the filters to the search API.
- For indexes containing encoded values, there can be slight overhead related to index size and query performance.

Full Indexing Criteria

Index Only Last <> Days

Enter the number of days for which you want to build the index. The number of days entered are treated as days prior to the current date.

The default value is 0.

Index Start Date

The Index Start Date is calculated based on the number of days you enter in the Index Only Last <> Days field. The Index

Start Date displays the date after deducting the number of days entered in the Index Only Last <> Days fields from the current date. The index will be built from the date that is displayed in the Index Start Date field.

When the value of the Index Only Last <> Days field is 0, which is the default value, the Index Start Date is set to 01/01/1900.

Alternate Search Keywords

Alternate search keywords

Enter any alternate search keywords that users are likely to submit when running search requests. For example, rather than submitting the more official "purchase order" phrase, a user may be more likely to search on "PO" instead.

This field is translatable. If supporting multiple languages, the keywords need to be translated.

Mapping Components to Search Definitions

Access the Component Mapping page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting the Component Mapping tab. The Component Mapping page enables you to map a component to a specific search definition to enable SES integration with Search Pages.

Mapping a component to a search definition effectively assigns component level security to the search definition. For this reason, if the Search Definition is assigned to a component, document level security is turned on by default.

Note: Multiple components can be mapped to the same search definition. When a component is mapped, the security type is changed to document level security, and a user having access to any one of the components will be able to search inside the search index. The security type cannot be changed, but you can add more security attributes to extend the security.

Important! Search definitions mapped to a component must use document level security.

Image: Component Mapping page

This example illustrates the fields and controls on the Component Mapping page. You can find definitions for the fields and controls later on this page.

*Market	*Component Name	Description	Search Criteria
1 Global	MERCHANTCATTBL		

Market

Select the Market for the component.

Component Name

Select the component.

Search Criteria

Enter any additional custom search criteria to be added automatically to the SES search query during a Search Pages keyword search.

The search criteria should take the form
 ATTRIBUTENAME:VALUE and can use keywords and brackets. For example:

PTSF_SBO_NAME:EP_AP_VENDOR & (-STATUS:PND)

Note: The system appends additional search criteria as is to the search query. The Search Criteria field is "free text." The Search Framework performs no validation or parsing during design time or run time.

Viewing Search Attributes

Access the Search Attributes page by selecting PeopleTools, Search Framework, Designer, View Search Attributes and selecting the Display Fields tab. Search attributes are used for creating aliases of the actual search query fields from PeopleSoft Query or Connected Query in the Oracle RSS feeds.

SES supports only three data types:

- String
- Number
- Date

PeopleTools maps the PeopleSoft data types to SES data types. The Search Attributes page displays a search attributes mapped SES data type.

Image: Search Attributes page

This example illustrates the fields and controls on the Search Attributes page. You can find definitions for the fields and controls later on this page.

Search Attributes			
Search Attributes		Personalize Find View 100 First 1-7 of 294 Last	
Search Attribute	Field Name	Attribute Display Name	Data Type
1 ABSENCE_REASON	ABSENCE_REASON	Absence Reason	String
2 ABSENCE_REASON_REASON	ABSENCE_REASON	Reason	String
3 ABSENCE_TYPE	ABSENCE_TYPE	Absence Type	String
4 ACTION	ACTION	Action	String
5 ACTION_DESCRSHORT	ACTION_DESCRSHORT	Short Description	String
6 ACTION_DESCRSHORT_DSPLBL	ACTION_DESCRSHORT	Action	String
7 ACTION_DTTM	ACTION_DTTM	Override Date Time	Date

The search attributes page is read-only and provides a quick view of all attributes currently authorized for sending to SES. Every time a field is mapped in a Search Definition, the system adds an entry to this grid for the field. Because a field can exist on more than one search definition, it is not generally removed from this grid.

Search attributes are retained separately from a search definition and this enables:

- **Reusability.** You can reuse the same search attributes amongst multiple search definitions.
- **Increased usability.** Search attributes enable you to modify the attribute name or query field name from the end user, who will see the attribute display name. For example, adding the display value of "Employee ID" is more readable and understandable than displaying the field name EMPLID.
- **Quick Access.** You can view and sort all search attributes in the system and check their datatypes without having to open SES or Application Designer.

Creating File Source Search Definitions

Understanding File Source Search Definitions

File source definitions enable you to specify the location where external files reside in an accessible file system that you want to make available to the Oracle SES crawling mechanism so that end users can search the content of these files to support PeopleSoft applications. Examples of external file types that can be indexed include Microsoft Word and Excel documents, plain text documents, HTML files, and so on.

Specifying File Source General Settings

Access General Settings page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting a Source Type of *File Source*.

Use the General Settings page to specify the location of the files to be indexed as well as the crawler settings.

Image: File Source — General Settings page

This example illustrates the fields and controls on the File Source — General Settings page. You can find definitions for the fields and controls later on this page.

GeneralDocument Types

General Settings

Search Definition

QE_FILE_EXCLUDE_TYPES

*Description

File source exclude doc types

Source Type

File

Object Owner ID

PeopleTools

Starting URLs (file://localhost)

PersonalizeFind1 of 1FirstLast

Starting URL

1file://localhost/ds1/products/SES_ADD

Crawler Settings

Crawler Timeout (Seconds)

30

Max Document Size (MB)

10

File URL Prefix

file://localhost/ds1/products/

Display URL Prefix

https://webhost/clients/

Save

Description

Add a brief description to help identify the purpose of the search definition.

Source Type

Displays the type of search definition, such as Query, Web, File, and so on.

Starting URLs

In the Starting URLs grid enter the location(s) in your file system where the files reside that you want to expose to the Search Framework crawling process. For each different location, add a new row to the grid.

Note:

The starting URL is not case sensitive.

Note:

For the SES crawler to access the URL, the file starting URL must be fully qualified, as in file://localhost/.

On UNIX the starting URL format is:

- To crawl local files use `file://localhost/<directory structure>`. For example:

file://localhost/recruitment/resume/

- To crawl from mounted file systems use `file://localhost//<mounted_dir_path>`. For example:

file://localhost//dfs/recruitment/resume/

On Windows the starting URL format is:

- To crawl local files use `file://localhost/<Directory_Path>`. For example:

file://localhost/D:/recruitment/resume/

- To crawl from a mapped drive use `file://localhost//<machinename>/<shared_folder_path>/`. For example:

file://localhost//RTDC78067TLSBLD/recruitment/resume/

SES can crawl files on directories located on the server where SES is installed or network file paths accessible by the SES Server. When SES crawls files from a network drive, then the Oracle process/service should be started as a user who has access to the network drive, which you can accomplish by modifying the logon account of OracleServiceSID and OracleSIDTNSListener services to match the domain administrator and restart both services.

Crawler Timeout

Indicates the maximum allowed time to retrieve a file for crawling.

Max Document Size

The maximum document size in megabytes that the system will crawl. Larger documents are not crawled.

Enable Language Detection

By Enabling Language Detection, SES automatically identifies the language of the document content and assigns the language code automatically.

If the SES crawler cannot determine a perfect match, it finds a best match from the trained set of languages and assigns. Otherwise the default language in the crawler configurations will be assigned.

SES supports numerous languages with automatic language detection, including Chinese, Japanese, Korean, Danish, Dutch, English, French, German, Italian, Portuguese, and Spanish. Consult your Oracle SES documentation for a complete language support information.

File URL Prefix

The part of the access URL the system will not display in the search results due to security reasons.

Display URL Prefix

This is an optional feature where there is a need to hide the actual URL used for indexing. If a File URL Prefix is specified it is mandatory to have the Display URL Prefix set.

The URL the system displays instead of the actual URL. For example, if the file URL is:

file://localhost/home/operation/doc/file.doc

and you want the display URL to appear as:

https://webhost/client/doc/file.doc

then specify the File URL Prefix as:

file://localhost/home/operation

and the Display URL Prefix as:

https://webhost/client

If you select Display URL Prefix, make sure that the files are reachable using the specified URL. The SES Crawler replaces the URL string specified for the File URL Prefix with the Display URL Prefix.

If a Display URL Prefix is not mentioned, SES redirects the documents through the SES server for displaying the documents. If a file URL is to be used "as is" (without going through Oracle SES to retrieve the file), then "file" in the Display URL Prefix should be upper case. For example:

FILE://localhost/...

As is means that when a user clicks the link of the search result, the browser tries to use the specified file URL on the client computer to retrieve the file. Without that, SES uses the file URL on the server computer and sends the document through HTTP to the client computer.

Specifying Document Types

Access the Document Types page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting a Source Type of *File Source*. Then click the Document Types tab.

Use the Document Types page to specify the document types, expressed as MIME types, of the documents to be crawled.

Image: File Source — Document Types page

This example illustrates the fields and controls on the File Source — Document Types page. You can find definitions for the fields and controls later on this page.

Document Types

Search Definition: PEOPLEBOOKS_PEOPLETOLS
Description: Test file source for PeopleBooks

Document types to crawl

☐ Include default types
 ☐ Include all types
 ☒ Add these types
 ☐ Exclude these types

Select	Document Type	Personalize	Find	First	1-6 of 6	Last
1	application/msword					
2	application/pdf					
3	text/html					
4	text/plain					
5	text/xml					
6	image/jpeg					

URL Boundary Rules

Inclusion Rules

Exclusion Rules

Document Types to Crawl

Include default types

Crawl only on the default document types, as defined by Oracle SES.

The Oracle SES default document types for crawling are:

- PDF
- HTML
- TXT (plain text)

- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint

If no other document types are added to the Select grid, then SES considers only the default document types.

Include all types

Crawl all document types supported by Oracle SES.

To see this list of supported document types, expressed as MIME types, select either the Add these types or Exclude these types radio button and click the lookup button for the Document Type column.

Add these types

In addition to the default document types, the system also crawls any document type added to the Document Type grid, with Add these types selected.

Exclude these types

Excludes specific document types added to the Document Type grid.

Assume the majority of the document types supported by Oracle SES crawler apply to your configuration, except for a small number of document types. In this case you can specifically include those document types in the Document Type grid. When Oracle SES crawls the file location, Oracle SES crawls all document types on the supported MIME list, except for those document types included in the Document Type grid, with Exclude these types selected.

URL Boundary Rules

Inclusion Rules

Specify an inclusion rule that a URL must contain. For example:

ses_xml

In this case, Oracle SES crawls all documents with ses_xml in the name.

Specify an inclusion rule that URL must start with. For example:

*file://localhost/ds1/product/SES_ADD/ses_doc**

In this case, SES crawls all files starting with *file://localhost/ds1/product/SES_ADD/ses_doc*.

Exclusion Rules

Specify an exclusion rule that a URL can't contain. For example:

**.xml*

In this case, Oracle SES does not crawl anything with a *.xml* extension.

URL boundary rules limit the crawling scope. When you add boundary rules, the crawler is restricted to URLs that match only the rules you specify. Inclusion and Exclusion rules can be formed to filter documents with patterns of *begins with*, *ends with*, *contains* or regular expressions. Rules with regular expression should start with the character *R*.

Rule	Description
Begins With: <i>file://localhost/example*</i>	In this case, SES considers URLs starting with <i>file://localhost/example</i> .
Ends With: <i>*.doc</i>	In this case, SES considers URLs ending with <i>.doc</i> .
Contains: <i>*contacts*</i>	In this case, SES considers URLs containing string <i>contacts</i> .
Regular Expression: <i>R.*ses_html_lvl[1-9].html</i>	In this case, SES considers URLs ending with numbers varying from 1 to 9 with file names ending with <i>ses_html_lvl</i> .

When working with these rules, keep in mind:

- Exclusion rules always override inclusion rules.
- Multiple inclusion and exclusion rules can be separated by a space or in a new line.
- Use an asterisk to represent a wildcard.
- Inclusion and exclusion rules are case-insensitive.

Working with Default Exclusion Rules for Non-Textual Document Types

By default, the Oracle SES crawler contains built-in exclusion rules to exclude non-textual files, such as graphic files. To crawl a file with these extensions, you need to modify the following section in the Oracle SES crawler.dat file:

```
# default file name suffix exclusion list
```

The crawler.dat file is located in:

SES ORACLE_HOME/search/data/config/

For example:

D:\oracle\product\11.1.2.2.0\ses\seshome\search\data\config

Remove any file type suffix from the exclusion list that you want Oracle SES to crawl.

<i>Document Type</i>	<i>Extensions</i>
Image	jpg gif tif bmp png
Audio	wav mp3 wma
Video	avi mpg mpeg wmv
Binary	bin exe so dll iso jar war ear tar wmv scm cab dmp

Note: Oracle SES only indexes the file name when crawling multimedia files, unless you implemented a crawler plug-in that provides a richer set of attributes, such as the Image Document Service plug-in.

Creating Web Source Search Definitions

Understanding Web Source Search Definitions

Web source definitions enable you to make the content of internal or external websites available for Oracle SES crawling and inclusion in the Search Framework end user searches. For example, if there is a website on your company's intranet that describes specific business processes for your end users, they can instigate a search against this web content from within the PeopleSoft application.

Specifying Web Source General Settings

Access the General Settings page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting a Source Type of *Web Source*.

Use the General Settings page to specify the location of the files to be indexed as well as the crawler settings.

Image: Web Source — General Settings page

This example illustrates the fields and controls on the Web Source — General Settings page. You can find definitions for the fields and controls later on this page.

General Settings

Search Definition QE_WEB_SD

*Description Web SD

Source Type Web

Object Owner ID PeopleTools

Starting URLs (http://)

Starting URL
1 http://www.unicode.org/standard/WhatIsUnicode.html

Crawler Settings

Crawler Timeout (Seconds) 30 Crawl Depth 0

Max Document Size (MB) 10

Honor Robots Exclusion ☒ Yes ☐ No

Index Dynamic Pages ☒ Yes ☐ No

Save

Description

Add a brief description to help identify the purpose of the search definition.

Source Type

Displays the type of search definition, such as Query, Web, File, and so on.

Starting URLs

Contains the URL of the web address. Oracle SES uses the URL as an entry point for starting to crawl a website.

Important! Only HTTP URLs are supported. The starting URL's mentioned should be accessible without any user credentials. SES Crawler will ignore web sites requiring login.

Index All

This will index all the URLs which are allowed to access by the SES Crawler. This will not limit crawling in to a specific domain or host. As the number of URLs to index increases, time required to complete indexing also increases.

Stay in Host

This will limit the indexing only to the specified host. For example, if you are indexing www.oracle.com and you select

this option, you can index documents on `www.oracle.com`, but not on `www.1.oracle.com`.

Important! If neither option is selected, then the system switches to *Stay in Domain* mode. In this mode, indexing will be limited to a single domain. For example if you are indexing `www.oracle.com` it will consider all URLs with in this domain, including `www.1.oracle.com`, but URLs from a different domain, such as `www.yahoo.com`, would not be indexed.

Crawler Timeout

Indicates the maximum allowed time to retrieve a file for crawling.

Crawl Depth

The number of nested links the crawler follows, with the initial URL, or home page, residing at a *depth of 0*.

With a crawling depth of 1, the crawler also fetches any document linked to from the starting URL.

With the crawling depth set to 2, the crawler fetches any document linked to from the starting URL (depth of 0), and also fetches any document linked to from the depth of 1, and so on.

By adding a value for Crawl Depth, the system uses that value to enforce the crawling limit. If you enter no value, leaving the Crawl Depth blank, the system considers the crawling depth to be unlimited. As you increase the crawl depth, the content to be indexed can increase exponentially, which results in longer crawling durations.

Max Document Size

The maximum document size in megabytes that the system will crawl. Larger documents are not crawled.

Honor Robots Exclusion

Robot exclusion policies are set at web server and the web page level. The Honor Robots Exclusion setting controls whether Oracle SES recognizes or ignores the robot exclusion settings.

- *Yes.* The Oracle SES crawler traverses the pages based on the access policy specified in the web server robots.txt file. The crawler also respects the page-level robot exclusion specified in HTML meta tags.
- *No.* The crawler ignores any specified robot policy defined on the web server.

