

# HP Service Manager

Software Version: 9.41

For the supported Windows® and UNIX® operating systems

## Knowledge Management help topics for printing

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be present in this PDF version. Those topics can be successfully printed from within the online help.

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# Knowledge Management user roles

["KCS I" below](#)

["KCS II" on the next page](#)

["KCS III" on page 10](#)

## KCS I

The KCS I user role has the following responsibility:

- Contribute new knowledge articles

To execute this role, the KCS I has the following tasks available:

**Note:** For an overview of how these tasks fit in the Knowledge Management workflow, see ["Knowledge Management workflows and tasks" on page 12.](#)

ITIL Workflow	Task
<a href="#">"Contribute and approve knowledge document (ST 7.1)" on page 13</a>	<ul style="list-style-type: none"><li>• <a href="#">"Create a knowledge document" on page 14</a></li><li>• <a href="#">"Create knowledge from an interaction, incident, problem, or known error" on page 23</a></li><li>• <a href="#">"Preview and view a document" on page 20</a></li><li>• <a href="#">"Contribute hot news" on page 21</a></li><li>• <a href="#">"Edit a document in place" on page 24</a></li><li>• <a href="#">"Submit a document for approval" on page 20</a></li></ul>
<a href="#">"Search, view and utilize knowledge document (ST 7.2)" on page 31</a>	<ul style="list-style-type: none"><li>• <a href="#">"Search the knowledgebases" on page 32</a></li><li>• <a href="#">"Search for published documents" on page 35</a></li><li>• <a href="#">"Search for hot news" on page 36</a></li><li>• <a href="#">"Search for adaptive learning data" on page 36</a></li><li>• <a href="#">"Search for a solution" on page 37</a></li></ul>



ITIL Workflow	Task
	<ul style="list-style-type: none"><li>• <a href="#">"Use a solution from a knowledgebase search" on page 38</a></li><li>• <a href="#">"View adaptive learning data" on page 38</a></li></ul>

## KCS II

The KCS II user role has the following responsibilities:

- Contribute new knowledge articles
- Approve articles for internal audiences

To execute this role, the KCS II has the following tasks available:

**Note:** For an overview of how these tasks fit in the Knowledge Management workflow, see ["Knowledge Management workflows and tasks" on page 12](#).

ITIL Workflow	Task
<a href="#">"Contribute and approve knowledge document (ST 7.1)" on page 13</a>	<ul style="list-style-type: none"><li>• <a href="#">"Create a knowledge document" on page 14</a></li><li>• <a href="#">"Create knowledge from an interaction, incident, problem, or known error" on page 23</a></li><li>• <a href="#">"Preview and view a document" on page 20</a></li><li>• <a href="#">"Contribute hot news" on page 21</a></li><li>• <a href="#">"Edit a document in place" on page 24</a></li><li>• <a href="#">"Submit a document for approval" on page 20</a></li><li>• <a href="#">"Create a working copy of a knowledge document" on page 22</a></li><li>• <a href="#">"Add feedback to a knowledge document" on page 25</a></li><li>• <a href="#">"Submit a document for revision" on page 27</a></li><li>• <a href="#">"Submit a document for review" on page 27</a></li><li>• <a href="#">"Accept a document" on page 27</a></li></ul>

ITIL Workflow	Task
"Search, view and utilize knowledge document (ST 7.2)" on page 31	<ul style="list-style-type: none"><li>• "Search the knowledgebases" on page 32</li><li>• "Search for published documents" on page 35</li><li>• "Search for hot news" on page 36</li><li>• "Search for adaptive learning data" on page 36</li><li>• "Search for a solution" on page 37</li><li>• "Use a solution from a knowledgebase search" on page 38</li><li>• "View adaptive learning data" on page 38</li></ul>
"Maintain and continually improve knowledge (ST 7.3)" on page 40	<ul style="list-style-type: none"><li>• "Retire a knowledge document" on page 41</li><li>• "Retire a knowledge document when other documents link to it" on page 42</li><li>• "Unretire a knowledge document" on page 42</li></ul>

## KCS III

The KCS III user role has the following responsibilities:

- Contribute new knowledge articles
- Approve articles for internal audiences
- Approve articles for external audiences

To execute this role, the KCS III has the following tasks available:

**Note:** For an overview of how these tasks fit in the Knowledge Management workflow, see ["Knowledge Management workflows and tasks" on page 12.](#)

ITIL Workflow	Task
"Contribute and approve knowledge document (ST 7.1)" on page 13	<ul style="list-style-type: none"><li>• "Create a knowledge document" on page 14</li><li>• "Create knowledge from an interaction, incident, problem, or known error" on page 23</li></ul>

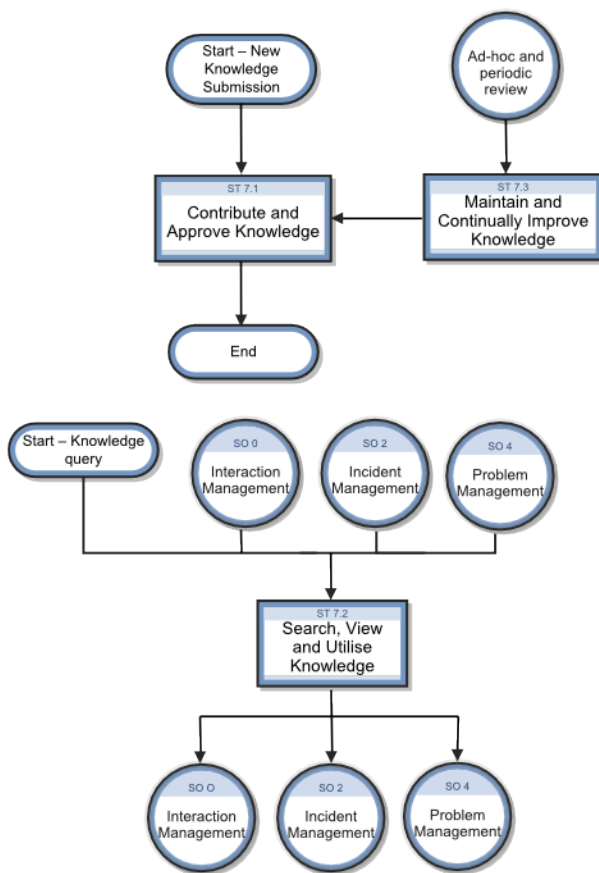
ITIL Workflow	Task
	<ul style="list-style-type: none"><li>• <a href="#">"Preview and view a document" on page 20</a></li><li>• <a href="#">"Contribute hot news" on page 21</a></li><li>• <a href="#">"Edit a document in place" on page 24</a></li><li>• <a href="#">"Submit a document for approval" on page 20</a></li><li>• <a href="#">"Create a working copy of a knowledge document" on page 22</a></li><li>• <a href="#">"Add feedback to a knowledge document" on page 25</a></li><li>• <a href="#">"Submit a document for revision" on page 27</a></li><li>• <a href="#">"Submit a document for review" on page 27</a></li><li>• <a href="#">"Accept a document" on page 27</a></li></ul>
<a href="#">"Search, view and utilize knowledge document (ST 7.2)" on page 31</a>	<ul style="list-style-type: none"><li>• <a href="#">"Search the knowledgebases" on page 32</a></li><li>• <a href="#">"Search for published documents" on page 35</a></li><li>• <a href="#">"Search for hot news" on page 36</a></li><li>• <a href="#">"Search for adaptive learning data" on page 36</a></li><li>• <a href="#">"Search for a solution" on page 37</a></li><li>• <a href="#">"Use a solution from a knowledgebase search" on page 38</a></li><li>• <a href="#">"View adaptive learning data" on page 38</a></li></ul>
<a href="#">"Maintain and continually improve knowledge (ST 7.3)" on page 40</a>	<ul style="list-style-type: none"><li>• <a href="#">"Retire a knowledge document" on page 41</a></li><li>• <a href="#">"Retire a knowledge document when other documents link to it" on page 42</a></li><li>• <a href="#">"Unretire a knowledge document" on page 42</a></li></ul>

# Knowledge Management workflows and tasks

The Knowledge Management process collects, organizes, structures and distributes knowledge for ongoing use. It is responsible for ensuring that an organization can archive and retrieve knowledge in an efficient manner.

The Knowledge Management process consists of the following workflows and tasks.

## Knowledge Management Workflow



ITIL Workflow	Task
"Contribute and approve knowledge document (ST 7.1)" on the next page	<ul style="list-style-type: none"> <li>"Create a knowledge document" on page 14</li> <li>"Create knowledge from an interaction, incident, problem, or known error" on page 23</li> <li>"Preview and view a document" on page 20</li> </ul>

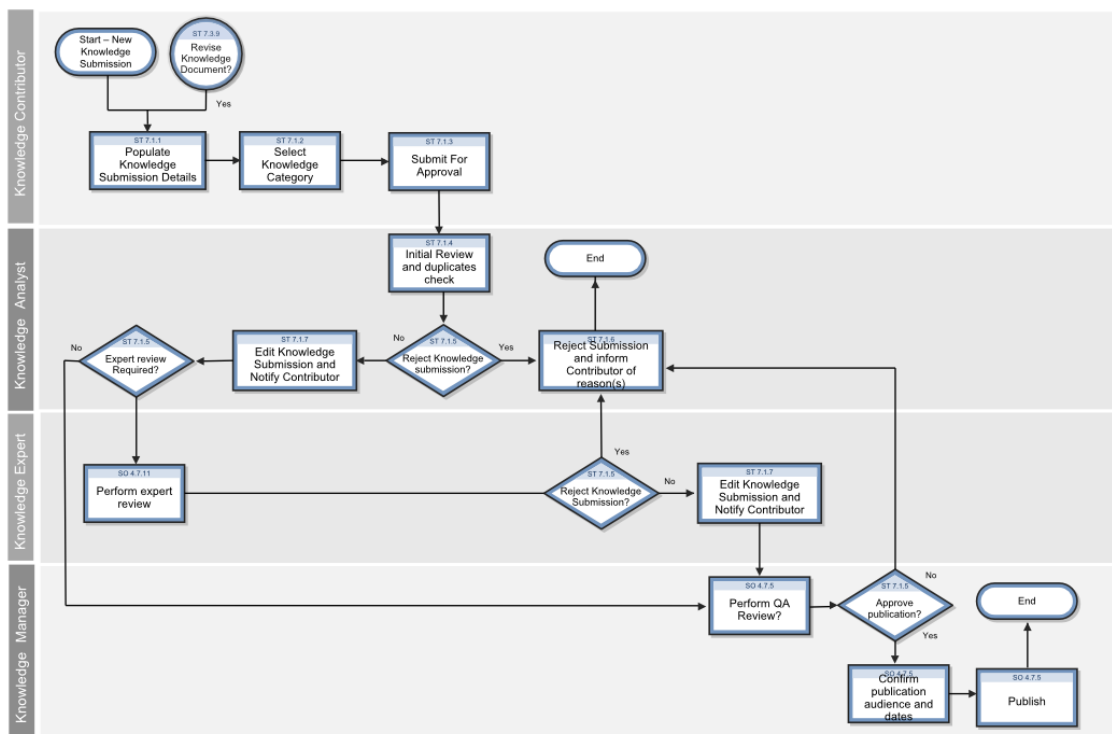
ITIL Workflow	Task
	<ul style="list-style-type: none"> <li>• <a href="#">"Contribute hot news" on page 21</a></li> <li>• <a href="#">"Edit a document in place" on page 24</a></li> <li>• <a href="#">"Submit a document for approval" on page 20</a></li> <li>• <a href="#">"Create a working copy of a knowledge document" on page 22</a></li> <li>• <a href="#">"Add feedback to a knowledge document" on page 25</a></li> <li>• <a href="#">"Submit a document for revision" on page 27</a></li> <li>• <a href="#">"Submit a document for review" on page 27</a></li> <li>• <a href="#">"Accept a document" on page 27</a></li> </ul>
<a href="#">"Search, view and utilize knowledge document (ST 7.2)" on page 31</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Search the knowledgebases" on page 32</a></li> <li>• <a href="#">"Search for published documents" on page 35</a></li> <li>• <a href="#">"Search for hot news" on page 36</a></li> <li>• <a href="#">"Search for adaptive learning data" on page 36</a></li> <li>• <a href="#">"Search for a solution" on page 37</a></li> <li>• <a href="#">"Use a solution from a knowledgebase search" on page 38</a></li> <li>• <a href="#">"View adaptive learning data" on page 38</a></li> </ul>
<a href="#">"Maintain and continually improve knowledge (ST 7.3)" on page 40</a>	<ul style="list-style-type: none"> <li>• <a href="#">"Retire a knowledge document" on page 41</a></li> <li>• <a href="#">"Retire a knowledge document when other documents link to it" on page 42</a></li> <li>• <a href="#">"Unretire a knowledge document" on page 42</a></li> </ul>

## Contribute and approve knowledge document (ST 7.1)

The Contribute and Approve Knowledge Document process starts with the submission of a KM document. You can contribute a knowledge document by authoring knowledge articles or using external documents that are uploaded into a knowledge base. You can use the rich-text editor to author

documents, and you can add documents as attachments that can include images, text files, Word files, or PDFs.

- The process begins when a contributor creates a new submission or revising an existing knowledge document. The contributor selects a documentation type, enters basic details, selects a category type, and submits the draft for review by a Knowledge Analyst.
- The analyst can edit, accept, or reject the document. If necessary, the document can be passed to a Knowledge Expert, who can also edit, accept, or reject it. The Knowledge Expert is typically a subject-matter expert with more in-depth understanding of a given topic and the ability to determine the accuracy and currency of the KM document.
- The Knowledge Manager makes the final decision about whether to accept the document or return it for further revision. If the document meets all KM publication criteria, the Knowledge Manager accepts and publishes the document.



## Create a knowledge document

**User roles:** KCS I, KCS II, KCS III, KM Admin, System Administrator

You contribute a knowledge document by authoring knowledge articles or using external documents that are uploaded into a knowledgebase. When you author a document, you will be asked to specify a

document type. Knowledge documents can be saved as drafts before they are complete. You can also preview a document while you are creating it.

As part of the task to create a knowledge document, you need to assign it to a document category or several document categories, depending upon the topic of the knowledge document. After you have created the knowledge document, you need to either submit it for approval or publish it for either internal or external viewing. In the out-of-box system, a user with a KCS II profile can immediately publish a document for internal viewing and a user with a KCS III profile can immediately publish a document for an internal or external audience.

#### Using the rich-text editor

You can use the rich-text editor to author documents, and you can add documents as attachments that can include images, text files, Word files, or PDFs. The rich-text editor allows you to author documents in a WYSIWYG environment. It provides an embedded, rich-text editor in the Contribute New Knowledge function, and it provides most of the standard features available for authoring and editing knowledge documents. You can also use the editor to create new document views.

Its features include:

- Standard text formatting
- Font formatting
- Table creation
- Spell checker
- Supports paste from Word documents
- Support links and anchors

**Note:** Tabbing is not available in the rich-text editor. Use the space bar to create indents. Using the tab key will exit you from the editor. For additional information regarding the editor, see the related topics links below.

The rich-text editor toolbar contains many of the common icons and editing functions available with most word processors. For example, with the rich-text editor you can cut, paste, and copy text. You can search for a text string within the text. You can select from a small group of font types and size to stylize the text in the document you are authoring. There is a table wizard you can use to add a table to your document.

In addition to the standard functions of a word processor, you can also use the rich-text editor to add links in your document to other documents that are either document attachments for the document

you are authoring or links to other documents in the knowledgebase. There is also a Source button that displays the HTML code used in the document. This is particularly useful when you are creating particular document views for the document types.

**Note:** There is a **Preview** button on the rich-text editor toolbar that opens the document in another browser window. It is best to use the **Preview** button on the Contribute Knowledge form toolbar rather than the one on the rich-text editor toolbar to preview a document. The **Preview** button on the Contribute Knowledge form displays the document in the document view associated with the document you are authoring.

#### Attachments to knowledge documents

Knowledge document attachments consist of shared content and document- or record-type attachments. Shared content usually consists of company logos or other branding elements used in the knowledge documents stored in the knowledgebase. The document- or record-type attachments are files or records attached to a particular knowledge document or several documents. These attachments include summary documents with links to more detailed documents, a knowledge document with a link to a particular incident or known error record, error logs, screen shots, and policy or procedure documents to which many other documents refer. Generally, shared content has a one-to-many relationship with a document and linked attachments have a one-to-one relationship with a document.

When knowledge document attachments need updates, users must send those knowledge documents into the workflow. Editors can then view, edit, save, and re-upload updated attachments for knowledge documents.

Attachments maybe indexed for searching on a per-knowledgebase basis. Consult your Knowledge Management administrator to determine if attachments are indexed for the **Knowledge Library** knowledgebase.

To create a knowledge document, follow these steps:

1. Click **Knowledge Management > Contribute Knowledge**.
2. Double-click the document type from the list.
3. Type a title and summary for document.
4. (Optional) Specify an expiration date for the document.
5. (Optional) If you selected the "Reference" document type, you can specify a document subtype as



appropriate. By default, the following subtypes are available:

- Service Design Package (a document that provides the initial outline of a service agreement and denotes what agreements will be required, who the signatories shall be, and other process oriented details).
  - Service Quality Plan (SQP, a long term quality improvement plan for a service agreement)
  - Service Improvement Plan (SIP, a limited short term improvement plan for a service agreement)
  - Business case (provides a business justification for a change proposed by a formal Change Proposal)
  - Project Information (provides information about the project proposed by a formal Change Proposal)
  - Availability Plan
6. In the **Locale** list, choose the locale to be used by the search engine when searching and indexing the document. By default, the language code matches the language you logged in as. Changing this field overrides the Knowledgebase default locale setting.
7. Assign the document to a category.

All documents in the knowledgebase are assigned to a document category. Categories for knowledge documents are ordered into hierarchies.

**Note:** When you contribute a new document, a draft document does not require a document category assignment, but any document that is going to be submitted for approval or published immediately must be assigned to at least one document category or subcategory.

- a. Click the **Categorization / Flags** tab.
- b. Click **Add** to display a list of document categories.
- c. Double-click the document category.
- d. Double-click the subcategory or click **Skip** to end the category or subcategory selection.

**Note:** If you assign the document to the wrong category, you can remain in the edit mode,

select the category you want to delete, click **Remove**, and then click **Add** to assign the document to a new category.

8. If needed, repeat the steps until you are finished adding all the categories for the document.
9. Use the rich-text editor to enter text for the document.
10. If needed, add a file attachment to the document.
  - a. Click the **Attachments** tab.
  - b. Add a file by doing one of the following:
    - For Web-tier clients: click **Add File**, type the full path of the file in the **File location** text field or browse to the file, and then click **OK**.
    - For Windows clients: right-click in the blank area of the attachments list, click **Add**, browse to the file, and then click **Open**.