Index Dynamic Pages

Controls whether Oracle SES crawls and indexes dynamic pages. Typically, database applications serve dynamic pages, and the pages have a URL containing a question mark (?). Oracle SES considers URLs containing question marks dynamic pages.

- *Yes.* Oracle SES crawls dynamic pages.

- *No.* Oracle SES does not crawl dynamic pages.

Specifying Document Types

Access the Document Types page by selecting PeopleTools, Search Framework, Designer, Search Definition and selecting a Source Type of *Web Source*. Then click the Document Types tab.

Use the Document Types page to specify the document types of the documents to be crawled. Document types are expressed as MIME types.

Image: Web Source — Document Types page

This example illustrates the fields and controls on the Web Source — Document Types page. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Document Types' configuration page. At the top, there are two tabs: 'General' and 'Document Types'. The 'Document Types' tab is selected. Below the tabs, the 'Search Definition' is 'QE_WEB_SD' and the 'Description' is 'Web SD'. The main section is titled 'Document types to crawl'. It contains four radio buttons: 'Include default types', 'Include all types' (which is selected), 'Add document types', and 'Exclude document types'. Below these is a table with one row, numbered '1', and a column header 'Document Type'. To the right of the table are buttons for '+', '-', and a 'Save' button at the bottom. Below the table is a section titled 'URL Boundary Rules' which is divided into 'Inclusion Rules' and 'Exclusion Rules'. The 'Exclusion Rules' section contains the text '*js'.

Document Types to Crawl

Include default types

Crawl only on the default document types, as defined by Oracle SES.

The Oracle SES default document types for crawling are:

- PDF
- HTML
- TXT (plain text)
- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint

Note: When you select this option, notice that you cannot add or remove items from the Document Type grid.

Note: Exclusion rules take precedence. For example, if you enter *.doc in the Exclusion Rules edit box, none of the Microsoft Word documents will be processed.

Include all types

Crawl all document types supported by Oracle SES.

To see this list of supported document types, expressed as MIME types, select either the Add these types or Exclude these types radio button and click the lookup button for the Document Type column.

Note: When you select this option, notice that you cannot add or remove items from the Document Type grid.

Add document types

In addition to the mandatory document types, which are HTML and TXT files, the system also crawls any document type added to the Document Type grid.

Exclude document types

Excludes specific document types added to the Document Type grid.

Assume the majority of the document types supported by Oracle SES crawler apply to your configuration, except for a small number of document types. In this case you can specifically include those document types in the Document Type grid. When Oracle SES crawls the file location, Oracle SES crawls all document types on the supported MIME list, except for those document types included in the Document Type grid.

URL Boundary Rules

Inclusion Rules

Specify an inclusion rule that a URL must contain. For example:

www..example.com*

In this case, SES crawls all content within *www.*.example.com*.

Exclusion Rules

Specify an exclusion rule that a URL can't contain. For example:

www..uk.example.com*

In this case, SES does not crawl anything within *www.*.uk.example.com*.

URL boundary rules limit the crawling scope. When you add boundary rules, the crawler is restricted to URLs that match only the rules you specify. Inclusion and Exclusion rules can be formed to filter documents with patterns of *begins with*, *ends with*, *contains* or regular expressions. Rules with regular expression should start with the character *R*.

Rule	Description
Begins With: <i>http://www.uk.example.com*</i>	In this case, SES considers URLs starting with <i>www.uk.example.com</i> .
Ends With: <i>*.xml</i>	In this case, SES considers URLs ending with <i>.xml</i> .
Contains: <i>*contacts*</i>	In this case, SES considers URLs containing string <i>contacts</i> .
Regular Expression: <i>R^http://www.example.com/code.*./verson[1-9].html\$</i>	In this case, SES considers URLs from example.com with sites starting with string <i>code</i> , and has versions numbered from <i>1</i> to <i>9</i> and ends as <i>.html</i> .

When working with these rules, keep in mind:

- Exclusion rules always override inclusion rules.
- Multiple inclusion and exclusion rules can be separated by a space or in a new line.
- Use an asterisk to represent a wildcard.
- Inclusion and exclusion rules are case-insensitive.

Creating Search Categories

Understanding Search Categories

Search Categories are essential for the Search Framework. Search categories:

- Organize search definitions into manageable, logical groups of data.
- Are required for searches. Search queries run only against search categories, not search definitions. A search definition must be a member of a search category before it can be searched.
- Enables users to focus searches to help refine results and restrict searches to a particular set of search indexes. For example, users can run searches against categories like Customers, Purchase Orders, or Products, rather than running a search against all indexes in the search engine.
- Allow users to search across several different groups of data simultaneously. For example if you were looking for a particular Item ID, with a Search category containing multiple Search Definitions, you can search across purchase order, sales orders and inventory at one time.
- Provide improved search performance and results by limiting the number of indexes searched.

Note: Search queries cannot be run directly against search definitions. Search queries can only be run against search categories.

Specifying General Search Category Settings

Access the General page by selecting PeopleTools, Search Framework, Designer, Search Categories.

Image: General page

This example illustrates the fields and controls on the General page. You can find definitions for the fields and controls later on this page.

GeneralAdvanced Search FieldsFacetsCustom Search PageDisplay Fields

General Settings

Search Category Name

PTPORTALREGISTRY

*Description

Menu

Duplicates

Use API

☒ Search Group

Object Owner ID

PeopleTools

PersonalizeFind

First1 of 1Last

*Search Definition	Description		
PTPORTALREGISTRY	Menu	+	-

Search Category Name

Displays the search category name.

Important! Though any number of search definitions can be mapped to a search category, for each and every search definition, a search category of the *same* name must exist, and the search definition must belong to that search category. You can create search categories of a different name that are not associated with a single search definition. A search definition may belong to more than one search category, but it *must* belong to one with the same name.

For example, search definition XYZ must belong to search category XYZ, but search definition XYZ can also belong to search category ABC. Search category ABC does *not* require a corresponding search definition of the same name, and it can contain multiple search definitions.

Description

Add any additional information to distinguish search categories.

Note: If this search category becomes exposed through Global Search, then the description you enter may appear in the Global Search Bar. The description must be appropriate for end user viewing. Make the description as informative, concise, and intuitive as possible.

Duplicates

Note: The description is translatable.

Identify how you want the system to handle the possibility of duplicate search results. A search category with multiple, similar search definitions may generate duplicate entries in the Oracle SES search index, which will display duplicate search results.

The Duplicates setting applies only at the individual search category level, and the system considers the Duplicates setting only when a search runs against a *single* search category. For example, the "All" search invoked from the Global Search bar will display all the search results across all deployed search categories, including duplicates, regardless of the Duplicates setting for individual search categories.

The Duplicates option enables you to:

- *Allow Duplicates.* The system displays all duplicate search results to the end user.
- *Suppress Duplicates.* The system does not display duplicate search results to the end user. In the event of duplicate search results, the system displays only one result from the set of duplicates.
- *Use API.* The handling of duplicates will be set in the search request object based on the value set by the application, honoring any values produced by the application PeopleCode.

Search Group

Select to enable this search category to be available for context searching within Global Search.

Search Definition

Add all search definitions that belong to this search category.

Selecting Advanced Search Field Settings

Access the Advanced Search Fields page by selecting PeopleTools, Search Framework, Designer, Search Categories and selecting the Advanced Search Fields tab.

The Advanced Search Fields page enables you to view and modify attributes to show on the advanced search page during end user searches to add more criteria to the basic search mode.

When working with the advanced search page attributes, keep these items in mind:

- This configured list can be programmatically retrieved from the SearchCategory App Class in the PT_SEARCH Application Package using method GetConfiguredFilterAttributes.
- All the attributes associated with this category can be retrieved using the same App Class with the method GetAllAttributes.

- Attributes not appearing on the Advanced Search Fields page can be retrieved using `GetNonConfiguredFilterAttributes`. This method will provide a list of attributes defined in the related search definitions which have not been configured here.

Image: Advanced Search Fields page

This example illustrates the fields and controls on the Advanced Search Fields page. You can find definitions for the fields and controls later on this page.

Sequence	Search Attribute	Description
1	EMPLID	Empl ID
2	FIRST_NAME	First Name
3	GVT_CARPLAN_RSN	Reason Career Plan Initiated
4	BUSINESS_UNIT	Business Unit
5	LOCATION	Location Code
6	POSITION_NBR	Position Number
7	DESCR_DEPTID	Department
8	DESCR_JOBTITLE	Job Title
9	NAME_DISPLAY	Display Name
10	RISK_OF_LEAVING	Risk of Leaving

Auto detect common fields

When selected, this flag will gather all fields which are common to all search definitions listed on the General page. This will allow for searching across all search definitions in the category.

Select to avoid manually listing the common fields from the joined records. (default)

Deselect to delete some or to add additional attributes which are not common to all search definitions.

Note: When you select the Auto Detect flag, you must save the search category before the common fields will be properly displayed in the grid.

Sequence

Control the sequence in which the search attributes appear in the advanced search interface.

Selecting Facet Settings

Access the Facets page by selecting PeopleTools, Search Framework, Designer, Search Categories and selecting the Facets tab.

Image: Facets page

This example illustrates the fields and controls on the Facets page. You can find definitions for the fields and controls later on this page.

Facets

Search Category Name: HC_GP_ABS_RQST
Description: Absence Request
☒ Auto detect facets

Sequence	Facet Name	Description	Is Associated	Facet Association	Change facet sorting
1	HR_SRCH_ASSOC_CD	My Association	<input checked="" type="checkbox"/>	Employee ID	Change facet sorting
2	EMPLID2	Employee	<input type="checkbox"/>		Change facet sorting
3	COMPANY	Company	<input type="checkbox"/>		Change facet sorting
4	DATE_RANGE_LBL	Date Range	<input type="checkbox"/>		Change facet sorting
5	ABSENCE_TYPE	Absence Type	<input type="checkbox"/>		Change facet sorting

[Save](#)

Auto detect facets

Select to detect common facets for all the search definitions belonging to the search category. When you save the search category, any facets that are common to all search definitions are displayed. This saves you from needing to discover which facets can be used to filter across all search definitions.

Deselect this option if you wish to remove some facets or add ones that are not common to all search definitions (not recommended as this may distort facet counts).

Sequence

Control the sequence in which the faceted fields display for narrowing search results in an intuitive fashion for users.

For example, perhaps you might want to ensure that these faceted fields display in this order: Country, State, County, City.

Description

Displays the value of the Attribute Display Name column in the grid on the Map Search Attributes page for the search definition.

Is Associated

Select if you intend to create a user-specific association with the facet.

Note: Creating associated facets applies only to certain situations and expects additional requirements to be in place.

For more information, refer to the topic below, “Creating Associated Facets.”

Facet Association

Select how the value to which the facet should be associated will be determined. Options are:

- *Application Class*: When selected, the Associated Value App Class group box appears below the Facets grid on the Facets page, enabling you to specify the application package that will determine the facet association.
- *Employee ID*: Associates the facet value with the employee ID value (%EmployeeID).
- *User ID*: Associates the facet value with the currently signed on user (%UserID).

Change facet sorting

Click to launch a secondary page, enabling you to apply sorting rules to the faceted display. Refer to the Changing Facet Sorting section for details.

Keep in mind that this configured list of facets can be programmatically retrieved using the GetFacetFilters method in the SearchCategory App Class in the PT_SEARCH Application Package. The result, which is an array of PT_SEARCH:FacetFilter, can be passed to the PT_SEARCH:SearchQuery class to get facet nodes in the search results.

Creating Associated Facets

An associated facet is a facet that is associated with a specific field value, such as an employee ID or the current user ID. This enables that associated facet value to be filtered automatically by the facet association value. These facets appear in the facet pane within a separate facet node entitled “My Association” for example (default). All other facets in the facet pane behave normally, and the My Association facet node appears only if search results associated to the current user exist for the current search request.

For example, consider users accessing a component where job postings are created and managed. A hiring manager may want to have a facet category containing only search results associated with her, which might contain only those job postings she created. Likewise, a recruiter may want to have a facet category containing results associated only with him, such as the job openings for which he is the recruiter.

If you intend to implement associated facets for custom search categories, it is recommended that you examine the associated facets in your delivered PeopleSoft application search definitions and search categories to see examples. The following list provides general recommendations:

- You need to ensure that the facet association value is available in your table structure, your query or connected query, and that the value is indexed. Or, you can reference an application class, which will determine the association value programmatically.
- Only hierarchical search attributes can be associated facets. Define a hierarchy-based faceted attribute in the search definition, where the first level acts as the key for the facet association, for example user ID or employee ID, and the second level being the association, such as *A.OPRID/HRS_ASSOCIATION_CD*. It is recommended that at the association level, you reference a translate value (XLAT), such as hiring manager, recruiter, and so on.
- In cases, where the first level of the facet association is not user ID or employee ID, which PeopleTools populates, the PeopleSoft application delivers an application class to determine this

value. If you are creating custom search definitions and categories, you will need to create the application class.

Changing Facet Sorting

To modify the facet sorting order, select PeopleTools, Search Framework, Designer, Search Categories and selecting the Facets tab, and clicking the Change facet sorting link.

By default, facet values are sorted by count, meaning that the system displays the facet value containing the most search results first, or at the top of the list. While this may be desirable in many situations, in some situations it may provide a better user experience if the facets are sorted based on criteria other than just the number of search results.

For example, if the facet is a date field, it may make more sense to sort the facet values by the actual year, in a sequential order, (2013, 2012, 2011, and so on) as opposed to the number of search results with in each year. Likewise, in another situation, it may be more intuitive to sort a faceted Customer field alphabetically, regardless of search result count.

Image: Change facet sorting page

This example illustrates the fields and controls on the Change facet sorting page. You can find definitions for the fields and controls later on this page.

Facet Name COUNTRY		
Personalize Find View All [Grid Icon] [Table Icon] First 1 of 1 Last		
Level	Sort as	Sort order
1	String	Ascending

Level

In the case of a nested facet, you can add additional rows to the sort order grid, and set different sort options at each level. The Level column indicates the level to which the sort options apply (1, 2, 3, and so on).

Sort as

Select one of these options to specify how the facet should be treated:

- *Count*. While the default sort order is to sort facet values by search result count in a descending order, the Count option enables you to apply an ascending order, for example.
- *Number*. Apply the number data type to the facet value.
- *String*. Apply the string, or character, data type to the facet value.

Sort order

Specify the sort order that best suits your selected Sort as option and how users expect to see the values displayed.

Identifying Custom Search Pages

Oracle provides default search pages to use with most application purposes. If you need to do something more than this, then you must create custom search pages for custom applications or to provide additional search features.

To indicate for the system to use these custom pages when doing a Global Search, then you should specify that search page, as well as any custom search result or advanced search pages.

Note: This functionality is only available for Global Search, not keyword component-level search.

Access the Custom Search Page page by selecting PeopleTools, Search Framework, Designer, Search Categories and selecting the Custom Search Page tab.

Image: Custom Search Page page

This example illustrates the fields and controls on the Custom Search Page page. You can find definitions for the fields and controls later on this page.

The screenshot shows the 'Custom Search Page' configuration page. At the top, there are tabs: 'General', 'Advanced Search Fields', 'Facets', 'Custom Search Page' (which is selected), and 'Display Fields'. Below the tabs, the 'Search Category Name' is set to 'QE_CUSTOMERS' and the 'Description' is 'test - customers'. A section titled 'Custom search page' contains several fields: 'Menu Name', 'Component Name', 'Market' (a dropdown menu currently showing 'Global'), 'Search results page', and 'Advanced search page'. Each of these fields has a magnifying glass icon to its right, indicating a search or selection function.

Menu Name	Select the menu to which the search page belongs.
Component Name	Select the search page's component name.
Market	Select the appropriate market.
Search results page	Select the search results page to use.
Advanced search page	Select the advanced search page to use.

Working With Display Fields

Access the Display Fields page by selecting PeopleTools, Search Framework, Designer, Search Categories and selecting the Display Fields tab.

Image: Display Fields page

This example illustrates the fields and controls on the Display Fields page. You can find definitions for the fields and controls later on this page.

Search Category Name QE_CUSTOMERS

Description test - customers

Sequence	Search Attribute	Description
1	<input type="text"/>	<input type="text"/>

Sequence

Use the Sequence edit box to specify the order in which the display fields appear.

Search Attribute

Select the search attribute from the drop-down list.

Administering PeopleSoft Search Framework

Understanding PeopleSoft Search Framework Administration

While the system administration related to the Search Framework architecture can include tasks involving SES, Integration Broker, application server domains, and so on, this section focuses only on the administration tasks that are included in the Search Framework administration interface, specifically under the menu, PeopleTools, Search Framework, Administration.

Working With Search Instances

A search instance in the PeopleSoft Search Framework represents a single instance of the search engine. The search instance(s) created using the PeopleSoft Search Framework define the instances that will be used by the PeopleSoft applications to provide end user search.

The search instance definition specifies connectivity and other administration settings required for:

- running queries against the search server.
- administrative tasks.

Creating Search Instances

To define a search instance, access the Search Instance Properties page by selecting PeopleTools, Search Framework, Administration, Search Instance.

Image: Search Instance Properties page

This example illustrates the fields and controls on the Search Instance Properties page. You can find definitions for the fields and controls later on this page.

Search Instance Properties

Search Engine Details ?

*SSL Option: ▾

*Host Name:

*Port:

Admin Service Credentials ?

*User Name:

*Password:

*Confirm Password:

Query Service Credentials ?

*Proxy Name:

*Password:

*Confirm Password:

Call Back Properties ?

*URL:

*User Name:

*Password:

*Confirm Password:

[Update deployed definitions](#)

Search Engine Details

To enable connectivity between your PeopleSoft system and SES, you need to provide these search engine values.

SSL Option

Select one of these options for SSL:

- **DISABLE.** Select if you do not have SSL configured between SES and your PeopleSoft system.
- **ENABLE.** Select if you do have SSL configured between SES and your PeopleSoft system and you want all communication between the servers SSL secured.

Host Name

Enter the server name of the host where SES is running, including the domain. The host name value can be a DNS name or an IP address.

For example:

server1.mycompany.com

or

123.111.4.168.mycompany.com

To specify the host, you may use the host name or an IP address.

Port

Enter the port on which SES listens for requests.

Ping

Click to make sure your host name and port are correct and that the SES server is available. A positive result displays the following message:

Ping Test Result: Success. Oracle Secure Enterprise Search Admin Service Version 11.1.2.2.0 (262,613)

Note: The Ping button appears only after you have entered your values on the Search Instance Properties page and saved them.

Admin Service Credentials

Specify the SES administrative credentials so that your PeopleSoft system has the appropriate access to connect to the SES server and invoke searches and various administrative tasks, such as deploying search objects, building indexes, scheduling crawling, and so on.

User Name

Enter the user name for logging into the Secure Enterprise Search Administration GUI.

Password\Confirm Password

Enter the password associated with the administrative user name, and confirm it in the edit box below.

Test Login

Click to test the credentials you have specified against the selected SES server. A positive result displays the following message:

Login Success. (262, 615)

Note: The Test Login button appears only after you have entered your values on the Search Instance Properties page and saved them.

Query Service Credentials

Proxy Name

Enter a trusted entity from the list on the Federation Trusted Entities page in the SES Administration interface. (Global Settings, Federation Trusted Entities)

This enables the PeopleSoft system to log into SES using a proxy identity to run a query. In SES, this proxy account is a Trusted Entity. You may need to contact your SES administrator

to obtain Trusted Entity credentials or to have those credentials created for the Search Framework query service.

Important! Even though the Search Framework is authenticated by SES as the Trusted Entity, SES uses the identity of the currently signed on PeopleSoft user for query authorization.

Password\Confirm Password

Enter and confirm the password associated with the trusted entity.

Proxy Login

Click to test the credentials you have specified against the selected SES server. A positive result displays the following message:

Proxy login success (262,1319)

Note: The Proxy Login button appears only after you have entered your values on the Search Instance Properties page and saved them.

Call Back Properties

At times, SES will need to call back to the PeopleSoft system to access services, such as authentication services, so you need to provide the URL and password for this access.

URL

Enter the URL for the PeopleSoft system listening connector, using the following syntax:

*http://<server>:<port>/PSIGW/
PeopleSoftServiceListeningConnector/<node>*

User Name

Enter the PeopleSoft user name granted the permission list PTPT3300 with the role Search Server.

Note: This user name must exist as an active user profile on the PeopleSoft system listed in the URL specified. This is generally a system user as opposed to an interactive user. In addition, if you have attachments on an FTP server that will be accessed by SES, this user must also be authorized to access the FTP site.

Password\Confirm Password

Enter and confirm the password associated with the PeopleSoft user name.

Validate

Click to validate the URL and the credentials you have entered. A positive result displays the following message:

Call back properties validated successfully (262,1312)

Update deployed definitions

Click this link to invoke a bulk update for all definitions currently deployed to the SES server.

If you have changed any of the callback properties (URL, user name, or password), all currently deployed search definitions

need to be updated with the new callback values to continue successful interaction with the Search Framework.

Modifying Search Instances

You can modify any of the search instance values if the information changes for the specified server. That is, if the server receives a new IP address or a new DNS name, if the port for the search services changes, or if any credentials change, then the values can be updated as needed.

Important! You may not reuse a search instance entry for an entirely new instance of a search server. For example, if an existing search instance is no longer available, do not reuse the same PeopleSoft Search Instance entry for a new server. This causes unintended and undesired results.

Sharing an Oracle SES Instance Among Multiple PeopleSoft Application Systems

If you have multiple PeopleSoft applications, you can share a single Oracle SES instance among the PeopleSoft systems. When sharing an Oracle SES instance, keep these items in mind:

- Single signon needs to be implemented among all of the PeopleSoft systems sharing the Oracle SES instance.
- On the Oracle SES Global Settings, Identity Management Setup page, the PeopleSoft Identity Plug-in only needs to refer to one of the systems sharing the Oracle SES instance.

For example, while other systems will have different HTTP ports and node names, as long as the following URL points to a system involved in the single signon network, it can be used for all systems as the Call Back Properties URL on the Search Instance Properties page.

http://FASTHOST.bigcompany.com:8080/PSIGW/PeopleSoftServiceListeningConnector/HCM_01

- While you do not need to synchronize user profiles among multiple PeopleSoft systems, if the same user ID exists on multiple systems, it must be associated with the same, individual user. That is, a user ID must be unique for all of the systems sharing the Oracle SES instance, not just a single PeopleSoft application.

Deleting Search Instances

Deleting a saved search instance is not supported.

Administering Search Definitions and Search Categories

This section contains an overview and discusses:

- Working with search definitions.
- Working with search categories.

Understanding Search Definition Administration

You create search definitions using the Search Framework Designer interface after the data is identified using PeopleSoft Query and Connected Query. You use the Search Framework Administration interface to deploy the search definitions and manage the search definitions on the SES server.

Before end users can run searches against the search indexes, the search definitions need to be deployed to the SES search engine so that SES can create the structure of the search index based on the search definition, crawl the defined search criteria, and populate the index with the results of the search definition query. When your search definitions are deployed on SES, they become an SES source that you can view under the Sources tab in the SES administrative interface.

Once the search definitions are deployed to SES, you use the Search Framework administration interface to manage them by sorting them in search categories, updating them, undeploying them, or deleting them as needed.

Working with Search Definitions

To manage search definitions, access the Search Definitions page by selecting PeopleTools, Search Framework, Administration, Deploy/Delete Object.

Image: Deploy Search Definition page

This example illustrates the fields and controls on the Deploy Search Definition page. You can find definitions for the fields and controls later on this page.

Deploy Search Definition					
Definition	Description	Deploy Status	Crawl Status	Run Date/Time	User/Run Control ID
1 HC_HRS_JOB_OPENING	Job Openings	Deployed	Successful		PTTRN
2 PTPORTALREGISTRY	Menu	Deployed	Successful		PTTRN
3 RNTRPTST	Round trip test	Deployed	Not Crawled		
4 STUDENT_PERSONAL	Personal Information for Students SES index	Deployed	Successful		PTTRN

Search Category Name

Use to display only those search definitions associated with a particular search category.

Filter by name

Use to enter full or partial definition names to reduce the list of search definitions appearing in the grid.

Note: The values are case-sensitive.

Deploy Search Definition (grid)

Displays all existing search definitions defined in the Search Framework. Columns in the grid are:

- **Definition.** Displays the name of the search definitions you've created. Deployable search definitions are having a

data source created in Query or Connected Query, as well as being defined in the Search Framework Designer interface.

- **Description.** Displays your search definition description.
- **Deploy Status.** Displays the state of search definition deployment: A search Definition is either Deployed or Undeployed.
- **Crawl Status.** Displays the status of the index build process for a search definition (Success, Fail, Not Crawled).
- **Run Date\Time.** Displays the date and time of the most recent index build process run.
- **User\Run Control ID.** Displays the user ID and the run control ID used to run the index build process.
- **Update Status.** After running the Report Sync Issues audit, the results appear in this column indicating any required updates.
- **Audit Status.** After clicking Audit for a selected search definition, the Audit Status column appears displaying the result (*Success*, *Fail*).
- **Audit Report.** If the Audit Status is *Fail*, the Audit Report column appears providing a link to the audit report for review.

Select All

Click to select all the rows within the grid.

Note: If all rows in the grid have been selected, the button title changes to Deselect All.

Report Sync Issues

Runs an audit checking routine which reports where properties for a search definition differ between PeopleSoft and SES. If you have updated a deployed search definition it will no longer be synchronized with the representation on SES. Results of this check appear in the Update Status column (which, in the case of differences between the corresponding definitions becomes the View Report column). This applies only to deployed definitions.

Audit

Click to run a series of audits on the selected search definitions to ensure they have all requirements in place.

After running the audit process, these additional columns appear in the Deploy Search Definition grid: Audit Status and Audit Report. The Audit Status column will indicate *Success* or *Fail*. If the result is *Fail*, then the Audit Report column appears, displaying an Audit Report link, which you can click to review the audit results and correct the reported issues.

See the section below: “Running the Search Definition Audit Process.”

Deploy

Deploy the PeopleSoft search definitions selected to the search engine (SES), where it becomes a searchable data source.

Note: You can deploy multiple search definitions at a time by selecting the corresponding check box in the first column of the grid and then choosing Deploy.

Note: When you deploy a search definition, the search category of the same name is automatically deployed.

Undeploy

Click to remove the representation of the selected search definitions from the search engine (SES).

Note: You can undeploy multiple search definitions at a time by selecting the corresponding check box in the first column of the grid and then choosing undeploy.

Note: When you undeploy a search definition, the search category of the same name is automatically undeployed.

Note: The undeployed search definition will be removed from SES but it will still exist within the PeopleSoft system.

Note: For large indexes, it is recommended to undeploy them during the non-peak hours for performance reasons. While the status displays undeployed, the actual deletion occurs on SES asynchronously, and undeploying a larger index requires additional time on SES.

Update

Click to update the representation of the search definition on SES. If you have modified a deployed search definition, the PeopleSoft version and the version on SES will no longer match. Definitions that need to be updated will appear in the synchronization report. Clicking Update synchronizes the SES representation of the definition to match the PeopleSoft version.

Delete

Deletes the search definition from the Search Framework. This removes the search definition from the search definition list and from the search categories to which it is mapped. The underlying query and connected query are unaffected.

Running the Synchronization Report Process

In the event of differences found between the two systems, Search Framework prepares a Search Definition Compare Report, which you access by clicking the View Report link in the View Report column. Depending on the status of your search definitions in both the PeopleSoft system and the SES

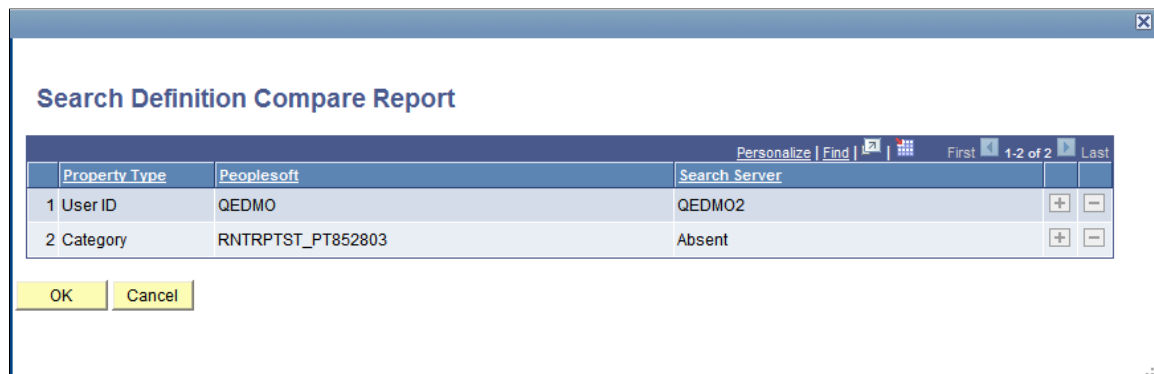
system, the results of the synchronization report will vary. This table describes some likely scenarios and the recommended action.

Update Status	Recommended Action
No update required for the definition.	No action is required. The definitions are identical between the two systems.
Update required definition out of sync.	Click the View Report link in the View Report column, and examine the reported differences. Resolve the differences as needed between the two systems, or click Update.
Definition unavailable in server.	Click the Reset Definition for Deploy link in the View Report column. This removes the previous definition on SES or any remaining settings related to it, making it available to be deployed again.
Undeployed definition. Choose a deployed definition.	Ignore the report if the definition is purposely undeployed, or deploy the definition.

When you select View Report, you may see a screen similar to this:

Image: Search Definition Compare Report page

This example illustrates the fields and controls on the Search Definition Compare Report page. You can find definitions for the fields and controls later on this page.



Property Type

Displays properties that have found to differ between the two systems. The values appearing in this column can be numerous, representing all the possible settings for a search definition, such as user ID, category, call back URL, and so on.

PeopleSoft

Displays the value defined for the search definition within the PeopleSoft system.

Search Server

Displays the value stored for the property on the search server.

OK

Click OK to leave the report and return to the previous page.

Running the Search Definition Audit Process

After selecting a search definition and clicking Audit, the system runs a series of audits on the search definition. The types of audits include checking to make sure:

- The underlying query or connected query exists.
- The user has permission to the query and the referenced records.
- The indexed fields exist in the query or connected query.
- The security App Class exists (if referenced in search definition).
- The pre processing AE library exists (if referenced in search definition).
- The post processing AE library exists (if referenced in search definition).
- The delete query exists (if referenced in search definition) and the user has permission to open the delete query.
- A search category with the same name as the search definition exists.
- The search definition belongs to at least one search category.

If the audit process finds no issues, the Audit Status column indicates Success. If the audit process does find issues, the system displays the Audit Report column containing a link to the audit report.

Image: Search Definition audit report columns







This example illustrates the audit related columns that appear after clicking Audit for a selected search definition.

Audit Status	Audit Report
Fail	Audit Report
Success	

If the audit discovers issues, the audit status gets set to *Fail*, and the Audit Report column appears. To review the issues on the Search Definition Audit Report page, click the Audit Report link.

Image: Search Definition Audit Report page

This example illustrates the fields and controls on the Search Definition Audit Report page.

Search Definition Audit Report				
Audit Report		Personalize Find  	First  1 of 1  Last	
Audit Type	Audit Comment			
1 Search category check	Search category does not exist with the same name as search definition			

Updating Definitions

In the event of updates being required, clicking Update makes the version of the search definition on the search server match the properties for that definition stored within the PeopleSoft system. After the process runs, you should see in the Update Status column the following message:

Updated definition <definition name>

Working with Search Categories

Search categories enable you to group search definitions within logical, manageable groups. You define search categories within the Search Framework Designer interface.

To manage search categories, access the Deploy Search Categories page by selecting PeopleTools, Search Framework, Administration, Deploy\Delete Object, Deploy Search Category.

Image: Deploy Search Category page

This example illustrates the fields and controls on the Deploy Search Category page. You can find definitions for the fields and controls later on this page.