**Note:** If you are editing an attachment for an existing knowledge document, you must send the document to the workflow. You can then save the attachment to your desktop, make the necessary updates, save the changes, and then re-upload the attachment to the knowledge document.

11. If needed, insert a link to the attached file.
  - a. Click in the rich-text editor, place the cursor where you want to insert the link, and then click the **Insert a link toward an attached file** icon on the rich-text editor toolbar.
  - b. Type the name of the attached file in the **Filter Text** field, or leave the field blank so that all the attachments are listed for selection.
  - c. In the **Link Text** field, specify the **Alt Text** for the link.
  - d. Click **Next** and then double-click the name of the attached file from the list of files.
12. If needed, insert a link to another knowledge document.
  - a. Click in the rich-text editor field to position the location for the link.
  - b. Click the **Insert a link toward another record** icon on the rich-text editor toolbar. The message "Document saved to allow attachment linking" appears.

- c. Click **Knowledge Document** in the Select Link Type wizard and edit the **Link Text** label.
- d. Click **Next** and then type the document ID. The document must be a published document in the database, and you must have view access to at least one of the categories to which the document belongs.
- e. Click **Finish** and then click **Preview** to view your document and the new link.
- f. Click the link to verify that it links correctly.

**Note:** The link does not open until the document in which you are trying to add the link is either published internally or externally.

- g. Click **Back**, and then click **Back** again.

13. If needed, insert an image to the document.

**Note:** The html toolbar that allows you to insert an image is not visible if you select the document type as **External**.

- a. If your document does not yet have the image as an attached file, attach the image as described above.
- b. Click the **Insert an image** icon on the rich-text editor toolbar.
- c. Type the name of the image file in the **Filter Text** field, or leave the field blank so that all of the image files listed on the **Attachments** tab are included in the selection wizard.

**Note:** You can attach only .jpg and .gif format images.

- d. In the **Link Text** field, specify the **Alt Text** for the image.
- e. Update the default **Image Height** and **Image Width** as required.
- f. Click **Next**.
- g. Double-click the image file name in the list.

14. Click the **Preview** button to view the document.

15. Click **Back**.

16. If you want to save the document as a draft, click **Save Draft**.
17. Click **Save** or click the applicable button to submit the document for approval or to publish the document immediately if you are a KCS II or KCS III for the document category.

To delete a draft knowledge document you created:

1. Click **Knowledge Management > Draft Documents**.
2. Click **Search**. A list of draft documents display.
3. Select the document you want to delete.
4. Click **Delete**.
5. Click **Yes** in the confirmation window.

## Preview and view a document

You can preview a document while you are authoring a new document or working on a draft document. To preview a document, click the **Preview** button available in the document edit form.

You can also view a retired or published document. When you select the document from the list of retired or published documents, the document appears in the document view.

When you search, use the hyperlink in the search results list to view a document.

## Submit a document for approval

**User roles:** KCS I

Once you have created a draft knowledge document, you submit it for review and approval.

To submit a document for approval, follow these steps:

1. Create a document and save it as a draft.
2. Open the draft document from **Knowledge Management > Draft Documents**.
3. Click **Submit**.

The document is submitted for approval and its status changes to **triage**. The document will appear in the **Pending Documents** queue. Depending on the document quality, the approver takes further actions. For example:

- Click **Add Feedback** to add feedback or additional information to the document.
- Click **Submit for Revision** to send the document for further revision.
- Click **Publish Internal** or **Publish External** to publish the document internally or externally.
- Click **Retire** to retire the document.

## Contribute hot news

**User role:** System Administrator, KMAAdmin, KCS I, KCS II, KCS III

Hot news entries contain very recent information regarding server outages or other infrastructure failures. Hot news can also include solutions to a new incident or problem.

To contribute hot news, follow these steps:

1. Click **Knowledge Management > Contribute Knowledge**.
2. Double-click the document type from the list.
3. Type a title and summary for hot news.
4. Specify an expiration date for the hot news document. This is the date by which the document content should be reviewed for accuracy and timeliness.+
5. Select a document category for the hot news on the **Categorization/Flags** tab.
6. Check the **Hot News** check box on the **Categorization/Flags** tab.
7. Use the calendar to specify a **Valid from** and **Valid to** date range. These dates specify when the document is marked as hot news so that a hot news search displays the document. You can specify a date in the future for the document to become hot news and a date when the document is no longer hot news.
8. Use the rich-text editor to enter text for the hot news.
9. Click the **Preview** button to preview the hot news document.

10. Click the applicable button to submit the document for approval or to publish the document immediately.

## Create a working copy of a knowledge document

**User roles:** KCSII, KCS III, KM Admin, System Administrator

A working copy of a knowledge document becomes a working copy when a published document goes into the document workflow to be updated. When the working copy of the document is published, it replaces the original document. A working copy of a published document has an "R" appended to the document ID. A new document submitted for review to be published is also considered a working copy while it is in the workflow waiting to be published, but there is no "R" appended to the document ID.

To create a working copy of a knowledge document by using Published Documents, follow these steps:

1. Click **Knowledge Management > Published Documents**.
2. Click **Search**.
3. Select the document from the document list.
4. Click the **Create Working Copy** button.
5. (Optional) Type your feedback in the add feedback box.  
**Note:** It is useful to add feedback because the KCS II or III user who creates the working copy might not be the one responsible for updating the content. By providing feedback, you can explain what needs to be updated or the reason for creating a working copy of the document.
6. Select Useful? or Not Useful? if required.
7. Click **OK** or **Skip Feedback**.
8. Click **Knowledge Management > Pending Documents**.
9. Select the knowledge document to be approved in the workflow. The title column in the list contains the document ID with an R suffix for working copy and the title of the document.
10. Update the working copy of the document in the embedded rich text editor, and click **Save**.
11. Move it to the next phase of the approval workflow.

For example, click **Submit for Revision**. The status of the working copy changes to revise.

To create a working copy of a knowledge document by using Search, follow these steps:

1. Click **Knowledge Management > Search Knowledgebase**.
2. Type the topic or phrase that you are searching for.
3. Click **Search**.
4. Click the hyperlink for the document in the search results list.
5. Click **Create Working Copy**.
6. (Optional) Type your feedback in the add feedback box.

**Note:** It is useful to add feedback because the KCS II or III user who creates the working copy might not be the one responsible for updating the content. By providing feedback, you can explain what needs to be updated or the reason for creating a working copy of the document.

7. Select **Useful** or **Not Useful** if required.
8. Click **OK** or **Skip Feedback**.
9. Click **Knowledge Management > Pending Documents**.
10. Select the knowledge document to be approved in the workflow. The title column in the list contains the document ID with an R suffix for working copy and the title of the document.
11. Update the working copy of the document in the embedded rich text editor, and click **Save**.
12. Move it to the next phase of the approval workflow.

For example, click **Submit for Revision**. The status of the working copy changes to **revise**.

## Create knowledge from an interaction, incident, problem, or known error

**User roles:** All users

To create knowledge from an Interaction, Incident, Problem, or Known Error record, follow these steps:

1. While working with the record, click **More** or the **More Actions** icon to select **Create Knowledge**.
2. If a document type selection form opens, select a document type for the document.

3. As required, view and update the fields the system has completed with the mapped information from the record you selected during your search. The data inserted in these fields depends on the document type and the defined field mappings.
4. Enter an expiration date for the document.
5. Select at least one category for the document.
6. Use the rich-text editor to enter or edit text for the document.
7. Click the **Preview** button to view the document.
8. Click the appropriate button to submit the document for approval or to approve the document immediately.

## Edit a document in place

**User roles:** KCS II, KCS III, System Administrator

Editing a document in place is an option that allows you to edit published documents and then re-publish the document immediately for either internal or external use without sending the document to workflow. This allows you to update documents quickly that for some reason need to be updated and made available immediately.

The edit in place option is available for published documents only. It does not apply to knowledge candidates, such as working copies of a document or draft documents.

**Caution:** Knowledge document attachments that are updated using the edit in place option will result in a broken attachment link and a broken knowledge document link. When a knowledge document attachment needs updates, then the document must be put into the workflow so that the editor can save the attachment to the editor's desktop, make the necessary updates, save the changes, and then re-upload the attachment to the knowledge document.

In the out-of-box system, the permission for edit in place is set for KCS II, KCS III and KM ADMIN Knowledge Management profiles. A user with a KM ADMIN profile manages assigning the edit in place permission to KM profiles.

You contribute a knowledge document by authoring knowledge articles or using external documents that are uploaded into a knowledgebase. You can use the rich-text editor to create or edit documents, and you can add documents as attachments that can include images, text files, Word files, or PDFs.

To edit a document in place, follow these steps:



1. Click **Knowledge Management > Published Documents**, or use Search to find the published document.
2. Click the document in the list that you want to edit.
3. Click **Edit**.
4. Make the changes to the document in the editable view of the document.
5. Add needed attachments by doing one of the following:
  - For Web-tier clients: click **Add File**, type the full path of the file in the **File location** text field or browse to the file, and then click **OK**.
  - For Windows clients: right-click in the blank area of the attachments list, click **Add**, browse to the file, and then click **Open**.

**Note:** If you are editing an attachment for an existing knowledge document, you need to save the attachment to your desktop, make the necessary updates, save the changes, and then re-upload the attachment to the knowledge document.

6. Continue creating or editing your document
7. (Optional) Specify an expiration date for the document.
8. Update the category for the document, if required.
9. Use the rich-text editor to enter text for the document.
10. Click the appropriate button to publish the document immediately for the document category or click **Cancel** to revert the document to the published version.

## Add feedback to a knowledge document

**User roles:** All users

A default Knowledge Management security profile allows users to search and view externally published knowledge documents for those documents in categories to which the profile has access. Users can also submit feedback on these documents.

To add feedback by using Published Documents, follow these steps:

1. Click **Knowledge Management > Published Documents**.
2. Select the document from the document list.
3. Click **Add Feedback**.
4. Type your feedback in the text box.
5. Select **Useful** or **Not Useful**.
6. Click **OK**.

To add feedback by using Search, follow these steps:

1. Click **Knowledge Management > Search Knowledgebase**.
2. Type the topic or phrase that you are searching for.
3. Click the hyperlink for the document in the search results list.
4. Click **Add Feedback**.
5. Type your feedback in the text box.
6. Select **Useful** or **Not Useful**.
7. Click **OK**.

To add feedback by using the Pending Documents queue:

1. Click **Knowledge Management > Pending Documents**.
2. Select the document record in the queue.
3. Select the **Feedback** tab.
4. Click **Add**.
5. Type your feedback in the text box.
6. Select **Useful** or **Not Useful**.
7. Click **OK**.

## Submit a document for revision

**User roles:** KCS II, KCS III

Once the contributor has submitted a document for approval, if needed you can send it for further revision.

To submit a document for revision, follow these steps:

1. Open the document from **Knowledge Management > Pending Documents**.
2. Click **Submit for Revision**.

The document is submitted for further revision and its status changes to **revise**. You or somebody else can further revise the document and then submit it for review.

## Submit a document for review

**User roles:** KCS II, KCS III

Once you have made revisions to a document in **revise** status, you can submit the document for review.

To submit a document for review, follow these steps:

1. From **Knowledge Management > Pending Documents**, open a document in **revise** status.
2. Click **Submit for Review**.

The document is submitted for review and its status changes to **review**. The document will appear in the **Documents for Review** queue. The reviewer can then accept the document or if needed return it for revision.

## Accept a document

**User roles:** KCS II, KCS III

Once you have completed your review of a document and believe all necessary revisions have been made to the document, you can accept the document.

To accept a document, follow these steps:

1. Open the document from **Knowledge Management > Documents for Review**.
2. Click **Accept Document**.

The document's status changes to **conclude**.

You can still return the document for revision or review by clicking the **Return for Revision** or **Return to Review** button, or you can then directly publish it internally or externally.

3. To publish the document, click **Publish Internal** or **Publish External**.

## Add an attachment to a knowledge record

To add an attachment to a record, follow the steps below:

1. Open the record to which you want to add an attachment. To do this, select a record from the queue or search for a specific record.

**Note:** You can also add an attachment when you create a new record.

2. Scroll down to and click the **Attachments** tab.
3. Click **Add files**, and then browse to the file or files that you want to attach to the record.

After you confirm your selection, a progress bar in the **File Name** column displays the progress of the file upload process.

**Note:** The multiple file upload and progress bar functionality is only available in browsers that support the HTML5 File API (for example, Mozilla Firefox, Google Chrome, or Windows Internet Explorer 10).

The file is now uploaded. However, the file is not attached to the record until you click **Save**. To remove a file that is uploaded in error, click the **X** icon in the **Remove** column before you click **Save**.

**Note:**

- The size limit for individual attachments and the space that is available for storing attachments are displayed in the upper-right corner of the **Attachments** section.

- If you try to attach a file that exceeds the size limit for individual attachments or the total available space, you receive an error message, and the attachment is not uploaded.
- If you try to attach a type of file that is not permitted (for example, an .exe file), you receive a message that prompts you to remove the attachment. If you do not remove the attachment, it is removed automatically when you click **Save**.
- There is no limit to the number of files that you can attach to a record, provided that they do not exceed the size limit. However, we recommend that you do not attach more than 20 files to a single record.
- If you refresh the browser or click certain comfill buttons that refresh the browser before the file upload process is complete, the file is not uploaded.
- Whether you can attach a file with a duplicated name against the attachment list depends on the setting of the **preventDuplicatedAttachmentName** parameter.

4. Click **Save**.

## Open an attachment in a knowledge record

To open a file that is attached to a record, follow these steps:

1. Open the record to which the file that you want to open is attached. To do this, select a record from the queue or search for a specific record.
2. Scroll down to and click the **Attachments** tab.
3. To open a single file, click the file name or the download icon in the **Download** column.

To open multiple files, select the files that you want to open by using the check-boxes next to the file names, and then click **Download**.

**Note:** When you download multiple attachments concurrently, HP Service Manager packages the files in a compressed (zipped) folder. Some third-party unzipping tools may not correctly handle file names that contain non-Roman characters. In this situation, the name of the unzipped file may change unexpectedly. We recommend that you use WinRAR to unzip the

compressed folder.

4. Click **Save**.

## View the details of an attachment in a knowledge record

To view the details of the files that are attached to a record, scroll down to and expand the **Attachments** section of the appropriate record.

**Note:** The number of attached files is displayed on the **Attachments** tab heading. This enables you to identify whether a record has attachments quickly without having to expand the **Attachments** section.

However, the number of attached files is not displayed if a custom dynamic view dependency is configured for the section or tab title. This is because the custom dynamic view dependency may include file count information.

If a file is attached to the record, the following information is displayed in the table in "Attachments" section:

- The name of the attached file
- The size of the attached file (in KB)
- The login name of the person who attached the file
- The date when the file was attached to the record

Attached files are displayed in the order in which they were uploaded.

## Delete an attachment from a knowledge record

To delete an attachment from a record, follow these steps:

1. Open the record from which you want to delete an attachment. To do this, select a record from the queue or search for a specific record.
2. Scroll down to and click the **Attachments** tab.

3. To delete a single file, click the **X** icon in the **Remove** column.

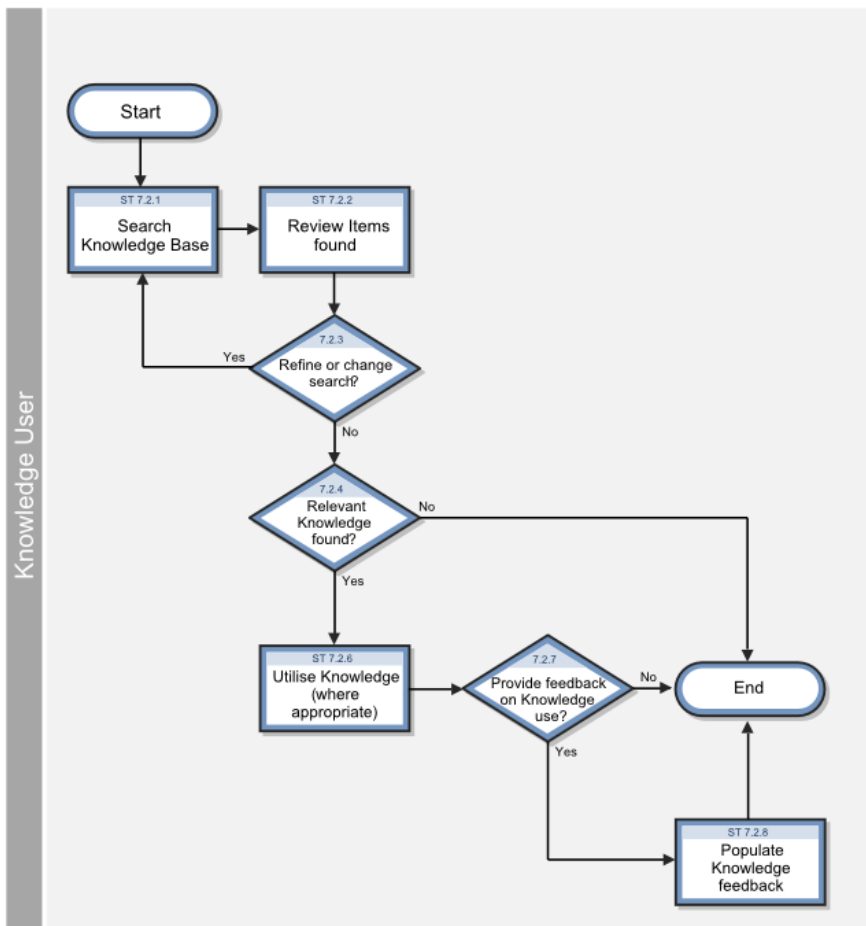
To delete multiple files, select the files that you want to delete by using the check-boxes next to the file names, and then click **Remove**.

4. In the dialog box that appears, confirm the deletion.
5. Click **Save**.

## Search, view and utilize knowledge document (ST 7.2)

The Knowledge Base is the central repository of the Knowledge Management system. HP Service Manager provides powerful search and retrieval functionality for accessing, retrieving, and displaying knowledge documents. Searches can be performed using filters, and even Boolean searches are allowed.

Each type of knowledgebases has different fields that are indexed for searching, so specific search parameters that match the fields in the knowledgebase must be provided. For example, the knowledge articles have a title and author field. When you view an Incident record, the out-of-box system displays the Incident number, description, and solution for closed incident records.



## Search the knowledgebases

### Applies to User Roles:

User

You can search knowledgebases to determine if your current issue matches any existing incidents or problems with known solutions or workarounds. Using an existing solution or workaround reduces your organization's costs and ensures that you are following approved policies and procedures.

To search the knowledgebases, follow these steps:

1. Click **Knowledge Management > Search Knowledgebase**.
2. Type the key words or phrases you want to search for.
3. Select the knowledgebase libraries in the Search In section to narrow your search.



4. Click **Search**.

HP Service Manager returns a list of documents matching your search request. If there are no results, type a new search string for your search or use Advanced Search to specify additional search criteria.