Deploy Search Definition
Deploy Search Category

Deploy Search Category

Deploy category to search server

Filter by name

Deploy Search Category				Personalize	Find	Print	First	1-7 of 7	Last
Select	Definition	Description	Search Instance	Deploy Related Definition	Deploy Status	Update Status			
1 <input type="checkbox"/>	EMPLOYEE2_GSAWYER_852803	Employee Information	SES-GSAWYER-852803	Deploy Related Definition	Auto Deployed				
2 <input type="checkbox"/>	EMPLOYEE_GSAW_852803	InfoDev_Testing_GSawyer	SES-GSAWYER-852803	Deploy Related Definition	Undeployed				
3 <input type="checkbox"/>	PTPORTALREGISTRY	Menu	SES-GSAWYER-852803	Deploy Related Definition	Auto Deployed				
4 <input type="checkbox"/>	QE_CUSTOMERS	test - customers	SES-GSAWYER-852803	Deploy Related Definition	Undeployed				
5 <input type="checkbox"/>	QE_ITEMDEFIN	test - items	SES-GSAWYER-852803	Deploy Related Definition	Undeployed				
6 <input type="checkbox"/>	QE_PO	my POs	SES-GSAWYER-852803	Deploy Related Definition	Undeployed				
7 <input type="checkbox"/>	RNTRPTST	RNTRPTST	SES-GSAWYER-852803	Deploy Related Definition	Auto Deployed				

Select All

Filter by name

Use to enter full or partial definition names to reduce the list of search categories appearing in the grid.

Deploy Search Category (grid)

Displays all existing search categories defined in the Search Framework. Columns in the grid are:

- Deployable Definition Name. Displays the name of the search categories you've created. Deployable search categories are those having been defined in the Search Framework Designer interface.
- Description. Displays your search category description.

- **Search Instance Name.** Displays the search instance to which a search category is deployed.
- **Deploy Related Search Definition.** Click to display the Deploy Search Definition page with the grid populated only with search definitions within the selected search category.
- **Status.** Displays these states of search object deployment: Deployed, Undeployed or Auto Deployed. Search categories will be automatically deployed (Auto Deployed) if a search definition with the same name is deployed. You need to deploy search categories covering multiple search definitions manually.
- **Update Status.** If you run a Report Sync Issues process from the Deploy Search Definition page, the process populates this column too if there are any differences between search categories on the two systems (PeopleSoft and SES).

Select All

Click to select all the rows within the grid.

Note: If all rows in the grid have been selected, the button label changes to Deselect All.

Deploy

Deploy the PeopleSoft search category to the search engine.

Note: You can deploy multiple search categories at a time by selecting the corresponding check box in the first column of the grid and then choosing Deploy.

Important! You must first deploy all the search definitions within a search category before deploying a search category. A search category cannot be empty on the search engine.

Undeploy

Click to remove the search category from the search engine.

Note: The search category will be removed from SES, but it will still exist within the PeopleSoft system.

Note: This does not undeploy the search definitions associated with a search category.

Delete

Deletes the search category from the Search Framework.

Note: This does not delete the search definitions associated with a search category.

Managing Search Context

This section provides an overview and discusses:

- Defining Search Context
- Viewing Search Contexts

Understanding Search Contexts

Use search contexts to define which search groups appear in the search group drop-down Global Search Bar, depending on the context of the user. That is, depending on where users are in the interface, which determines their context, you can control what appears in the drop-down.

A search group is a search category that you enable for the purpose of setting up search contexts. Search groups can fall into these three search contexts:

- Home Page: These are set of search groups available to select when the user is viewing the home page.
- Portal Node: These are the search groups available if the user is accessing content from a particular node. There can be more than one search group for the same node.
- Work Center: These are the search groups available when the user is accessing content that is part of a WorkCenter template. When in a WorkCenter template, search groups associated with the underlying node will not be part of the search group drop down.

At each of these levels, a default search group can be selected. It is not required to have a default search group for any level.

Defining Search Contexts

Access the Define Search Context page by selecting PeopleTools, Search Framework, Administration, Define Search Context and choosing the appropriate context type (homepage, portal node, or work center).

Image: Define Search Context page

This example illustrates the fields and controls on the Define Search Context page. You can find definitions for the fields and controls later on this page.

Define Search Context

Add search groups which can be displayed for this context.

Context Type Portal Node

Node Name QE_LOCAL QE_LOCAL

	Default	Sequence	*Search Category Name		
1	<input type="checkbox"/>	1	PTPORTALREGISTRY	Menu	+ -
2	<input type="checkbox"/>	2	EMPLOYEE2_GSAWYER_852	Employee Information	+ -

Save

Use the plus and minus buttons to add and remove the search categories to and from the search context.

Default

Select for the category that should be the default if the end user does not select a particular category.

Only one default search category can be selected for a search context.

Note: If no categories are added to the grid, then "all" will be the default, which means users can search across all search groups to which they have access.

Sequence

Specify a numerical sequence to define the order in which the search categories will appear in the Global Search Bar drop-down list.

Search Category Name

Select the search category to include for this search context.

Viewing Search Contexts

To view your defined search contexts, access the View Search Contexts page by selecting PeopleTools, Search Framework, Administration, View Search Contexts.

Image: View Search Context page

This example illustrates the fields and controls on the View Search Context page. You can find definitions for the fields and controls later on this page.

View Search Context

List of all the search contexts defined for this system.

Filter Contexts

Context Type

Node Name\Workcenter ID

Search Contexts

Context Type Home Page [Edit Context](#)

Default	Sequence	Search Category Name	Description
<input type="checkbox"/>	1	EMPLOYEE2_GSAWYER_852803	

Context Type Portal Node [Edit Context](#)

Node Name QE_LOCAL

Default	Sequence	Search Category Name	Description
<input type="checkbox"/>	1	PTPORTALREGISTRY	
<input type="checkbox"/>	2	EMPLOYEE2_GSAWYER_852803	

Filter Contexts

Use the Filter Context controls to customize and narrow the contexts displayed.

Context Type Select the context type you wish to view.

Node Name\Workcenter ID Enter a specific node name or work center.

Clear Click to clear the previous filter criteria.

Search Contexts

The Search Contexts section displays the search contexts that meet the criteria specified in the Filter Contexts section.

Edit Context Click to modify the search context definition. The link opens the Define Search Context page with the selected search context open.

Importing Remote Search Groups

You can share search groups between databases to enable seamless navigation between systems. However, the nodes and the search groups need to be known to all systems involved. The imported search groups are treated as local search groups, and need to be modified as such. For example, imported groups need to be included in the search contexts to become available.

When you import search groups, you import them from a remote node, as defined in your Integration Broker configuration. When importing search groups, keep the following items in mind:

- Both the local and remote systems need to point to the same SES server instance. That is, both systems need to have the same SES instance defined on the Search Instance Properties page.
- Both systems need to have unique Default Local Node names.
- Both systems need to have a unique database name.
- The remote node needs to be in the IB Network of the local system.
- The remote system needs to trust the local system. That is, single signon must be set up between the two systems, and they must share common PeopleSoft user profiles. If you need users to be able to search both indexes, the users must exist and be authorized in both systems.
- The remote node Portal URI Text and Content URI Text values need to be specified on the Portal tab of the node definition.

To import search groups from other systems, access the Remote Search Groups page by selecting PeopleTools, Search Framework, Administration, Remote Search Groups.

Note: Importing remote search groups retrieves all the search groups defined in that content system along with all related search categories, associated search definitions, and the list of faceted attributes.

Image: Remote Search Groups

This example illustrates the fields and controls on the Remote Search Groups. You can find definitions for the fields and controls later on this page.

Remote Search Groups

Import new search groups from IB in network remote nodes or remove existing search groups.

Import from remote node

Content Provider

Imported Search Groups			
Search Category Name	Description	Message Node Name	Delete
1			Delete

Personalize | Find | View All | First | 1 of 1 | Last

Content Provider

Select the remote node defined in your system from which you want to import search groups.

Content providers must be defined as nodes known to your system using Integration Broker.

Import	Click to invoke the import process. This will import all search groups from the selected node.
Delete	Click to remove any unnecessary or obsolete search groups from your system.

When working with remote search groups, consider these items:

- All the imported search groups need to be registered in the appropriate search context to appear in the Global Search Bar.
- When a user signs on onto the PeopleSoft application, the host system sends requests to get the remote search category details. The category details received from the remote system are cached to avoid repeated calls to the remote system. If a content system goes down or if there have been any changes in the content system, it will be reflected in the host system only after a user signs on for a new session, not during the current session.
- For the remote search categories, the security of what needs to be displayed is controlled by the content system. If the user does not have access to the groups on the content system, the user will not be able access them in the Global Search Bar in the host system. If the content system is down, or the user does not exist in the content system, or the user does not have access to category details, the system logs an error into application server log and does not display the categories to the user.

Related Links

"Understanding Nodes" (PeopleTools 8.53: PeopleSoft Integration Broker Administration)

"Setting Portal Node Characteristics" (PeopleTools 8.53: Portal Technology)

Working with Search Indexes

This section contains an overview and discusses:

- Building search indexes.
- Viewing index build process details.

Understanding the Index Build Process

Before end users can submit search requests against the Search Framework deployed objects, the search indexes must first be built on the search engine. Prior to the index being built, a deployed search definition is an empty shell, containing no searchable data. A search index needs to be built for each individual search definition.

An Application Engine program, PTSF_GENFEED, builds the search index and makes it available for SES.

Creating a search index with the Search Framework involves the following technologies:

- Search Framework
- Application Engine

- Process Scheduler
- Feeds Framework
- Integration Broker
- SES Crawler

Once you invoke a search index build from the Build Search Index page, the system automatically completes these general steps:

1. The Schedule Search Index page initiates the PTSF_GENFEED Application Engine program.
2. The Pre Processing Application Engine program defined for the search definition runs.
3. PTSF_GENFEED Application Engine program runs the query (PeopleSoft Query or Connected Query) associated with the search definition.
4. The output of the query becomes a data source for the Feeds Framework.
5. The Feeds Framework converts the query output to an Oracle RSS Schema format and writes the SES Feed to the Integration Broker queue, and the Deletion query defined for the Search Definition runs.
6. The Search Framework then creates an SES Schedule for the SES source associated with the search definition and sets the schedule disposition to "CRAWL immediately."
7. The Post Processing Application Engine program defined for the search definition runs.
8. The SES Crawler, using the URL of the Integration Broker queue where the SES Feed is located, initiates the crawling of the SES Feed.

Building Search Indexes

Access the Build Search Index page. (Select PeopleTools, Search Framework, Administration, Schedule Search Index.)

Image: Build Search Index

This example illustrates the fields and controls on the Build Search Index. You can find definitions for the fields and controls later on this page.

Build Search Index

Run Control ID TSawyer [Report Manager](#) [Process Monitor](#) **Run**

User ID QEDMO

*Search Definition

Indexing type

☐ Full index

☒ Incremental Index

Language Option

☒ Base Language

☐ All Languages

To build a Search Framework search index:

1. Select PeopleTools, Search Framework, Administration, Schedule Search Index.

2. Enter a run control ID.
3. On the Build Search Index page, select the appropriate options.

Search Definition

Select the search definition for which you are building the search index.

Note: Each search definition needs its own index build scheduled individually. Once the Run Control is executed, the page becomes read-only. To change any parameters of the page, you need to create a new run control.

Indexing Type

Select one of the following:

- *Full index.* Crawls all transactional data specified by the query criteria and rebuilds the entire index. This option requires the most time. This option must be selected the first time an index is built.
- *Incremental index.* Updates the existing index and adds only documents associated with rows that have been added or updated since the last index build or update. The system determines the required updates based on a comparison between the timestamp of the index and the “last updated” field for the data row.

Note: It is recommended to create one run control for incremental indexing, scheduled to run very frequently, and create another run control for full index rebuilding set to run less frequently. For example, incremental indexing might run daily, where a full index rebuild may be set to run every six months.

Language Options

Select one of the following:

- *All Languages.* Builds an index for each language enabled on the database.
- *Base Language.* Builds an index only for the base language defined for the database.

Your selection depends on the languages enabled for your database and the languages through which you anticipate end users using to perform searches.

Note: For the current supported version of Oracle SES, it is recommended that you use only one version of a language type in Oracle SES collections to avoid duplicate search results. For example, for English choose either UKE or ENG, and for French choose either FRA or CFR.

4. Click Run.

5. Use Process Monitor to verify program completion and success.

Note: Consider setting up separate run controls for full index builds and incremental index builds.

Note: Once the Run Control is executed, the page becomes read-only. To change any parameters of the page, you need to create a new run control.

Viewing Search Index Build Process Details

After the PTSF_GENFEED program begins to run, you can view the details regarding that program run, which display on the Build Search Index page for that run control ID.

Note: The Details section shows the results of the most *recent* feed generation for this Search Definition. It may not be the same run control ID as the one you selected. If the run control ID differs from the one you selected, it will be highlighted.

Image: Previous schedule details

This example illustrates the fields and controls on the Previous schedule details. You can find definitions for the fields and controls later on this page.

Previous schedule details

Previous schedule status Success

AE Status Schedule success

▼ **Details**

Feed generation status Done

Process Instance 95 [Message Log](#)

Run Control ID employee_3_full

User ID QEDMO

Indexing type Full index

Language Option Base Language

Generated segment count 1

Segments returned to crawler 1

Datetime prompt value 01/01/1900 12:00:00.000000AM

Language Code	View data feed
English	View data feed

Previous schedule status

Displays the status of the most recently executed index build process.

AE Status

Indicates whether the most recently executed PTSF_GENFEED Application Program ran to completion.

	If the index build fails, this field displays the step where the process failed.
Resume Schedule	<p>Appears in the case where the index build failed. If the index build fails, review the Crawler Log Files in the SES administration console. After determining and fixing the root cause, you can set the index build to:</p> <ul style="list-style-type: none"> • <i>Restart SES Crawl</i>: Re-starts the SES crawl process on the previously generated feed. • <i>Rebuild Index</i>: Regenerates the search feed.
Feed generation status	Indicates whether the system successfully created the feed output, required to populate the index.
User ID	Displays the User ID who ran the run control, which may be a different user ID than the user who created the run control.
Language Option	Displays the language options selected for the index build process (All Languages or Base Language).
Indexing Type	Displays the index type (Full Index or Incremental Index).
Generated segment count	<p>A segment is a chunk of XML which is complete in and of itself. A segment size is determined by the PeopleTools Options setting "Maximum Message Size." The number of segments is roughly equivalent to the size of the data divided by the Maximum Message Size setting.</p> <p>See "Understanding the PeopleTools Utilities" (PeopleTools 8.53: System and Server Administration).</p>
Segments returned to crawler	<p>This is the number of segments sent to the crawler for indexing. This information may be useful in debugging issues where the feed generated does not equal the number of indexed segments.</p>
Datetime prompt value	<p>Displays the datetime prompt value for your underlying search query. If this is the first time running the process for a search index, the system uses 01/01/1900 to gather all possible data. For the incremental index, the data displayed represent the datetime that the last index was built. This date will be used for the next run to determine the incremental data that should be included.</p>
View data feed	<p>Click to view the extracted data that has been applied to the search index on the SES system. The data is in XML format.</p> <p>A row appears in the grid for each language for which the system included in the index build. The link takes you to the Integration Broker Service Operations Monitor, Asynchronous Details page.</p>

Note: To view the feed in the Integration Broker Monitor, you need security access to those pages.

Viewing Search Index Feed XML

You may need to view the source XML for the search index to ensure the system is capturing the data you want populating your index or for other troubleshooting tasks.