5. Click the document title or identifier to open it.

## Use advanced search

**User roles:** All users

You can use advanced search to narrow the results of a simple search or to restrict your search to certain conditions. In the advanced search, you can specify what knowledgebases and document categories HP Service Manager searches. You can also specify a set of filtering parameters such as exact phrase and creation date.

To use advanced search, follow these steps:

1. Click **Knowledge Management > Search Knowledgebase**.
2. Click the **Advanced** button.
3. Type the key words or phrases you want to search for.
4. Select the knowledgebase libraries to narrow your search.
5. Provide advanced search filters you want to use.

**Tip:** Select specific criteria if you can. For example, you can use the date fields to specify a particular date and time range.

6. Click **Search**.

HP Service Manager returns a list of documents matching your search request. If there are no results, type a new search string for your search or specify additional search criteria.

## Search within the search results

**Applies to User Roles:**

User

Sometimes a knowledgebase search query results in more matches than you can quickly and easily review. In such cases, you may want to search within your search results to find documents that address your particular issue. You can use both the simple and advanced search options to search within your search results.

To search within search results, follow these steps:

1. Click **Knowledge Management > Search Knowledgebase**.
2. Type the key words or phrases you want to search for.
3. Click **Search**. HP Service Manager returns a list of documents matching your search request.
4. Select the **Search within results** check box to continue searching within the search results.
5. Type another search string in the "Search for" box.

**Tip:** Make your second search as specific as possible to reduce the number of search results the query returns. For example, rather than searching for a generic term such as "server," use specific terms such as the server model number or name. You can also use the Advanced Search options to limit your search to particular knowledgebases.

6. Click **Search**. Service Manager returns a list of documents matching your search request.

You can continue revising your search string to make the search more efficient; however, the search only searches the search results list.

**Caution:** Clear the **Search within results** check box to start a new search.

## Sort the search results

### **Applies to User Roles:**

All users

By default, knowledgebase search results are sorted only by Relevancy in descending order. Once you have completed a knowledgebase search and a list of search results is already displayed, you can specify your preferences to sort the results.

To sort the search results, follow these steps:

1. Navigate to **Knowledge Management > Search Knowledgebase**.
2. Perform a search.

A list of search results is displayed.

**Note:** The sort options are not available until you have completed a search and a list of search results is already displayed.

3. Specify the following sort preferences:
  - **Sort by multiple fields:** If selected (default), sorts the current search results by a combination of these fields in the following order: **Modified Date**, **Status**, and **Relevancy**; If not selected, sorts the current search results by one of the these three fields.
  - **Modified Date:** When clicked, sorts the current search results by modification date in ascending or descending order. The name of the actual sort field is "sysmodtime" for all out-of-box knowledgebases.
  - **Status:** When clicked, sorts the current search results by status in ascending or descending order. The actual sort field being used varies with the knowledgebases: "problem.status" for **Incident\_Library**, "open" for **Interaction\_Library**, "status" for **Knowledge\_Library**, and "rcStatus" for both **KnownError\_Library** and **Problem\_Library**.
  - **Relevancy:** When clicked, sorts the current search results by relevancy in ascending or descending order.

## Search for published documents

**User roles:** All users

Published knowledge documents are documents that are available for searching and viewing. Some documents may only be viewed by internal users, while others can be viewed by internal and external users. Published documents can be edited by users with applicable privileges. Users can also provide feedback to published documents.

To search for published knowledge documents, follow these steps:

1. Click **Knowledge Management > Published Documents**.
2. Type as much information available in the search form. For example, you can type a portion of the title of the document or a phrase from the summary of the document in the appropriate field.
3. Click **Search**.
4. Select and click the document in the list to view the document.
5. Depending upon your profile, you can edit the document, view and update the adaptive learning data, or retire the document.

## Search for hot news

### **Applies to User Roles:**

User

Service Desk Agent

KCS I

KCS II

KCS III

KMAdmin

You can search hot news for information about system conditions, outages, or system bulletins effecting groups of users. Service Desk Agents and Service Desk Managers typically post hot news to inform users about the current conditions of the system.

To search for hot news, follow these steps:

1. Click **Knowledge Management > Search Knowledgebase**.
2. Click **Hot News**.
3. Click the hot news item title to view its contents.

## Search for adaptive learning data

**User roles:** KM Admin, System Administrator

When adaptive learning is enabled, data about the queries that returned documents that were used for solving issues is stored and integrated into the documents when they are indexed.

**Note:** You must have a KM ADMIN profile to use the Adaptive Learning search function on the Knowledge Management Administration menu.

To search for adaptive learning data, follow these steps:

1. Click **Knowledge Management > Configuration > Adaptive Learning**.
2. Type the document ID if you are looking for the adaptive learning data for a specific document.
3. Select the knowledgebase if you are looking for the adaptive learning data for a specific knowledgebase.
4. Type the phrase if you are looking for the adaptive learning data for a specific phrase.
5. Click **Search**.

**Note:** You can provide the search parameters for adaptive learning in various combinations to narrow or enlarge your search for adaptive data.

## Search for a solution

**User roles:** All users

While creating or updating an Interaction, Incident, or Problem record, you can search for a solution to assist in solving your problem.

To search for a solution, follow these steps:

1. While creating or updating a record, click **More** or the **More Actions** icon, and then select **Search Knowledge**.

The search uses the mapped fields to display a search results list of possible similar records or other knowledge documents.

2. Click the hyperlink to view a particular document.
3. Use the results from your search to determine how to proceed. For example, you can view another record from the search results or use the data from the search to update the record you are working on.

## Use a solution from a knowledgebase search

At any time while you create or update an Interaction or Problem record or update an Incident record, you can perform a knowledgebase search to find solutions. When you find a solution, you can add the solution to the resolution or workaround field of the record you are processing.

1. While you are processing a record, perform a knowledgebase search to find a solution.
2. In the knowledgebase search results, click the hyperlink to view a solution document.
3. When you find a document with the correct solution, click **Use Solution** to add the solution to the resolution or workaround field of the record. The **Use Solution** button only appears if the selected document contains a resolution or workaround.

**Note:** If the knowledge document is a working copy of an approved published document, the display option, **Show Approved Version**, appears, which enables you to view the published document and then select it as a solution.

4. After you select **Use Solution**, the system redisplay the record with the resolution or workaround field updated. You can continue processing the Interaction, Incident, or Problem record that prompted your knowledgebase search.

## View adaptive learning data

**User roles:** KCSII, KCS III, KM Admin, System Administrator

When adaptive learning is enabled, data about the queries that returned documents that were used for solving issues is stored and integrated into the documents when they are indexed.

**Note:** You must have a KCS II or KCS III profile to view adaptive learning data, and a KM ADMIN profile to view or edit adaptive learning data.

To view adaptive learning data for published documents by searching for a phrase, follow these steps:

1. Click **Knowledge Management > Search Knowledgebase**.
2. Type a word or phrase related to the information you are searching for.
3. Click **Search**.

4. Click the hyper-linked field to open a specific document when a list of search results appears. The hyper-linked field is usually the title or other document identifier.
5. Click **Adaptive Learning**.

**Note:** The Adaptive Learning button only appears if the document is from an sclib-type knowledgebase.

6. You can now view or edit the adaptive learning data for the document you selected, depending upon your profile.

To view adaptive learning data for published documents by using the **Published Documents** list, follow these steps:

1. Click **Knowledge Management > Published Documents**.
2. Select a document to view.
3. Click **Adaptive Learning**.
4. You can now view or edit the adaptive learning data for the document you selected, depending upon your profile.

## Print a knowledge document when using the Windows client

**User roles:** All users

You can search knowledgebases to determine if your current issue matches any existing incidents or problems with known solutions or workarounds. When located, you can print out those documents.

To print a knowledge document using the Windows client, follow these steps:

1. Display the document you want to print in the Knowledge Management Document Viewer.
2. Click **File > Print** or **Print Preview**.
3. Click **Detail**.
4. Click **OK**.

5. Select a printer and then click **Print**.
6. If you selected **Print Preview**, you can print the document from the **Print Preview** window. Click the **Print** icon, select a printer, and then click **Print**.

## Print a knowledge document when using the web client

**User roles:** All users

You can search knowledgebases to determine if your current issue matches any existing incidents or problems with known solutions or workarounds. When located, you can print out those documents.

To print a knowledge document using the web client, follow these steps:

1. Display the document you want to print in the Knowledge Management Document Viewer.
2. Click the **Print Page** icon at the top right corner.
3. Select **Detail View**.

The document opens in a page.

4. Right-click the document page, and select **Print**.
5. Select a printer, and then click **Print**.

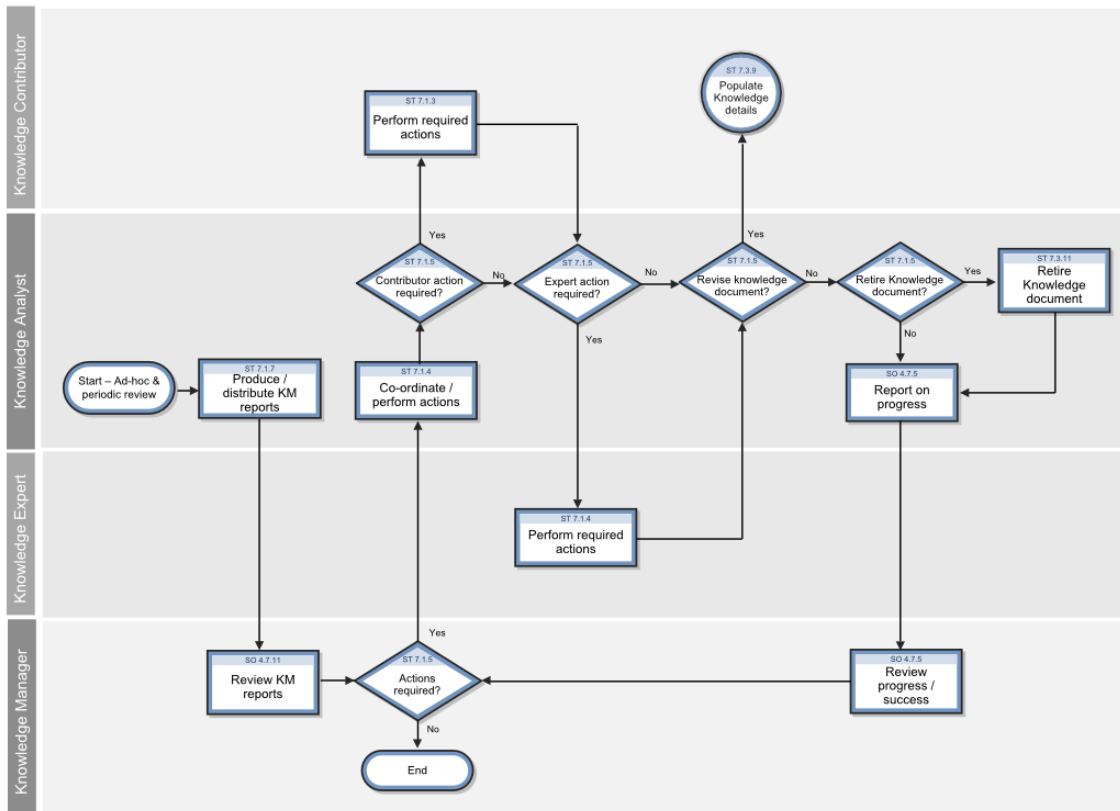
## Maintain and continually improve knowledge (ST 7.3)

The Maintain and Continually Improve Knowledge process involves the following tasks:

- Records the details of new knowledge (documents)
- Updates existing knowledge (documents) where there is any inaccuracy or incompleteness
- Removes obsolete knowledge (documents)

The process is performed by the Knowledge Contributor, Knowledge Analyst, Knowledge Expert, or Knowledge Manager.





## Retire a knowledge document

**User roles:** KCSII, KCS III, KM Admin, System Administrator

Before you can retire a document, the system verifies that there are no published documents that link to the document you want to retire. If the system finds documents with links to the document you want to retire, it alerts you to this situation and gives you the option of putting these documents into the document workflow to review and update.

To retire a knowledge document, follow these steps:

1. Before retiring a document, make sure to update any documents that link to the document you wish to retire.
2. Click **Knowledge Management > Published Documents**.
3. Click **Search**.

4. Select the document that you wish to retire from the list of documents.
5. Click **Retire**.

## Retire a knowledge document when other documents link to it

**User roles:** KCSII, KCS III, KM Admin, System Administrator

Before you can retire a document, the system verifies that there are no published documents that link to the document you want to retire. If the system finds documents with links to the document you want to retire, it alerts you to this situation and gives you the option of putting these documents into the document workflow to review and update.

**Note:** The alert message includes the document IDs of the documents that need to be updated and placed in the **Pending Documents** queue. If you click **OK**, it then places those documents in the **Pending Documents** queue.

To retire a knowledge document when other documents link to it, follow these steps:

1. Review the **Pending Documents** queue and select the documents for editing. You can identify the documents by the document ID, which appears in the title column of the list of document changes in the **Pending Documents** queue. These documents also have a standard feedback message: "This document links to another document (KMnnn) that was attempted to be retired. Please review now." added by the system.
2. From the **Pending Documents** queue, you can edit each document to remove any links to documents you want to retire, and then publish the edited document.
3. Return to the **Published Documents** list and select the document you want to retire.
4. Click **Retire**.

## Unretire a knowledge document

**User roles:** KCSII, KCS III, KM Admin, System Administrator

A user with a KM ADMIN profile can view and unretire a document that does not have a category associated with it. If the KM ADMIN unretires a retired document without a category, the document is put in the workflow as a draft document.

To unretire a knowledge document, follow these steps:

1. Click **Knowledge Management > Retired Documents**.
2. Select the document from the list of documents.
3. Click **Unretire**.

# Knowledge Management administration

Knowledge Management administration provides Knowledge Management Administrators (KM Admin) with the capability to manage document categories, document groups, and user profiles so that users have access to the documents they need to view and maintain while at the same time limiting access to only those documents that are appropriate for particular groups of users and categories of documents. Knowledge Management also provides KM Admins with document types and document views to manage the amount and type of data displayed in knowledge documents. The out-of-box system provides the standard document types (error message/cause, external, question/answer, problem/solution, and reference).

Knowledge Management administration consists of the following:

- Environment
- Knowledge groups
- Profiles

Rights to the Knowledge Management administration functions are controlled by the Knowledge Administration security area. To perform these functions, users must belong to a security role that has rights in this area.

The primary function of Knowledge Management administration is to create a set of document categories, groups, types, and views that allow users to access all the documents they need to do their jobs and prevent users from accessing documents that contain sensitive information that they do not need to access.

Knowledge Management administrators can also use the security profiles to provide users different capabilities in the knowledge document workflow. You can use the security profile to set which users can edit, approve, and author knowledge documents.

## Document types and document views

Document types and document views specify how Knowledge Management displays a knowledge document. Each document type can have several document views so that not all of the information in a document is accessible to all users. Each document view has one or more document groups associated with it. In this way, document views combined with document groups manage what information appears in a particular document view and what users have access to that view.

Document types are templates for documents in Knowledge Management. Knowledge Management includes several default document types. These include **Question/Answer**, **Problem-Solution**, **Reference**, **Error Message/Cause**, and **External**. These default document types provide the basic structure for new document types that you can create. If you later delete your customized document types, the default document types retain their basic features.

For example, you can use Forms Designer to create a document type called **Payroll Error** based on the out-of-box document type, **Error Message/Cause**. When there is an error in processing payroll, the staff uses this **Payroll Error** form to write up the problem.

- Change the **Error Message** tab to **Error** and the error message field to **Error**. Users describe the error in this field.
- Change the **Cause** tab to **Problem** and the cause field to **Problem**. Users describe the underlying problem that caused the error in this field.
- Change the **Workaround / Fix** tab to **Solution** and the fix field to **Solution**. Users provide a solution to the problem.
- Use the default document view for **Error Message/Cause** to create at least one document view for this document type.

Document views have two purposes. Document views provide users a way to customize how the information displays in each form and to limit users to see only information that their group permission allows them to see. This way, users with different permissions view the same document records, but only those users with certain permissions can view sensitive information in certain fields of the record.

You can manage the documents in your knowledgebase by effectively using document types and groups. You can add new views to existing document types and then control the access to these views by selecting only certain document groups. You can also add new document types to the standard document types provided by the system.

The tasks for managing document types and views are:

- Add a new document type
- Add a view for an existing document type
- Add a document group to a view

**Tip:** You can add document types and document views for users by copying the out-of-box templates for document types and views.

To add document types, you must log in with a user profile that has either the System Administrator or Knowledge Administrator role.

### Adding a rich-text field

If you add a new rich-text field to the `kmdocument` table, add it to the `dbdict` and to the document views that will display the new field.

In order for three of the buttons on the rich-text editor for this new field to work properly, also create three `displayoption` records for the `kmdocument.open` displayscreen and three for the `kmdocument.view` displayscreen.

- Insert Image
- Insert Link to Attachment
- Insert Link to Record

For more information, see the existing `displayoption` records in the `kmdocument.open` displayscreen. For example, 555, 556, and 557. Note that:

- the Condition is  
`$L.preview="false"`
- on the **Rad** tab and **Pre Rad Expressions** tab in all three `displayoption` records, the field name is set as follows:

```
$kminsertlinkfieldname="error"
```

Also, if your new field name was **comments**, for example, then you would create the three `displayoption` records and set the following on the **Rad** tab and **Pre Rad Expressions** tab in the three new `displayoption` records:

```
$kminsertlinkfieldname="comments"
```

## Managing document views

A document view determines how the document displays to a user. Document views are associated with document types. Each document type has a default document view, and each document type must have at least one document view associated with it.

Users with a KM ADM profile can add, delete, and modify document views. Use the document view editor to add a new view or modify an existing document view. When you add a new document view or modify an existing view, you should select the user profiles that you want to have access to the document view.

With good planning in combination with well-defined user profiles and document views, you can manage access to knowledge documents so that users are able to view the knowledge documents or portions of the knowledge documents they need to perform their job. At the same time you can maintain control over which users are able to access knowledge documents or sensitive information in a knowledge document.

Typically, you create a new document view by modifying an existing document view and then assigning it a new name when you save the new document view.

## Rich text fields (RTFs) in document views

A rich text field is a field that has content that includes formatting properties such as font type and size. When you modify a document view, you can use the rich text editor to add rich text fields to the document view or add special sections in the document. For example, the default view contains a header section and a details section that is separated by a solid line. You can add labels to fields and use rich text formatting to distinguish the label from the contents of the field. When the system displays a document in a particular document view, it applies the formatting you specified for each rich text field. In addition, document views also include a marker (\*SCKM\*) that a document parser uses when rendering a document to replace the field name marked by \*SCKM\* with data from the file for the specified field.

## Security level in document views

The security level of a document view is used to determine which document view the system displays when a user is a member of several knowledge groups. The system uses the document view that has the highest security level for the particular user.

A group permission is formed by the association of a document view with a knowledge group. Each document view has a security level and one or more groups associated with it. Zero (0) is the lowest security level. Each document view for a document type must have a unique security level. You should assign a higher number to the security level for those document views with higher security requirements. Assign security level values relative to the other security level values of the other document views for a document type.

## Create a new document view

**User role:** System Administrator, KMAAdmin

A document view determines how the document displays to a user. Document views are associated with document types. Each document type has a default document view, and each document type must have at least one document view associated with it.

**Note:** In some cases, before creating a new document view you will need to add a field or fields to the database and use Forms Designer to create new forms or to update existing forms. Before beginning these procedures, you should be familiar with the information in the Database Administration and Tailoring online help modules.

To create a new document view, follow these steps:

1. Click **Knowledge Management > Configuration > Document Types**.
2. Click the document type for the document view you want to create.
3. Click a document view from the list of **Associated Document Views** that is similar to the document view you want to create.
4. Click **Modify**.
5. Click **Source** in the editor to view the HTML source.
6. Right-click and then click **Select All**.
7. Right-click and then select **Copy**.
8. Click **Cancel**.
9. Click **New** for the document views of the document type for which you want to create a new view.
10. Click the **Source** button for the editor.
11. Paste the old document view into the editor.
12. Click the **Source** button to see the view as it will display.
13. Type a name for your new view in View name.

For example, if you added a field called **notes** to the **kmdocument** table in dbdict and added a **Notes** tab to the **Error Message Cause** form (kmdocument.errormsg), you can copy and paste the last two lines in the document view:

```
<div class="formSectionHeading">Workaround/Fix</div>  
*SCKM*fix*SCKM*
```

to make a new section Heading "Notes" that contains the new "Notes" field:



```
<div class="formSectionHeading">Notes</div>  
*SCKM*notes*SCKM*
```

14. Modify the security level for this document view.
15. To insert a field in the view, position your cursor in the rich text editor window at the location where you want the field to appear on the form or select the field you are replacing and click the **Insert a Field Reference** icon.
16. Select a new field in the **Insert a Field Reference** window.
17. Click **OK**.
18. You can use the formatting features of the editing tool to format the appearance of the field label and its position in the form.
19. Repeat adding or modifying the fields on the document view as required.
20. Click the **Groups** tab and select the document groups that can use this document view.
21. Click **OK**.
22. Click **Save**.
23. Click **OK**.

## Add a knowledge group to a document view

**User role:** System Administrator, KMAdmin

Knowledge groups enable you to collect users into groups that have access to work with the same set of documents. A knowledge group might be the user for a department, a group of document authors, or a special group of users within your organization, such as subject matter experts.

To add a knowledge group to a document view, follow these steps:

1. Click **Knowledge Management > Configuration > Document Types**.
2. Click the document type for the document view.
3. Select the document view from the list of **Associated Document Views**.
4. Click **Modify**.
5. Click the **Groups** tab.

6. Click in the next blank line of the **Specify the knowledge user groups that can access this view** section.
7. Type the name of the knowledge group to add to this view.
8. Click **OK**.
9. Click **Save**.
10. Click **OK**.

## Create labels for multilingual document views

### Applies to User Roles:

System Administrator

In addition to creating new document views, administrators can configure the labels for the document view to display in languages other than English. The labels contain heading delimiters which the systems uses to determine the label title. A label delimiter is in the form: \*SCMSG\*123\*SCMSG\* where the number between the replacement tokens identifies the message string in knowledge management **scmessage** table. When the document displays, the system replaces the message number token (123) and the delimiters with the appropriate string from the **scmessage** table.

A document view must be multilingual enabled before you can create multilingual labels. A document view is multilingual enabled when you place the delimiter \*SCMSG\*123\*SCMSG\* in the label of the document view form using the document view editor. The default view is multilingual capable for all document types.

To configure the document views to display in languages other than English, you need to add additional message strings in the **scmessage** table. In doing this you provide the class km message identifier (a unique message number), the actual message string you want to display and a language code. For each language, create a new record with the same message number but the language code will be different and the message text will be the same word(s) in the appropriate language. Repeat the process for each label that needs to be multilingual. Ensure each set that represents a single label value has a unique message identifier.

Once new records exist in the **scmessage** table, replace the tokens in the label heading delimiter with the message number created in the **scmessage** table for the appropriate message text string.

**Note:** The default view for all out-of-box document types is multilingual capable.

This procedure is for a document view that is not multilingual enabled. Before you begin, make sure that you create a message number ID for each multilingual label on the document view form and that there are message numbers defined to display the labels in multiple languages.

To create labels for multilingual document views, follow these steps:

1. Click **Knowledge Management > Configuration > Document Types**.
2. Select a document type record from the list.
3. Select the document view from the View List.
4. Click **Modify**.
5. Select the item to update and then select the label delimiter (\*SCKM\*Title\*SCKM\*) and replace it with the label delimiter (\*SCMSG\*123\*SCMSG\*) for the label you are making multilingual. The 123 should be the message number ID from the **scmessage** table for the unique message number ID for this label.
6. Continue updating the other labels with delimiters for multilingual labels.
7. Click **OK** to save your changes.

## Document type management

You can use the **Document Types** menu option to add new document types in addition to the ones provided by the out-of-box system. The process for adding new document types is complex and requires a thorough knowledge of Forms Designer. When you add a new document type, you must provide a document creation form and a document edit form for the new document type. Before you add a new document type, create the document creation form and the document edit form to use with the new document type.

You must also create at least one document view for the new document type. You can do this after you have created the new document type, but the document type will not be usable until you create at least one document view for the document type.

## Managing shared content

In Knowledge Management, shared content can be a file that is shared by many document views. This type of shared content is referred to as system-managed shared content. Examples of this type of

shared content are an image file used as a logo on the document view or a text file such as a copyright notice or license agreement.

The Manage Shared Content function helps you to manage your system-managed shared content by providing a search function, an add function, delete function, and a save function. Shared content cannot be updated. If you need to modify a file being used as shared content, you should rename the file, make the changes and then add it as a new file. You can then delete the original file.

All shared content is assigned an ID by the system. You can assign it a name and description when you are adding it to the system. Each shared content item must have a unique ID, which means that you can only add one item of shared content for each ID.

## Add new shared content

**User roles:** KM Admin, System Administrator

In Knowledge Management, shared content can be a file that is shared by many document views. This type of content is referred to as system-managed shared content. Examples of this type of shared content are an image file used as a logo on the document view or a text file, such as a copyright notice or license agreement.

To add new shared content, follow these steps:

1. Click **Knowledge Management > Configuration > Shared Content**.
2. Click **New** to create the new shared content.
3. Type a **Name** and **Description** for the shared content.
4. Specify an attachment by doing one of the following:
  - For Web Tier clients: Click **Specify File**, type the full path of the file in the **File location** text field or browse to the file, and then click **OK**.
  - For Windows clients: Right-click in the **Select a single attachment below to add to system-managed shared content** field, click **Add**, browse to the file, and then click **Open**.
5. Click **Save**.
6. Click **OK**.

## Knowledge groups

Knowledge groups enable you to collect users into groups that have access to work with the same set of documents. A knowledge group might be the user for a department, or a group of document authors, or a special group of users within your organization such as subject matter experts. All knowledge groups have a unique name, an assigned manager, and a group of operators.

You associate a knowledge group with at least one document category or subcategory to give the members of a knowledge group access to documents in the category or subcategory and all subcategories below it. Access privileges can range from search and view to publishing privileges depending upon what knowledge profile(s) you assign to the category. You assign a knowledge group access to a document category by associating a knowledge profile and its associated knowledge group with a document category.

You should assign a new user to the appropriate knowledge groups when you create an operator record for the user. You can use the **Find Related Information** icon on the **Login Profiles** tab of the Operator record form under Knowledge Groups to display a list of defined knowledge groups.

## Default knowledge view group

All users are automatically members of the **Default Knowledge View Group** if the Knowledge Management environment file option, **Assign the Default Knowledge View Group to all operators**, is checked. This option is checked for the out of box system.

The **Default Knowledge View Group** is a convenient way to associate all the users in the system with a uniform set of permissions on a document category. For example, if you wanted all the externally published documents under the Human Resources category to be viewable by all users, you could associate the **Default Knowledge View Group** and the **DEFAULT** profile with that category.

In the out-of-box system, each document type has a default document view and this default document view has the **Default Knowledge View Group** assigned to it. This means that if a user has access to the category the document is in, that user can view the document with the default view if there are no other document views available to that user to view the document. However, because the default view has the lowest security level, if another view is available to the user then the higher security view is the view the system uses. By associating the **Default Knowledge View Group** with each of the document types, there can never be a case where there is a document in that system that cannot be viewed.

The **Default Knowledge View Group** has a unique ID in the system, so that if the name is changed, the capabilities of the group persists. This means that if you choose to rename this group, the capabilities

of the group do not change. All of the users in the system can still view all of the documents in those categories to which this group has access.

## Access knowledge group information

**User roles:** KM Admin or System Administrator

Knowledge groups enable you to collect users into groups that have access to work with the same set of documents. A knowledge group might be the user for a department, a group of document authors, or a special group of users within your organization, such as subject matter experts.

To view the information of a knowledge group, follow these steps:

1. Click **Knowledge Management > Administration > Knowledge Groups**.
2. Click **Search**.
3. Click the name of the knowledge group.

## Add a user to a knowledge group

**User roles:** KM Admin, System Administrator

Only a user with a KM ADMIN profile or the System Administrator can add users to knowledge groups. There are two methods for adding a user to a knowledge group.

- In the operator record, on the **Login Profiles** tab there is a **Knowledge Group** section for the system administrator to specify the knowledge groups for the user.
- The **Knowledge Management > Administration > Knowledge Groups** function allows a user with a KM ADMIN profile to add users to a knowledge group.

To add a user to a knowledge group in the operator record, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Operators**.
2. Click **Search**.
3. Select an operator.
4. Click the **Login Profiles** tab.
5. In the Knowledge Groups section use the Fill icon to display a list of the knowledge groups.

6. Select the appropriate knowledge groups.
7. Click **Save**.
8. Click **OK**.

To use the Knowledge Group function to add a user to a knowledge group, follow these steps:

1. Click **Knowledge Management > Administration > Knowledge Groups**.
2. Click **Search** to display a list of knowledge groups.
3. Click the knowledge group.
4. Type the name of the user in the Operators section, or use the Find or Fill button to locate the user.
5. Click **Save**.
6. Click **OK**.
7. Repeat steps 2 to 6 until you have added the user to all of the appropriate knowledge groups.

## Add a knowledge group

**User role:** System Administrator, KM Admin

Knowledge groups enable you to collect users into groups that have access to work with the same set of documents. A knowledge group might be the user for a department, a group of document authors, or a special group of users within your organization, such as subject matter experts.

To create a new knowledge group, follow these steps:

1. Click **Knowledge Management > Administration > Knowledge Groups**.
2. Type the name of the new knowledge group in **Knowledge Group**.
3. Type the name of the manager of the knowledge group in **Manager Name**.
4. Type the names of the members of the knowledge group in the Operators area.
5. Click **Add**.

To copy and rename an existing knowledge group, follow these steps:

1. Click **Knowledge Management > Administration > Knowledge Groups**
2. Click **Search**.
3. Select a knowledge group from the list.
4. Click **Copy/Rename**.
5. Type a new name for the knowledge group in **Knowledge Group**.
6. Select **Copy** or **Rename**.
7. Click **Finish**.
8. Type a new name of the manager of the knowledge group or keep the current manager.
9. Type the names of the members of the knowledge group or keep the current members in the Operators area.
10. Click **Save** and the **OK**.

## Assign a knowledge group access to a document category

**User role:** System Administrator, KMAdmin

All documents in the knowledgebase are assigned to a document category. Categories for knowledge documents are ordered hierarchies. The document categories order documents into top-level categories and subcategories. You can assign a knowledge group access to a specific category.

To assign a knowledge group access to a document category, follow these steps:

1. Click **Knowledge Management > Configuration > KM Document Categories**.
2. When you have a large number of top-level categories, use the category filter to display only those top-level categories you are interested in viewing. Type the name of the top-level category in the Category filter text box.
3. Use the **Category Search** tab to search a list of all occurrences of a category or subcategory name. You can type the complete name of the category or subcategory you are searching for, or you can type a portion of the name in the Search box. For example, if you are searching for all test categories, you might type `tes` to see **test**, **test1**, and **testall**.
4. Select the category or subcategory in the list and click **Details**.



5. Click the **Permissions** tab.
6. Click the **Add** button.
7. Select the user profile for the knowledge group to which you want to assign access to the category you selected.
8. Double-click the user profile you selected.
9. Select the knowledge group you want to assign to the document category.
10. Double-click the knowledge group you selected.
11. Click the **Permissions** tab to verify your selections.

## Determine which knowledge groups can contribute documents to a category

**User role:** System Administrator, KMAdmin

To view which knowledge groups have access to a document category, follow these steps:

1. Click **Knowledge Management > Configuration > KM Document Categories**.
2. When you have a large number of top-level categories, use the category filter to display only those top-level categories you are interested in viewing. Type the name of the top-level category in the Category filter text box.
3. Use the **Category Search** tab to search a list of all occurrences of a category or subcategory name. You can type the complete name of the category or subcategory you are searching for, or you can type a portion of the name in the Search text box. For example, if you were searching for all test categories you might type `tes` to see **test**, **test1**, and **testall**.
4. Select the category or subcategory in the list and click **Details**.
5. Click the **Permissions** tab.
6. View the profiles and knowledge groups for the category.

## Assign rights for publishing a document for a document category

### **Applies to User Roles:**

System Administrator

To assign rights for publishing a document for a document category, follow these steps:

1. Identify the document category or categories to which you want to assign the document.
2. Identify the knowledge management profile and document group that have publishing privileges for the category or categories.
3. Make sure that the users who will have the document publishing rights are members of the appropriate document group.

For example, to give a user the ability to publish documents for external users in **HR** category for the out-of-box system, you would make the user a member of the HR KCS III document group.

## Managing document categories

All knowledge documents in the knowledgebase are assigned to a document category. Categories for knowledge documents are ordered into hierarchies. The document categories order documents into top-level categories and subcategories. Each subcategory has a parent category that is the category immediately above it in the ordered list of categories. A top-level category is also a parent category of the subcategory immediately below it in the ordered list of categories.

The following is an example of category and subcategory hierarchy:

Animal > Dog > Retriever or Category > subcategory > subcategory

- Animal is the top-level category for Dog and Retriever.
- Animal has no top-level category or parent category.
- Dog is the parent category for Retriever.

For a top-level category, the level in the hierarchy is always zero (0).

A category and subcategory has associated with it a set of permissions. These permissions specify the profiles and knowledge groups that have access to the category or subcategory. When a profile and knowledge group is given access to a category or subcategory that profile and knowledge group also has access to all of the subcategories below that point in the hierarchy.

If there are any published documents assigned to the category, they cannot be deleted. You cannot delete a document category before deleting a category. Assign any of the published documents to another document category. You can delete a document category if there are only retired documents assigned to the category. If you decide to unretire those documents, a KM Admin will provide a new document category for the document as part of the unretire process.

## Deleting document categories

You can delete a document category, but you should verify first that there are no documents in the category or in the subcategories under the category. When you delete a category, the system will not allow you to delete the category if there are documents in the category or one of its subcategories. However, if the documents are retired, the system will warn you that there are documents present in the category or its subcategories, but it will still allow you to delete the category. The category being deleted is removed from the retired documents record so that the document is no longer associated with the deleted category.

Documents cannot be managed in the knowledge management system without an assigned category because the Knowledge Management uses document categories to control access to the knowledge documents. All published documents and pending documents must have a category associated with them. Draft and retired documents do not require an assigned category.

A user with a KM ADMIN profile can view and unretire a document that does not have a category associated with it. If the KM ADMIN unretires a retired document without a category, the document is put in the workflow as a draft document.

When you unretire a document that has at least one category associated with it, the system puts the document into the workflow as a pending document.

## Add a new top-level document category

**User role:** System Administrator, Knowledge Administrator

All documents in the knowledgebase are assigned to a document category. Categories for knowledge documents are ordered into hierarchies. The document categories order documents into top-level categories and subcategories. A top-level category is a parent category of the subcategory immediately below it in the ordered list of categories.

To add a new top-level document category, follow these steps:

1. Click **Knowledge Management > Configuration > KM Document Categories**.
2. Click **New**.
3. Type the name of the new top-level category.
4. Click **Add**.
5. Click **Save**.

## Add subcategories to a document category

**User role:** System Administrator, Knowledge Administrator

All documents in the knowledgebase are assigned to a document category. The document categories order documents into top-level categories and subcategories. Each subcategory has a parent category that is the category immediately above it in the ordered list of categories.

To add subcategories to a document category, follow these steps:

1. Click **Knowledge Management > Configuration > KM Document Categories**.
2. Select a top-level category.
3. On the **Subcategories** tab, click **New**.
4. Type the name of the new subcategory.
5. Click **Add**.
6. You can continue adding subcategories by clicking **New Subcategory**, or you can begin to specify permissions for the subcategories.
7. Click **Save** to continue saving your changes.
8. Click **OK**.

## Add permissions for a document category or subcategory

**User role:** System Administrator, Knowledge Administrator

A Knowledge Management document category or subcategory has associated with it a set of permissions. These permissions specify the profiles and knowledge groups that have access to the category or subcategory.

To add permissions, follow these steps:

1. Click **Knowledge Management > Configuration > KM Document Categories**.
2. Double-click a top-level category or search for a subcategory to display the category for which you are adding permissions.
3. Click the **Permissions** tab on the **Category Details** form.
4. Click **Add**.
5. Select a knowledge group from the list, and then double-click the knowledge group you select.
6. Select a profile from the list, and then double-click the profile you select.
7. Repeat the steps to add additional permissions.
8. When you are finished adding permissions, click the **Permissions** tab to verify your selections.
9. Click **Save**.
10. Click **OK**.

## Provide all users access to a document category

### **Applies to User Roles:**

System Administrator

You can make all externally published documents associated with a single document category (such as Human Resources) to be viewable by all users.

To provide all users access to a document category, follow these steps:

1. Click **Knowledge Management > Configuration > KM Document Categories**.
2. Click the **Category Search** tab.
3. Type **HR** in the Search box.
4. Click the **Search** button.

5. Double-click **HR**.
6. Click the **Permissions** tab.
7. Click the **Add** button.
8. Select and then double-click **Default Knowledge View Group**.
9. Select and then double-click the **DEFAULT** profile. In the out-of-box system, the DEFAULT profile is set to search external access.
10. Click the **Permissions** tab to verify your changes.
11. Click **Save**.

**Note:** If you want all users to be automatically included in the Default Knowledge View Group, make sure to select the **Assign the Default Knowledge Group to all operators** check box in the **Knowledge Management Application Environment** form.