To view the source XML feed data:

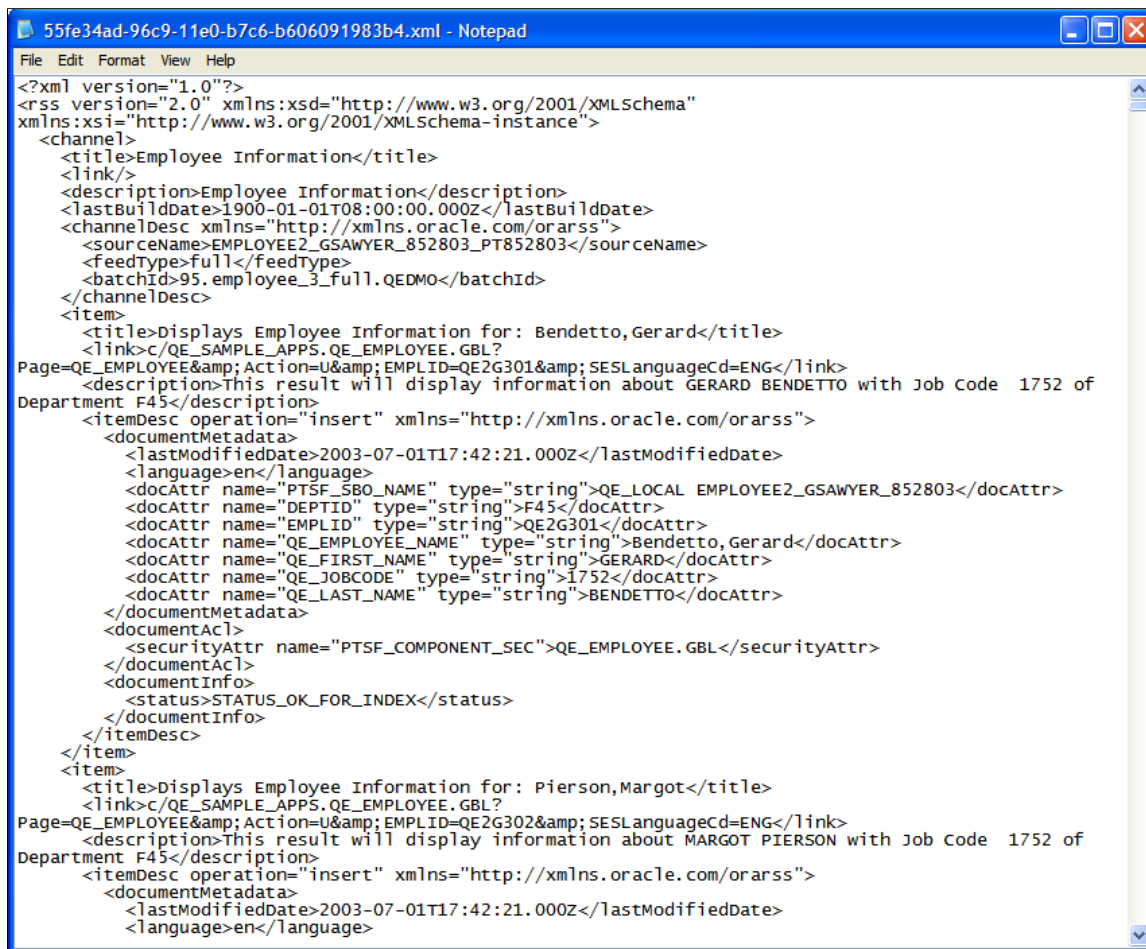
1. Select PeopleTools, Search Framework, Administration, Schedule Search Index.
2. Enter the appropriate run control ID.
3. Expand the Details section for the search index build run.
4. Click the View data feed link in the Language Code grid.

This takes you to the Integration Broker Service Operations Monitor, Asynchronous Details page.

- On the Asynchronous Details, click Download XML.

Image: Source XML Feed data

This example illustrates the fields and controls on the Source XML Feed data. You can find definitions for the fields and controls later on this page.



Creating the Attachment URL ID List

Access the Attachment URL ID List page by selecting PeopleTools, Search Framework, Administration, Attachment URL ID List.

Use the Attachment URL ID List page to define a list of URL IDs to be used specifically for attachments within the PeopleSoft Search Framework. URL definitions are created using the URL Maintenance page

(PeopleTools, Utilities, Administration, URLs), and using the Attachment URL ID List page you identify a subset of these URL definitions to be recognized by the PeopleSoft Search Framework.

Image: Attachment URL ID List page

This example illustrates the fields and controls on the Attachment URL ID List page. You can find definitions for the fields and controls later on this page.

Attachment URLIDs				
URLID List used by Search Framework Attachments				
URLID List Personalize Find View All First 1-3 of 3 Last				
	*URL Identifier	Description		
1	AIDOCDB	Documents in DB		
2	CADOCINDB	Community Calendars Attachment		
3	EPPRS_ATTACHFS	Related Links File Server		

URL ID List

This grid contains the subset of previously defined URL definitions that you want the PeopleSoft Search Framework to recognize as attachment storage locations.

URL Identifier

From the drop-down list, select the URL Identifier to add to the URL ID list. The drop-down list prompts against the list of URLs defined on the URL Maintenance page.

Note: If you need to use multiple user credentials for a single FTP server, create separate URLID's for each user. The URL definition allows only one user credential for each URLID.

Related Links

"URL Maintenance" (PeopleTools 8.53: System and Server Administration)

Working with Search Framework Definitions During Upgrades

These Search Framework definitions are managed objects, meaning they can be upgraded, added to projects, compared, copied, and so on:

- search attributes
- search definitions
- search categories
- search contexts

Working with PeopleSoft Search Framework Utilities

Using the Search Test Page

This section contains an overview and discusses:

- Testing search categories.
- Testing custom search attributes.
- Testing filter settings.
- Testing Facet Requests.
- Testing Grouping and Sorting Options
- Testing Additional Parameters

Understanding the Search Test Page

The search test page enables you to test an index independent of any existing PeopleSoft application PeopleCode or additional APIs. Using the Search Test page, you can isolate various search features and view the behavior, without signing on to the PeopleSoft application or SES. Also, by observing the underlying PeopleCode, the Search Test page can be a useful tool when studying the use and behavior of the query API. If you do not enter any criteria on the Search Test page, and click Search, the system will return all documents indexed in the search engine. Using the criteria on this page, you can test how you anticipate search results to display for your application.

Access the Search Test page by selecting PeopleTools, Search Framework, Utilities, Search Test Page.

Image: Search Test page

This example illustrates the fields and controls on the Search Test page. You can find definitions for the fields and controls later on this page.

Search Text

Enter the free text search request string to test.

Search

Click to initiate the search request against SES.

Start Index

Enables you control which result document displays first. For example, if you set it to *10*, the system displays the 10th search result at the top of the search result list.

Docs Requested

Enables you to control the number of search results displayed on the Results tab.

Language

Select the language for which you want to test the search index. Select blank to run against all languages.

Clear Security Cache

Click to clear the cached security credentials stored on Oracle SES to ensure a clean testing environment.

When complete, you should see a message similar to:

Security cache cleared successfully (262,1300)

Duplicates

Enables you to control how duplicates are displayed:

- *Remove*. Duplicates are not displayed.
- *Mark*. Duplicates are displayed, but they are marked to indicate the duplicates.

Important! To emulate the current default PeopleSoft Search Framework behavior, clear both *Remove* and *Mark* in the Duplicates group box.

Testing Search Categories

The Search Category to Search in group box enables you to narrow the search only to a specific search category or set of search categories. Add search categories to the grid as needed to increase the scope of the search.

Testing Custom Search Attributes

The Custom Search Attributes group box enables you to identify specific search attributes and display the actual values for a search document in the search results. That is, in addition to the URL and summary in the search results, the results will also display the values for the fields you add to the Custom Search Attributes grid. The search attributes must be indexed fields in the search definition.

Testing Filter Settings

The Filter Settings group box enables you to search specific values of your attributes using the available operators.

If you have multiple attributes in the grid, use *Match Any* to return results that match any of the filters, and use *Match All* to display results that meet the criteria for all of the filters.

Note: The operators displayed for testing filter settings on the Search Test page represent all possible operators that can be utilized by way of the delivered PeopleCode API. However, depending on the application's usage of the PeopleCode API and the data type of the field itself, end users will see varying display of the possible operators when defining search criteria. For example, *Equal To* applies only to number data types, while *Contains Phrase* applies only to character data types, and the appearance of the *Between* operator depends on the application's usage of the delivered PeopleCode. Refer to the PeopleSoft Search Framework PeopleCode documentation for more information.

Testing Facet Requests

The Facet Request group box enables you to test and isolate specific facets. For example, you can find those that contain no search results in certain scenarios, or compare facet counts to attribute counts.

Minimum Doc Count

Enables you to control the facets that display based on their count. For example, you can display facets that contain zero results, or only those who contain at least 10.

Maximum Facet Children

This applies to all facet requests. This determines the maximum number of facet nodes (facet values) returned by the API.

The default is -1 where in all the children will be displayed.

Facet Name

Select the name of the facet you want to test.

Facet Path

This applies to all facet requests. The results will be filtered by the facet values specified in the path. In the case of hierarchical facets, the path can have the hierarchy information. For example,

United States/CA/Pleasanton

Return Count	Select to display the number of documents the facet contains.
Sort By	You can sort facets alphabetically or by count in ascending or descending order.

Testing Grouping and Sorting Options

The grouping and sorting options are not implemented in current release. These options are reserved for future use.

Testing Additional Parameters

The additional parameters options are not implemented in current release. These options are reserved for future use.

Downloading Search Data

If you need to share search definition information with Oracle Global Customer Support (GCS) related to search definitions you are troubleshooting, use the Download Search Data page. The output from this process is encrypted such that it can be decrypted only by internal GCS or development resources.

Image: Download Search Data page

This example illustrates the fields and controls on the Download Search Data page. You can find definitions for the fields and controls later on this page.

Download Search Data

Download search data
Download encrypted search feed data.

[Report Manager](#) [Process Monitor](#) **Run**

Run Control ID GSAW_SRCH_DATA_DWNLOAD

***Search Definition** EMPLOYEE2_GSAWYER_85280

To download encrypted search data:

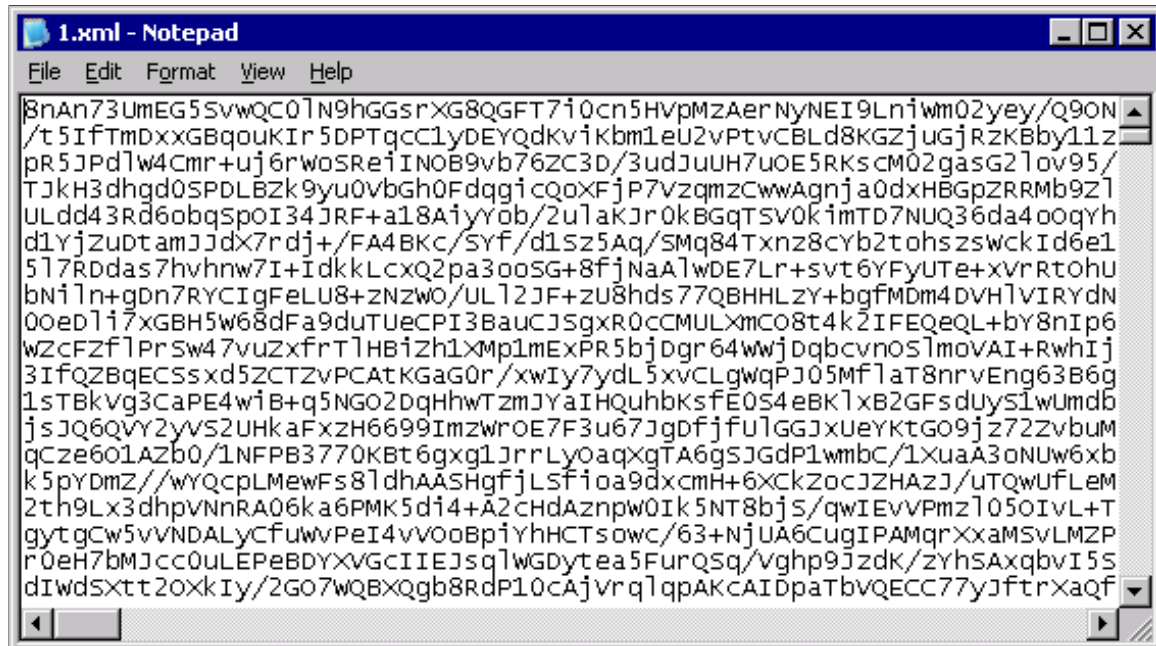
1. PeopleTools, Search Framework, Utilities, Download search data.
2. Enter a run control ID.
3. On the Download Search Data page, select the appropriate value from the Search Definition drop-down list.
4. Click Run.
5. Monitor the process using Process Monitor.

- Retrieve the encrypted output from PS_CFG_HOME\appserv\prcs\<Process Scheduler domain name>\files\sessfeeds\<search_definition_name_date_time>\<segment_number>.xml.

The encrypted file will appear similar to this example:

Image: Encrypted search data

This example illustrates the fields and controls on the Encrypted search data. You can find definitions for the fields and controls later on this page.



Running Diagnostics

This section discusses:

- Performing a round-trip test.
- Viewing event logs.

Performing a Round-Trip Test

Access the Round-Trip Test page by selecting PeopleTools, Search Framework, Utilities, Diagnostics, Round-Trip Test.

The round-trip test performs a set of diagnostic steps using a test search definition, delivered with PeopleTools named RNTRPTST. It provides end-to-end diagnostic tests to verify and troubleshoot the PeopleSoft and SES integration.

Image: Round-Trip Test page

This example illustrates the fields and controls on the Round-Trip Test page. You can find definitions for the fields and controls later on this page.

Round-Trip Test
Round-Trip test on search instance

Test Steps

STEP 1: Ping Test	STEP 2: Deploy	STEP 3: Crawl	STEP 4: Search	Cleanup
-------------------	----------------	---------------	----------------	---------

Test Log

Ping Test Result: Success. Oracle Secure Enterprise Search Admin Service Version 11.1.2.2.0

Undeploying. Cleaning up any data previous run
Undeploy completed

Deploying search definition
Deployment Complete

Starting Crawl
SES crawler status : Executing , time elapsed 10 sec, next check after 20 sec
Crawl Completed.

Beginning Search
Search found 1 result(s)

Search Instance

Select the appropriate search instance defined for this PeopleSoft system.

Test Steps

The Test Steps grid contains a series of links that are ordered in a typical troubleshooting sequence. Only one link is active at a time, and each link becomes active only after the previous step has completed successfully.

1. Ping Test: Runs a ping test against the SES server instance defined for your system.
2. Deploy: Deploys the RNTRPTST search definition and associated category to the SES server.
3. Crawl: Runs a test crawl using the RNTRPTST definition.
4. Search: Runs a sample search based on the index populated by the RNTRPTST search definition.
5. Cleanup: Click to remove the deployment of the RNTRPTST search definition and run any related cleanup tasks.

Test Log

Indicates whether the system successfully created the feed output, required to populate the index.

Viewing Event Logs

View event logs on the Events Log page by selecting PeopleTools, Search Framework, Utilities, Diagnostics, Events Log.

Image: Events Log page

This example illustrates the fields and controls on the Events Log page. You can find definitions for the fields and controls later on this page.

Created	Event Name	Message Description	Message Text	Severity
1 11/06/12 8:22:37.467378PM	Crawl SES Status	Search Definiton : STUDENT_PERSONAL Run Control ID : STUDENT_PERSONAL_FULL_INCR	SES Successfully finished crawling	Message
2 11/06/12 8:21:57.467266PM	Crawl SES Status	Search Definiton : STUDENT_PERSONAL Run Control ID : STUDENT_PERSONAL_FULL_INCR	SES crawler status : Executing , time elapsed 20 sec, next check after 40 sec	Message
3 11/06/12 8:21:37.467196PM	Crawl Feed Generation	Search Definiton : STUDENT_PERSONAL Run Control ID : STUDENT_PERSONAL_FULL_INCR	Successfully generated feed for Search definition STUDENT_PERSONAL	Message

Event Name

Select the name of the event by which to filter the logs.

Event Severity

Narrow the event display focus by selecting one of these severity levels:

- All: Displays all types of even logs (Error, Message, Warning).
- Error: Displays only error messages.
- Message: Displays the typical status messages the system records after each event.
- Warning: Displays only warning messages.

View Events

Click to display the events meeting your criteria in the Events grid based on Time Period settings. For example, after selecting a time period, click View Events to display only the logs that fall within that period.

Purge Logs

After selecting a time period, click Purge Logs to remove from the system the logs from that time period. Click View Events to refresh the events list.