## Knowledge Management environment

The **Knowledge Management Application Environment** form displays the settings used to configure Knowledge Management.

You can use this form to view and update the environment settings, including assigning default knowledge to all operators who have permission to search knowledge and use adaptive learning to weight search results based on usage.

**Note:** Whenever you make changes to the Knowledge Management environment, all users must log out of HP Service Manager and then log back in for the changes to be visible and in effect.

## Edit the Knowledge Management environment record

**User role:** System Administrator, KMAdmin

Before you can use Knowledge Management and the search engine, you must configure settings. The Knowledge Management Environment record allows you to set up connectivity and define options, such as enabling adaptive learning and setting the number of documents to be returned from a search. This

record contains default settings. However, you can configure these settings to meet your business needs.

To configure the Knowledge Management application environment settings, follow these steps:

1. Navigate to one of the following:
  - **Knowledge Management > Administration > Environment**
  - **System Administration > Ongoing Maintenance > Environment Records > Knowledge Management Environment**
2. Select new options or clear default options. Your changes redefine the Knowledge Management environment for all users.

The **Assign the Default Knowledge View Group to all operators** option ensures that all operators who will have permission to search knowledge are able to view any documents in those document categories to which the default knowledge view group has access.

The **Use Adaptive Learning to enhance search results** option enables Service Manager to weight search results based on usage. You can artificially weight documents using Adaptive Learning by adding a phrase and adding a number of occurrences with the phrase to specify that the term or phrase occurs in the document a specified number of times. If the phrase is not literally present, this can have the effect of putting the phrase, or word, in the document. It also simulates the number of times the phrase is added to the document index, based on the quantity you choose to apply.

- Clear the check box to disable Adaptive Learning.
- When you disable Adaptive Learning, you need to go to the "Manage Knowledgebases" screen and reindex all knowledgebases of type sclib.
- Adaptive Learning data is not deleted when Adaptive Learning is disabled.

3. Specify the **Maximum number of documents** to be returned from a search.
4. Specify the **Default expiration period** of time a document should be stored in the document queue before it expires.

**Note:** The time period specified here will be over-ridden if an expiration date was specified when the document was created using the Contribute Knowledge function.

5. Specify the style text for search results.
6. When you have finished making your changes, click **Save** and **OK**.
7. Log out of Service Manager and then log back in again for your changes to take effect.

**Caution:** When these fields are not set correctly and a user attempts to access a knowledgebase, the **Manage Knowledgebase** form displays an error, stating that the search engine is incorrect or not found, and asks you to check the environment settings.

## Knowledgebase configuration

Knowledgebase configuration includes the following tasks:

- Setting up the search engine environment parameters
- Reindexing a knowledgebase
- Adding and deleting fields for indexing

## Configuring the Knowledge Management Solr Search Engine

Before you can use the Knowledge Management (KM) Solr Search Engine, you will need to set up the KM environment, configure the KM Solr Search Engine, create indexes, and configure the Nutch Web Crawler.

**Note:** To configure the KM Solr Search Engine and Nutch Web Crawler, you should be an experienced System Administrator who is familiar with your installation.

For detailed information, see the *Service Manager Solr Search Engine Guide*, which is available in both [PDF](#) and [online help](#) formats.

## Hitlist configuration

As part of knowledgebase configuration, you can configure a hitlist to display search results of a particular format, and selected fields in knowledge documents. When formatting a hitlist, you can



specify the labels for the fields you want to display and the style class of the each label.

**Note:** A hitlist only displays search results for knowledge documents in categories to which the user has access.

The **Fields** text box on the **Configure Hitlist** form lists the available out-of-box fields. The fields available for use in a hitlist are defined by the field definitions specified for the knowledgebase. These definitions are specified as part of the knowledgebase management and maintenance function. If you want the field available for the hitlist, you must specify `true` for the *hitlist* parameter of the field definition.

**Note:** Currently, Knowledge Management supports two hitlist templates, **Default** and **Hotnews**. You can rename these out-of-box templates reconfigure them based on the fields available. To add a new hitlist template, you must also add supporting code in the `kmsearch` script to make the new hitlist template active.

## Global hitlist fields

In addition to the field definitions in the knowledgebase, there are global hitlist fields generated by the search engine that are also available for use as labels in a hitlist. These fields are:

- **\$DYNAMIC\_SUMMARY** - A dynamically-generated summary that shows a summary of a document in the search results. A dynamic summary consists of phrases selected by the search engine as being representative of the document as a whole.
- **\$PASSAGE\_BASED\_SUMMARY** - A passage-based summary consists of one or more passages (sentences or phrases) from the document, each of which contains an instance, optionally highlighted, of the search term that was used to locate the document. This type of summarization is also called keywords in context, because the keyword (search term) is displayed in its context within the document.
- **\$KNOWLEDGEBASE\_NAME** - This is the name assigned to the knowledgebase. The out-of-box system knowledgebase names are **Incident\_Library**, **Interaction\_Library**, and **Knowledge\_Library**.
- **\$DOCUMENT\_SCORE** - When documents are evaluated, each query matched is assigned a score that indicates the degree of match between a document and the query.
- **\$DOCUMENT\_RANK** - This is the order of the search results, based on the score the item received by the search engine. The item with the highest score has a rank of 1.

## Multilingual hitlists

A hitlist must be multilingual-enabled before you can create multilingual labels. A hitlist is multilingual-enabled when you place the label delimiter `*SCMSG*123*SCMSG*` in the heading text box on the **Configure hitlist** form. The default hitlist is multilingual-capable in the out-of-box system.

### Labels

In addition to modifying the default hitlist to display different fields, administrators can configure labels for a hitlist to display in languages other than English. For the default hitlist, each label contains a label delimiter, which the system uses to determine the label to display. A label delimiter is in the form: `*SCMSG*123*SCMSG*` where the number between the replacement tokens identifies the message string in Knowledge Management `scmessages` table. When the hitlist displays, the system replaces the token (123) and the delimiters with the applicable string from the **scmessage** table.

### scmessage table

To configure the hitlist to display in languages other than English, you need to add additional message strings in the **scmessage** table. This provides a message identifier (unique message number), the actual message string you want to display, and a language code. For each language, create a new record with the same message number. The language code will be different, but the message text will be the same in the applicable language. Repeat the process for each label that needs to be multilingual. Ensure each set that represents a single label value has a unique message identifier.

Once new records exist in the **scmessage** table, replace the tokens in the label delimiter with the message number created in the **scmessage** table for the applicable message text string.

## Add a new KM message to the scmessage table

### Applies to User Roles:

System Administrator

**Note:** After you create a new message, use the Message ID to update the label field for the hitlist you want to be multilingual.

Use this procedure to add a new message (token), which makes a label multilingual:

1. Type `scmsg` in the command line, and press Enter.
2. Type `km` in the **Class** box of the **HP Service Manager Message** form.
3. Click **Search**.

4. Review the list of existing km-related system messages.
5. Add a new record where the class is km, the language code is the language of the string being added, the Message ID is unique within the class, and the text string is the text you want to display in the label of the hitlist.
6. Make a note of the **Message ID** number. You will need it to update the label field and when you add the text strings for the other languages you want to use for this hitlist label.
7. Click **Save** to create the new record.

Use this procedure to add message text in an additional language for an existing message ID:

1. Type `scmsg` in the command line, and press Enter.
2. Type `km` in the **Class** box of the **HP Service Manager Message** form.
3. Click **Search**.
4. Review the list of existing km-related system messages to find the message number of the message for which you want to add the new language text.
5. Add a new record where the class is km, the language code is the language of the string being added, the Message ID matches the Message ID of the label token for this language, and the text string is the text in the language you want to display in the label of the hitlist.
6. Click **Save** to create the new record.

## Create a hitlist with multilingual labels

### Applies to User Roles:

System Administrator

In addition to creating new document views, administrators can configure the labels for the document view to display in languages other than English.

**Note:** This procedure is for a hitlist that is not multilingual-enabled. Before you begin, make sure you create a message number ID for each multilingual label and that the message number is defined to display labels in multiple languages.

To create a hitlist with multilingual labels, follow these steps:

1. Click **Knowledge Management > Configuration > Configure Hitlists**.
2. Click **Search**.
3. Select the hitlist to update.

**Note:** The default hitlist is multilingual-enabled in the out-of-box system.

4. Type the label delimiter (\*SCMSG\*123\*SCMSG\*) in the **Label** field for the label you are making multilingual. The 123 should be the message number ID from the **scmessage** table for the unique message number ID for this label.
5. Continue adding additional label delimiters for each of the multilingual labels in the hitlist.
6. Click **Save**.

## Knowledge Management workflow

Knowledge Management uses a multi-step workflow to manage the lifecycle of a knowledge document. In the workflow, the document goes through the following phases:

- Draft
- Triage
- Revise
- Review
- Publish
- Published Internal
- Published External
- Retired

When a user submits a document for approval, the document enters the workflow in the **Triage** phase. In a typical document workflow, the document is routed to the **Revise**, **Review**, and **Publish** phases before it is actually published internally or externally. In some cases, users with applicable access rights can publish a document immediately after creating it, without going through the formal **Revise** and **Review** phases.

**Note:** When you need to update a knowledge document attachment, you must save the attachment to your desktop, make the necessary updates, save the changes, and then re-upload the attachment to the knowledge document.

Knowledge Management uses knowledge groups and document categories to control access to knowledge documents along with document view and Knowledge Management profiles. Individual users are able to view, contribute, edit, and publish documents based on the knowledge groups in which they are members and the security mappings between the knowledge groups, knowledge profiles, and knowledge categories.

## Upgrading to the Process Designer Knowledge Management workflow

As of HP Service Manager 9.30, Change Management no longer implements the workflow for Knowledge Management documents. Change Management records with Category “KM Document” close and convert to the applicable Knowledge Management (KM) Document records, as Process Designer now manages KM Documents. Additionally, you do not need a Change Management license to operate Knowledge Management.

KM Document records are created with an applicable status, based on the current phase of the Change Management records. The mapping is described in the following table.

cm3r (based on current.phase)	kmdocument (status)
KM 1 Triage	Triage
KM 2 Revise	Revise
KM3 Review read-only	Review
KM 4 Conclude	Conclude

Two fields are also mapped from a Change Management record to a Knowledge Management document, as described in the following table.

Change Management	Knowledge Management
assigned.to	assignedEditor
Coordinator	documentOwner

Another functionality is included in the upgrade script. Operators with the capability word “SysAdmin” or “KMAdmin” will have a security role in their operator record as System Administrator and Knowledge Administrator.

**Note:** When using the new Process Designer workflow, the following applies:

- All open change records of category ‘KM Document’ close with the completion code ‘1’ – Successful.
- The corresponding KM document status changes from working copy to the status based on the current phase of the change record.
- The upgrade to Process Designer for Knowledge Management is mandatory.

## Knowledge Management migration

Knowledge Management migration consists of several migration utilities, including a utility to import data from the core table in Service Management to the **kmdocument** table used by Knowledge Management.

The script **wsdl2java.bat** or **wsdl2java.sh** imports documents into the Knowledge Management tables in Service Manager. The script library file **KMSCoreImport** imports data from the core table in Service Manager to the **kmdocument** table in the Knowledge Management application. This import migrates the IRExpert knowledge documents from previous versions of HP ServiceCenter.

To run the Knowledge Management migration utilities, you need a working knowledge of Service Manager. To modify these utilities you need a working knowledge of Service Manager applications and JavaScript.

## Import documents into Service Manager

To import documents into HP Service Manager, perform the following steps:

1. Review the information described in ["General considerations for importing documents" on page 76](#) and ensure that all listed considerations are being adhered to.
2. Ensure that the XML source document file conforms to the requirements described in ["XML source document considerations for importing" on page 76](#).

**Note:** The data in the Rich Text fields must be XHTML formatted.

3. Review the information described in "[Document import considerations for attachments](#)" on [page 77](#) and ensure that all listed considerations are being adhered to.
4. Update the wsdl2java.bat or wsdl2java.sh file.
5. Run the wsdl2java.bat or wsdl2java.sh file.
6. Update the runDocumentImport.bat or runDocumentImport.sh file.
7. Run the runDocumentImport.bat or runDocumentImport.sh file.
8. Review the knowledgecreator.log file.

## XML file specification for Knowledge Management migration

The KMMigrate script file processes the XML data file that you want to import into HP Service Manager. This script expects the data to be in the XML format specified.

There is no DTD for the XML data being imported because the elements can be any column name in any Service Manager table. This XML file specification is important if you edit the XML files to include any customized fields that you might have added and you want to import to the Knowledge Management application in Service Manager.

All required fields must be defined for a table element, or the imported records cannot be inserted into the Service Manager database. The records can all be in the same file or in separate files. For example, the multiple usersAndContactsN.xml files can each hold 1000 users.

The root document element is <migrationdoc> and it must be the parent element of all table elements and record elements.

```
<migrationdoc>
    .
    .
    .
</migrationdoc>
```

Each element tag within the <migrationdoc> tag must be the name of a Service Management table.

```
<migrationdoc>
  <contacts>
```

```

        <contact.name _type="Text"><![CDATA[owner,otto]]></contact.name>
        <user.id _type="Text"><![CDATA[1296]]></user.id>
        <full.name _type="Text"><![CDATA[owner,otto]]></full.name>
        <email _type="Text"><![CDATA[oowner@hp.com]]></email>
        <contact.phone _type="Text"><![CDATA[858.792.3416]]></contact.phone>
        <operator.id _type="Text"><![CDATA[oowner]]></operator.id>
    </contacts>
    .
    .
    .
</migrationdoc>

```

Each element within the table element must be the name of a text, boolean, or decimal data field or the name of an Array or ArrayStructure in the record. A data field has an attribute of `_type="Text"`, `_type="Boolean"`, or `_type="Decimal"`.

The actual data value can be enclosed in a CDATA tag.

```

<email _type="Text"><![CDATA[oowner@hp.com]]></email>
<login.revoked _type="Boolean"><![CDATA[false]]></login.revoked>
<msglog.lvl _type="Decimal"><![CDATA[1]]></msglog.lvl>

```

The actual data value can also appear as plain text, if it has no special characters in it.

```

<email _type="Text">oowner@hp.com</email>
<login.revoked _type="Boolean">>false</login.revoked>
<msglog.lvl _type="Decimal">1</msglog.lvl>

```

An element within a table that is an Array is imported into the kmgroup table as follows:

```

<operators _type="Array">
    <operators _type="Text"><![CDATA[jowens]]></operators>
    <operators _type="Text"><![CDATA[rtillman]]></operators>
    <operators _type="Text"><![CDATA[ssmith]]></operators>
</operators>

```

An element within a table that is an ArrayStructure is imported into the kmcategory table as follows:

```

<permission _type="ArrayStructure">
    <kmprofile _type="Text"><![CDATA[KMP005]]></kmprofile>
    <kmgroup _type="Text"><![CDATA[KMG02]]></kmgroup>
</permission>

```

## Sample import record migration file

This sample XML file shows one of each of the five export records. The ExportData utility exports four XML files:



- usersAndContactsN.xml
- groups.xml
- categories.xml
- doctypes.xml

The usersAndContactsN.xml file contains contact and operator records similar to the following.

```
<migrationdoc>
  <contacts>
    <contact.name _type="Text"><![CDATA[owner,otto]]>
    </contact.name>
    <user.id _type="Text"><![CDATA[1296]]></user.id>
    <full.name _type="Text"><![CDATA[owner, otto]]></full.name>
    <email _type="Text"><![CDATA[oowner@hp.com]]></email>
    <contact.phone _type="Text">
    <![CDATA[858792.3416]]></contact.phone>
    <operator.id _type="Text"><![CDATA[oowner]]></operator.id>
  </contacts>
  <operator>
    <application.name_type="Text">
    <![CDATA[menu.manager]]></application.name>
    <command _type="Boolean"><![CDATA[true]]></command>
    <company _type="Text"><![CDATA[PRGN]]></company>
    <contact.name _type="Text">
    <![CDATA[Tremain, Johnny]]></contact.name>
    <email _type="Text"><![CDATA[jt@hp.com]]></email>
    <ess.access.only _type="Boolean">
    <![CDATA[false]]></ess.access.only>
    <expire.password _type="Boolean">
    <![CDATA[false]]></expire.password>
    <full.name _type="Text"><![CDATA[Tremain, Johnny]]>
    </full.name>
    <locked.reason _type="Decimal"><![CDATA[0]]>
    </locked.reason>
    <login.revoked _type="Boolean"><![CDATA[false]]>
    </login.revoked>
    <msglog.lvl _type="Decimal"><![CDATA[1]]></msglog.lvl>
    <name _type="Text"><![CDATA[johnny]]></name>
    <names _type="Array">
      <names _type="Text"><![CDATA[name]]></names>
      <names _type="Text"><![CDATA[string1]]></names>
    </names>
    <no.lock.user _type="Boolean"><![CDATA[true]]>
    </no.lock.user>
    <password _type="Text"><![CDATA[johnny]]></password>
```

```

    <profile.change _type="Array">
      <profile.change _type="Text">
        <![CDATA[KM COORDINATOR]]></profile.change>
      </profile.change>
    <values _type="Array">
      <values _type="Text"><![CDATA[MAIN MENU]]></values>
      <values _type="Text"><![CDATA[HOME]]></values>
    </values>
  </operator>
  .
  .
  .
</migrationdoc>

```

The groups.xml file contains Knowledge Management group records as follows:

```

<migrationdoc>
  <kmgroup>
    <id _type="Text"><![CDATA[KMG01311]]></id>
    <name _type="Text"><![CDATA[HR Owner Group]]></name>
    <operators _type="Array">
      <operators _type="Text"><![CDATA[jowens]]></operators>
      <operators _type="Text"><![CDATA[rtillman]]>
    </operators>
      <operators _type="Text"><![CDATA[ssmith]]></operators>
    </operators>
  </kmgroup>
  .
  .
  .
</migrationdoc>

```

The categories.xml file contains kmcategory records similar to the following record. Note that the id in this sample record is **KM42T** and ends with a "T". Each id in the kmcategory table must end with a unique character such as "T" because the search engine logic depends on having a category id with a unique delimiter to determine where one category id ends and the next category id begins.

```

<migrationdoc>
  <kmcategory>
    <level.in.hierarchy _type="Decimal">0</level.in.hierarchy>
    <name _type="Text">HR Employment FAQs</name>
    <id _type="Text">KM42T</id>
    <permission _type="ArrayStructure">
      <kmprofile _type="Text">KMP005</kmprofile>
      <kmgroup _type="Text">KMG02</kmgroup>
    </permission>
    <permission _type="ArrayStructure">

```

```

        <kmprofile _type="Text">KMP002</kmprofile>
        <kmgroup _type="Text">KMG011</kmgroup>
    </permission>
    <permission _type="ArrayStructure">
        <kmprofile _type="Text">KMP001</kmprofile>
        <kmgroup _type="Text">KMG012</kmgroup>
    </permission>
</kmcategory>
.
.
.
</migrationdoc>

```

The **doctypes.xml** file contains kmdoctype records similar to the following:

```

<migrationdoc>
    <kmdoctype>
        <name _type="Text"><![CDATA[errmsg]]></name>
        <description _type="Text"><![CDATA[Description of an error
message]]></description>
        <display.name _type="Text"><![CDATA[Error Message/
Cause]]></display.name>
        <format.edit _type="Text"><![CDATA[kmdocument.errormsg]]>
        </format.edit>
        <format.new _type="Text"><![CDATA[kmdocument.errormsg]]>
        </format.new>
        <format.view _type="Array">
            <format.view _type="ArrayStructure">
                <view.data _type="Text"><![CDATA[<table style=]]>
                </view.data>
                <view.description _type="Text"><![CDATA[This is the
Default ]]]></view.description>
                <view.seclevel _type="Decimal"><![CDATA[60]]>
                </view.seclevel>
                <view.name _type="Text"><![
CDATA[Default ErrMsgCauseView]]></view.name>
                <view.roles _type="Array">
                    <view.roles _type="Text"><![CDATA[KMG010]]>
                    </view.roles>
                </view.roles>
            </format.view>
        </format.view>
    </kmdoctype>
    .
    .
    .
</migrationdoc>

```

## General considerations for importing documents

The following are general considerations for importing documents into HP Service Manager:

- If the Service Manager license does not include SOAP API license, the sm.ini file needs to include the following parameter: *allowwsdlretrieval:1*.
- Set refresh interval in the Knowledge\_Library to -1 to turn off incremental updates during a large import.
- HP recommends using a <Legacyid> element. The value of this element should be unique across ALL documents. If <Legacyid> is specified, the import queries the kmdocument table for the legacyid. If an existing record in kmdocument contains a legacyid matching the value in the <Legacyid> element of the source xml, the kmdocument record is updated with the information in the source xml. If no existing record in kmdocument is found with a legacyid matching the value in the <Legacyid> element, the xml source is inserted as a new kmdocument.
- Elements in the source xml files must have corresponding fields in the kmdocument table in Service Manager (the kmdocument record in the dbdict table), and they must be included in the Web services API.
- Fields that are in a document xml file that are not in the dbdict are omitted on import, but the documents are imported.
- Elements with data containing HTML markup or any special characters that are illegal in XML should be CDATA wrapped to prevent the XML parser from throwing an exception.