This can help to keep the stored log information at a manageable size.

Time Period

Specify the specific time period for which you seek event log information.

Working with PeopleSoft Search Framework Security Features

Understanding Search Framework Security

By default, both the Search Framework and Oracle SES possess innate security features designed to protect all of the data and processes within the systems. This section describes security topics that pertain solely to the integration between Search Framework and SES.

Applying PeopleSoft Permissions

The implementation, maintenance, and use of the Search Framework involve these user types:

Role	Description	Delivered PeopleTools Permission List
Search Administrator	<p>Responsible for managing the deployment of search definitions and search categories, scheduling index builds, monitoring indexes, and establishing connectivity between Search Framework and SES.</p> <hr/> <p>Note: This user needs to have access to all the queries (records) on which the search definition is based on in order to schedule the index generation.</p>	PTPT3100
Search Developer	Responsible for creating search queries, search definitions and search categories.	PTPT3200
Search Server	<p>SES search instance requiring access to the Search Framework service operations.</p> <hr/> <p>Note: This is the call back ID configured in the search instance page.</p> <hr/> <p>This user ID needs to have access to all the queries (records) on all search definitions in order for SES to download data.</p> <p>The Search Server role is required to be able to download attachments.</p>	PTPT3300

Role	Description	Delivered PeopleTools Permission List
End User	Runs search queries while using PeopleSoft applications, using Global Search or Search Pages.	None specific to Search Framework. Restrictions to search results can be implemented by user profile or role.

Note: Search Administrator, Search Developer, and Search Server are roles delivered by PeopleTools.

Working with Authentication and Authorization

Search Framework handles various security related tasks, including:

- Authenticating users (development, administration, and end users).
- Authenticating systems requesting access to service operations.
- Authorizing end user search requests.

When managing search requests with Search Framework, it is important to distinguish between *authentication* and *authorization*.

Authentication determines if a user is a legitimate user, who can access the system. Authentication is configured using PeopleSoft user profiles, roles, and permission lists.

Authorization determines the access level for an authenticated user. Once a user is authenticated, the system invokes the authorization rules. You define authorization (access controls) per search definition on the Security tab. For some instances, applying No Security is a valid option. However, for other situations, you need to apply stricter control over what users can and cannot see. You can restrict access by the source (search definition) or by the document (search result).

Source-level security applies to all the documents in the data source. Setting source-level security is useful when you want to prevent global visibility of data source content. When defining a source-level security you specify the users and roles that can view the search results for that search definition. When a user searches the associated index, the system verifies the user's access level prior to displaying any search results.

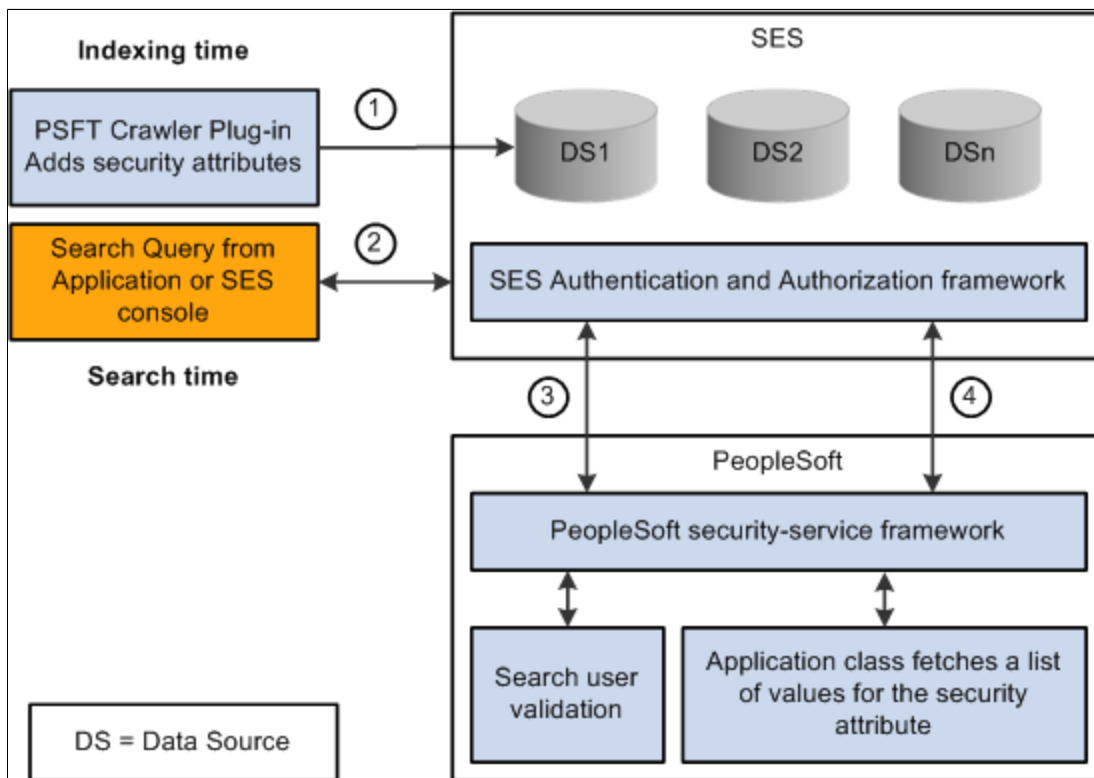
Document-level security restricts access to specific search results. The document-level authorization using SES uses security attributes. The attributes are defined using PeopleSoft Query or Connected Query during design time and are used to evaluate access during runtime. While defining a search definition, some of the fields chosen for the query may not be used necessarily for searching, but mainly as security attributes. For example, Department ID or Business Unit are examples of attributes that users may not necessarily search on, but their values can be used in the authorization process to evaluate if a user can view search results for a specific Department ID or Business Unit.

If applying any level of security, you should define an application class for every search definition. The application class is responsible for fetching a list of runtime values based on the security attributes. You associate the application class with a search definition on the Security tab of the search definition.

The following diagram illustrates the elements involved with authorization and authentication and the interaction between them.

Image: PeopleTools and SES interacting to authenticate users and authorize user access to search results

This example illustrates the fields and controls on the PeopleTools and SES interacting to authenticate users and authorize user access to search results. You can find definitions for the fields and controls later on this page.



Step	Description
1	During the index build, the crawler collects the defined security attributes and access restriction options associated with search definitions. The crawler applies those security attributes to the data sources (indexes).
2	An application end user runs a search query.
3	SES security framework invokes the PeopleSoft security service for user authentication.
4	Based on the authenticated user, SES performs either a source-level or a document-level authorization. For document level authorization PeopleSoft invokes the Application class defined for the Data Source. This would fetch a list of values for the security attribute which then SES would use for filtering the search results.

Configuring SSL between PeopleSoft and SES

You can configure SSL connections between your PeopleSoft system and SES. When you have SSL configured, you then need to set the SSL Option field on the Search Instance Properties page to ENABLE.

To set up SSL, use the instructions provided with PeopleTools PeopleBooks for setting up SSL on PeopleSoft Internet Architecture. Also, refer to the instructions for setting up SSL on SES provided with your Oracle SES documentation.

Setting Up Role-Based Search Group Access

Global Search displays search groups in the Global Search Bar based on the user's role. If a search group assigned to a context belongs to the permissions for a role to which that user belongs, then the search group will appear in the search group drop-down list for that user. You configure search group access by selecting PeopleTools, Security, Permissions & Roles, Permission Lists, Search Groups.

Image: PeopleTools Permission Lists: Search Groups page

This example illustrates the fields and controls on the PeopleTools Permission Lists: Search Groups page. You can find definitions for the fields and controls later on this page.

Search Groups		
*Search Group Name		
EMPLOYEE2_GSAWYER_852803		
PTPORTALREGISTRY		

Use the Search Groups grid to add search groups to which you want to add access. Search groups are those search categories that have the Search Group check box selected on the General tab of the search category definition.

Note: This does not define the security, this only gives a mechanism to control what is displayed in the Global Search Bar for a given user.

Related Links

[Working with Global Search](#)

Working with PeopleSoft Search

Understanding PeopleSoft Search

PeopleSoft Search refers to the set of features that PeopleSoft application end users access to submit search requests against the SES search server. The PeopleSoft Search interfaces depend on:

- the Search Framework being completely configured.
- the PeopleSoft search definitions and categories deployed to the SES instance.
- the search indexes are populated.

Important! The PeopleSoft Search features discussed in this document *do not* support the use of the Verity search engine. These features work only with the Search Framework and the SES search engine.

These are the PeopleSoft Search features:

Feature	Description
Global Search	Provides users a search edit box, called Global Search Bar, appearing in the header of the PeopleSoft browser session. From the Global Search Bar, users can select relevant search categories against which to run searches.
Search Pages	<p>When a user accesses a component, they use Search Pages to enter search keys to isolate the desired rows of data. Search Pages come in these formats: Find an Existing Value Search and Keyword Search.</p> <p>Find an Existing Value Search refers to the traditional component search, where users enter level 0 search keys running directly against the database on the Find an Existing Value tab, which appears regardless if Search Framework is configured.</p> <p>Keyword Search involves the use of the Keyword tab, which enables more free-form searches against an SES index.</p>

PeopleSoft Search Framework features that are key to enhancing user experience are:

Feature	Description
Facets	Facets filter and narrow search results by ordering search results by categories, which are the fields you have selected to be facets in the search definition. These are similar to Google's left-hand, navigational search facets, for example.

Feature	Description
Search Groups	Search groups enable you to specify search categories to become available for display in the Global Search Bar, depending on the defined search contexts. (Applies only to Global Search).
Search Contexts	Search contexts enable you to configure when a search group is available in the Global Search Bar. That is, depending the context (where the user is in the system) only selected search groups are available. For example, you may only want search groups relevant to a particular portal node to appear when that node is being accessed, or only those search groups applicable to a specific WorkCenter to appear when that WorkCenter is being accessed. (Applies only to Global Search).

Working with Search Pages

This section provides an overview and discusses:

- Understanding Search Pages.
- Enabling Keyword search.
- Developing for Keyword search.

Understanding Search Pages

The traditional search pages for PeopleSoft application components provided these options:

- Find an Existing Value.

- Add a New Value.

Image: Classic PeopleSoft Application Component Search

This example illustrates the fields and controls on the Classic PeopleSoft Application Component Search. You can find definitions for the fields and controls later on this page.

Department

Enter any information you have and click Search. Leave fields blank for a list of all values.

Find an Existing Value **Add a New Value**

▼ **Search Criteria**

Search by: SetID ▼ begins with

☐ **Include History** ☐ **Correct History**

Search [Advanced Search](#)

[Find an Existing Value](#) | [Add a New Value](#)

While the Find an Existing Value tab enables end users to find the rows of data they need to view or modify, it is limited to running searches only across level 0 fields. The Find an Existing Value search runs against the live data tables, the component search record, not an SES index. The Find an Existing Value tab works in conjunction with the Keyword search, and it can be effective to provide both options to end users.

Using the Keyword search page, which you enable through the Search Framework, end users can perform a deeper, more free-form search against the data. The Keyword search runs across the indexed values stored on the SES server, which contains fields across all scroll levels.

Note: The Keyword Search tab only appears if a search index has been associated with the component in a search definition. Because the keyword search runs against the indexed data, depending on the frequency of index builds, the indexed data may not entirely match the Find an Existing Value search results.

Image: Find an Existing Value and Keyword Search pages

This example illustrates the fields and controls on the Find an Existing Value and Keyword Search pages. You can find definitions for the fields and controls later on this page.

The screenshot shows a web interface for 'Job Data'. At the top, it says 'Enter any information you have and click Search. Leave fields blank for a list of all values.' Below this are two tabs: 'Find an Existing Value' and 'Keyword Search'. A note below the tabs states: 'Note: Keyword Search will return data updated less than 1 hour ago (08/15/2011 1:57:19PM)'. Under the 'Keyword Search' tab, there is a section titled 'Search Criteria' with a dropdown arrow. Below this is a text input field labeled 'Keywords' containing the text 'clerk'. At the bottom, there are two buttons: 'Search' and 'Advanced Search'.

The search pages that display after you've enabled Keyword search for a component are:

- Find an Existing Value Search: This is the same interface as the Find an Existing Value page, that you see for previous PeopleSoft releases.
- Keyword Search: This page enables the user to run free-text searches using the Keywords edit box. Implementation teams can index any attributes that they would like the end user to be able to search.
- Add a New Value: This is the same interface as the Add a New Value page used in previous PeopleSoft releases, which enables you to add new rows to PeopleSoft tables.

Enabling Keyword Search

To enable Keyword Search display when users access a component, you use the Component Mapping page in the Search Definition component for the Search Framework Designer. The Component Mapping page enables you to map a component to a specific search definition to enable SES integration with Search Pages.

Note: Search definitions mapped to a component use document level security. This is enforced by the Search Designer interface.

For components that have been added to the grid on the Component Mapping page for a search definition, the search page for that component displays both the classic search options and the Search Framework search options. That is, users can initiate a Find an Existing Value search against level 0 values, using the default PeopleTools search capabilities run directly against the database, and, they can also take advantage of the Keyword search page.

The keyword Search Framework feature enables the user to search deeper (level 0-3) by running a free-formed search against crawled and indexed values in the search engine. The keyword search is powerful

because it allows you to search across all fields in an index rather than just inside a specific set of fields defined in the search record.

When the search definition is deployed, the system updates the component meta data to indicate the search category to which the component is mapped. When the system renders the page, it displays the keyword search tab for that component.

Note: Multiple components can be mapped to the same search definition.

To enable search pages for a component:

1. Select PeopleTools, Search Framework, Designer, Search Definition, and open the desired search definition.
2. Select the Component Mapping tab.
3. Add the desired component to the grid.
4. Update the security restrictions and access appropriately.
5. Save the search definition.
6. Deploy or update the search definition to SES.
7. Navigate to the component and verify that you see the Keyword search page.

Related Links

[Mapping Components to Search Definitions](#)

[Setting Document Level Security](#)

Developing for Search Pages

This section describes these items to consider while implementing Search Pages.

- Setting component properties for search pages.
- Working with Find and Existing Value and Keyword Search behavior differences.
- Working with Keyword Search data currency.
- Maintaining a consistent user experience.

Setting Component Properties for Search Pages

You configure properties for your search pages in the Component Properties dialog box in PeopleSoft Application Designer. On the Internet tab, in the Search Page group box there are numerous settings related to your application search pages. These settings apply specifically to the Keyword search page:

Primary Action (Keyword Search)	Enables you to set the primary action of the component to display the Keyword Search page.
Default Search\Lookup Type (Keyword Only)	Enables you to set the default look up type to be the Keyword Search page.

Link to Realtime Search Page	Specifies the message set and number that stores the text displayed for the Find an Existing Value link in the Add a New Value tab and Keyword Search tab <i>if</i> Keyword Search is enabled.
Link to Keyword Search Page	Specifies the message set and number that stores the text displayed on the Add a New Value tab and Find an Existing Value tab <i>if</i> Keyword Search is enabled.

Note: The Link to Keyword Search Page value only applies if Keyword Search is enabled for that component.

The Link to Realtime Search Page value applies to all components that use the PeopleTools search page, even if Keyword Search is *not* enabled.

Note: The term, *Realtime*, is used to differentiate between the currency of the data between the Find and Existing Value search and the Keyword search. While the Find an Existing Value search displays search results that are always a current reflection of the data in the database, the Keyword Search is only as current as the last index build or incremental index update.

When implementing the Keyword search feature, make sure to adjust these settings accordingly. The general concepts surrounding these settings, along with other component properties, are discussed in the PeopleSoft Application Designer documentation.

See "Setting Internet Properties" (PeopleTools 8.53: PeopleSoft Application Designer Developer's Guide).

Working with Find an Existing Value and Keyword Search Behavior

For a component that has a search index associated with it, the user can perform these types of searches, Find and Existing Value and Keyword. Both search types will have the same, general look and feel, however, these differences and features should be noted:

- With the Find an Existing Value search, the end user selects values based on the underlying record search keys and clicks Search. Results are rendered in a standard grid format, as seen in all previous PeopleSoft versions.
- With the Keyword search, the end user enters values into the Keywords edit box and clicks Search. The end user can also enter a combination of keywords in addition to using the provided search keys. The system runs this search against the SES index. Results can be displayed in either a grid or a list format.
- The Keyword search will show facets, where the Find an Existing Value search cannot.
- When switching between Find an Existing Value and Keyword search, the system replicates any text you've entered in one tab to the other.
- Search operators are different between the Find and Existing Value search and Keyword search. For example, the typical Keyword search operators include *contains*, *=*, *not =*, where as the Find an Existing Value search operators include more, such as *begins with*, *contains*, *=*, *not =*, *greater than*, *less than*, *between*, *in*, and so on.
- Keyword search fields do not contain prompts or drop-down lists. Search text needs to be added in a free-form manner, using wild cards as needed.

Note: In the Find an Existing Value tab you specify a wild card using "%", while in Keyword search you specify a "*".

Working with Keyword Search Data Currency

The Keyword search can display only search results that are included in the index. The index is only as current as the last incremental index update or the last full build date and time. As such, the Keyword search results will not always contain the most current reflection of the transactional data.

For example, assume that an organization has the incremental index update process schedule to run once every 3 days. If a salesperson adds a new customer to the system just after the incremental update occurred, that customer information will not appear in the Keyword Search results until the next incremental index update process has completed. Likewise, if a customer has been deleted from the system just after an incremental index update, the search results for the Keyword Search will continue to include that customer information until the next incremental index update process has completed.

The Keyword Search page displays a message indicating how fresh the search results are. For example:

Note: Keyword Search will return data updated over 18 hours ago (2011-06-22-16.25.48.000000)

Note: The date format will appear according to the user's personalization setting for date display.

Maintaining a Consistent User Experience

Since both types of searches, Find an Existing Value and Keyword, form the same component search interface, these requirements ensure a consistent user experience:

- All the search keys shown on the search page must be indexed attributes.
- Only the fields marked as List Box items on the component search record will be shown in both cases.

Note: This is true when showing the results in the grid format for the keyword search. If you switch to list format, you can display additional fields that are indexed but not marked as List Box or search keys.

- All List Box item fields must be indexed attributes.

Note: Grid-based view of the keyword search results is based on the List Box item configuration on the associated search record.

Working with Keyword Search Modes

The Keyword search page has these modes:

- Keyword-only
- Basic
- Advanced

Working with Keyword-Only Mode

The keyword-only mode can be selected in the Component Properties dialog box, and if selected only the Keywords edit box will appear as the default search mode when an end user accesses the component.

Working with Basic Mode

In basic mode, the Keywords edit box displays with an additional 'Search by' option with a drop-down list box to select a search record field to use for as search criteria.

Working with Advanced Mode

The advanced mode displays all search criteria:

- Keywords.
- Search record fields.
- Search fields defined for the Search Framework search category on the Advanced Search Fields tab.

Image: Advanced mode search options

The following illustration depicts the controls on the advanced search page and their association.

The screenshot displays the advanced search interface with the following components and annotations:

- Keywords:** A text input field at the top left.
- Search Criteria List:** A series of fields for different attributes, each with a dropdown menu and a text input box.
 - Empl ID:** dropdown set to "contains phrase", followed by an empty text box.
 - Empl Record:** dropdown set to "=", followed by an empty text box containing the number "0".
 - Name:** dropdown set to "contains phrase", followed by an empty text box.
 - Last Name:** dropdown set to "contains phrase", followed by an empty text box.
 - Second Last Name:** dropdown set to "contains phrase", followed by an empty text box.
 - Alternate Character Name:** dropdown set to "contains phrase", followed by an empty text box.
 - Middle Name:** dropdown set to "contains phrase", followed by an empty text box.
 - First Name:** dropdown set to "contains phrase", followed by an empty text box.
 - Business Unit:** dropdown set to "contains phrase", followed by an empty text box.
 - Regulatory Region:** dropdown set to "contains phrase", followed by an empty text box.
 - Job Title:** dropdown set to "contains phrase", followed by an empty text box.
 - Location Code:** dropdown set to "contains phrase", followed by an empty text box.
 - Position Number:** dropdown set to "contains phrase", followed by an empty text box.
 - Department:** dropdown set to "contains phrase", followed by an empty text box.
 - Display Name:** dropdown set to "contains phrase", followed by an empty text box.
 - Position Description:** dropdown set to "contains phrase", followed by an empty text box.
 - Location:** dropdown set to "contains phrase", followed by an empty text box.
 - Department ID:** dropdown set to "contains phrase", followed by an empty text box.
 - Job Code:** dropdown set to "contains phrase", followed by an empty text box.
- Annotations:**
 - A box labeled **Keyword** has an arrow pointing to the Keywords text input field.
 - A box labeled **Search Record Fields** has an arrow pointing to the dropdown menu of the Last Name field.
 - A box labeled **Advanced Search Fields selected for Search Category** has an arrow pointing to the dropdown menu of the Position Number field.

Note: The system does not display in the Advanced Search Fields list any search fields that are also displayed in the search record search field list.

Note: All search record fields (Key, Alt Key, and List box fields) must be part of the index. If any of the fields have translate values, those translate fields must also be part of the SES index

Note: The search criteria that appears depends on the application's usage of the search filter PeopleCode and the type of data. For example, contains phrase is applicable to a character field, but not to a number field.

Working with Global Search

This section discusses:

- Enabling Global Search.
- Working with Search Groups and Search Contexts.
- Working with Portal Menu search.

Understanding Global Search

Global Search provides a way for a user to search across all search indexes or a specific group of search indexes. End users submit a Global Search using the Global Search Bar, which is available in the Portal header throughout the user's session irrespective of the content the user is accessing in the target frame. The Global Search feature allows the user to search and drill down to a specific row of data or transaction from the search results, all without navigating through a menu structure to the classic component search page and entering search criteria there. In a Portal environment, Global Search can search across indexes from multiple content systems.

Image: Global Search Bar

This example illustrates the fields and controls on the Global Search Bar. You can find definitions for the fields and controls later on this page.



The Global Search Bar in the Portal header consists of:

- drop-down list for selecting a specific search group, containing the desired indexes.
- free text search edit box.
- Advanced Search link.
- Last Search Results link (which displays persistent search results).

Related Links

[Working with Persistent Search Controls](#)

[Working with Search Pages](#)

Enabling Global Search

When Global Search is enabled, the Global Search Bar appears in the portal header. You enable Global Search on the Portal, General Settings page.

To enable Global Search:

1. Select PeopleTools, Portal, General Settings.
2. In the Portal Search Options group box, select Display global search in header.
3. Click Save.

Note: If a user does not have access to any search groups by way of their permissions lists, they will not see the Global Search Bar.

Working with Search Groups and Search Contexts

When implementing Global Search, it is highly recommended to employ search contexts and search groups. These constructs work together to refine the user interaction with the Global Search Bar drop-down list.

A search group is a type of search category that is exposed to Global Search to help manage search definitions deployed to the search engine. Search groups provide a way to show relevant categories based on the context the user is in on the target frame. A search definition can belong to multiple search groups. You manage search groups in the Search Framework Administration interface. In a Portal installation, for example, search groups can be formed to include search definitions deployed across content systems.

Using search contexts, you can configure search groups such that based on the context in the target frame, only a subset of all possible search groups are available to the user in the Global Search Bar. For example, if the end user is accessing content from a PeopleSoft Financial application, then only search groups relevant to that application will be available. Likewise if a user is accessing content from a PeopleSoft Human Capital Management application, then only search groups related to that application will be available.

At any given time, end users have these types of search groups available:

- **All:** This search group will always be available and is a group of search categories that span across all the indexes that have been deployed and made searchable for a PeopleSoft application.
- **Component Specific:** This type of search group will match the component the user is currently viewing in the target frame. For example, if a user is viewing an expense report, then the Expense Report component would be the search group that is available, if the component is indexed, and it does not apply already to the Home Page context.
- **Context Specific Set:** These are a set of search groups configured to be shown based on specific content in the target frame.

The system follows the end users through the system, recording context as they navigate through the interface to show only relevant search groups. While a particular search group can be defined as the default, for search groups defined at the WorkCenter template or node level, the system follows these rules to determine the search groups to display:

- Template level: If the current transaction is in a WorkCenter or Home Page template all search groups associated to that template will show. Also, if a default search group is defined for that template it will display.
- Node level: If the current transaction is not on a WorkCenter or Home Page all search groups relevant to the node associated with that transaction will show. If a default search group is defined for that node it will display.

Note: Each of these levels can have multiple search groups. For improved user experience, the number of search groups at each level should be limited to a reasonable number, such as five.

Note: If a search context is only defined for the Home Page, then the Global Search Bar drop-down list defaults to displaying search groups associated with the Home Page for WorkCenter page or node-level transaction.

Global Search shows search groups in the Global Search Bar based on a user's role. To set up permissions to search groups, you use PeopleTools Security permission lists. Setting up role-based search group access is discussed in the Security topics in this document.

Related Links

[Setting Up Role-Based Search Group Access](#)

[Managing Search Context](#)

[Specifying General Search Category Settings](#)

Working With the Portal Registry Search

This section contains an overview and describes how to set up the portal registry search.

Understanding the Portal Registry Search

PeopleTools provides the search definition, PTPORTALREGISTRY, which enables you to index the content references registered in the portal menu registry. If you deploy this search definition and build the index (just as you would any search definition), end users can search for content references and menu items using the free-text edit boxes and navigate to the underlying pages using the search results, rather than navigating the menu structure manually. This can provide an extremely efficient means of accessing application content.

Note: The PTPORTALREGISTRY search definition provides a similar option as the portal registry search that has been available with the Verity search engine for previous application releases.

If you run the search from the menu pagelet or drop-down navigation Search Menu edit box, the search request only goes against the current portal. For example, if the user is currently logged into the EMPLOYEE portal, the search will be specific to content references defined within the EMPLOYEE portal only.

If you run the search from the Global Search Bar, the search request goes against *all* the portals defined in the local portal registry.

The PTPORTALREGISTRY search definition is based on the delivered PTPORTALREGISTRY query, which verifies the "Valid From" and "Valid To" dates for content references.

Note: For more accurate search results, it is recommended that you schedule running your index updates based on how often the content references in your system change effective dates and expire dates.

Setting Up the Portal Registry Search

Enabling Portal Menu Search is similar to enabling Global Search in that both are triggered by the Display global search in header option, which is set in the Portal, General Settings page. That setting indicates to the system that Oracle SES is being used.

To enable Portal Menu Search:

1. Deploy the PTPORTALREGISTRY search definition and category.
2. Build the index.
3. Select PeopleTools, Portal, General Settings.
4. In the Portal Search Options group box, select Display global search in header.

There are some additional options that can be added as well:

- To add "Auto suggest," add permission using PeopleTools, Security to this web library: WEBLIB_PORTAL.PORTAL_SEARCH_PB.FieldFormula.IScript_SESPortalQry. This enables the system for anticipating the uses desired search based on the partial input.
- To add the Portal Menu index to Global Search, use PeopleTools, Security, Permissions & Roles, Permission Lists, Search Groups, and add the search category, PTPORTALREGISTRY, to the Search Groups grid.
- To enable the Menu category to display in the Global Search drop-down list, select PeopleTools, Search Framework, Administration, View Search Contexts. Click on the Edit Context link and add PTPORTALREGISTRY to the context type Homepage.
- To combine separate search definitions into a single search group, you use the SES console. You can combine search definitions from the same content provider or across content providers. For example, you can combine PTPORTALREGISTRY indexes from multiple content providers into a single Menu global search group.

For information on combining PTPORTALREGISTRY indexes from multiple content providers, see *PeopleSoft Interaction Hub: Portal and Site Administration*, "Administering Search Indexes," Setting Up Unified Navigation Menu Search.

Working with the Search Results

After running a search using the Keyword Search or from the Global Search Bar, the system presents the search results in an intuitive display, enabling interactive filtering and further navigation.

Image: Search Results

This example illustrates the fields and controls on the Search Results. You can find definitions for the fields and controls later on this page.

Personal Information

Enter any information you have and click Search. Leave fields blank for a list of all values.

Find an Existing Value **Keyword Search** Add a New Value

Note: Keyword Search will return data updated less than 1 hour ago (10/26/2012 1:14:23PM) [Search Tips](#)

Search Criteria

Keywords

Search Basic Search Advanced Search

Search Results

Filter by

City

- Alamo (1)
- Antioch (1)
- Buttonville (1)
- Canora (1)
- Concord (3)
- More...

Country

- USA (89)

Note: Keyword Search will return data updated less than 1 hour ago (10/26/2012 1:14:23PM)

50 of 89 results are displayed.

View as:

[Brown, Alvin](#)
Last Updated Date: 2012-07-01 08:01:59
This student is a BSA from Walnut Creek, CA.

[Piercy, Matthew](#)
Last Updated Date: 2012-07-01 08:01:59
This student is a DEV from Walnut Creek, CA.

Personal Information

Student Enrollment

Filter by

This is the facet pane, which is the area to the left of the search results. Using the facets defined for the current search definition, the end user can filter the search results and drill down closer to the desired information.

If searching the All category, you initially see the various search categories represented in the search results.

By drilling into the category, you view the facets associated with attributes in the search index.

Title

The title, which is the clickable link, enables the user to identify the search result and navigate to the associated component. The title is defined using the Title edit box on the General tab of the Search Framework, Designer, Search Definition component.

Summary

Displays a general overview of the target data.

The summary is defined using the Summary edit box on the General tab of the Search Framework, Designer, Search Definition component.

Related Actions Indicator

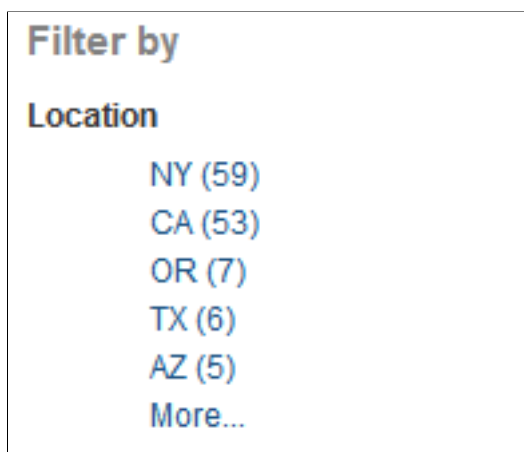
If the search definition is mapped to a component, and if there are any defined related actions associated with that component, the related actions indicator appears to the right of the search result. Clicking the related actions indicator displays a popup containing the defined related actions.

Working With Facets

A facet is an attribute that may be part of one or more search definitions. It provides an alternate representation of the list of values for a given attribute. Facets are attributes used to filter and narrow down a set of search results.

Image: Filter by: Facets

This example illustrates the fields and controls on the Filter by: Facets. You can find definitions for the fields and controls later on this page.



Facets:

- Show search results across each index.
- When clicked show only results in that index related to that facet value.
- Can further narrow results using sub-facets in that index.

For example, assume the Customer component has a faceted attribute of Customer Level with values of L1, L2, and L3. By selecting the L1 facet link, L2 and L3 values will be removed from the search results list, leaving only the L1 for viewing.

For component Keyword search, the system determines facets associated with the search category to which the component is associated and renders them accordingly.

For Global Search, because the search results might span across multiple indexes that are not related to each other, each search definition within a specific search category should have common attributes marked as facets. These attributes should be generic so search results can be classified under one of these attributes. If non-common attributes are marked as facets in the search category, results not having that attribute will not be displayed.

When working with facets, keep these items in mind:

- Facets on date and number are not supported. Only strings can be facets.
- If an attribute is marked as a facet, and if for a given search document that facet attribute does not have a value, then that document gets dropped from the result set.

Facets display five values, by default. If a particular facet has results for more than five facets, *More...* appears at the bottom of the list.

Image: Facet displaying More... control

This example illustrates the *More...* control used to reveal more facet values.