## XML source document considerations for importing

The XML source documents processed by the KMImport utility must meet the following requirements:

- Root element must be <rKmDocument>.
- The source document may contain elements only at one level under the root element. Elements containing child elements cause the import to fail.
- Source documents must contain a <Title> element.

- Source documents must contain a valid `<DocType>` element. Valid means the DocType value must match an existing DocType (name field) in HP Service Manager.
- Source documents must contain a `<Categories>` element with a semicolon delimited string of published (approved) categories. Categories to publish to are specified using XPATH format. For example a document to be published to the "Incident Management" subcategory of the "Service Manager" category would appear as follows:  
`<Categories> Service Manager/Incident Management</Categories>`  
 Additional categories are appended and preceded by a semicolon;  
`<Categories> Service Manager/Incident Management ;anothercategory;</Categories>`
- Elements with data containing HTML markup or any special characters that are illegal in XML should be CDATA wrapped to prevent the XML parser from throwing an exception.
- XML source documents that contain meta data for an "external" DocType must also contain a `<ExternalDocumentName>` element that contains the file name of the external document used as the document body. This file must reside in the same directory as the XML file that references it.
- When using the `kmimport` utility to reimport an external document, the external document name must remain the same as the original. Also, any attachments must keep the same name.
- If you have tailored the **kmdocument** dbdict, be sure to not include your tailored Array fields, Structure fields, and Arrayed Structures fields in the source XML documents; otherwise the import will fail.

## Document import considerations for attachments

Before importing documents into HP Service Manager, consider the following regarding attachments.

- All attachments should be in an **attachments** folder under the XML source directory.
- Shared Content attachments should have the file name prefixed with "shared\_" followed by a unique string used as the legacyid for attachments followed by an underscore and the file name.  
`shared_<legacyId>_<filename>`  
 Example:  
`shared_1234567890_Logo.jpg.`
- Attachment links (shared or owned) in the source XML should have the format  
`href=/answers/attachments/1234567890` where 1234567890 is the legacyid of the attachment.  
 Embedded attachments should use `src=` instead of `href=`.

- Document owned attachments (that is, documents not shared) should have the file name prefixed with a unique string used as the legacyid for attachments followed by an underscore and the file name.

<legacyId>\_<filename>

Example:

1234567890\_Logo.jpg

## Configure the wsdl2java.bat file

### Applies to User Roles:

System Administrator

To use the wsdl2java.bat file to import documents into HP Service Manager, you must first configure the file as follows:

1. Set JAVA\_HOME to your jdk directory. The jdk version must be listed in the support matrix.

See [HP Support matrices](#) on the Software Support Online site.

```
JAVA_HOME=C:/jdk1.5.0_01
```

2. Change SC\_SERVER and SC\_PORT to reflect your service target.

```
SET SC_SERVER=localhost
```

```
SET SC_PORT=13080
```

3. Set the CLASSPATH.

```
SET CLASS_PATH=./lib/axis-1.2.jar;./lib/saaj-1.2.jar;./lib  
/commons-logging-1.0.3.jar;./lib/jaxrpc-1.1.jar;./lib  
/mail-1.3.2.jar;./lib/activation-1.0.2.jar;./lib  
/commons-discovery-0.2.jar;./lib/wsdl4j-1.5.1.jar
```

## Configure the wsdl2java.sh file

### Applies to User Roles:

System Administrator

To use the wsdl2java.sh file to import documents into HP Service Manager, you must first configure the file as follows:

1. Set `JAVA_HOME` to your jdk directory. The jdk version must be listed in the support matrix. See [HP Support matrices](#) on the Software Support Online site.

```
JAVA_HOME=/jdk1.5.0_01
```

2. Change `SC_SERVER` and `SC_PORT` to reflect your service target.

```
SC_SERVER=localhost
```

```
SC_PORT=13080
```

3. Set the `CLASSPATH`

```
SET CLASS_PATH=./lib/axis-1.2.jar;./lib/saaj-1.2.jar;./lib/
/commons-logging-1.0.3.jar;./lib/jaxrpc-1.1.jar;./lib
/mail-1.3.2.jar;./lib/activation-1.0.2.jar;./lib
/commons-discovery-0.2.jar;./lib/wsd14j-1.5.1.jar
```

## Running the `wsdl2java` command file

Run the **`wsdl2java`** command file to build JAVA stubs, compile and jar the class, and clean up.

On Windows, the **`wsdl2java.bat`** file executes the following operations:

- Builds the JAVA stubs from the `wsdl`

```
%JAVA_HOME%/bin/java -cp %CLASS_PATH%
org.apache.axis.wsdl.WSDL2Java http://%SC_SERVER%:%SC_PORT%
/sc61server/ws/KnowledgeManagement.wsdl
```

- Compiles and jars the classes into **`libcenterpws.jar`** with the command, **`md classes`**

```
%JAVA_HOME%/bin/javac -d classes -classpath %CLASS_PATH% .
/com/peregrine/servicecenter/PWS/Common/*.java
%JAVA_HOME%/bin/javac -d classes -classpath %CLASS_PATH%;.
/; ./com/peregrine/servicecenter/PWS/*.java
%JAVA_HOME%/bin/jar cvf ./lib/servicecenterpws.jar -C
classes .
```

- Cleans up with the following commands

```
rd com /s /q
rd classes /s /q
```

On UNIX, the **`wsdl2java.sh`** file executes the following operations:

- Builds the JAVA stubs from the wsdl

```
$JAVA_HOME/bin/java -cp $CLASS_PATH
org.apache.axis.wsdl.WSDL2Java http://$$SC_SERVER:$SC_PORT
/sc61server/ws/KnowledgeManagement.wsdl
```

- Compiles and jars the classes into **lib/servicecenterpws.jar** with the command, **mkdr classes**

```
$JAVA_HOME/bin/javac -d classes -classpath $CLASS_PATH$.
/com/peregrine/servicecenter/PWS/Common/*.java
$JAVA_HOME/bin/javac -d classes -classpath $CLASS_PATH:.
/./com/peregrine/servicecenter/PWS/*.java
$JAVA_HOME/bin/jar cvf ./lib/servicecenterpws.jar -C classes.
```

- Cleans up with the commands

```
rd -R com
rd -R classes
```

## Configure the runDocumentImport.bat file

**User role:** System Administrator

**Note:** The user needs execute capability.

The runDocumentImport command file is run to import documents into HP Service Manager. Documents successfully imported remain in the migration root directory and rejected documents are placed in `_rejects`.

To configure the runDocumentImport.bat file, follow these steps:

1. Set JAVA\_HOME to your jdk directory. The version must be on the support matrix.  
See [HP Support matrices](#) on the Software Support Online site.

```
SET JAVA_HOME=C:/jdk1.5.0_01
```

2. Change SC\_SERVER, SC\_PORT, SC\_USER, and SC\_PASSWORD to reflect your service target.

```
SET SC_SERVER=localhost
SET SC_PORT=13080
SET SC_USER=%1
SET SC_PASSWORD=%2
```



**Note:** Setting the user name and password to the batch file parameters means that you do not need to store sensitive information in the batch file. The user must have the KMAAdmin or SysAdmin execute capability in order to import the documents.

For example, if SC\_USER is rmorgan and SC\_PASSWORD is pa\$\$w0rd, you can call runDocumentImport.bat like this:

```
C:\> runDocumentImport.bat rmorgan pa$$w0rd
```

If no SC\_USER or SC\_PASSWORD is defined, the default user is falcon with a blank password.

3. Change MIGRATION\_DOCS\_DIR to specify location of the documents being imported.

```
SET MIGRATION_DOCS_DIR=C:/MigrationDocs
```

4. Change DOC\_STATUS to default status of the imported documents.

```
SET DOC_STATUS=internal
```

5. Set the CLASSPATH.

```
SET CLASS_PATH=./lib/activation-1.0.2.jar;./lib
/axis-1.2.jar;./lib/commons-discovery-0.2.jar;./lib
/commons-logging-1.0.3.jar;./lib
/jaxrpc-1.1.jar;./lib/kmimport.jar;./lib/log4j-1.2.8.jar;.
/lib/mail-1.3.2.jar;./lib/saaj-1.2.jar;./lib
/wsd14j-1.5.1.jar;./lib/servicecenterpws.jar;
```

## Configure the runDocumentImport.sh file

**User role:** System Administrator (**Note:** User needs execute capability)

The runDocumentImport command file is run to import documents into HP Service Manager. Documents successfully imported remain in the migration root directory and rejected documents are placed in `_rejects`.

To configure the runDocumentImport.sh file, follow these steps:

1. Set JAVA\_HOME to your jdk directory. The version must be on the support matrix. See [HP Support matrices](#) on the Software Support Online site.

```
SET JAVA_HOME=/jdk1.5.0_01
```

2. Change SC\_SERVER, SC\_PORT, SC\_USER, and SC\_PASSWORD to reflect your service target.

```
SET SC_SERVER=localhost
SET SC_PORT=13080
SET SC_USER=$1
SET SC_PASSWORD=$2
```

**Note:** Setting the user name and password to the batch file parameters means that you do not need to store sensitive information in the batch file. The user must have the KMAAdmin or SysAdmin execute capability in order to import the documents.

For example, if SC\_USER is rmorgan and SC\_PASSWORD is pa\$\$w0rd, you can call runDocumentImport.sh like this:

```
$runDocumentImport.sh rmorgan pa$$w0rd
```

If no SC\_USER or SC\_PASSWORD is defined, the default user is falcon with a blank password.

3. Change MIGRATION\_DOCS\_DIR to specify location of the documents being imported.

```
MIGRATION_DOCS_DIR=/MigrationDocs
```

4. Change DOC\_STATUS to default status of the imported documents.

```
DOC_STATUS=internal
```

5. Set the CLASSPATH.

```
CLASS_PATH=./lib/activation-1.0.2.jar:./lib/axis-1.2.jar:./lib/commons-discovery-0.2.jar:./lib/commons-logging-1.0.3.jar:./lib/jaxrpc-1.1.jar:./lib/kmimport.jar:./lib/log4j-1.2.8.jar:./lib/mail-1.3.2.jar:./lib/saaj-1.2.jar:./lib/wsdl4j-1.5.1.jar:./lib/servicecenterpws.jar:
```

## Running the runDocumentImport command file

You run the command file **runDocumentImport** to import the documents into HP Service Manager. Documents successfully imported remain in the migration root directory and rejected documents are placed in `_rejects`.

For Windows, **unDocumentImport.bat** executes the following statement to import the documents.

```
%JAVA_HOME%/bin/java -cp %CLASS_PATH%
com.peregrine.webservice.knowledgemanagement.CreateKnowledge -host
%SC_SERVER% -port %SC_PORT% -username %SC_USER% -password
%SC_PASSWORD% -xmlSourceDirectory %MIGRATION_DOCS_DIR%
-defaultStatus %DOC_STATUS%
```

For UNIX, **unDocumentImport.sh** executes the following statement to import the documents.

```
$JAVA_HOME/bin/java -cp $CLASS_PATH
com.peregrine.webservice.knowledgemanagement.CreateKnowledge
-host $SC_SERVER -port $SC_PORT -username $SC_USER -password
$SC_PASSWORD -xmlSourceDirectory $MIGRATION_DOCS_DIR -defaultStatus $DOC_STATUS
```

## Reconciling unresolved links

When two documents contain links to each other, one of the links will not be resolvable when the document is imported. This broken circular reference is caused by one of the link target documents not being imported at the time the source document was resolving its links. The document import utility imports the documents, and logs the ID of the document that contains an unresolved link. After importing a set of documents, open and execute the **KMReconcileLinks** script in the script library. This script processes the documents logged as having unresolved links, and attempts to reconcile them. Once the import is finished, the document with the unresolved links should be reconciled, as the **KMReconcileLinks** process will fix the broken links.

## Using the knowledgecreator.log file

After running document import (either **runDocumentImport.bat** or **runDocumentImport.sh**), examine the **knowledgecreator.log** file. Correct any file errors noted, and then re-run the import, if desired.

The end of the file contains the following import statistics:

```
-Imported Documents.....: 4008
-Skipped Documents.....: 12
-Reject Documents.....: 4
-Imported Attachments.....: 1
-Skipped Attachments.....: 4
```

Skipped files include any non-xml files that are left in the import folder. For example, an error such as "org.xml.sax.SAXParseException: The content of elements must consist of well-formed

character data or markup." indicates that the XML probably contains special characters that could not be parsed.

You can edit and correct the files that were skipped and re-run the import.

If the meta data for any imported file contains a field that was not defined in the `kmdocument` data dictionary (`dbdict`), then this field's value was not imported. The log file lists any undefined fields. You can add the field to the `kmdocument` `dbdict` and re-run the import to populate the field's value.

## KMSCoreImport utility

The utility `KMSCoreImport` imports data from the core table in HP Service Manager to the `kmdocument` table in the Knowledge Management application. This import migrates the IRExpert knowledge documents from previous versions of HP ServiceCenter. By importing data from the core table used by IRExpert, you make the data available to the Knowledge Management application.

The `KMSCoreImport` utility is for a one-time transfer of all files from the core table into the Knowledge Management application. If you run this code more than once, it imports duplicate data into the Knowledge Management application.

You can edit `KMSCoreImport` utility script to take into account any customizations of either the core table or the data contained in the core table. The areas in the `KMSCoreImport` script where changes are allowed and expected are clearly marked. Also, those sections of the code that cannot be changed are also commented accordingly.

## Tips for using the KMSCoreImport script

Before you use the `KMSCoreImport` script, consider the following:

- Back up the database before you run the script against the database.
- Rename the script to create a copy and then add the copy to the `ScriptLibrary` before you begin modifying the script.
- Run the modified script against a copy of your database to verify that the script works correctly.
- Run the complete script in a test environment to verify the script and the resulting records.

## Modifying the KMSCoreImport script file

Before running the import script, you should modify the **`KMSCoreImport`** script to support any customizations or modifications to the core table.

To modify the **KMSCoreImport** script, find the section of the script file that begins with the comment "this is the section of the customized code where additional code should be added ..." then follow the instructions provided by these comments. Essentially, you need to map any fields added to the out-of-box core table and update the field names.

The following is a sample:

```
//????????????????????????????????????????????????????????????????
//@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
//this is the section of the customized code where additional code
//should be added if the user so desires...the following are a few
//example lines of code
//NOTE: if a field name has a dot delimiter such as in entry.id, in
//javascript it has to be changed to an underscore as in
// entry_id...you can see another //example of this in the example
//code below
//newKMDoc.reference = corerecs.description + " " +
//corerecs.mycustom_field;
//newKMDoc.doctype = corerecs.mycustomdoctype;
//if the customizations to the core table include fields that do
//not directly translate to any fields in the default kmdocument
//table, and yet the user still wants to maintain that data,
//they should follow the instructions in the user guide for how
//to add a new field to the kmdocument table (WARNING: this is
//a very serious and involved task so be sure you know what you
//are doing before taking this step - it is advised that only
//admin users perform any sort //of changes like this). Once the
//new field has been added to the kmdocument table, you can use
//lines like the following example:
//newKMDoc.mynewcustomfield = corerecs.myothercustomizedfield;
//PLEASE NOTE however the caveat that adding new customized fields
//to the kmdocument table impacts many different aspects of the
//program that MUST be considered such as the searching and
//document type/document view structure(s) that represent the raw
//data in end user form...as well as the forms used to edit the
//documents once they have been imported...all of these areas must
//also be considered before making any changes...
//@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
If you want to create document categories that match the document categories
used in IRExpert, see the section of the script that begins:
//in the default setup, the category and subcat fields of the core
//table appear not to be used so we will just shove all core
//records into a single category within
//KM - Service Manager/KM/CoreImport
var newcat =
system.library.KMCategory.getCategoryIdString
("Service Manager/Knowledge Management/CoreImport", true);
newKMDoc.categories[0] = newcat;
newKMDoc.generatedcats[0] =
```

```

        "Service Manager/Knowledge Management/CoreImport";
//if however, the cat and subcat fields are used and the user
//would like to use them for categorization, then comment out the
//three lines above and remove the commenting before the next
//lines var newcat = system.library.KMCategory.getCategoryIdString
        (corerecs.category+"/"+corerecs.subcategory, true);
//newKMDoc.categories[0] = newcat;
//newKMDoc.generatedcats[0] =
        corerecs.category+"/"+corerecs.subcategory;
//in the core table, the description and resolution fields are
//arrays of strings so we have to cycle through them and put them
//together to get our question and answer fields' values
//respectively.

```

## Running the KMSCCCoreImport script

Run the **KMSCCCoreImport** script from HP Service Manager. You can use either the command line ( **sl**) or click **Tailoring > Script Library** to access and run the script.