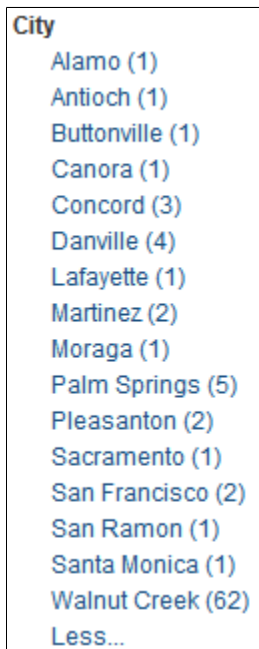
Click *More...* to expand the list.

Note: For any facet, the maximum number of values displayed is restricted to 100 for performance reasons.

Image: Facet displaying Less... control

This example illustrates the *Less...* control used to reduce the facet values displayed.

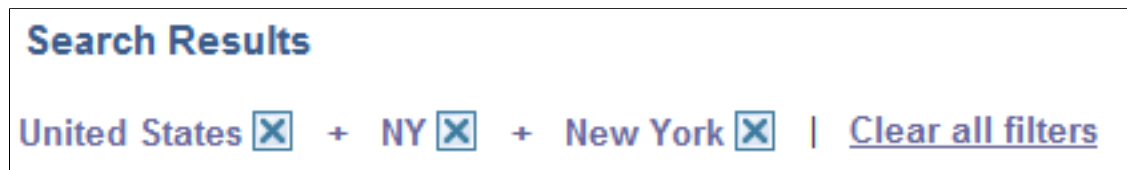
Once the entire list of facet values is expanded, click *Less...* to collapse the list, showing only five again.



As you drill into a set of facets, your path is expressed in the form of facet breadcrumbs.

Image: Facet filter breadcrumbs

This example illustrates the fields and controls on the Facet filter breadcrumbs. You can find definitions for the fields and controls later on this page.

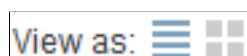


You can deselect the check box for a filter to remove its effect on the search results, or to reverse the direction of your filtering and expand the results.

Click Clear all filters to remove all applied filters, returning the search results to the state prior to faceted filtering.

Viewing Search Results With Grid Format and List Format

Use the View As control to toggle between the grid format and the list format for viewing search results.



Enables you to switch the view of the search results between list format and grid format. The icon representing the current view is greyed out.



Working with the Grid Format



The following example displays the grid format:

Image: Search Results in grid format

This example illustrates the fields and controls on the Search Results in grid format. You can find definitions for the fields and controls later on this page.

Note: Keyword Search will return results last updated over 1 day ago (07/25/2011 11:54:50AM)

View as:  

[View All](#) First  1-100 of 199  Last

Empl ID	Empl Record	Name	First Name	Last Name	Second Last Name	Alternate Character Name	Middle Name
HOWS001	0	Melanbacher, Mary Jane	Mary Jane	Melanbacher	(blank)	(blank)	(blank)
MUET219	0	McGuinness, Randy	Randy	McGuinness	(blank)	(blank)	(blank)
HOWS007	0	Collins, Genie	Genie	Collins	(blank)	(blank)	(blank)
HOWS002	0	Rainnie, Jennifer	Jennifer	Rainnie	(blank)	(blank)	(blank)
HOWS005	0	McDougall, Perry	Perry	McDougall	(blank)	(blank)	(blank)
HOWS003	0	Donaldson, Terry Anne	Terry Anne	Donaldson	(blank)	(blank)	(blank)
HOWS006	0	Lavoie, Michael	Michael	Lavoie	(blank)	(blank)	(blank)

To navigate to the PIA page loading the desired data, click the key column with the link.

The Related Actions link does not appear for search results in the grid format.

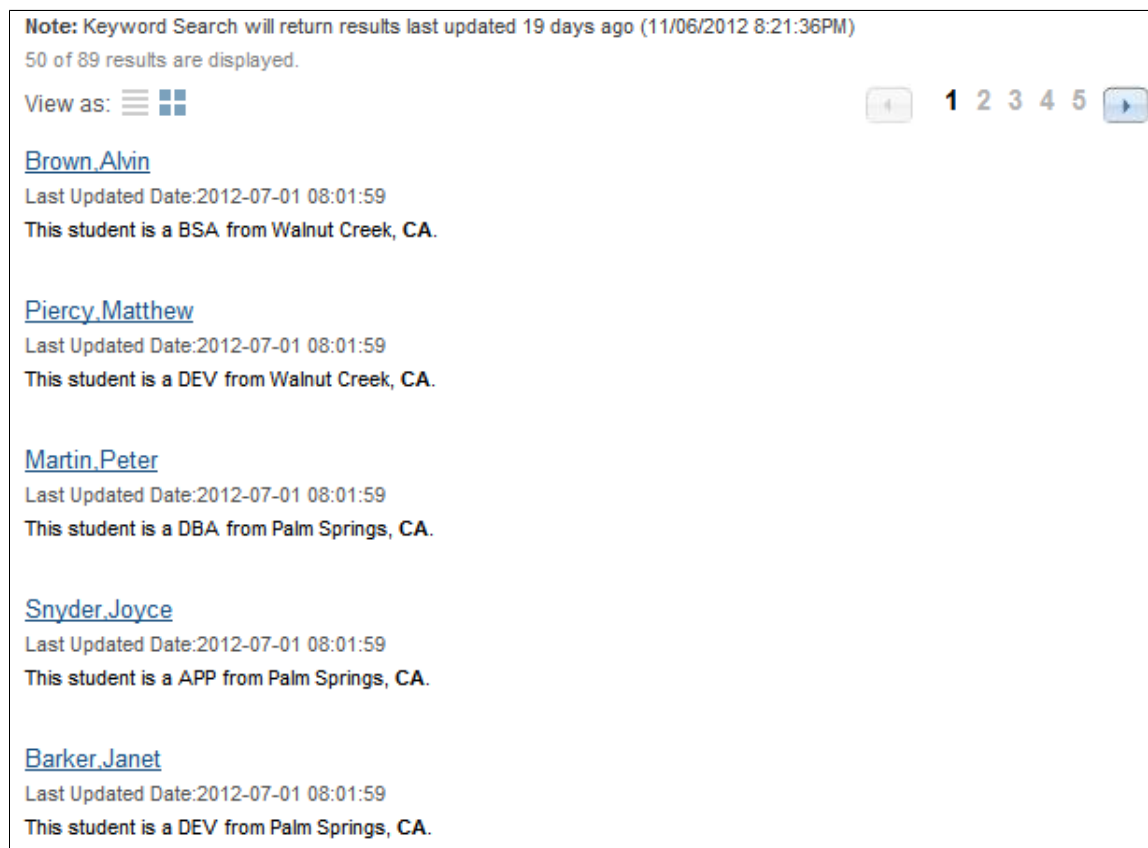
Note: The default search result display format for Keyword Search is the grid format.

Working with the List Format

The following example displays the list format:

Image: Search Results in list format

This example illustrates the fields and controls on the Search Results in list format. You can find definitions for the fields and controls later on this page.



To navigate to the PIA page loading the desired data, click the Title line of the search result.

The Related Actions link appears only for search results in the list format.

Note: The default search result display format for Global Search is the list format.

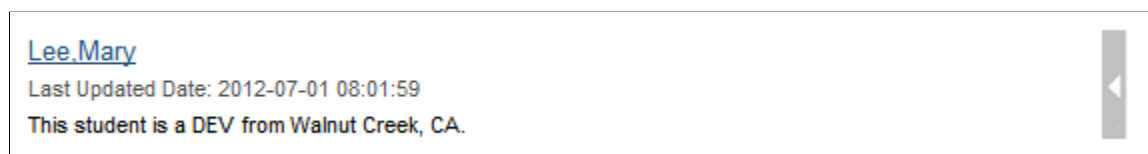
Working with Related Actions

For components mapped to search definitions, end users can navigate to related actions defined for that component from search results without accessing the main result document. For every search result that has related actions defined for it, you see a related actions indicator to the right of the search result. The related actions indicator is a grey bar with a white triangle within it pointing to the search result.

Note: The related actions indicator appears only for component-level related *actions*. It does not appear for page-level related actions or for related *content*. Also, end users will only view related actions to which they have access. If there are none for that search result, the related actions indicator does not display.

Image: Related actions indicator

This example illustrates the fields and controls on the Related actions indicator. You can find definitions for the fields and controls later on this page.



Note: The related action indicator appears only in Global Search results and in Keyword Search results when viewing the list format.

By clicking on the related actions indicator, a related actions popup appears, showing the possible related actions for that user, according to security access.

Image: Related action indicator popup

This example illustrates the fields and controls on the Related action indicator popup. You can find definitions for the fields and controls later on this page.



After clicking a related action, the system displays the target related action as configured by the application (as in, in a modal window, a new browser window, and so on). The system displays the related action interface with the information associated with the search result displayed.

Image: Related action from a search result

This example illustrates the user accessing the related action from the search result, with no navigation.

The screenshot shows a modal window titled "Personal Information" with a "Help" button in the top right. On the left, a list of search results is visible, with "Lee, Mary" highlighted and a red arrow pointing to the modal. The modal has two tabs: "Personal Details" (selected) and "Education and Skills". The "Personal Details" tab contains the following information:

- Student ID: 2917
- *Student Name: Lee, Mary (highlighted with a red box)
- *Customer: XYZ (with a magnifying glass icon) XYZ Corporation
- Project Role: Developer (dropdown menu)
- ☒ Same address as Customer
- Telephone: 510/555-1234
- Street: 1776 Mt. Diablo Blvd.
- City: Walnut Creek
- Country: USA United States
- State: CA California
- Zip Code: 0000094596

At the bottom of the modal, there are buttons: Save, Return to Search, Notify, Refresh, Add, and Update/Display. Below the buttons, the tabs "Personal Details" and "Education and Skills" are repeated.

Working with Persistent Search Controls

The term persistent search refers to the system saving the most recent set of search results so that you can return to them, as needed, while completing a transaction, rather than having to redo your search criteria to access each row of similar data. The persistent search result set can be accessed until the end user runs the next keyword or global search request.

Note: Persistent search is supported if the Navigation Type field is set to *Drop-down* on the General Settings page (PeopleTools, Portal). If you set the Navigation Type field to *Left*, persistent search is *not* supported. Also, persistent search is *not* supported for HTML templates.

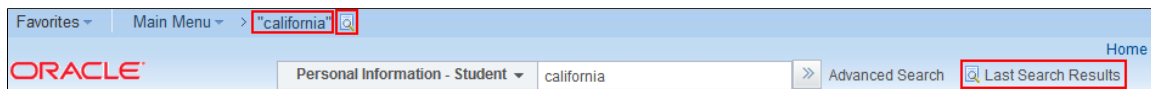
If you need to return to your most recent search results, you can use these persistent search controls:

- Last Search Results icon: Appears next to the Global Search Bar to the right of the Advanced Search control.
- Recent Search Results icon: Appears at the end of the breadcrumb navigation.

- Keyword breadcrumb: Appears as a breadcrumb within the breadcrumb navigation in the form of the current keyword search text.

Image: Persistent Search links

This example illustrates the persistent search controls mentioned in the previous list.

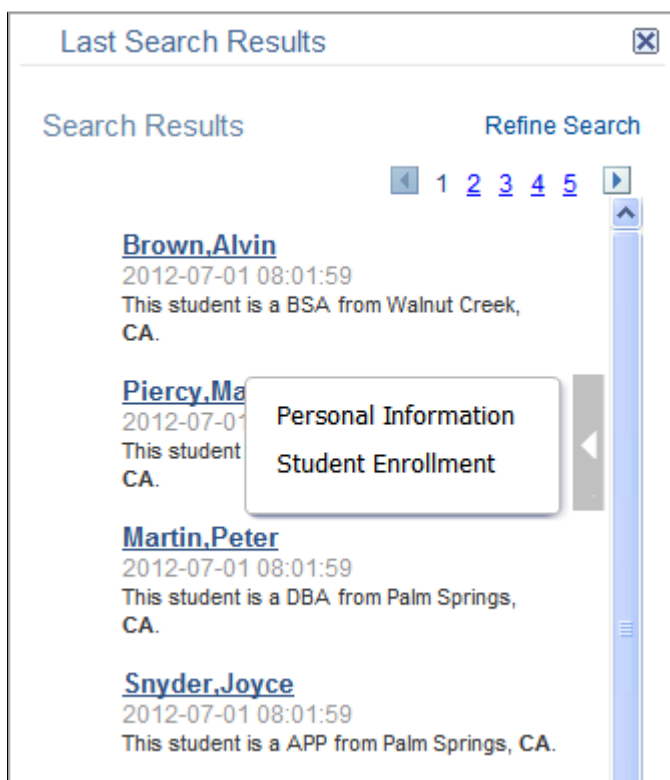


Using the Last Search Results Icon

When you click the Last Search Results icon next to the Global Search Bar, it displays your last set of search results within the Last Search Results dialog.

Image: Last Search Results page

This example illustrates the fields and controls on the Last Search Results page.



When using the Last Search Results icon, keep these items in mind:

- Click Refine Search to return to the search interface to reapply criteria or filtering.
- The results displayed in the popup page use the same view format as the previous search result. That is, if the user views the search results in list format, the popup page displays the list format.
- When you click the icon control, the system displays your most recent set of search results, retaining any filtering you had previously applied.
- The popup page can be dragged to a more convenient location if needed.

- The Return to Search button on a page behaves differently, depending on how you access a row of data. When using the persistent search controls, and you click on a row in the Recent Search Results or Last Search Results popup and then click Return to Search, the Search Results list shows only that one row with the search criteria reflecting that row. However, when you select a row from the Search Result list and then press Return to Search, the Search Result list shows all the rows from the greater search result set.

Note: The Last Search Results icon in the Global Search Bar is available for both Global Search and Keyword Search on the component.

Using the Recent Search Results Icon

The Recent Search Results icon that appears after the breadcrumb navigation is not exclusive to the Search Framework search results. It also appears if persistent search is configured in general for a PeopleSoft system. Similar to the Last Search Results icon the Recent Search Results icon displays the most recent set of search results. However, the Recent Search Results icon only appears if:

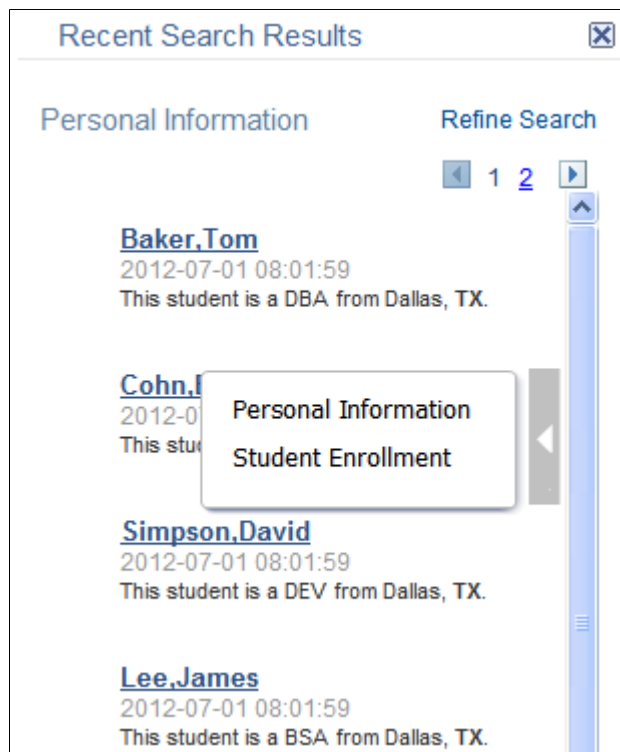
- Keyword Search is setup for the component when using drop-down navigation.
- you have enabled persistent search by setting the Recent Search Results options on the Caching tab for the web profile.

See "Configuring Caching" (PeopleTools 8.53: Portal Technology).

When you click the Recent Search Results icon, it displays your last set of search results within the Recent Search Results dialog.

Image: Recent Search Results

This example illustrates the fields and controls on the Recent Search Results page.



The usage of the Recent Search Results page is identical to the Last Search Results page.

Using the Keyword Breadcrumb

If you navigate away from search results, you can click the keyword search text breadcrumb, and the system re-displays the initial search results based on that keyword.