To run the **KMSCCCoreImport** script:

1. Locate the `importCoreToKMNow` function in the script. It is the single line of code at the bottom of the script that calls the single function in the script file.
2. If the import is based on the out-of-box core table data then the parameter value for this call should be `true`. This creates records of the Problem / Solution type.  
`importCoreToKMNow(true);`
3. If the import is based on customized core table data then the parameter value should be `false`.  
`importCoreToKMNow(false);`
4. With this parameter change, you can modify the document type to match a customized document type. In the script, find the **second** occurrence of the line:  
`newKMDoc.doctype = "howto".`  
 Change the doctype to match the name of your customized document type.
5. If you change the value of the parameter and update the doctype, save the file before continuing.
6. Click **Execute**. The script runs. You are notified when the process completes with the message, "The import from the core table is complete".

## Knowledge Management integrations

Knowledge Management integrates with Service Desk, Incident Management, and Problem Management to help meet your business needs. When Knowledge Management is integrated with each of these HP Service Manager modules, users can do the following:

- Starting at Service Desk, users responding to an Interaction record can search for similar interaction records with solutions.
- Users updating Incident records can search for similar issues with solutions in the knowledgebases.
- When working on Problem records, users can perform the following tasks:
  - search for similar problems, incidents, known errors, or knowledge documents
  - use the resolution from an existing resolved issue in a knowledgebase as a solution for the problem
  - use the information from a problem resolution to create a new knowledge document

## Knowledge Management integration with Service Desk Interaction

Knowledge Management integrates with Service Desk so that users responding to an Interaction record can search for similar interaction records with solutions. The knowledge search uses the description by the Service Desk user to search for the knowledgebases for similar interaction records with solutions. When searching for knowledge, Knowledge Management uses fields defined in the integration mapping for searches.

The search results display a list of relevant documents. The user can view each document and then has the option of using the text from one the documents as a resolution for the original Interaction record. If the user chooses to use a solution, the system automatically populates the resolution field in the Interaction record with data from the field mapped to the resolution field. The **Use Solution** option is available from knowledge documents and knowledge candidates with a workaround or resolution.

**Note:** If the knowledge document is a working copy of a published document, the **Use Solution** button does not appear because the system views it as a temporary document. However, you can usually find the published version in the hitlist and use that as a solution.

In addition to searching for knowledge, the out-of-box mapping allows those users with appropriate privileges to create solutions and author knowledge documents from resolved Interaction records. For example, if in your search you find a knowledge document that includes in the description a resolution for the call, you can select the **Create Knowledge** option to begin authoring a new knowledge document. The field mappings for the knowledgebase determine which fields in the knowledge document are populated with data from the record.

## Knowledge Management integration with Incident Management

Knowledge Management integrates with Incident Management so that users updating incidents can search for similar issues with solutions in the knowledgebases. The knowledge search uses the incident description to search. When searching for knowledge, Knowledge Management uses what is mapped by the integration field mappings to search each knowledgebase. This mapping specifies the fields and tables to search in the knowledgebases to which the user has access. For example in the out-of-box system, a user with browse access in Service Desk and Incident Management can view all relevant Incident and Interaction records in a search and those knowledge documents in categories to which the user has access.

The search results display a list of relevant documents. The user can view each document and then has the option of displaying and then using the text in one of the documents as a resolution to the Incident record. If the user chooses to use a resolved record, the system automatically populates the solution in the record based on the record mapping being reviewed for the knowledgebase. For example, if in a search you find an Incident record that includes a resolution, you can use **Use Solution** to copy the data from the resolution or workaround field to insert it into the solution (resolution field) of the open Incident record.

You can use **Create Knowledge** to contribute a new knowledge document from a resolved Incident record so that the data in the mapped fields is used in the knowledge document. The field mappings and the document type determine which fields in the knowledge document are populated with data from the resolved record.

The field mappings specify:

- The fields passed from the incident to the search
- The fields passed from a knowledgebase record to the incident
- The fields passed from an Incident record to create a knowledge document



**Note:** The **Use Solution** option is available from knowledge documents, Incident and Interaction knowledge candidates with resolutions, and Known Error and Problem knowledge candidates with workarounds.

## Knowledge Management integration with Problem Management

The Knowledge Management integration with Problem Management enables users to perform the following tasks:

- Search for similar Problems, Incidents, Known Errors, or knowledge documents
- Use the resolution from an existing resolved issue in a knowledgebase as a solution for the problem
- Use the information from a problem resolution to create a new knowledge document

When searching for knowledge, Knowledge Management uses the fields mapped in the Integration Mapping function for searches. This mapping specifies the fields and tables to search in the knowledgebases to which a user has access. The user can view each document and then has the option of using one of the resolutions as a resolution to the problem. If the user chooses to use a solution or workaround, the system automatically populates the resolution field in the Problem record.

For example, if in your search you find a Problem record that includes a workaround for the Incident record you are working with, use **Use Solution** to copy the data from the mapped fields of the **rootcause** table to insert it into the mapped fields of the Incident record.

Users can also create knowledge to contribute a new knowledge document from a resolved record so that the data in the mapped fields is used in the knowledge document. The field mappings and the document type determine which fields in the knowledge document are populated with data from the resolved record.

**Note:** The **Use Solution** option is available from knowledge documents, Incident and Interaction knowledge candidates with resolutions, and Known Error and Problem knowledge candidates with workarounds.

## Knowledge Management record mapping

The Integration Mapping function enables you to map fields between two tables in HP Service Manager. This allows users to search, retrieve, and author documents more efficiently since data is shared between operations.

In the out-of-box system, there are record maps predefined for the **incidents**, **knownerror**, **probsummary**, and **rootcause** tables. The Integration Mapping function provides a form for mapping fields, searching, retrieval, and authoring.

The **Map Name** field is the name of the mapping. By default the out-of-box mappings are named according to the Service Manager file name they provide a mapping for. If a **Map Name** other than the Service Manager file name is used, the thread variable **\$gamapname** must be set to the value of the **Map Name** from the Display Option that is used to call the mapping.

The **Source Field in Current Record** column specifies the field in Service Manager that is sent to the Knowledge Management **Target Search Field**. A literal string value can be specified in quotation marks. Any string of characters specified within quotation marks is copied literally (without the quotations) into the **Target Search Field**.

The **Target Search Field** column specifies the field in Knowledge Management that receives the data sent from the source field. If a field is specified as a target for more than one source field, the data from the source field is appended (in the order specified in the mapping) into the target field. A value of "QueryString" specified in this column indicates that the data from the source field is sent as part of the non-fielded search string (such as if a user typed into the "Enter your question" box in the Knowledge Management search interface). A value of "contextTag" is used to indicate that the source field value will be used to track all search activity in the **kmsearchhistory** and **kmusagehistory** tables.

**Note:** The viewed statistic in **kmusagehistory** is intended to track documents that were viewed as the result of a search. This indicates if a knowledge document can be found and used in its existing state. If a document is viewed from a URL linked directly to the **kmdocument** record, the viewed statistic in **kmusagehistory** is not incremented. You can change this default behavior by specifying a parameter with the URL request. When the parameter is specified, the usage history and view count will be logged and incremented.

**Tip:** The additional parameter to add at the end of the URL query is as follows:  
**&relatedSystem=URLQuery**

## Field mappings between the knownerror and kmdocument tables

**Note:** These descriptions are based on the out-of-box field mappings between the **knownerror** table and **kmdocument** table. If these field mappings have been modified on your system, the data for the fields on your **Contribute New Knowledge** form may be different than what this topic describes.

You can create a knowledge document for a known error. When you do this, the out-of-box system provides the following information on the **Contribute New Knowledge** form for the known error. This information is only available for the knowledge document if it is present in the **knownerror** table record.

Field	Description
Title	This entry comes from the brief description in the <b>knownerror</b> record.
Error Message	This entry comes from the description field in the <b>knownerror</b> record.
Cause	This entry comes from the root cause description in the <b>knownerror</b> record.
Workaround	This entry comes from the workaround and resolution description in the <b>knownerror</b> record.

# Knowledge Management overview

Knowledge Management supports Knowledge-Centered Support (KCS) standards and guidelines by providing a natural language search engine and rich-text authoring tool that enables your users to search for, update, and author knowledge articles. Knowledge Management has a strong interface with the Interaction, Incident, and Problem Management modules so that your users can search for and use knowledge from existing Incident or Problem records while attempting to resolve new Incident and Problem records. Users can also use this integration to create new knowledge.

You can use Knowledge Management to meet your business needs in the following ways:

- [Knowledge Management integrates with Service Desk Interaction](#) so that users responding to an Interaction record can search for similar interaction records with solutions. In addition to searching for knowledge, the out-of-box mapping allows users with applicable privileges to create solutions and author knowledge documents from resolved interaction records.
- [Knowledge Management integrates with Incident Management](#) so that users updating incident records can search for similar issues with solutions in the knowledgebases. Users can also create knowledge to contribute a new knowledge document from a resolved Incident record, so that data in the mapped fields are used in the knowledge document.
- [Knowledge Management integrates with Problem Management](#) so that users can perform the following tasks:
  - Search for similar Problem records, Incident records, Known Error records, or knowledge documents
  - Use the resolution from an existing resolved issue in a knowledgebase as a solution for the problem record
  - Use the information from a problem resolution to create a new knowledge document
- [Publish documents](#), [retire documents](#), and delete documents from the knowledgebases
- [Track knowledge documents](#) at various stages with statistics generated in the **kmusagehistory** table

## Knowledge Management profiles

The Knowledge Management (KM) profiles control knowledge document access, creation, editing and administration. The administrative privilege allows users to manage document types, document views, and KM profiles.

Users have a KM security profile and an operator record which determine what privileges the users has. The knowledge document categories that a user can access are determined by the knowledge groups the user is assigned.

Within each security profile, there is a direct association between a defined (named) profile and the categories and sub-categories for which the selected capabilities apply. Each security profile maps to a document category or sub-category. A user with that profile has access to the documents specified by the profile-to-category mapping and all subcategories in that branch of the category tree.

Profiles can be modified to select only some of the available capabilities for a profile, effectively creating sub-profiles. For example, some users may not be allowed to publish knowledge documents externally as well as internally.

The out-of-box KM security profiles are briefly described in the following table.

<b>KM profile</b>	<b>Privilege</b>
DEFAULT	With this profile, you can search and view externally published knowledge documents for those documents in categories to which this profile has access. You can also submit feedback on these documents.
INTERNAL USER	With this profile, you can search and view externally published knowledge documents for those documents in categories to which this profile has access. You can also search and view internally approved knowledge documents for those documents in categories to which this profile has access. You can also submit feedback on these documents.
KCS I	With this profile, you can author and contribute knowledge documents.
KCS I Editor	With this profile, you can author knowledge documents and edit working copy documents in the workflow for those categories to which this profile has access.
KCS II	With this profile, you can author knowledge documents, contribute knowledge documents, edit published documents without placing them in the workflow (edit in place), and publish documents internally only. Also, you can view adaptive learning data when adaptive learning is enabled in the system.
KCS III	With this profile, you can author knowledge documents, contribute knowledge documents, edit published documents without placing them in the workflow (edit in place), and publish documents internally and externally. Also, you can view adaptive

KM profile	Privilege
	learning data when adaptive learning is enabled in the system.
KM ADMIN	With this profile, you can administer KM document security profiles, document types, document views, and document categories. You can also author knowledge documents, contribute knowledge documents, edit published documents without placing them in the workflow (edit in place), and publish documents internally and externally. Also, you can edit adaptive learning data when adaptive learning is enabled in the system.

## KCS I profile

The KCS I profile in the out-of-box system allows you to perform the following tasks:

- Contribute new knowledge documents
- Suggest a document category or categories for approval
- Save draft versions of the knowledge document
- View unapproved working-copy documents

A user with a KCS I profile is sometimes known as a document submitter or contributor. A KCS I can view documents approved for internal and external use.

The KCS I capabilities apply to the knowledge document categories associated with the KCS I profile and knowledge group in which the user is a member. The three-way profile-to-group-to-category mapping is defined under the Permissions tab of the Category Details form.

The Knowledge Management administrator creates a KCS I contributor knowledge group and then associates the knowledge group with a KCS I profile and document category. The users in the knowledge group can contribute documents to that category and to the subcategories below that category.

For example, in the out-of-box sample data, the KM 1 operator has a **KCS I** profile and is a member of the **KCS I KM Group**. The profile-to-group-to-category mapping is KCS I (profile)-to-KCS I for KM Group (group)-to-Knowledge Management (category).

The category hierarchy in the out-of-box sample data is:

Service Manager		
	Knowledge Management	Knowledge-Centered Support (KCS)
		.Document Maintenance and Lifecycle

The KM 1 operator, as a member of the KCS I for KM Group, can contribute knowledge documents to the Knowledge Management category and to the sub-categories below it. Those are Knowledge-Centered Support (KCS) and Document Maintenance and Lifecycle. The KM 1 operator cannot contribute documents to the **Service Manager** category. Also, the KM 1 operator cannot view documents in the **Service Manager** category.

## KCS I editor profile

The KCS I editor profile in the out-of-box system allows you to perform the following tasks:

- Contribute new knowledge documents
- Suggest a document category or categories for published documents
- Save draft versions of knowledge documents
- Edit working copy knowledge documents that are assigned to the KCS I editor in the **Pending Documents** queue
- View unpublished working copy documents

A KCS I editor can view documents published for internal and external use.

The KCS I editor capabilities apply to the knowledge document categories associated with the KCS I editor profile and knowledge group in which the user is a member. The three-way profile-to-group-to-category mapping is defined under the **Permissions** tab of the **Category Details** form.

The Knowledge Management administrator creates a KCS I editor knowledge group and then associates the knowledge group with a KCS I editor profile and document category. The users in the knowledge group can contribute documents to that category and to the sub-categories below that category.

## KCS II profile

The KCS II profile in the out-of-box system allows you to do all of tasks a KCS I profile can do and also the following tasks:

- Publish immediately internal knowledge documents
- Retire and unretire knowledge documents
- Delete retired knowledge documents

- View and delete feedback for a knowledge document
- Edit and review knowledge documents in the Pending Documents queue
- Assign documents for editing and reviewing
- Edit published documents in place without sending them to workflow
- View adaptive learning data when adaptive learning is enabled in the system

A user with a KCS II profile may also be assigned as a document owner or editor of a document in the document workflow.

The KCS II capabilities apply to the knowledge document categories associated with the KCS II profile and knowledge group in which the user is a member. The three-way profile-to-group-to-category mapping is defined under the **Permissions** tab of the **Category Details** form.

Similar to the KCS I profile, the Knowledge Management administrator creates a KCS II knowledge group and then associates the knowledge group with a KCS II profile and document category. The users in the knowledge group can contribute, review, and edit documents to that category and to the sub-categories below that category. With a KCS II profile, you can also publish documents for internal access for that category and the sub-categories below that category.

## KCS III profile

The KCS III profile in the out-of-box system allows you to do all the tasks that a KCS I or KCS II profile can do. A KCS III profile also enables a user to publish documents immediately or any documents in the workflow intended for external audiences (publish external) and edit published documents without sending them to the workflow.

Like a KCS II user, a user with a KCS III profile may also be assigned as a document owner or editor of a document in the workflow. Also, like a KCS II user, a user with a KCS III profile can view adaptive learning data when adaptive learning is enabled in the system.

KCS III capabilities apply to the knowledge document categories associated with the KCS III profile and knowledge group in which the user is a member. The three-way profile-to-group-to-category mapping is defined under the **Permissions** tab of the **Category Details** form.

Similar to the KCS I profile, the Knowledge Management administrator creates a KCS III knowledge group and then associates the knowledge group with a KCS III profile and document category. The users in the knowledge group can contribute, review, and edit assigned documents for that category and the sub-



categories below that category. With a KCS III profile, you can also publish documents for external access for that category and the sub-categories below that category.

## KM ADMIN profile

The KM ADMIN profile in the out-of-box system allows you to do all the tasks that a KCS I, KCS II, or KCS III profile can do. With the KM ADMIN profile, you can also perform these tasks without specific permissions in the document categories. A KM ADMIN user can perform the following tasks:

- Search, view, retire, unretire, and delete documents in any document category
- Author knowledge documents, contribute knowledge documents, edit published documents without placing them in workflow, and publish documents internally and externally
- Assign documents for editing and reviewing when adaptive learning is enabled in the system

**Note:** The KM ADMIN profile is unlike all other out-of-box Knowledge Management profiles, because the KM ADMIN profile is not assigned in the **Category Details** form.

## Knowledge Administrator role

Knowledge Administrator is a security role specified in a user's operator record and allows a user to perform all the administrative tasks associated with maintaining the Knowledge Management system. A Knowledge Administrator can perform the following tasks:

- Manage profiles and environment variables
- Manage document categories and permissions on the categories
- Manage document types and views
- Manage shared content for the knowledge documents
- Maintain the knowledgebases
- Configure and customize the layout of search results

The Knowledge Administrator security role is assigned to a user in the operator record. Users in this role can maintain knowledge groups and Knowledge Management profiles, and update Knowledge Management profiles as user duties change.

As part of the integration of Knowledge Management with Incident Management, Service Desk Interactions, and Problem Management, the Knowledge Administrator can modify the default field mappings. These mappings can change which fields are searched, from which fields data is retrieved, and which fields can be used by users when creating knowledge from solutions and workarounds. The out-of-box tables for these field mappings are **incidents**, **kmdocument**, **knownerror**, **rootcause**, and **probsummary**.

## Security profiles and Knowledge Management document display lists

Knowledge Management (KM) uses knowledge groups, document categories, and the KM security profiles to determine which documents to display in the lists of knowledge documents available from the following KM menus:

- Published Documents
- Draft Documents
- Retired Documents
- Pending Documents
- Documents for Review

**Note:** A user with **SysAdmin** or **KMAdmin** capabilities is able to view all the knowledge documents that appear in any of these lists.

Document list	View access
Published Documents	KCS II or III in the out-of-box (OOB) system or a user in a knowledge group associated with the document category and a profile with the publish internal capability can view all published documents. A KCS II or III user can only perform other actions such as create pending or retire documents if the user's privileges include the combination of profile, knowledge group and category privileges to allow these actions.
Draft Documents	Displays a list of knowledge documents with the status "draft" for the user who authored the draft document. All draft documents in the system display for users with SysAdmin or KMAdmin capabilities.
Retired Documents	Users with KCS II or III in the OOB system or for a user in a knowledge group associated with a category and a profile with the retire documents capability, KM

Document list	View access
	displays all retired knowledge documents in the categories associated with a profile. Also, users can create working copies of these documents based on the capabilities provided by the combination of profile - knowledge group - category privileges.
Pending Documents	Documents display in this list based on the user's access to the document category and a profile that allows viewing unapproved working copy documents. The documents displayed are currently in the approval workflow (Triage > Revise > Review > Publish phases). Also, users with the proper permissions, based on their profile, can move documents through the workflow, publish documents, revert documents, or retire documents in this list.
Documents for Review	Documents display in this list based on the user's access to the document category and a profile that allows viewing unapproved working copy documents. The documents displayed are currently in the Review phase of the approval workflow. Users with capabilities based on profile permissions are able to forward the Publish phase, or return it to the Revise phase for further revision. Also, users with capabilities based on profile - knowledge group - category can approve, revert or retire documents in this list.

## Add a KM security profile

**User role:** System Administrator, KMAAdmin

Published documents are documents that are available for searching and viewing. Some documents may only be viewed by internal users, while others can be viewed by internal and external users.

Published documents can be edited by users with the **Edit in place a published document** option selected for their KM security profile.

To add a KM security profile, follow these steps:

1. Click **Knowledge Management > Administration > Profiles**.
2. Type the name of the new profile in **Profile Name**.
3. Select the applicable check boxes on each of the security profile tabs. For example, go to the KCS II tab to select the **Edit in place a published document** option.
4. Click **Add**.
5. Click **Save**.
6. Click **OK**.

## View a KM security profile

**User profile:** System Administrator, KMAAdmin

Knowledge Management (KM) uses knowledge groups, document categories, and the KM security profiles to determine which documents to display in the lists of knowledge documents available from the KM menus. The KM security profile and operator record together determine what KM privileges are granted to users.

To view a KM security profile, follow these steps:

1. Click **Knowledge Management > Administration > Profiles**.
2. Click **Search**.
3. Click a record to view the security profile.

## Adaptive learning

Adaptive learning is a feature of Knowledge Management where the system collects words or specific phrases used to search a knowledgebase for those documents that are considered useful or can be used as solutions for incidents, problems, or interactions.

Knowledge-Centered Support (KCS) users are encouraged to improve Knowledge Management service levels for customers, gain operational efficiencies, and increase an organization's value to their company. With a defined set of principles and practices, KCS II and KCS III users are able to view the adaptive learning list. Knowledge Management (KM) administrative (KM ADMIN) users can edit the list by adding, deleting, or modifying words in the list or modifying the count.

**Note:** System Administrators can turn on or off adaptive learning with a setting on the Knowledge Management Environment form.

Knowledge Management maintains a count which specifies the number of times search words or phrases resulted in finding a useful document (whether marked as useful or used as a solution). Each time a user performs a search using the same words or phrases, the count is incremented or a new entry is created when the search returns useful results. Also, each time an operator clicks the **Use Solution** button, the phrase used by the operator to search for the solution is saved or the count is incremented for the phrase for the adaptive learning record associated with the solution.

**Note:** For a working copy of a document that has no published version, the system collects the

words and phrases for adaptive learning. For a working copy of a document that already has a published version, the system does not collect the words and phrases for adaptive learning.

When a user performs a search using advanced search and then marks a document as useful, the system creates or increments the associated adaptive learning record as follows:

- When the search results are filtered by "Any of these words," the system adds separate entries for each word in the search phrase.
- When the search results are filtered by "All of these words" or "This exact phrase," the system creates a single entry for all the words in the search phrase.

The useful count becomes a weighted value so that when another user performs a different search using the same words or phrase, documents containing the same words or phrase are returned higher on the hit list in the next set of search results.

**Example:** If words like "monitor" or "blue monitor" are used in a document and it resolves an incident and is used as a solution, the phrase blue monitor or the word monitor are appended to the adaptive learning terms for that document and the count is incremented. For additional searches, a document with one blue monitor in it will come up with a reasonable relevancy. You can also change the count of monitor to 15, for example, to make this document appear higher on the search results list than another document with the word monitor in it.

## Searching with adaptive learning

When adaptive learning is enabled, data about the queries that returned documents that were used for solving issues is stored and integrated into the documents when they are indexed. This allows the scope of the search to grow beyond the actual content of the document itself. Adaptive learning is only available for searches of sclib-type knowledgebases.

Searching is enhanced by adaptive learning as follows:

- Adding additional words from the saved queries to the content of the document means that additional hits on the document occur when these words are supplied in a new query.
- The words and phrases collected by adaptive learning can be further weighted to increase the relevancy value of a particular document, which means some documents are found more frequently and appear higher on the hitlist.

## Viewing adaptive learning data

There are several ways to view adaptive learning phrases and counts when adaptive learning is enabled.

**Note:** You must have a KCS II or KCS III profile to view adaptive learning data, and a KM ADMIN profile to view or edit adaptive learning data.

- Search using a word or phrase and then from the hit list select one of the documents to view. There is an **Adaptive Learning** button available from the document view if the document is an sclib-type document. Click this button to view a list of phrases and counts for the document.
- View a document from the list of published documents. The view includes an **Adaptive Learning** button. Click this button to view a list of phrases and counts for the document.
- The **Knowledge Management > Configuration** menu includes an **Adaptive Learning** selection. When you click **Adaptive Learning**, a form appears, from which you can search for adaptive learning data using knowledgebase, document ID, or phrase.
- For knowledge candidates such as Incident or Interaction records found when doing a search, the **Adaptive Learning** button is available for KM ADMIN users when viewing a specific document.
- The **Adaptive Learning** button appears for users with a KCS II, KCS III, or KM ADMIN profile when viewing or editing documents from the Pending Documents queue that are new working copy documents (that is, documents without a previously-published version).

## Edit adaptive learning data

**User role:** KM Admin or System Administrator

**Note:** You must have a KM ADMIN profile to edit adaptive learning data.

When adaptive learning is enabled, data about the queries that returned documents that were used for solving issues is stored and integrated into the documents when they are indexed. If you want to edit the actual content of a document, you can edit data that will be used as adaptive learning data.

To edit adaptive learning data, follow these steps:

1. Click **Knowledge Management > Configuration > Adaptive Learning**.
2. Type the document ID if you are looking for the adaptive learning data for a specific document.
3. Select the knowledgebase if you are looking for the adaptive learning data for a specific knowledgebase.
4. Type the phrase if you are looking for the adaptive learning data for a specific phrase.
5. Click **Search**.
6. Select a document from the list of documents.
7. Click the phrase or count for the document you want to update and then type the new value for the count.
8. Add the phrase to the next blank line.
9. Click **Delete Phrase** after you select the phrase you want to delete.
10. Click **Save**.

You can also edit adaptive learning data by viewing a published document or by viewing a working copy of a document that also has a published version of the document.

## Enable or disable adaptive learning

### **Applies to User Roles:**

System Administrator

When adaptive learning is enabled, data about the queries that returned documents that were used for solving issues is stored and integrated into the documents when they are indexed.

To enable or disable adaptive learning, follow these steps:

1. Click **System Administration > Ongoing Maintenance > Environment Records > Knowledge Management Environment** .
2. Select the **Use Adaptive Learning to enhance search results** field to enable adaptive learning.

**Note:** Clear the **Use Adaptive Learning to enhance search results** field if you want to disable

adaptive learning.

3. Save your changes.
4. Reindex all sclib-type knowledgebases.

**Note:** This step is needed whenever you enable or disable adaptive learning.

## Searching the knowledgebases

When searching the knowledgebases, you can perform a basic search where you search for a text string or an advanced search where you can provide several search parameters. In the advanced search you can specify the knowledgebases to search and the document categories to search. You can also specify a set of filtering parameters, such as exact phrase and creation date. After doing an initial search or advanced search, you can then search within the search results.

Each of the knowledgebases has different fields that are indexed for searching, so when you search a knowledgebase, provide search parameters that match the fields in the knowledgebase. For example, the knowledge articles have a title and author field. When you view an Incident record, the out-of-box system displays the Incident record number, description, and solution for closed incidents.

The out-of-box system includes five separate knowledgebases that can be searched collectively or separately, depending upon what information you are searching for. In addition to making your search more efficient by specifying a knowledgebase, it is also best to search with a limited number of document categories. When you search, your log-in profile determines what information you can search and view.

You can use the Knowledgebase Maintenance feature to add additional knowledgebases for searching. These knowledgebases are created from a table in HP Service Manager(**sclib**) or by using web crawling to browse and index an external web site (**weblib**).

## Knowledge documents

In the Knowledge Management (KM) system, a knowledge document typically consists of information about a particular topic. The amount of detail and length depends on the complexity of the topic and the audience for the document. Knowledge documents can include attachments that can be images, text files, PDF files, or Word files for example. In the out-of-box system, the types of knowledge documents are error messages, external documents, question/answer documents, problem/solution



documents, and reference documents. All knowledge documents are assigned to at least one document category and may be placed in multiple categories. A typical document category might be technical documents or HR procedures.

- **Draft documents** - These are documents that are being created, but have not yet been submitted to be published..
- **Published documents** - These are documents that are available for searching and viewing. Some documents may only be viewed by internal users, while others can be viewed by internal and external users. Published documents can be edited by users with the **Edit in place a published document** option selected for their KM security profile. Users can add feedback to published documents. Users with appropriate privileges can create a working copy of the document and then make revisions.
- **Working copy** - A document becomes a working copy when a published document goes into the workflow to be updated. When the working copy of the document is published, it replaces the original document. A working copy of a published document has an "R" appended to the document ID. A new document submitted to be published is also considered a working copy while it is in the workflow waiting to be published, but there is no "R" appended to the document ID.
- **Retired documents** - These are documents that become out-of-date and have been archived for some reasons. Retired documents are not searched when users perform a knowledgebase search. KM ADMIN users can delete retired documents.

Knowledge documents typically have a life cycle that includes draft, triage, pending documents in the approval workflow, published, and retired.

## Published knowledge documents

Published knowledge documents are documents that are available for searching and viewing. Some documents may only be viewed by internal users, while others can be viewed by internal and external users. Published documents can be edited by users with the **Edit in place** option selected for their Knowledge Management (KM) security profile. Users can add feedback to published documents. Users with appropriate privileges can create a working copy of the document and then make revisions.

The system displays a search screen instead of a list of published documents so that users can quickly find a published document or a group of published documents.

In the out-of-box system, a Knowledge-Centered Support (KCS) II user profile can publish internal documents and a KCS III user profile can publish internal and external documents.

## Reverting a working copy document

Working copies of published documents can be reverted to the original version of the published document while the document is in the document workflow. There is a **Revert** button available for a working copy of a published document. If changes have been made to the working copy of the document, it can still be reverted. In the out-of-box system, users with a KCS II or KCS III profile can revert working copy documents in those categories to which they have access. A KM ADMIN profile allows the user to revert any working copy document.

## Retired knowledge documents

A retired document is a knowledge document that is no longer searched during a knowledgebase search. A retired document can be deleted or unretired.

Before you retire a document, you should update any documents that link to the document you are retiring. When you attempt to retire a document that other documents link to, the system will not allow you to retire it. The system alerts you to the situation and then allows you to send these linked documents to workflow for review. You can then update the links or remove the links in these documents because Knowledge Management will not allow you retire a document that links to other documents in the knowledgebase.

The alert message includes the document IDs of the documents that need to be updated and placed in the Pending Documents queue. If you click OK, it then places those documents in the Pending Documents queue.

In the out-of-box system, users with KCS II or KCS III profiles can retire any of the published documents that are assigned to the document categories and subcategories to which they have access. A user with a KCS ADMIN profile can retire any draft or published document in any document category.

## Using the Pending Documents queue

The Pending Documents queue manages knowledge documents that have been submitted to the document workflow. The standard workflow for documents is to determine what processing the knowledge document requires, assign the document for editing or review, assign the document for review, and publish the document for internal or external audiences. In some cases, documents can be published immediately without going through a formal workflow.

Users with a KCSII or KCS III profile are primarily responsible for coordinating the Knowledge Management documents in the workflow. They are able to view and act on documents in the categories or subcategories to which they have access. A user with a KM ADMIN profile or a System Administrator can access all the Knowledge Management documents for all categories and subcategories.

If the resolution of an Incident or Interaction record is used frequently, the KCS Coach or System Administrator may want to manually create a knowledge document by locating the Incident or Interaction record and clicking the **Create Knowledge** link.

In the workflow, an editor can initiate the following changes:

- Make any required changes to the document

**Note:** If you are editing an attachment for an existing knowledge document, you must send the document to the workflow. You can then save the attachment to your desktop, make the necessary updates, save the changes, and then re-upload the attachment to the knowledge document.

- Assign the document to a member of the document group for the document category or subcategory and move the document to the next phase in the workflow
- Publish the document immediately
- Use activity update
- Retire the document

For each document, a user will select a document owner and an assigned editor from a list of users with edit privileges.

**Note:** Documents do not need to progress through every phase and end in the final phase. A user with the correct permissions in the document categories may publish or retire a document before it reaches the final phase. Additionally, the owner or editor may decide to revert back to the original version of a published document.

## Tips for searching the knowledgebases

These tips will help you to narrow your search for knowledge documents. While it is helpful to be specific to find the knowledge documents you need, it is also sometimes helpful to broaden your search by eliminating some of the search parameters.

Here are some suggestions for using the **Search for** text box.

- Enter words and phrases in plain text.
- To search for an exact phrase, surround it with a pair of double quotation marks ("").
- When a search returns a large number of hits, limit your search by searching within the search results (search within results).
- If you have performed an advanced search, terms entered in the advanced search screen are still active even if the advanced search screen is not visible. The advanced query terms are added to the simple search query unless you go to the advanced search screen and remove them.

## Search engine relevance ranks

A simple search by the Solr search engine ranks documents found according to relevance of the criteria you enter for the search. For example, based on word density, word count, word proximity, word stemming, and thesaurus expansion, the documents found are listed in order based on their relevance to your search criteria. The most relevant documents are displayed at the top of the list.

## Special characters in search queries

The following table describes how the Solr search engine uses special characters.

Special character	Description
?	Specifies one of any alphanumeric character, as in ?an, which locates "ran," "pan," "can," and "ban."
*	Specifies zero or more of any alphanumeric character, as in corp* (which locates "corporate," "corporation," "corporal," and "corpulent") or as in *inter (which locates "printer", "sprinter", and so on).
/, \, #, \$, %, ^, &, (, ), _,- (em dash or en dash), +, =,   (pipe), <, >, comma (,), and period (.), etc.	These special characters will be filtered out (ignored).

## Knowledge Administrator role

Knowledge Administrator is a security role specified in a user's operator record and allows a user to perform all the administrative tasks associated with maintaining the Knowledge Management system. A

Knowledge Administrator can perform the following tasks:

- Manage profiles and environment variables
- Manage document categories and permissions on the categories
- Manage document types and views
- Manage shared content for the knowledge documents
- Maintain the knowledgebases
- Configure and customize the layout of search results

The Knowledge Administrator security role is assigned to a user in the operator record. Users in this role can maintain knowledge groups and Knowledge Management profiles, updating Knowledge Management profiles as user duties change.

As part of the integration of Knowledge Management with Incident Management, Service Desk Interactions, and Problem Management, the Knowledge Administrator can modify the default field mappings. These mappings can change which fields are searched, from which fields data is retrieved, and which fields can be used by users when creating knowledge from solutions and workarounds. The out-of-box tables for these field mappings are **incidents**, **kmdocument**, **knownerror**, **rootcause**, and **probsummary**.

## Knowledge-Centered Support (KCS)

Knowledge-Centered Support (KCS) is a knowledge management strategy for service and support organizations. It defines a set of principles and practices that enable organizations to improve service levels for customers, gain operational efficiencies, as well as increase the organization's value to their company.

KCS practices involve collaborating, sharing, using and improving knowledge. KCS practices encourage knowledge creation and improvement by all members of the support team and promote effective knowledge searches by maintaining up-to-date knowledgebases. The out-of-box Knowledge Management system enables all internal and external users to provide user feedback on the knowledge documents. This helps to identify useful articles and to mark other articles for revision, which contributes to the overall quality and value of the information in the knowledgebase.

The goal of KCS is to solve a problem once and use the solution often. KCS-based systems take advantage of the knowledge available in all phases of the service desk operations by making the knowledge captured by the customer support process available for reuse throughout the support organization.

## Knowledge Management statistics tracked in the kmusagehistory table

The HP Service Manager kmusagehistory table is intended for generating statistics to track knowledge documents at various stages.

The following document statistics are tracked in the kmusagehistory table.

Statistic	Description
<b>Viewed</b>	Tracks documents viewed as the result of a search. This indicates if a knowledge document can be found and used in its existing state. If a document is viewed from a URL linked directly to the kmdocument record, the viewed statistic in kmusagehistory is not incremented. You can change this default behavior by specifying a parameter with the URL request. When the parameter is specified, the usage history and view count will be logged and incremented.
<b>Created</b>	Tracks new knowledge documents that have been created.
<b>Submitted for approval:</b>	Tracks new and updated knowledge documents submitted for content verification and approval.
<b>Approved internal</b>	Tracks knowledge documents published internally.
<b>Approved external</b>	Tracks knowledge documents published externally.
<b>Modify</b>	Tracks modified knowledge documents.
<b>Revert</b>	Tracks knowledge documents reverted to their original state after modifications have already been made.
<b>Retired</b>	Tracks knowledge documents taken out of the knowledgebase and retired either because the knowledge documents reached their expiration date or the content was no longer applicable.
<b>Deleted</b>	Tracks deleted knowledge documents.
<b>Unretired</b>	Tracks knowledge documents put back into circulation and made available in the knowledgebase after having been earlier retired and pulled out of the documentation queue.
<b>Used Solution</b>	Tracks the number of times a knowledge document was used as a solution for Interaction, Incident, and Problem records.

## Knowledge Management sample data

The following table provides an overview of the out-of-box sample data for Knowledge Management users. It specifies the knowledge groups, profiles, and document categories each user is associated with or has access to. These data demonstrate how knowledge groups, security profiles, and document categories interact to manage user access to knowledge documents.

User	KM Group	KM Profile	Document Categories
Amanda.Admin	HR KCS III	KCS III	HR
Harry.Incident, Clark.Change, and Rick.Problem	HR VIEWER	INTERNAL USER	HR
all operators with user role: incident manager, incident coordinator, problem manager, problem coordinator, change manager, change coordinator, and change approver	KCS III for Service Manager group	KCS III	Service Manager
all operators with userrole: incident analyst, problem analyst, change analyst	KCS II for Service Manager group	KCS II	Service Manager
all operators with userrole: service desk agent	KCS I for Service Manager Group	KCS I	Service Manager
all operators with userrole: self service	Service Manager External Viewers	DEFAULT	Service Manager
KM 3	KCS III for KM Group	KCS III	Service Manager > Knowledge Management
KM 2	KCS II for KM Group	KCS II	Service Manager > Knowledge Management
KM 1	KCS I for KM Group	KCS I	Service Manager > Knowledge Management

The following table lists the out-of-box document categories.

Service Manager		
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	Knowledge Managemen	
		Knowledge Centered Support (KCS)
		Document Maintenance and Lifecycle
	Support	
	Change Management	
HR		
	Benefits	
	Policy	



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